

**CHINA NATIONAL REPORT TO IMPLEMENT THE UNITED NATION'S  
CONVENTION TO COMBAT DESERTIFICATION (UNCCD)**

**April 16, 2002**

## **Abstract**

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 2,674,00 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 mid 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 population affected. 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.

### **1. The Chinese government always attaches great importance to desertification combating.**

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 Premier 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 their key agenda. Combating desertification has initially set up a relatively stable management and service system, which is throughout the area from central to local government, from education & research to productive practice, from law & 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 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 sand resources have been popularized, which has improved ecological environment in some areas, with forests enhanced, grass enriched and more production of grains and animals. With good result of the above practice, great potential of combating desertification has been manifested.

## **2. China has made great breakthroughs in implementing UNCCD**

**(1) 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.

**(2) China has perfected governmental leading and coordinating organizations at all levels to intensify institutional guarantee for combating desertification.** As regulated by law, under the leadership of the State Council, State Forestry Administration is in charge of 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. Email address of the Office or Secretariat for the Coordinating Group/CCICCD is [CCICCD@forestry.gov.cn](mailto:CCICCD@forestry.gov.cn).

**(3) China consistently enhances the development of legal system and establishes**

**effective legal guarantee system for combating desertification.** As of 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 primarily formed. On 31<sup>st</sup> august 2001, the Standing Committee of National People's Congress passed the Law on Combating Desertification, which came into force on January 1, 2002. This is the first law on combating desertification, spelling 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 for the environmental illegality, has sent out special commissions on investigating environmental illegality, and has enhanced the evaluation for resources exploitation's impact on environment.

**(4) China widely popularizes desertification combating and raises public awareness.** Since the first time of the 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 other dozens of large cities on each June 17, which have made fruitful achievements on raising public awareness.

**(5) 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 plan integrating and merging over a dozen national forest projects into 6 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 railway and highway, and the tackling of water and soil erosion have been intensified; meanwhile the 'Eight-Seven Poverty Alleviation Plan'<sup>1</sup> is having an 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

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<sup>1</sup> 'Eight-Seven' represents reducing poverty population by 80 million within the 7 years from 1994 to 2000.

population in China is 30 million, a sharp contrast to 250 million in 1978.

**(6) 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 China National Committee for the Implementation of the UNCCD was established, which was composed of 20 senior scholars from different departments to enhance the technical assistance to combating desertification; Researches on desertification combating were defined as the key strategic research commitment, with scientific and technological research programs 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 favorable policies are made to encourage scientific research institutes and individuals to provide technology services. Moreover, combating desertification has been incorporated into the nation's higher education 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.

**(7) China makes great effort 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 favorable 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 kind of relieving to the people in stricken areas" and the government compensates the ecological forests in cash, etc; In most areas 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 the society. The government offers free grain subsidy, grant-in-aid and seeds & seedlings subsidy; It is stipulated that all the nation citizens ranging from 11 to 60 (55 for women) years old should plant 3-5 trees every year, everybody should make contribution to afforestation and combating desertification.

**(8) All-out implementation of UNCCD.** Since 1996, China has hosted many important meetings under the UNCCD framework, and has actively participated in the building of Thematic Programme Networks (TPNs). At present, China is actively participating sub-regional and regional desertification combating and consulting with pertinent neighbor countries on issues with common interest.

**(9) China invests in desertification combating through various channels, and explores thoroughly to build international partnership.** The Chinese government allocates more than 1,200,000 USD on desertification monitoring. From 2001, funds invested both from central government and local government in forestry ecological projects are 6 billion to 8.5 billion USD each year; Funds allocated from integrated agricultural development invested in combating desertification is over 42 million USD each year; Funds used each year on controlling soil erosion is approximately 0.2 billion USD. 1.2 to 2.4 million USD are used on combating desertification along the railways; 76 millions are used along the roads; government discounted loans for combating desertification every year is approximately 70 million USD. Besides the above, large amount of funds are used in treating rangelands, poverty alleviation, science researches, land reclamation, etc. he government stipulated that 3% of the national investment on key forest ecological projects and 10% of the investment from 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, Netherlands, Republic of Korea, etc. In desertification affected areas, the inter-governmental projects being carried out amount to dozens, including ecological afforestation, watershed treatment, capacity building and so on. Total aid funds are around 0.4 billion USD. Besides, 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 on sources and development of wind erosion in Qinghai-Tibet Plateau with Germany, Research on impacts climate change's impact on agriculture ecological system and water resources in dry areas with the European Community, Research on measures and evaluation of combating desertification in Kerqin Desertified Land with Japan, and Assessment of sandification in the origin of Yangtze River,

etc.

**3. 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 the integration of the Action Plans of each members of the Coordinating Group, with the sectors of forestry, water resources, agriculture, railway, road and meteorology mainly involved.

**4.China sets up the financial mechanism of implementing the NAP to guarantee the 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 guarantee. 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.

**5. China sets up national desertification monitoring mechanism to serve the needs of 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 January 1, 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 the nation’s or local desertification combating. For instance, desertification monitoring has exerted its contribution in the areas such as formulating of national, provincial or county level desertification combating and prevention plans, defining key projects areas and macro decision-making for selecting measures for various areas of different patterns. China has set up data bank and map bank in 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 that as long as they have abided the pertinent procedure. The administrative body of nation 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 the society. In the future, the social and economic benefits of desertification monitoring will be more fully acquired.

## **1. PREFACE**

China is one of the most severely affected countries suffering from desertification. Along with the acceleration of drought, increasing population pressure and human destroying action, China is still challenged by desertification. According to the second nation-wide monitoring of desertification, during the only five years from 1994 to 1999 the net increase of desertification is 52,000 sq.km. The annual net increase is 10,000 sq.km. As consequences, desertification worsens ecological environment, destroys produce and living conditions, accelerates further poverty and invades the survival space of Chinese people. In some regions, under the impact of desertification, people's environment is being severely threatened and the people living here for generations have to emigrate from their native places to other regions as environmental refugees. Desertification brings about huge losses to national economic and social development and it has hidden trouble and first danger to Chinese people. It is the persistent action of China Government to implement seriously all kinds of obligations ruled by United Nations Convention to Combat Desertification and to quicken the strength of desertification combating.

## **2. Desertification Status and Its Control**

China is one of the most severely affected developing countries suffering from desertification. The total area of desertification affected land in China is approximately 2,674,000 sq.km, occupying 27.9% of the total land territory, or 79.1% of the total areas of arid, semi-arid and dry sub-humid areas (average global percentage is 69%). Desertification land is mainly distributed in the Northwest China, North China and the Northeast China. It is estimated that there are 1/3 populations in China threatened by desertification and the annual direct economic loss caused by desertification is approximately 6.5 billion US Dollars. Desertification brings about severe impacts and destruction to communication facilities, water



conservancy projects, mining fields, defense installations and threatens to the development of industries and negative effect of the environment in cities. Desertification causes further poverty in rural areas. Over one sixth less developed counties and one-fourth poor villagers and farmers in China are mainly living in the affected land areas, which is the most difficult regions needing poverty alleviation. It is estimated that in 1998, the per capita output value in the Northwest Five province regions is only two thirds of the average in China.

The patterns of desertification affected land are complex, including: the desertification affected lands caused by wind erosion, which is the biggest, occupying 1,834,000 sq.km; the desertification affected lands caused by water erosion, covering 304,000 sq.km; the desertification affected lands caused by salinization/alkalization, forming 173,000 sq.km; and the desertification affected lands caused by freezing and melting processes, representing 363,000 sq.km, etc.

The causes leading to desertification extending in China are various. There are natural factors, but human factors can't be neglected. Natural geographical condition and climatic variation are no doubt the important factors of desertification, but their developmental process is slow. While human factors active and accelerate the processes of desertification as the primary dynamics and lead to the trend of desertification expanding.

Since 1949, the rapid growth of population and the increase of population pressure on land and other natural resources accelerate the irrational utilization of resources and bring about unceasingly spreading and enlargement of desertification affected lands. According to data of national survey of population, average population density in the arid, semi-arid and dry sub-humid areas in 12 provinces in Northern China is approximately 24 persons/sq.km. and in some regions even as high as 30 person/sq.km. Such population density exceeds the limitation of carrying capacity of the mentioned regions. The most severe situation is that the following phenomena are very all-pervading, such as over-grazing in sand regions, deforestation, undue collection of fuel wood, medicine herbs and native fungus, mis-management of water resources and plunder-like cultivation and reclamation of steppe and grazing lands etc. All these are the major causes of occurrence and continuous development of desertification. To desertification process, the annual invading speed in 1950s was 1560 sq.km; desertification was expanded in an annual rate of 2100 sq.km. per year in the

1970s, and it was further developed in an annual rate of 2460 sq.km. since the 1980s. This invasion is equal to a loss of the land area of a mid-sized county every year in China. To the end of 1990, the annual invading speed of desertification process arrived to 3436 sq.km, which increases 1000 sq.km. more than that of the beginning of 1980s. The tendency of desertification spreading process is surprising.

Most of desertification affected lands are the places of origin of the Yellow River, the Yangtze River and other rivers in China, and these regions are characterized by densely populated with minority ethnic people (one third of the total population of minority ethnic people of China). However, expansion of desertification threatens people's survival and has become crucial hazards to national ecological security. In many regions, continental river courses and lakes were dried up; wind disaster, dust devil and sandstorms were frequent. All these negative impacts brought about crucial hazards to people. It is estimated that there are 1.6 billion tons of silt and sand were annually transported into the Yellow River, in which 1.2 billion tons is from the desertification affected land areas. In 1997, the Yellow River was dried up 13 times in a total duration of 226 days and the length was more than 700 km, occupying 80% of the total length of the lower reach of the river. The "Mother River" -----Yellow River faces the danger of being a seasonal river and it is possible that the River will become into a continental river. It is predicted that the Qinghai Lake is annually declined by 12 cm and the annual reduction of the area of the lake is 10.12 sq.km. Newly formed sand sheets and mega dunes were widely distributed around the lake. Since the beginning of 1990s, the annual spreading rate of desertification is 40 sq.km around the Xinjiang Aibi Lake; the annual reduction of the area of the lake is 12 sq.km. Sand storms and dust devils are frequent in the Northwest China with rapid increase of intensity and scope. From the third century BC to 1949, it is recorded that there were 70 times of sandstorm and dust devil took place with an average of occurrence in 31years. During the last 50 years since the early 1950s, it was recorded that severe sand storm and dust devil in 1960s was 8 times, 13 times in 1970s, 14 times in 1980s and 23 times in 1990s. In 21 century, the frequency of sandstorm evidently increases. It is recorded that there were 15 times in 2000 and 18 times in 2001. The early occurring, the wide incidence and the serious disaster all are unusual since 1949. Sandstorm has become a quite sensitive environmental problem and a hotspot attracting social attention.

Desertification leads to the reduction of land resource available and threatens directly people's production. Because of desertification, the phenomena of degradation of arable lands and steppe and grazing lands are quite prominent. Since 1949, according to incomplete statistics, totally 670,000 ha of arable lands and 2.35 million ha of rangeland and steppe areas were invaded by shifting sands and sand encroachment in China. Because of the dense population in the arid and semi-arid areas of Ningxia, Shannxi and Shanxi, the estimated rate of rangeland degradation is 90-97%. The population density is low in the arid, semi-arid and dry sub-humid areas in Xinjiang, Inner Mongolia and Qinghai, and the rate of rangeland degradation is 80-87%.

The Chinese Government has always attached great significance to combating desertification. Since the beginning of country establishment, Chinese Government has put an emphasis on the desertification combating by organizing people to plant trees and to cultivate grass. The National Desert Survey has been sponsored under the leadership of the Chinese Academy of Sciences. Nationwide survey of desert and investigation of natural resources have been successively organized. The National Conference on Desert Reclamation was held in Beijing in 1958. Since 1978s, Chinese Government has launched a serious of forest ecological programs one after another aiming at improving ecological environment and combating desertification, such as the National Desertification Control and Preventing Program, "Three North" (Northeast, North and Northwest China) Shelterbelts Development Program, Plain Farmland shelterbelt Development Program, the Taihang Mountain Afforestation Program, the shelterbelt Development Program along the Middle Reaches of the Yellow River, etc. After 1990s, Chinese Government has incorporated Combating Desertification into the State Economic and Social Development Plan. In 1991 and 1993, two national conferences on desertification rehabilitation and ecology restoration have been organized in Lanzhou, Gansu and Chifeng, Inner Mongolia respectively under the leadership of the State Council. China has ratified "National Desertification Combating Plan Key Issues from 1991 to 2000". In 2001, Forestry ecological projects have been consolidated into Six Key Programs, namely: natural forest conservation program, cropland conversion program for forests, "Three North" shelterbelt and the Yangtze River Shelterbelt system construction etc, the desertification control program in originating areas in Beijing and Tianjin, wildlife and

natural protection areas construction etc. China has also implemented “the Eight Major Programs” of plain protection, including land closure and fencing, rotation grazing in zoned areas, planting grass, aerial seeding, grassland improvement, installation of water-saving and irrigation facilities, establishment of grassland nature reserves, and control pests and rats etc. The important overall arrangement of control of soil and water loss is to implement sand reducing program in middle reaches of Yellow River, slope rehabilitating program in upper reaches of the Yangtze River, rescue program for Limestone areas, the integrated desertified land control project in interlaced areas of farmland and pasture, ecological oasis rehabilitating project in continental river watershed, black calcium soil protection program in the Northeast China and reservoir protection program for important water resources, etc. Along the railway affected by the wind disaster and dust devil, China has implemented the green corridor program in Xinjiang, the desertification control program for Xinin-Geermu of Gansu, integrated sand control project for Jier Line of Inter Mongolia and sand desertification control project for Jingtong Line in Heilongjiang. China has systematically fathered ecological environment problems including desertification. Meantime, China has primarily established coordination units at different levels, monitoring system and effective law guarantee system. And China has brought the desertification combating into the national higher education outline and shaped all kinds of favorable polices of desertification combating for mobilizing the public enthusiasm to combat desertification. China has enacted and implemented the first Law on Combating Desertification in the world, greatly boosts the establishment of international partnership to combat desertification. All these set a favorable base for accelerating the development of combating desertification in China.

A relatively sound eco-system has been primarily established in a certain regions where tree belts play a role of farmland protection, high-yield cereals provide food security, and rich fodder sources meet the need of animal production.

China has accumulated and created a series of experiences and models for combating desertification, for preventing land from degradation and developing and utilizing resource, which are easier to be understood and grasped and have sound ecological and economic value, through active adaptation of traditional knowledge and practical techniques as well as the development and application of new technologies in the long-term practice of desertification

combating. The following techniques and models set a technical base for combating desertification in the future, including the technique of “Five-belts” sand-prevention along the railway, narrow shelterbelts, small grit tree networks, desertification rehabilitation and technique for stabilizing sand dunes along highway in desert regions, water-saving and irrigation techniques, plastic film sub-soil technique for cultivating rice in sandy land, small-watershed management techniques, complex ecosystem of combination of different plantation and revegetation, and the models inter-cropping system in combination of fruits-cereal cultivation, tree belt-cereal cultivation and tree-medicine inter-cropping on sandy land.

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

### 3.1 STATE AGENDA AND PRIORITY AREAS IN RELEVANT SOCIAL AND ECONOMIC FIELDS

#### 3.1.1 CHINA AGENDA 21

China Agenda 21—the White Paper of Population, Resources, Environment and Development of China in 21<sup>st</sup> Century, ratified by the Government of China, is the guideline document for state sustainable development. It is aimed, in accordance with the general objective, to coordinate and organize various sectors, local governments, civil societies and the whole nation to take action on the realization of the plan to increase per capita GNP

output value that is equal to the medium-developed country in the mid-2100s. At the same time, it is stressed to protect natural resources and improve ecological environment and to achieve the objectives of long and stable development of the state.

China Agenda 21 contains strategies, policies and action framework of the sustainable development of population, economy, society, resources and environment. It includes 20 chapters and 78 programmed areas. This document is developed in line with China's actual condition and absorbed, adapted and centralized various proposed plans of various government agencies. It is characterized by integration, guidance and operation function. China Agenda 21 expounds the strategy and countermeasures of sustainable development in China. It touches upon the contents of general strategy of the sustainable development, social and economic sustainable development, rational utilization and sound protection of resources and environment, etc. In the context, desertification combating is particularly and separately emphasized as the main components of the document in Chapter 16.

Regarding to the implementation of China Agenda 21, China is ready to establish linkage and make contribution for a more prosperous and more glorious future through conducting effective bilateral and multilateral cooperation with various states and regions in the world. The preparation of China Agenda was funded by UNDP as one of the official cooperative projects between the Government of China and UNDP.

### 3.1.2 CHINA'S ENVIRONMENTAL PROTECTION AGENDA 21 AND ITS IMPLEMENTATION PLAN

In consideration of sustainable development strategy in environmental field, the State Environment Protection Administration (SEPA) has compiled the China's Environmental Protection Agenda 21 in 1995. This document is the guideline document for carrying out the affairs of environment protection at national level. The document reviews the developmental processes, analyzes the challenges, raises the objectives and prepares the action programmes in the following aspects: guidance of environmental policy, legal guarantee on environment, environmental institution building, publicity and education on environment, natural environment education, environment protection in urban and rural areas, control of industrial pollution, environmental monitoring, environment sciences, international cooperation and exchange in environment field.

In 1996, the Fourth Session of the Eighth Plenary of People's Congress adopted the Ninth Five-year Plan and Long-term Objective Outline of 2010. The Outline determined the general requirements of the environment protection in future 15 years at national level, namely, up to 2000, the accelerating trend of environmental pollution and ecological destruction will be primarily controlled and the environmental quality in some cities and regions will get comparatively obvious improvement. In light of the above-mentioned requirements, SEPA worked out the Ninth Five-year Plan and Long-term Objective Outline of the National Environment Protection in 2010. It is requested that the controlling criteria, controlling indicators and management system of major pollutants release be prepared according to the real facts in different time and different locations. It is also emphasized that the periodical announcement system be created. In addition, the Re-greening Project Plan Striding into New Century in China was worked out. The projects are managed according to the procedure of fixed project investment, and they have the priority to be incorporated into the Ninth Five-year plans and annual plans of fundamental construction and technical transformation of local governments, state agencies and the central government.

### 3.1.3 FORESTRY ACTION PLAN FOR CHINA'S AGENDA 21

The Forestry Action Plan for China's Agenda 21 is drawn up in light of China's Agenda 21 by the forestry administration, which is in charge of ecological construction. It was formed according to the country's specific national and forest conditions. It extends the general strategic objectives and measures of China's forestry and has the characteristic of integrity, directivity and maneuverability. It is a key document guiding the formulation of China's forestry development. It consists of 14 chapters and 36 project scopes in three parts. Part I identifies the opportunities and challenges facing China's forestry and outlines the strategic guidelines and goals for achieving sustainable forestry development; Part II sets out the key areas and priority projects for China's forestry development, including: 1) forestry cultivation, conservation and management; 2) construction and protection of ecological shelterbelt; 3) combating desertification; 4) protection of forestry, wetlands, biodiversity and wild life; 5) rural forestry integrated development and poverty alleviation; 6) high efficient utilization of forestry resources and industrialization of forestry; 7) participation in forestry by the society; 8) infrastructure development of forestry; Part III deals with the supporting conditions for

implementing the Forestry Action Plan for China's Agenda 21, i.e., forestry system reform and laws & regulations building, science & technology and education development, forestry development finance and economic policies and international cooperation.

Forestry Action Plan for China's Agenda 21 sets out pertinent strategic objectives for each priority areas, wherein,

Objectives for control of desertification: by 2010, improve part of the territory with severe desertification by 2010; set up a legally governed system for managing the resources in the wind-eroded and desertified areas and high quality, efficient and sustainable sectoral management systems and the sand industrial system in the desertified areas, develop desertified land in a comprehensive way; Another 400,000 square kilometers of land with water and soil erosion will be brought under control by 2010; give priority to the improvement of 4 million hectares of salinized soil featuring the balance of water and salt in soil by saving water and the restoration of pasture land vegetation; set up and improve a national water and soil conservation supervision and management system. The monitoring system and monitoring resolution will be steadily enhanced. A round of monitoring will be conducted every two years for the key areas and every five years for the entire region of desertification. By 2050, completely control and restore the degraded pastureland that has been degraded, desertified and salinized and reverse environmental deterioration caused by desertification.

Objectives for forestry development framework: by 2010, lay a foundation for the establishment of a relatively complete forestry ecological system and a quite developed forestry industrial system. By mid-21<sup>st</sup> century: establish a relatively complete forestry ecological system and a quite developed forestry industrial system; establish a modern administrative system and social service system for forestry.

Objectives for forestry sustainable development by 2010: set up social, economic and technological safeguard systems for sustainable forestry development and develop a sound basis for sustainable development of forest resources, environment and industries that are capable of meeting China's need for social and economic development in terms of both time and space.

The implementation of FORESTRY ACTION PLAN FOR CHINA'S AGENDA 21 will



promote China's forestry's be in same track with the international standard and enhance the transformation of traditional forestry into modern forestry. With the growing of knowledge and the developing of work, the Forestry Action Plan will be accordingly modified and perfected.

#### 3.1.4 STATE NATURE PRESERVATION STRATEGY

In consideration of reality of the ecological environment improvement of China, the State Council announced China Action Plan of Ecological Environment Improvement in November 1998 and the plan was incorporated into the National Economic and Social Development Plan. It is aimed to protect and construct the ecological environment and to realize the sustainable development. The plan is also a concrete activity of China to implement pertinent international conventions. The plan has considered the most important aspects of the territorial ecological environment at national level, including: protection and preservation of natural resources such as natural forests, reforestation and revegetation, soil and water conservation, combating desertification, rangeland construction and improvement, and ecological farming, etc.

The Plan emphasizes the importance of encouragement and organization of people and the function of science advancement while establishing nature reserves and combating desertification in future five decades. The general objective of the Plan is focused on the following aspects:

- To strengthen the protection of existing natural forests and wildlife resources;
  - To conduct on large scale of re-plantation and revegetation;
  - To control the soil and water losses;
  - To combat desertification and land degradation;
  - To construct ecological farming;
  - To improve production and living condition;
  - To strengthen the integrated rehabilitation;
  - To implement a series of important projects to improve ecological environment, and
  - To stop the worsening process of environmental degradation.
- It is planned to, up to the mid of Century 21:
- Rehabilitating basically the affected areas of soil and water losses in the whole country;

- Re-planting all the areas suitable to reforestation;
- Revegetating primarily the degraded rangeland;
- Establishing perfect preventive, monitoring and protective system of ecological environment;
- Improving remarkably ecological environment in most of the desertification affected regions;
- Primarily re-greening the mountains and making the water limpid in the whole country.

### 3.2 CHINA'S NAP DEVELOPED IN LIGHT OF CHINA AGENDA 21 AND UNCCD

Since the signature of the Convention, China has developed her NAP and determined the strategic objectives to combat desertification. In 2001, China began to update her NAP. The revised strategic objectives of China's desertification combating are divided into three phases, namely, the period from 2001 to 2010, 2011 to 2030 and 2031 to 2050. This arrangement is coherent to the National Economic and Social Development Plan.

The objectives of the NAP: Please see Section 7.2.

### 4.1 COORDINATION UNIT

#### 4.1.1 POSITION AND FUNCTION OF COORDINATION UNIT

In order to implement the UNCCD, the Chinese government has established various management agencies at different levels to strengthen the institutional guarantee for combating desertification. In 1994, the Chinese government set up China National Coordinating Group to Combat Desertification and China National Committee for the Implementation of the UNCCD (CCICCD). The Coordinating Group/CCICCD was reorganized twice separately in 1998 and 2001. Now it is composed of members from 18 ministries of the State Council. As an inter-ministry coordination agency, the Coordinating Group/CCICCD has improved the organization, coordination, administration and supervision of the nation's desertification combating by the government. It has played an important role in terms of addressing the key issues facing combating desertification and coordinating various departments' involvement in this regard.

#### 4.1.2 RESOURCES

#### 4.1.2.1 Financial Resources

The financial resources of the Office of the Coordinating Group and the Secretariat of CCICCD are from the national allocation, which is about 183,000 USD. The budget is mainly used for publicity, technology extension, and training and staff salary. The respective member ministries provide the salary of the members of the Coordinating Group/CCICCD and of liaison officers.

#### 4.1.2.2 Information Resources

The URL of <http://www.din.net.cn> with information of China's combating desertification has been made available in Internet since 1997 with equipment coming from UNDP assisted project and the operational support and subsidies from the Secretariat of CCICCD and the Ministry of Science and Technology. The email address of the Secretariat of CCICCD is [CCICCD@forestry.gov.cn](mailto:CCICCD@forestry.gov.cn). The county-level Desertification Information and Data Exchange Prototype in Yijinhuluo County of Inner Mongolia has been set up with URL of <http://nic6.forestry.ac.cn/sts> in internet and the equipment was provided by UNDP and FAO assisted project. So far, every ministry of the Chinese government has had its own website.

#### 4.1.3 INTER-MINISTERIAL COOPERATION

The composition and institutional structure of China National Coordinating Group to Combat Desertification and CCICCD reflects the characteristics of inter-ministerial cooperation. As regulated by the State Council, the State Forestry Administration (SFA) as the leading agency always organizes and coordinates each member ministry. The whole Group cooperates closely to strengthen the effort for combating desertification.

#### 4.1.4 COMPONENT AND OPERATIONAL FORM

China National Coordinating Group to Combat Desertification/CCICCD is composed of the following ministries (sectors): Ministry of Foreign Affairs, State Planning and Development Commission, State Commission of Economy and Trade, Ministry of Science and Technology, Ministry of Finance, Ministry of National Territory and Natural Resources, Ministry of Railway, Ministry of Communication, Ministry of Water Resources, Ministry of Agriculture, State Forestry Administration, People's Bank of China, State Taxation Administration, State Environmental Protection Administration, Chinese Academy of Sciences, Office of the Leading Group for Poverty Alleviation, Office of Integrated

Agricultural Development Leadership Group of the State Council, China Meteorological Administration. The Coordinating Group generally organizes a yearly meeting for each year, or hold occasional meetings when needed. Usually the Group-leading agency will convene the meeting for the Coordinating Group or CCICCD. It will invite the State Council leader who is in charge to attend the meeting. The liaison system has been set up for the Coordinating Group and CCICCD with each liaison officer from each ministry. The periodical journal of 'The Dynamic Status of Combating Desertification in China', 'the Newsletter of Combating Desertification and Sandification' or the Internet builds a bridge between the Office of the Coordinating Group and the Secretariat of CCICCD and other members so as to keep each other well informed. Members are representing their respective ministries and they ought to fulfill their mission.

China National Coordinating Group to Combat Desertification has its Office, which is also the Secretariat of China National Committee for the Implementation of the UNCCD (generally known by international communities as the acronym of CCICCD), with the Office Director General, Deputy Director General or the Secretary General, Deputy Secretary General being concurrently the Secretary General, Deputy Secretary General of China National Greening Committee. The Office or the Secretariat is mainly responsible for guiding, coordinating and supervising the work in combating desertification. The Office or the Secretariat is set in the National Bureau to Combat Desertification (NBCD). NBCD was established in 1997 in a bid to intensify the work for combating desertification and strengthen the work for implementation of the UNCCD. It is a ministry department level agency with a role of administration. It has a staff of 20 persons. Its main role rests on the administration of the nation's desertification combating. As the business agency of the Coordinating Group and CCICCD, its main responsibilities are coordination of external and internal affairs in combating desertification and implementation of the UNCCD. 'China National Sand Control and Desert Industry Society' is a non-governmental organization, representing the interest of non-governmental organizations (NGO) and being actively involved with the work of combating desertification both internationally and nationally. In 1994, the NBCD organized experts from NGOs from all over the country and government officials from 16 sectors to prepare the National Action Programme (NAP). In 2001, the NBCD convened liaison

officers from the 18 ministries of the Coordinating Group to revise and update the NAP, and has been responsible for organizing, guiding and implementing the NAP.

Coordinating groups or leading groups for combating desertification has also been set up in 14 key provinces/autonomous regions/municipalities. Therefore, the effective management system for combating desertification from central to local level is formed, which has promoted the organized, planned and procedural implementation of the national undertaking of combating desertification.

Other institutions (resources) of China National Coordinating Group to Combat Desertification and CCICCD are as follows.

### **1. The Senior Expert Group of China National Coordinating Group to Combat Desertification**

The Senior Expert Group of China National Group to Combat Desertification is also the Senior Expert Group of China National Group for CCICCD, which was established in 1994 and reorganized in 2001. Now it is composed of 20 senior scholars. These scholars come from the administration agencies and scientific research and educational institutions, including 7 academicians, 2 professors, 7 research fellows, 2 professor-level senior engineers, and 1 senior animal husbandry expert and 1 senior agronomist. The mission of the Senior Expert Group is to provide decision-making advice on key issues of China's combating desertification so as to enhance the decision-making process of the government. Meeting of the Senior Expert Group members is organized annually or organized when necessary. The Senior Expert Group has provided a lot of valuable advice on the NAP, China National Report to Combat Desertification, desertification monitoring and the nationwide inventory on desertified land.

### **2. Liaison Officers of China National Coordinating Group to Combat Desertification**

The liaison officers of China National Coordinating Group to Combat Desertification are also the liaison officers of CCICCD. The liaison officers system was set up in 1991 and the composition was modified twice with each in 1994 and 1998. There are currently 18 liaison officers, who are responsible for liaison business between the members and the Office of China National Coordinating Group. The liaison officers are from each of the member agencies. The meeting of liaison officers is normally organized once a year, which focuses on

progress reports of the Office of the Coordinating Group (the Secretariat of CCICCD) and the NBCD, discussion future work plan and pertinent issues. The liaison officers meetings have discussed the NAP, Network Building on NAP, Publicity on Combating Desertification, etc.

### **3. Independent Expert Roster for China's Combating Desertification**

In accordance with the request of UNCCD and its own need, the Secretariat of CCICCD since 1995 has selected 151 experts as the first group of independent expert to provide consultation on various fields. These experts were chosen based on the nominated experts by relevant sectors, scientific research institutes, educational institutions and NGOs. Since the availability of the independent roster, the Secretariat of CCICCD has organized a series of consultations on information network design and building, data base construction, reform of animal husbandry system, applicable methods of technical extension for farmers and herdsmen, social and economic issues in rural areas, agro-forestry technology, Global Information System (GIS), county-level information network design, desertified land use classification, etc.

### **4. China National Research and Development Center of Combating Desertification**

China National Research and Development Center of Combating Desertification was set up in 1995, affiliated to the Secretariat of CCICCD and located in the Chinese Academy of Forestry. The Center has more than 100 staff, including those experts who have been long engaged in theoretical research and field practices on desertification combating. The main task of the Center is as follows: to provide scientific basis for decision-making on the priority areas of combating desertification; to provide scientific support for key research and field projects; to positively introduce and digest foreign technologies and develop export-oriented technologies; to carry out personnel training, technical consultation and extension of scientific achievements; to help contract international projects; and to perfect China national desertification combating information network in order to provide technical information for the purposes of scientific research and other needs. The Center has participated or hosted the following regional or international meetings: the First Asia-Africa Forum on Combating Desertification, Asia's Ministerial Meeting on Combating Desertification in May of 1997, the Expert Meeting on Benchmark & Indicators of CST meeting of COP.2 of UNCCD in June of 1998, the Experts Workshop on Asia-Africa Science and Technology Cooperation and Early

Warning System, the Second Asia Focal Point Meeting of UNCCD, the Launching Meeting of TPN1 in July of 1999, etc. At present, it is hosting the TPN1 entrusted by the Secretariat of UNCCD, and is actively preparing for setting up the “Asia-Africa Research, Development and Training Center to Combat Desertification. Since the establishment of the Center, it has carried out lots of activities such as organizing two seminars, one on database and network design for the ministries, and the other on benchmark and criteria for implementing the UNCCD. It also carried out the training of network operators. Furthermore, it has established the county-level network demonstration, i.e. the Desertification Information and Data Exchange Prototype in Yijinhuluo County of Inner Mongolia. The Center is also responsible for construction and maintenance of the above-mentioned network and prototype. The Center has also taken part in organizing a number of regional or international conferences or seminars such as the First Meeting of the Asian-African Forum to Combat Desertification (August 1996), Beijing Ministerial Conference on Regional Cooperation to Implement the UNCCD in Asia (May 1997), the Benchmark and Criteria Expert Meeting of the *Ad Hoc* Group of CST of the COP2 of the UNCCD (June 1998), Asia-Africa Technical Workshop on Early Warning System (July 1999), the Second Asian Meeting of CCD National Focal Points (July 1999), the Launching Meeting for the Thematic Programme Network on Desertification Monitoring and Assessment (TPN1) (July 1999), etc. Authorized by the Secretariat of CCICCD, the Center has hosted and is hosting TPN1 and is actively preparing for the establishment of Asia-Africa Research, Development and Training Center of Combating Desertification.

##### **5. China National Training Center of Combating Desertification**

China National Training Center of Combating Desertification was set up in 1995, affiliated to the Secretariat of CCICCD and located in Beijing Forestry University. There are totally 60 staff working in the Center and the staff is composed of experienced educational, scientific and managerial professionals. The main task of the Center is to train senior/middle level personnel in the field of combating desertification. Since its establishment, the Center has trained more than 1000 people at central, provincial and county levels. The Center has also participated in the preparation of the NAP.

## **6. China National Desertification Monitoring Center**

China National Desertification Monitoring Center was set up in 1995, affiliated to the Secretariat of CCICCD and located in the Forest Resources Inventory and Design Institute of China State Forestry Administration. The Center has over 60 experienced scientific staff. The Center is mainly responsible for national desertification monitoring, i.e. the following : establishment and operation of the national desertification monitoring system, formulation of relevant technical methods and organization of implementation of the system; managing desertification information, analyzing information and forecasting the trend of desertification; provision of guidelines and assistance to the establishment of local desertification monitoring systems; studying and disseminating foundational technologies in regard to desertification; working out operational plan for national and regional desertification combating projects and progress evaluation. Since its establishment, the Center has participated in the nation-wide inventory on desertified land, worked out important documents such as the Principled Technological Plan of China's Desertification Monitoring, China's Desertification Criteria Classification System and so forth.

## **7. China National Sand Control and Desert Industry Society**

The NGO was established in September of 1993. The main tasks of the Society includes: carrying out academic exchanges; organizing scientific evaluation meetings or workshops on key issues relating to desertification combating, carrying out domestic or international research tours; putting forward recommendations for the policies as well as technical measures for implementation of the National Combating Desertification Project, and providing advice to desertification combating agencies at different levels. The Society also has the task of spreading knowledge on desertification and its combating, disseminating advanced technologies and providing scientific and technical consultations. Since its establishment, the Association has played a good role and has taken part in a lot of practical work in combating desertification, including participation in the technical consultation on the National Combating Desertification Project, organization of research tour, involvement in publicity and education, participation in drafting the Desertification Combating Law, and publishing technical journals. At present, there are across the country more than 2000 NGOs



engaged in environmental protection.

## 8. Desertification Combating Agencies in Various Sectors

China has set up desertification combating and water and soil conservation agencies in forestry, agriculture, environmental protection, road, and railway sectors at different levels. China has established the Water and Soil Conservation Monitoring Center to publish status quo of the whole state's water and soil erosion periodically. At present, nearly 100,000 water and soil conservation personnel and 60,000 full-time or part-time water and soil conservation 执法人员 across the country. China has set up desertification combating agencies in the railway managing bodies located in the desertification-affected areas. In the rangeland area, rangeland-managing stations are set up. Each level of government has its forestry police agencies. These agencies have actively promoted desertification combating in each sector.

### **4.1.5 ESTABLISHMENT OF INFORMATION NETWORK**

It is fundamental for enhancing Trans-department, Trans-agency and Trans-region information exchange to effectively exchange and disseminate desertification information. With the assistance of UNDP, the Secretariat of CCICCD established the national desertification combating information website with its URL of <http://www.din.net.cn> on the basis of the China scientific and technological network set up by the Ministry of Science and Technology at RDCCD (Research and Development Center for Combating Desertification). The URL has the function of data exchange, information sharing, information announcement, information management and synergetic operation.

The establishment of the website helps make rapid and convenient information exchange available. Foreign countries, international organizations and individuals can easily get access to the URL to obtain the information in regard of combating desertification and implementation of the UNCCD in China. The Secretariat of the CCICCD keeps in touch and exchanges with the other ministries/sectors, provinces, counties as well as foreign agencies through the E-mail address of [cciccd@forestry.gov.cn](mailto:cciccd@forestry.gov.cn) .

## **4.2 DOMESTIC DECISION MAKING UNITS**

### **4.2.1 FRAMEWORK OF ORGANIZATIONS DEALING WITH DESERTIFICATION COMBATING**

The administrative organization of China's combating desertification is composed of forestry departments of central, provincial, prefecture, county and township government at five levels, divided into three managerial levels of macro management, micro management and interim management between the macro and the micro level. Specifically, the central and provincial administrative forestry departments take the responsibility for macro management of combating desertification, county and township forestry bureaus are in charge of micro management, and the prefecture forestry agencies are responsible for interim management, i.e. both for macro and micro management.

The highest coordination body of China's combating desertification is China National Coordinating Group to Combat Desertification or CCICCD. The Office of the Coordinating Group or the secretariat of CCICCD is located on the premise of the National Bureau to Combat Desertification of the State Forestry Administration. The National Bureau is responsible for implementation of the National Action Programme in China and the undertaking of combating desertification across the country. There are 14 provinces (municipalities or autonomous regions) who have set up coordinating or leading groups to combat desertification with the offices located at their respective forestry department or department of forestry and agriculture. The coordinating or leading groups are in charge of organization and coordination or steering of combating desertification. Likewise, various prefectures have also established desertification combating coordinating or leading groups responsible for combating desertification at their respective prefectures. Competent forestry departments of various counties are in charge of their desertification combating work and forestry stations at township level are responsible for concrete activities in terms of combating desertification.

Like China National Coordinating Group to Combat Desertification and CCICCD, the local coordinating or leading groups are composed of relevant sectors including forestry, agriculture, water conservancy, environmental protection, science and technology, finance, planning, etc.

## **4.2.2 INSTITUTIONAL BUILDING AT NATIONAL AND LOCAL LEVELS**

### **4.2.2.1 National Level**

In order to strengthen the institutional capacity of desertification combating, the National Bureau to Combat Desertification was established by the Chinese central government, with authorized staff number of 20 people. The administration body is set up in the State Forestry Administration. The bureau's role and function is to administrating desertification combating across the country. Its main tasks are as follows.

- (1) to participate in drafting guidelines, policies and regulations in regard to desertification control projects, and supervise the implementation;
- (2) to participate in working out mid term and long term national plan for combating desertification, and instruct the local government's preparing mid term and long term for combating desertification and to organize the implementation of Trans-province (autonomous region, municipality) regional programs;
- (3) to participate in working out annual plan for combating desertification and sandification and to provide macro control proposals. In charge of instructing, inspecting and check and accept of projects;
- (4) to be responsible for organizing national desertification monitoring. In charge of gathering and coordinating the monitoring results;
- (5) to collect, mainstream, gather and report the information on national combating desertification and sandification;
- (6) to organize personnel training and science and technology dissemination for national desertification combating;
- (7) to undertake implementation of UNCCD;
- (8) to undertake organizing international cooperation and exchange of combating desertification;
- (9) to assist international project proposing and application in the field of combating desertification, and organize the management of international projects;
- (10) To administrate the Project on Combating Desertification in the Vicinity around the Beijing Area (which is also the Beijing and Tianjin Sand-wind Source Control Project) as the Administrative Office for the Project on Combating Desertification in the Vicinity around the Beijing Area;
- (11) to instruct the Three North Shelterbelt Programme's business with regard to combating

desertification and sandification;

(12) to be responsible for administrating the professional business of China Combating Desertification and Desertification Association, China National Research and Development Center of Combating Desertification, China National Training Center of Combating Desertification and China National Desertification Monitoring Center;

(13) to act as the Secretariat of CCICCD and the Office of National Coordinating Group to Combat Desertification and do the routine work;

(14) to undertake the other task allocated by the State Forestry Administration.

#### **4.2.2.2 Respective Local Institutions at Provincial, Prefecture and County levels**

Local government's coordinating or leading groups to combat desertification and forestry/agriculture departments/bureaus has been remained at the current institutional reform. Chifeng City and Huhhot of Inner Mongolia Autonomous Region and Yulin Prefecture of Shaanxi Province have been carrying out the work of constructing ecological counties and ecological prefectures. Chinese central government and local governments are taking the measure of issuing bond to construct 'Ecological Counties' in the mid and western China, and the offices of ecological counties construction have been set up, which are composed of government officials and experts.

### **4.3 INCORPERATION OF THE NAP INTO NATIONAL SOCIAL AND ECONOMIC DEVELOPMENT PLAN**

#### **4.3.1 CONICIDENCE BETWEEN NAP AND NATIONAL ECO-ENVIRONMENT PROMOTION PLAN**

The strategic objectives of combating desertification have been determined by China National Programme for Ecological Environment Improvement that has been incorporated into the National Economic Development Plan. The objectives are as follows.

##### **(1) SHORT TERM OBJECTIVE (2001-2010)**

From 1998 to 2010, with about 12 years of time, to terminate expansion of new desertification caused by human factors, and contain with effort the expanding of desertification. Primary achievement in serious affected areas will be obtained. 22 million ha of desertification-affected land will be controlled.

##### **(2) Mid-term Objectives:**

During the period from 2011 to 2030, the nation's eco-environment in desertified areas will be improved remarkably when the trend of eco-environmental deterioration has been contained. About 40 million hectares of desertified areas will be controlled. Therefore, the goal of making the eco-environment in key control area get on the track of virtuous cycle will be realized.

**(3) Long-term objectives:**

During the period from 2031 to 2050, a favorable ecosystem, which basically fits in with sustainable development in the nation's desertified areas, will be established.

**4.3.2 RELATIONSHIP BETWEEN NAP AND LOCAL ACTION PROGRAMME**

NAP is the mainstreaming and synthesizing of the desertification combating plans of various sectors, which are based on each sector's planning. And each sector's planning is set up on the basis of the local action programmes, which is the mainstreaming and synthesizing of each local government's desertification combating action programme. Therefore, nearly all the local action programmes are incorporated into the NAP. The large-scale, Trans-regional, Trans-watershed ecological improvement programme organized by the Chinese government has played a very important role in controlling desertification. All these programmes are organized and executed by the local government

**4.3.3 RELATIONSHIP BETWEEN NAP AND SUB-REGIONAL/REGIONAL ACTION PROGRAMME**

**4.3.3.1 China's Involvement in the Sub-Regional Action Programme**

With the assistance of the Asia Regional Coordinating Unit (A-RCU) of UNCCD, China is negotiating with pertinent countries to carry out Trans-boundary cooperation.

**4.3.3.2 China's Involvement in the Regional Action Programme**

China has actively participated in the implementation of the Regional Action Programme. Chinese government hosted the First Meeting of Asia-Africa Forum to Combat Desertification in May 1996 with the assistance of the Secretariat of the UNCCD, UNSO and the Japanese government. The forum passed the Report on Asia-Africa Cooperation Framework, whose decision is to set up the Asia-Africa Research and Development Training Center. China attended the Second Asia-Africa Forum to Combat Desertification in Niger from August 31 to September 7, 1997. At the meeting, China submitted the 'Feasibility

Report on the Asia-Africa Research and Development Training Center. In May of 1997, China hosted the Beijing Ministerial Conference on Regional Cooperation to Implement the UNCCD in Asia at which the 'Beijing Declaration' was passed, and the meeting endorsed six priority thematic programme areas (TPNs) for regional cooperation in Asia. China hosted the Asia-Africa Technical Workshop on Early Warning System, Second Asian Meeting of the UNCCD National Focal Points and the Launching Meeting for the Thematic Programme Network on Desertification Monitoring and Assessment (TPN1) in 1999. By now, over 20 countries have participated TPN1. In 2001, the Chinese Government hosted an ad hoc expert meeting on the benchmark and indicators for desertification monitoring and assessment for the Asian region. In June of 2001, the secretariat of UNCCD, GM, UNDP, ADB and the Chinese Government jointly sponsored the Coordinating Meeting on Partnership Building and Resource Mobilization for UNCCD Implementation in China. Thereafter, in December 2001, a strategic review meeting for China's policy and programs to implement UNCCD was held in Beijing. China also actively attended various events held by the Secretariat of UNCCD. China attaches importance to the summarization of the traditional knowledge and practical techniques for combating desertification. In accordance with the Resolution 20 of the COP1, Chinese government, from January to October of 1998, organized the professionals of over 10 research institutions and production departments to compile a book entitled 'Traditional Knowledge and Practical Techniques for Combating Desertification in China' both in Chinese and English. The English version books were distributed during the period of the COP2 and appreciated by the international society. The book also gained the 'Best Practices Award on Indigenous Technology in Combating Desertification and Mitigating Effects of Drought' presented by UNDP.

#### 4.3.3.2 Synergies with other environment conventions

Synergies between UNCCD and environment or bio-diversity issues concerned by the other conventions have been incorporated into China Agenda 21, with same attentions paid to. The various conventions are comparatively independent, whereas, they are connected. The independence is that the environmental issues targeted are different. The connection is that when one convention is solving some environmental issue, it will affected somewhat to other environmental issues. For example, solving the problem of desertification will affect

bio-diversity or reducing carbon dioxide's impact on human beings; whereas, setting up natural reserves will protect bio-diversity while at the same time will somewhat prevent land desertification. Therefore, China attaches same importance to other conventions while solving issues concerned by UNCCD. The Law on Combating Desertification provides that protection areas should be set up and enclosed, which is aimed at preventing desertification, while at the same time effectively protects bio-diversity in the desert eco-system. Various environmental issues concerned by different conventions are also coordinated in the GEF projects. For example, in the land degradation project, desertification is the land degradation in dry, semi-dry and sub humid dry areas. While controlling desertification, bio-diversity and wetland resources are protected, and it will help decrease green house air and increase oxygen production.

#### **4.3.4 AGREEMENT BETWEEN GOVERNMENTS**

Chinese government has signed bilateral cooperation agreements on aided projects with the governments of Germany, Japan, Netherlands, Australia, Canada, etc. These agreements have played a good role in China's combating desertification. For example, there are over 20 ecological afforestation projects assisted by Germany in the desertified areas. They are: Afforestation Project in the sandification area in northern Shanxi, Ecological afforestation in Helan Mountain areas in Ningxia, Baiyang Lake afforestation project in Hebei province, afforestation project in Chengde, Hebei Province, Afforestation Project in Yan'an Prefecture in Shaanxi Province, Afforestation Project in Chifeng Prefecture in Inner Mongolia, Afforestation Project in Chaoyang of Liaoning Province, Afforestation in Yunan Province, Chongqing Municipality and Sichuan Province, 'Three North Shelterbelt', Water Sources Reserve Forest in Miyun Reservoir of Beijing, Desertification Technology Assistance Project in Ningxia, etc; total project fund is up to 0.14 billion German Marks. Desertification combating cooperation between China and Japan includes 5 projects, which are: afforestation in Lianshan Prefecture in Sichuan Province (two projects), Afforestation and Combating desertification in Ningxia, Afforestation in the Loess Plateau, Research in the Miyun Reservoir in Beijing, etc; total fund is approximately 2.45 billion Yen; Cooperation projects between China and South Korea includes two projects, i.e. Afforestation and combating desertification in the five western provinces (autonomous regions) and Afforestation Project

in the Miyun Reservoir of Beijing, total funds up to 6 million USD; Projects between China and the Netherlands includes the desertification monitoring project, fund up to 4.46 million in Holland currency. Multilateral projects being carried out include: 'Three North Afforestation Project' supported by FAO, 'Capacity Building Project for Natural Forests Protection' supported by UNDP, with fund of 2.69 million USD; the soil erosion Project supported by the World Bank, with total loan of 0.3 billion USD; in 2001, soil erosion project for the upper reach of the Yangtze River was incorporated into the 2004 plan of WB. Besides, the provincial governments have signed a series of cooperation projects with relevant countries. In the field of science and technology cooperation, the projects being carried out include: Synthesized treatment technologies research and development experiment project with Israel, Research on sources and development of wind erosion in Qinghai-Tibet Plateau with Germany, Research on impacts climate change's impact on agriculture ecological system and water resources in dry areas with the European Community, Research on measures and evaluation of combating desertification in Kerqin Desertified Land with Japan, and Assessment of sandification in the origin of Yangtze River, etc.

#### **4.4 LEGAL GUARANTEE SYSTEM**

At present, China has promulgated about 20 laws relating to environmental protection and a series of environmental regulations and standards, the local by-laws system has been continuously enhanced. The legal guarantee system combining environmental protection laws, other relevant laws and regulations promulgated by the State and local governments have been primarily formed. The 23<sup>rd</sup> Meeting of the ninth Standing Committee of the National People's Congress passed the Law on Combating Desertification on August 31, and the law came into force on January 1. It is the first law on combating desertification in the world and is a milestone of China's combating desertification. It marks that China's combating desertification has been on the legal track and a new phase of preventing and controlling desertification by law. The law sets out the basic guidelines, responsibilities and obligations, management system, main system, guarantee measures and the legal responsibility of desertification unlawfulness.

The basic guidelines of this law are as follows:

(1) to unifying plan, adjust measures to local conditions, implement gradually in different



phases, and adhere to the principle of combining prevention by general areas and by key areas; (2) to prevent first, combine prevention and control, and to treat with synthesis measures; (3) to combine protection and rehabilitation of vegetation and exploiting natural resources; (4) to follow the ecological law and depend on science and technology developing; (5) to combine ecological rehabilitation and helping the farmers & herdsmen alleviating poverty and be richer; (6) to combine national support and the self-dependence of local government; (7) to protect the lawful interests of the desertification combaters.

Responsibilities: The law provides that the government should undertake great responsibilities in combating desertification. The responsibilities include: (1) the county-level-above government in desertified areas should incorporated combating desertification into the national economic and social plans, and guarantee and support the undertakes of combating desertification. (2) the government at different levels should take effective measures to prevent and control desertification, and protect and improve the ecological quality of the administrative region. (3) the State shall establish targets for prevention and control of desertification, including a system of rewards and penalties based on the achievement of desertification prevention and control targets for the term of office of government administrative leaders. (4) the county-level-above government should report the result of combating desertification to the same-level People's Congress and its Standing Committee.

Obligations: Organizations and individuals that use land shall be under obligation to prevent desertification of the land concerned. Organizations and individuals that have already used desertified land shall be under obligation to rehabilitate the desertified land concerned.

Management system: combating desertification should be governed as a whole by the government, and the forestry department is the main governing agency. The various departments of the government should shall specify and assume their respective responsibilities and closely cooperate to combat desertification. Make the national action plans as a unified one, take responsibilities according to function allocation, implement the plan in different phases, manage the project in different levels and enforce the law concentrative. The forestry administrative department shall be responsible for organizing, coordinating and guiding combating desertification. It is regulated that the county-level-above

government should further mainstream management system, put into effect the task assignment, line out clearly the duties and responsibilities, specify the law-enforcing body and promote combating desertification smoothly.

The main managing systems include: (1) the system of rewards and penalties based on the achievement of desertification prevention and control targets for the term of office of government administrative leaders. (2) planning system; (3) the system of setting up enclosed desertified land protection zones; (4) monitoring report system, (5) prevention system; (6) controlling system, etc.

Guarantee measures: it is regulated that the government should support combating desertification through financial, investment, and taxation means; for the controlling activities on the desertified areas, prolonged use right will be offered to the trial lands; the ratified agency shall compensate in economic means the land users whose controlled land is ratified for special needs to be converted into natural reserves or enclosed desertified land protection zones.

Legal responsibilities: it sets out the legal consequences to be undertaken by desertification lawbreakers.

With the same pace of ordination of the Law, the national and local government has also promulgated a series of by-laws and regulations, and have strengthened law enforcement. These actions have promoted the legalization of combating desertification.

#### **4.5 GOVERNMENTAL EFFORTS AND INITIATIVES TO IMPLEMENT UNCCD**

The Chinese government always attaches great importance to desertification combating. As early as the 1950s, the government organized people to combat desertification mainly through planting trees and grasses. In recent years, the Chinese government has taken a series of powerful measures to strengthen combating desertification and has made remarkable achievements, which has improved ecological environment in some areas, with economic and society developed and people's living standard increased. In the recent two years, the Chinese government has furthered the efforts on combating desertification and has brought the undertakings of combating desertification into a new phase of giant leap forward.

##### **4.5.1 The Government of China 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—Forestry Action Plan”, “China Eco-environment Promotion Plan”, “China Environment Protection 21st Agenda”, “China National Action Programme to Implement the United Nations Convention to Combat Desertification (NAP)” and other important documents,. In China, economic reconstruction and environment protection is stressed in integrated forms of synchronous planning, synchronous implementation and synchronous development.

#### 4.5.2 Consistent enhancement of legal system and establishment of effective legal guarantee system for combating desertification

Since the 1970s, a series of laws have been promulgated, such as the Forest Law, the Pasture Law, the Law on Soil and Water Conservation, the Environmental Protection Law and so on. We have been ceaselessly perfecting the legal system for combating desertification since China signed UNCCD in 1994. In 1998, the Standing Committee of National People's Congress ratified the revised Law of Land Management; hence, combating desertification is incorporated into the legal system. After years of continuous efforts, the Law on Combating Desertification was passed on 31<sup>st</sup> august 2001. Meanwhile, the Standing Committee of National People's Congress ratified an amendment of the Criminal Law in order to effectively punish the offenses of reclaiming forests and unlawfully occupying and exploring forestland. Whatsmore, new articles was added for defining and charging legal person's unlawfulness. Accordingly, relevant legal interpretation was passed. That is a special measure and effective legal weapon taken by the Chinese Government to enhance ecological construction. Moreover, the Chinese government has strengthened execution of environment laws. The State Environmental Protection Administration and the State Forestry Administration have jointly or independently carried out serious inspection of environmental illegal acts, which emphasized the acts of reclamation of forests and grasslands and publicly gathering and selling economic plants for shelterbelt use. The government has also enhanced the assessment of resources exploitation's impact on the environment.

4.5.3 Establishment of governmental administration organizations at all levels to intensify institutional building for combating desertification.

The Chinese Government set up the China Combating Desertification Coordination Group/China National Committee for the Implementation of the UNCCD, consisting of 18 departments of the State Council, with the office and secretariat in the State Forest Administration. Thus the organization, coordination and guidance of desertification combating in China have been strengthened. 14 provinces (autonomous regions, municipalities) have established coordination group or leading group to combat desertification, forming an organic coordination and administration system among the departments of diplomacy, planning, finance, science and technology, forestry, agriculture, water conservancy, meteorology, railway, communication, poverty alleviation, integrated development, national territory and natural resources, and so on, to facilitate the desertification combating drive step by step in a unified planned and organized way.

4.5.4 The Chinese government actively implements the NAP, and organizes large-scale trans-regional, trans-watershed and trans-sector ecological projects to speed up combating desertification.

Since 1978, a number of ecological projects were initiated to protect and improve ecological environment and prevent desertification. In 2001, the State Council ratified a new package of forest plan integrating and merging over a dozen national forest projects into 6 key projects. According to the plan, in the first 10 years of 21<sup>st</sup> century, afforestation area will reach 76 million ha, with the investment up to several hundred billion Yuan. The hugeness of the investment, the greatness of the scale, and the extent of the coverage are probably unprecedented in the world. In the "Three North" (Northwest, North and Northwest China) areas where desertification is the most serious, 23.75 million ha. of plantation has been established, a total of 8.9 million ha. of treatment task on combating desertification was completed for 'the National Project to Combat Desertification', the forest coverage in the "Three North" area has increased from 5.05% in the late 1970s to the present 10%, part of the desertified land was effectively under control. At the same time, the reclamation and amelioration of pasture, the greening along the railway and highway, and the tackling of

water and soil erosion have been intensified. 18 experimental projects for rangeland modernization and 43 demonstration projects for synthesized management demonstration and rangeland exploitation have been set up. 16 million ha of rangeland have been constructed and reformed, 10 million fencing rangeland have been set up. Mice and insect hazards have been prevented in 90 million ha rangeland. 11 rangeland nature reserves have been built up. During the period of the Nation's Ninth Fifth Plan (from 1996 to 2000), water erosion of land was controlled by 230,000 km<sup>2</sup>, 130 counties and more than 1000 small watersheds have been set as examples for water erosion control, and more than 200,000 km<sup>2</sup> land have been controlled. At present the following projects are being carried out: the sand-reducing project in the mid-reach of the Yellow River, the slope surface treatment in the upper-reach of the Yangtze River, the project of salvaging the land in the karst area, the combating desertification project in the margin areas of agriculture and animal husbandry, the ecological oasis rehabilitation project in the continental rivers, the Northeast China chernozem (a kind of black soil) protection project and the project of protecting key water resources reservoirs, etc. China has finished roadside vegetation of 684,000 kilometers, with the vegetation rate of 70%. During the period of the Ninth Fifth Plan, roadside vegetation of 140,000 kilometers was completed, 637,000,000 trees and 148,000,000 grassed were planted. More than a dozen reclamation demonstration zones were set up, the reclamation rate has been increased from 5% to 12%. The national synthesized agricultural development programme, during the Ninth Fifth Plan, forest land of 1.09 million ha was increased, grass planting and rangeland reform were carried out in 730,000 ha of land, forest nets were increased by 5.23 million ha, and 28,500 km<sup>2</sup> of water and soil erosion was controlled. The Eight-Seven Poverty Alleviation Programme was carried out. (Meanwhile the poverty alleviation plan is now effectively implemented.) The 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 rural poverty population is 30 million, a sharp contrast to the 250 million in 1978.

4.5.5 China attaches great importance to science and technology research and popularization on combating desertification, which has brought the roles of scientists and technical personnel into full play.

The Senior Expert Group of China National Committee for the Implementation of the UNCCD was established, which was composed of 20 senior scholars from different departments to enhance the technical assistance to combating desertification. Researches on desertification combating were defined as the key strategic research commitment, with scientific and technological research programs organized, large number of popularization handbooks edited and disseminated. In 2001, the government organized an activity of ‘100 Science and Technology Professional Go to the Rural Areas Sending Science and Technologies’. China has made great efforts in popularizing practical technology on desertification combating. China has incorporated the “Desertification Control Technologies and Demonstration Project” into the national science and technology programme. During the ninth five-year plan period, 25 science and technology achievements have been authenticated, 25 achievements have been disseminated and applied. The “Capital surrounding areas desertification control emergent technology and demonstration project was launched, the desertification assessment indicators system was set up, the integrated desertification combating demonstration system of 248 kilometers was set up. The researches on basic research, desertification dynamic situation, sight-view ecology, plant adversity physiology, sustainable development, high efficiency utilization of water resources, control models and technologies and other research programmes. By now, over a hundred science and technology achievements and models on combating desertification have been achieved, which have contributed a lot to production, e.g. the models alongside the railways, roads and oasis, the control models for small watersheds and plane seedling afforestation, etc. The government stipulated that 3% of the national investment on key forest ecological projects should be used for popularizing scientific and technological knowledge. Scientific research institutes and scientific and technical personnel are encouraged to provide technology services to increase the scientific and technological content in desertification combating and promote the transfer of scientific and technological achievements to practical productivity forces. Moreover, combating desertification has been incorporated into the nation's Higher Education Guideline; 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. From

1994 to 1996, the nation's desertification survey was carried out. The National Desertification Report was finished according to the UNCCD indicators. An Desertification Distribution Map of the whole nation was made, which for the first time systematically and objectively provided the acreage, distribution and cause of desertification in China, and analyzed the trend of desertification. By 1999, the second round of the nation's desertification monitoring had been finished. Tens of thousands of sample sites were set across the whole nation, with advanced measured applied, data were gathered. The dynamic change of desertification was grasped, and monitoring results were periodically published, which have provided scientific basis for the government's decision-making. In 2001, China has preliminarily established the drought monitoring early warning system, and submitted report to the State Council on climate feature, drought status since February 2001 and drought climate analysis and its trend, etc.

#### **4.5.6 PERFECTING POLICIES AND MOBILIZING PEOPLE FORM ALL THE SOCIETY TO PARTICIPATE IN COMBATING DESERTIFICATION**

A series of policies on mobilizing social initiatives were implemented. By the year of 2000, the government had allocated a total of 4.6 billion Yuan of discounted loans to desertification combating. A series of favorable policies have been initiated, such as auctioning "Four Barrens" (barren mountain, barren valley, barren desert and barren land), "who plants it, who runs it, who benefits from it", "to contract lands to individuals, to allocate grain as a kind of relieving to the people in stricken areas" and the policy of compensating the ecological forests in cash, etc. These policies have helped bring the people's enthusiasm into full play. 4 million farmer households have participated in the activities of converting farmland into forestland, about 3.1 million farmer households have participated in the activities of auctioning "Four Barrens". 23 million ha. Of "four barrens" in the country have been clarified of exploitation subject agencies or individuals. Whereof, the auction of use right of "four barrens" have covered 6.5 million ha. Lands. The auction funds collected by the rural collectivities have reached more than 20 billion. In most areas, rangeland contracting and controlling system has been set up. Where the rangeland is owned by the public,

contracted by households, the households own and raises the livestock and the services are socialized. To protect the ecological environment in the western regions, the government has in particular formulated taxation-favored policies. The “State Council Office’s Notification of the State Council’s Western Region Development Office’s several proposals on policies on western region development” (document code: State Council Office [2001] No. 73) and “the Notification jointly issued by the Ministry of Finance, the State Taxation Administration and the Customs Bureau on taxation favorable policies on western region development” document code: Finance & Taxation [2001] No. 202) were issued in 2001. Which regulated that special local produce from ecological environment protection and converting farmland into forests and grassland in the western region should be exempt from the Taxation of Special Local Produce in the 10 years from the year of earning income. The People's Republic of China's Law on Taxation for foreign-investment enterprises and foreign enterprises provides that, the license fees to be gathered from foreign enterprises' transferring technology to China territory can be exempted from taxation received in advance after been ratified. It is stipulated that all the nation citizens ranging from 11 to 60 (55 for women) years old should plant 3-5 trees every year, which means everybody should make contribution to afforestation and combating desertification. At present, there are about 2000 non-government organizations related to environment protection in China, spreading all across the country. They are becoming an important force in combating desertification.

4.5.7 China actively keeps its promise to the UNCCD and seriously implements the convention.

According to the Framework for Action on Asia-Africa Cooperation on Combating Desertification, adopted by the first Asia-Africa Forum on Combating Desertification in Beijing in 1996, and it was decided that the Asia-Africa Research, Development and Training Center for Combating Desertification would be set up in China. To implement it, CCICCD has actively contacted with pertinent international agencies and donor countries through various channels since late 1996. And China further discussed with the international agencies and developed country parties at the Second Asia-Africa Forum on Combating Desertification in 1997. In October of 1997, the feasibility report for the establishment of the Asia-Africa Research, Development and Training Center for Combating Desertification was officially



presented to the secretariat of UNCCD. And China has done preliminary preparations on selecting affiliated agencies, sites and venues, building demonstration sites and setting up priority cooperation areas. It is wished that the international community will actively support the decisions made by the first and second forums and set up the Center as early as possible. China will also keep its promise. According to the Beijing Declaration adopted by the Beijing Ministerial Conference on Regional Cooperation to Implement the UNCCD in Asia, the Chinese Government undertook the building of the Asia Desertification Monitoring and Assessment Network. From 22 to 27 of June, 1999, the launching meeting of TPN1 was hosted in Beijing, at which the targets, structure, main programme and priority actions of TPN1 and also the Operation Instruction (Annex A) was adopted. By now, 20 countries have attended TPN1, including China, Japan, India, Iran, Jordan, Kazakhstan, Kirghizistan, Kuwait, Lebanon, Mongolia, Aman, Pakistan, Philippines, Syria, Tajikistan, Thailand, Turkmenistan, Uzbekistan, Vietnam and Yemen. hosted the workshop on the early warning technology in Asia and Africa, the Second Asian Focal Point Meeting on UNCCD, and the in the Asian region. By now, 20 countries have attended TPN1. From 28 to 30 June of 2000, a workshop on TPN1 was held in Tokyo in Japan, which discussed the assessment technologies and methods, Asia Desertification Map and TPN1 website. From 26 to 29 of 2001, the China hosted an ad hoc expert meeting on the benchmark and indicators for desertification monitoring and assessment for the Asian region. At present, the website (<http://www.asia-tpnl.net>) is under operation, but TPN1 still lacks financial support, it is not able to carry out the activities according to plan. China calls upon pertinent international organizations, Asia regional organizations and developed countries to pay attention of TPN1 and provide technology and financial support to it.

4.5.8 China carries out wide publicity and raises public awareness of combating desertification.

Since the first World Day to Combat Desertification and Drought in 1995, China has carried out large-scale commemoration and public awareness raising activities for combating desertification in Beijing and dozens of other big and mid cities each year. Thus public awareness raising has been greatly enhanced. A series of large-scale events which have made fruitful achievements on raising public awareness have been organized by means of exhibition,

video tapes, newspapers, TV, seminars and workshops publicity month for combating desertification , etc at different levels. Chinese people, from the top leaders down to ordinary civilians, are aware of the harmfulness of desertification. Recently, there are a large number of volunteers including the aged and the young, women, officials, scholars and soldiers, who appear on days of Tree-Planting Day, World Environmental Day, World Water Day and World Day to Combat Desertification and Drought to carry out activities such as planting trees so as to combat desertification and improve environment. What is special is that in each spring or autumn, large numbers of Japanese come to China to volunteer to plan trees, making contributions to China's combating desertification and afforestation. At present China has set up large number of demonstration forests such as Reporters Forest, Communist Youth's Forest, Labor Union's Forest, Women's Forest, Friendship Forest, etc. In November 18 of 1998, Nobel Prize winner, the famous American scholar, Mr. Li Zhengdao presided an interesting symposium, discussing the large scale of sandstorm and desertification combating in China, which drew the high attention of the national top leaders to combating desertification. In May of 1997, President Jiang Zemin called upon the whole nation to "build a new western region with mountains beautiful and water limpid". On June 17 of 1997, President Jiang Zemin made important statement on combating desertification, he pointed out that "Desertification has been deteriorating year by year and expanding eastward, it has brought adverse effects on socio-economic in not only the western regions but also the eastern regions." In September of 1997, President Jiang Zemin instructed to "strengthen the control of environmental pollution, plant trees and grass, do well at water and soil conservation, combat desertification and improve the eco-environment". In April of 1999, President Jiang Zemin pointed out "it is necessary to mobilize all people of the nation to continuously do well at planting trees so as to effectively contain the water and soil erosion and combat desertification. It is an vital issue affecting the generations of the Chinese in next century and the following centuries. We must pay enough attention to it and do it adequately and excellently." In May of 1999, Premier Zhu Rongji made a special investigation of combating desertification, he made the instruction of " no time to be lost to combat desertification". The instructions made by the top leaders have exert high importance to raising the public awareness of combating desertification.

## **5 PARTICIPATORY PATTERN OF THE RELEVANT SECTORS IN NAP PROCESS**

### **5.1 PARTICIPATORY PATTERNS OF RELEVANT SECTORS AND SOCIAL COMMUNITY**

The Chinese government calls on all walks of life across the country to take full participation in the cause of combating desertification. First of all, mass media are used to facilitate education and popularity of knowledge and enhancing public awareness of combating desertification. On June 17, the World Day to Combat Desertification and Drought, CCICCD takes this opportunity to organize events and activities for public education. On one hand, public activities for consultancy and celebration events are carried out in more than 100 large and medium sized cities in relevant provinces, autonomous regions and municipalities and top provincial leaders give speech in this regard; meanwhile, several reporting groups are organized to visit the affected areas for news reporting and release of special issues. On the other hand, celebration event to commemorate the World Day to Combat Desertification and Drought is held every year in Beijing for which large volume of publicity materials are compiled and videotapes produced. Furthermore, other commemoration activities are carried out such as symposium, seminars and training workshops. Since 1996, large volumes of training materials have been compiled and printed every year under the organization of CCICCD to help farmers, women in particular, enhance the awareness of combating desertification, popularize techniques and disseminate technologies of combating desertification in rural areas. Secondly, preferential policies are adopted including discounted loan from the government for the projects on combating desertification, deduction or exemption of taxes on benefits generated from development of barren hills and waste sandy land. In recent years, such new policy measures as auctioning on “four barrens” (barren hill, barren gully, barren desert and barren land), returning slope farmland to forestry, mountain closure for afforestation, household contract and work relief have been promoted to encourage farmers to purchase the usufruct right for further development so as to speed up restoration of vegetation and mobilize the public enthusiasm to combat desertification. Some

demonstration projects are established and implemented to allow full participation of herdsmen, in particular for women. Revegetation of forest and grassland will be expedited with these efforts. Thirdly, the national compulsory tree planting campaign has been widely carried out throughout the country. It is stipulated in law that any Chinese citizen, man from 11 to 60 and woman from 11 to 55, shall plant 3 – 5 trees voluntarily every year. Everyone shall make contribution to the cause of territory greening and combating desertification.

There are over 20000 national non-government organizations in the field of environment protection in China, which deal with different environment problems. China Combating Desertification and Sand Industry Association and China Water and Soil Conservation Association are two important NGOs in desertification control area in China. The members of the two associations took part in the formulation of the National Action Plan and the NAP has been also sent to relevant NGOs for their comments.

The State has listed combating desertification as a research topic of great significance and efforts have been made to strengthen study on basic and theoretical issues in a bid to achieve technical breakthrough. Practical techniques for combating desertification have been extended, research institutions and technical staff are encouraged to provide technical input in combating desertification and promote transfer of technical achievements into productivity. Meanwhile, education on combating desertification has been strengthened to incorporate extensive on-job training and special education in order to train technical personnel for combating desertification. The State Planning Commission has organized the implementation of national eco-county program, the railway and communication sectors carried out a number of green corridor projects and established green corridors with multifold, sound structure and multiple functions forming the integration of shelterbelt, network, pieces and spot site, which combine the green corridor and ecological environment, urban and rural greening as a whole. The Ministry of Railway Construction makes an annual input of US\$ 1.2-2.4 million in desertification control and the Ministry of transportation invests US\$ 380 million in roadside afforestation during the ninth five-year period. The water resources sector facilitated control of water and soil erosion in desertification affected areas and made an input of US\$ 1 billion from central and local government during the ninth five-year plan. The agriculture sector has carried out extensively the pasture eco-system construction in the affected areas. The People's

Bank of China will direct banks concerned through credit policy in the process of credit policy reform and give its positive support in light of its credit principles to the key shelterbelt system construction, afforestation and regeneration of forest resources, integrated development of mountain areas, sand dune fixation and combating desertification. The National Agricultural Development Office intensified efforts in combining poverty alleviation and ecosystem construction and promoting sustainable development of poverty-stricken area. The Ministry of Land and Natural Resources is carrying out a new round of inventory and assessment on land resources. The national Meteorology Bureau has established sandstorm monitoring and early warning system at national and provincial levels, which provides timely and effective services to the decision making body of the government and achieves good results in providing justification for desertification control, land degradation and drought disaster mitigation. The national tax sector adjusted the taxation policy suited for the western development strategy. The National Poverty Alleviation Office stipulated Development Guidelines for China Rural Poverty Alleviation 2001-2010. The Ministry of Science and Technology has carried out research and demonstration projects on key technologies in desertification control and combating measures. Other sectors have also made contribution to the implementation of NAP.

## 5.2 MUTUAL UNDERSTANDING

From the national point of view, a bottom-up approach shall be applied in the development of an action program or plan, which requires incorporation of comments and suggestions from local community and consideration of local needs for ecological development. Appropriate amendments to fit local practices are also necessary during implementation of the action program or plan.

From a local viewpoint, consideration should be given to solving the major existing problems and meeting the needs of farmers. Problems identified should be incorporated into the local action program or plan and eventually into the national action program or plan. Such preferential policies as financial aid, discounted loans and tax exemption will be given to the institutions and individuals that are devoted to combating desertification in compliance with their tasks and difficulties in desertification control. If any institution or individual invests in managing and controlling desertification, they will be exempted from any tax during phase of

investment. After gaining profit, they can also be exempted or deducted from relevant tax. If one manages state owned desertified land, he or she may have the usufruct right no more than 70 years approved according to law by the government above county level.

Field visits, researches, discussions and seminars about different types of ecological programs are ways that CCICCD and relevant departments used to get the information about the situation at grassroots level. Every year investigation is undertaken to monitor the implementation of NAP, probing into major existing problems and synthesize for extension of successful experiences, techniques and practices. Efforts have been made to hold seminars and symposium for people from educational and research institutions and NGOs in countries, prefectures and cities of relevant provinces and autonomous regions. Government officials are assigned to grass-roots organizations for practical experiences or work in selected villages to gain firsthand information and fee back pending issues to the State's decision-making body. Every year, the CCICCD and agencies in charge of combating desertification at different levels respond to inquires from various sources on ecological development, such as the People's Congress, Chinese Political Consultative Conference, villagers committee and other social institutions at different levels and individuals. All the proposed key projects or programs should be evaluated prior to implementation.

## **6. BASIS FOR SUPPORTING THE FORMULATION OF NAP**

### **6.1 GOVERNMENT CONCERNS ON COMBATING DESERTIFICATION**

The Chinese government has always attached great significance to combating desertification and it is incorporated into the national economic and social development plan as a major program. In recent years, State leaders have repeatedly emphasized in their speeches at important occasions the significant role of combating desertification in promoting sustainable social-economic development. The local government and people in desertification-affected areas are called on to raise their awareness of the challenging situation to combat desertification and increase their sense of urgency, responsibility and mission.

The Tenth Five-Year Plan of China National Economic and Social Development have put combating desertification as one of the priority areas in the sustainable development. It has initiated major programs including Natural Forest Conservation Program, the Conversion of

Farmland to Forest and Grassland Program, the Sandification Control Program for Originating Areas in Beijing and Tianjin, Three North Shelterbelt Development Program, and the Wildlife Conservation and Nature Reserve Development Program. The western development strategy has even put ecological development as a starting and breakthrough point.

## 6.2 FORMULATION OF NATIONAL ECO-ENVIRONMENT DEVELOPMENT PLAN

Along with the economic development, the Chinese government has been aware of the significance of environmental issues for sustainable economic and social development and hence taken environmental protection as a fundamental policy of the State. As early as in the 1990s, a task force was formed to compile the National Eco-environment Development Plan, which was decreed by the Government in November 1998. All these provide sound basis for determining the long-term strategic objective of combating desertification.

The National Eco-environment Development Plan presents a blueprint and strategic policies for ecosystem and environmental protection in China between 1998 and 2050. From the viewpoint of strategic layout, the country is divided into 8 major zones to be tackled and the integrated wind and sand control zone in the Three North region, known as desertification combating program, is given high priority.

## 6.3 SURVEY AND ANALYSIS ON EXPERIENCES FOR IMPLEMENTATION NAP

In order to get further information on the current status and the development trend of desertification and sandy land and provide basis for decision making in desertification control and combating for better implementation of UNCCD, a second survey and monitoring on desertification and sandification has been carried out nation wide since 1999. This time the survey adopted the method combining remote sensing technology and ground survey, covering 18 provinces, autonomous regions and municipalities. On 10 January 2002, the State Forestry Administration released the results of the monitoring process. The survey gives a detailed description and analysis on the status quo of the national desertification and sandy land and its development trend, the factors causing desertification and accelerating sandification, and effective measures in curbing and changing the desertification and

sandification trend. The monitoring result has become the important basis for the modification of NAP and plays an indispensable role in the process of identifying key areas, selecting projects and management measures.

The inventory has combined the remote sensing technology and the ground survey and involved nearly 13,000 technical staff covering 30 provinces using 60,000 sample lines and 300,000 sample plots. In the process, CCICCD made a lot of efforts in coordination. It invited 27 experts from forestry, agriculture, water resources and environmental protection sector including 6 academicians to give comprehensive appraisal on the survey. It also seeks comments from 17 members of China Coordination Committee of China Combating Desertification, all of which showed their agreement or initial approval of the monitoring result.

#### 6.4 GREAT PROGRESS MADE IN LEGISLATION

Chinese government has long been considered curbing desertification incurred by human disturbance by way of legislation since early 1990s. Thanks to the efforts made in the past few years, the Law of Combating Desertification of the People's Republic of China was endorsed by the Standing Committee of the National People's Congress on 31 August 2001 and it took effect on 1 January 2002. This is the first law specified on combating desertification in the world. Along with it, the Criminal Law and the Law of Land Use Management were modified to intensify the measures on combating desertification and protecting vegetation and then eventually realize combating desertification by law. Article 10 of the Law of Combating Desertification stipulates that desertification control will take action under unified plan. Any activities related to combating desertification or activities on development within the sandy land area should abide by the master plan on desertification control and combating. The master plan shall make clear stipulations on time, procedures and measures taken to curb desertification expansion trend and reducing sandy land area, and incorporate its detailed action plan into the five-year plan and the annual plan for the national economic and social development.

#### 6.5 INTERNATIONAL COOPERATION AND EXCHANGES



Since ratification to the UNCCD, Chinese government has been active in international cooperation and exchanges by means of attracting foreign investment and introducing advanced technologies and management models to expedite the process of combating desertification. The Government has signed bilateral aid cooperation plan with a number of developed countries in the field of combating desertification and other fields concerned. UNDP funded Capacity Building Project in Support for Implementation of UNCCD and Capacity Building Project for Implementation of Natural Forest Conservation Program. GEF approved an ecological development program in western region concerning land degradation. All these efforts have greatly facilitated combating desertification program. June 6 – 10 2001, the State Forestry Administration in cooperation with UNCCD, GM, UNDP and ADB held the International Workshop on Partnership Building and Resource Mobilization in Support of China Implementation of UNCCD Especially in Western Region in Beijing and Ningxia, which was attended by about 120 participants from 10 countries and 16 international organizations. The meeting decided to set up a Contact Group for mobilizing financial support to China, which is led by the UNDP and ADB. The Contact Group coordinates to mobilize external funds and technologies for China's desertification combating. The meeting also decided to hold a review meeting one year after for reviewing the achievement of mobilizing funds during the one-year period. The fruitful outcome of the meeting further promoted the exchanges and cooperation between China and the international community and set up an example in partnership building for developing countries. Furthermore, we take every opportunity at international arena and daily contacts with foreign friends, other countries and international organizations to seek assistance, which facilitates the international cooperation in combating desertification to certain extends.

Since the first Conference of Contracting Parties of UNCCD in 1997, the Government has sent delegations for each session of the COP. In 1996, China in cooperation with UNCCD and other Parties held the first meeting of Asia Africa Forum on Combating Desertification and formed the Beijing Cooperation Framework for Combating Desertification in Asia and Africa. In 1997, a ministerial meeting on combating desertification in Asian countries was held and Beijing Declaration was issued at that meeting. Pursuant to decisions made in COP2 of

UNCCD, we organized the first meeting of the Ad Hoc group of STRP in Beijing May 1998. CCICCD gave effective support to the organization of the meeting, which was appreciated by the UNCCD Secretariat and the Ad Hoc group members. It played an important role in strengthening cooperation with the international community and promoting regional cooperation in this field. In 1999, China successfully held the second meeting of national focal points of Asian region and the expert meeting on early warning system for combating desertification.

China has seconded the UNCCD Secretariat and Regional Cooperation Unit in Asia with intellectuals one after another who are Wang Meiyun, Zheng Rui and Yang Youlin, and provided financial support for these posts.

#### 6.6 RESEARCH AND ANALYSIS ON THE EXPERIENCE GAINED IN COMBATING DESERTIFICATION PROGRAMS

In recent years, the State Forestry Administration carried out research and study on national desertification control programs initiated after 1991 to summarize experience, analyze existing problems and put forward rational countermeasures. The research and studies also play an important role in formulating NAP on more scientific and practical basis.

In spite of the progress made in the cause of combating desertification, there are still some problems existing and outstanding:

First of all, lack of financial input is serious. Except for the comparative large input to the Desertification Control Program in Originating areas in Beijing and Tianjin, most of the affected areas face limited resources.

Secondly, the existing policies and measures still need to be improved. In particular, policies in giving incentives to non-state owned organizations and individuals to encourage them to participate in desertification control, preferential terms in taxation, land use policies and the measures to ensure the usufruct of the stakeholder need to be improved to mobilize all walks of life to take part in combating desertification.

Thirdly, the dissemination system for science and technology is still weak. Some advanced technology cannot be disseminated and applied timely which lead to the low content of scientific technology in the programs. Traditional techniques were used more than the advanced ones in afforestation. As the originating mechanism and process of desertification

has not been discovered, many key techniques in combating desertification cannot be solved from grassroots and hence influenced the results of the programs.

Fourthly, the early warning capacity of desertification is quite low. The warning network of sandification has not been established and greatly hindered the combating desertification process and defense on sand disasters.

Fifthly, inadequate expertise in affected areas and the overall qualification needs to be improved.

Now the Chinese government is updating some part of the NAP submitted in 2000 as per the tenth Five-year Plan of the National Economic and Social Development and the Long Term Master Plan 2010 and the plan for Desertification Control Program in the Vicinity of Beijing. The revised NAP should be more compatible with the current situation, more practical and easier to be applied, and in compliance with the international practice.

## 7.1 NATURE OF NEWLY REVISED PLAN

### 7. 1. 1 PRINCIPLE OF PREVENTION AND CONTROL

The cause of desertification in China is mainly due to fragile natural environment and unwise human activities. In this connection, the principle of “prevention first” must be stressed should the expanding trend of desertification be reversed fundamentally. That is, efforts should be made in the first place to prevent the land prone to desertification from turning into desertified land. Apart from teaching farmers to use water, land resources and other biological resources and related techniques in a wise use and appropriate manner, the administrative functions of governmental organs should also be brought into play.

### 7. 1. 2 BIOLOGICAL MEASURES AND INTEGRATED REHABILITATION

In light of the specific situations on China’s desertification affected areas, the control measures adopted in NAP are dominated by biological measures. That is, vegetation rehabilitation and increase of vegetation cover are to be realized through desert closure for natural regeneration of trees and grass and through afforestation under the prerequisite of sound conservation of the existing vegetation.

### 7. 1. 3 CONTROLLING STEPS FROM POTENTIAL RISK TO SEVERE SITUATION

In accordance with China's specific situations, the current strategy to combat desertification is to start controlling activities in less difficult areas while giving due priority to rehabilitation of areas with greater difficulties but closely related to national economic development and living of the local people.

## 7. 2 STRATEGIC OBJECTIVES IN DIFFERENT PHASES

According to the National Ecological Environment Development Plan, the general strategic objective of NAP for implementing UNCCD is to establish effective operation mechanism for combating desertification, perfect a complete set of technical and management system for desertification control and achieve sustainable development in affected areas.

The objectives of different phases in NAP for implementation of UNCCD

### 7. 2. 1 SHORT TERM OBJECTIVE (2001-2010)

Perfecting management system and deploying technical system for combating desertification, achieving preliminary effect on key management zones, and basically curb the expansion trend of desertification in China.

#### **The priority areas for the short-term action are:**

- Establishing a resource mobilization and policy supporting system with the main efforts from the Government and the participation of collective entity and individuals.
- Establishing an improved legislation system on combating desertification.
- Through strategic research, scientific research and project demonstration, explore, study and summarize a complete set of scientific, advanced and applicable technical system and industry development model for combating desertification.
- To implement land use development plans such as Guidelines of National Land Use Plan 1997-2000, the Tenth Five-Year Plan of Land Resources Ecological Development and Environmental Protection, the Tenth Five-Year Plan of Land Resources Development in Western Region. To adjust NAP in compliance with the master plan of land use as per the Law of Combating Desertification emphasizing land conversion and preparation, protecting ecological environment in mines.

- To implement the grassland development programs, e.g.” the Eight major programs”, amounting to 90 million ha, including land closure of 20 million ha, rotation grazing in zoned area of 20 million ha, planting grassland of 16.9 million ha, aero-seeding for grassland of 4.4 million ha, improved grassland of 28.7 million ha. To set up 4,000 water saving and irrigation facilities, 30 pasture nature reserves and eradicate insects and rats in the area of 5 million ha. To establish three main systems, e.g. fine pasture seed cultivation system, grassland ecological environment monitoring system, and grassland technical supporting system.
- To further implement the Circular Order by the State Council on Promoting the establishment of the National Green Corridors, to better facilitate combating desertification at the roadside of transportation routes.
- To implement Guidelines for Poverty Alleviation in Rural Areas of China 2001-2010, putting ecological environment improvement as one of the general objectives during the phase of poverty reduction. Meanwhile, such programs as combating desertification, agriculture land conversion for forests and river basin management shall be incorporated into the master plan of poverty alleviation, adhering to the principle that ecological development and agriculture restructure are combined and the supported cultivation industry must be favorable to the ecological protection and development.
- Continue to take strict implementation EIA and give more publicity on the popularization of Guidelines of National Ecological Environment Protection and the Tenth Five-Year Plan of National Environment Protection.
- To complete comprehensive management of 250,000 km<sup>2</sup>, establish key protection area of 500,000 km<sup>2</sup>, reduce the silt sediment in major rivers, set up monitoring network and information system of the country’s water and soil erosion, and make breakthrough of science and technology.
- To attach importance to the programs of national importance in combating desertification. In the seriously affected areas, based on the major programs of national importance, to put focus on implementing desertification control program in originating areas in Beijing and Tianjin, the fourth phase of the project on Three North shelterbelt system , Natural Forest Conservation Program, land conversion program for forests and grass, water and soil conservation program in Yellow river basin, and the water and soil conservation program in inland watershed management.

#### 7. 2. 2 MIDTERM OBJECTIVE 2011-2030

On the basis of the previous efforts in desertification control, the managed area shall be improved. The ecological environment has gone onto a sound cycle and shall not be deteriorated. The affected area has been further improved and formed initially an ecological protection system. The overall deteriorating trend has been kept under control.

#### 7. 2 .3 LONG TERM OBEJCTIVES (2031-2050)

The affected areas are kept under control and a scientific system on resource utilization and environmental protection in desertified land area has been established. Ecological, economic and social aspects have been coordinated for development. The focus of management activities have been shifted from ecological control measures to ecological management, so as to achieve beautiful landscape allover the country.

#### 7. 3 PRIORITY AREAS OF NAP

##### 7. 3. 1 ESTABLISHING NATIONAL MAJOR PROGRAMS FOCUSING IN DESERTIFICATION CONTROL SYSTEM

The desertified lands areas in China can be classified into three major types, which are wind, induced erosion, water induced erosion and freeze-thaw erosion. Freeze-thaw erosion desert is located in the high level and freezing mountain areas, thus the human controlled activities have little impact on the environment. The threat of desertification is very weak and hence establishing nature reserves is the main way to reduce human controlled activities and protect original ecological environment. Soil salinization is commonly seen in wind induced and water induced erosion desert. The focus of the desertification programs of China is mainly put on the wind and water induced erosion desert. The problem in these two types of desert, especially the wind induced erosion desert, is the most acute and urgent problem to be solved now for China and is the priority in the short term desertification control task.

The desertification control programs in China can be seen from three levels. The first level is the national key projects for combating desertification. The second level is the regional programs and demonstration projects implemented by local organizations. The third level is desertification control programs or activities implemented by non-governmental organizations and individuals.

The national key programs for combating desertification to be implemented are distributed in the environmentally vulnerable and severely affected areas but with important ecological geographic location, which cover most of the desertified land area and are the crux to solve the desertification problems in North China. These include: desertification control program in originating areas in Beijing and Tianjin, the fourth phase program for the Three North Shelterbelt system, natural forest conservation program, cropland conversion program for forests and grassland, pastureland protection and management program (land closure and fencing, rotation grazing in zoned area, planting grass, aero-seeding, grassland improvement, installation of water saving and irrigation facilities, establishment of grassland nature reserves, and control pests and rats, etc.), sand reducing program in middle and upper reaches of Yellow River, slope land preparation program in middle and upper reaches of Yangtze River, rescue program for limestone areas, comprehensive management program combat desertification in the area where cultivation and grazing practices co-exist, ecological oasis rehabilitation program for inland watershed, the black calcium soil protection program for northeast China, reservoir protection program for important water resources, the green corridor program of Xinjiang Urumqi Railway Bureau, the desertification control program for Xining-Geermu of Gansu Lanzhou Bureau, integrated sand control program for Jier Line of Inner Mongolia Huhehaote Bureau, desertification control program for Jing Tong Line of Heilongjiang Shenyang Bureau.

### 7. 3. 2 ESTABLISHMENT AND IMPROVEMENT OF POLICY AND LEGISLATION SYSTEM FOR COMBATING DESERTIFICATION

#### 7. 3. 2. 1 POLICY MEASURES

New policies and regulations will be formulated on the basis of extensive research and study. In the affected area, it is implemented to separate the ownership, the right of use and management and allowed to purchase usufruct in different kinds of ways by various kinds of economic holdings and the right to use the land for ecological development can be inherited and transferred. Preferential terms on tax exemption will be given to the income generated from technical services and transfer, consulting, training in desertification control and the cultivation, afforestation and grazing activities contributed to the protection and management in affected area. It is permitted to break the administrative borders and carry out cross-region management and control of desertification. It is encouraged that social entities, enterprises

and individuals from home and abroad donate and establish foundation in various kinds of forms at different levels, and give incentives and award either in kind or in honor to the individuals or entities that have made achievements in this field.

#### 7. 3. 2. 2 LEGISLATION SYSTEM

To meet the requirement for implementing the Law on Combating Desertification, it is planned to formulate and decree the supplement regulations such as Regulation on Examination and Reward and Penalties of Government Leaders for Their Terms of References on Combating Desertification During Their Terms of Office, Zoning and Management Measures on Desertified Land Closed for Nature Reserve, Regulation on Application, Registration and Examination of Profit Activities for Desertification Control, Monitoring Measures on Sandy Land, Code of Practice on Sandy Land Monitoring Technology and so on, all of which will form a legal system with the core of the Law on Combating Desertification.

Establishing and strengthening law enforcement forces on combating desertification, and enhancing the qualifications of enforcement personnel.

To take strict implementation as per relevant laws and regulations that is centered with the Law on Combating Desertification.

#### 7. 3. 3 ESTABLISHING SCIENTIFIC MECHANISM ON COMBATING DESERTIFICATION

##### 7. 3. 3. 1 OPERATION AND MANAGEMENT

To have unified plan and management measures on cross-region and cross-sector activities. The central government will formulate the national development plan and provide guidance to the desertification control work nation wide. The government at all levels shall formulate their own plans suited for the local situation as per the national development plan.

To discharge responsibilities at all levels and undertake administrative functions accordingly. To make clear terms of reference at central, provincial and county levels and take responsibility of them. The programs will be implemented in contract engineering with contract signed at each level and acting according to the contract.

Industrialized corporation group management. In the affected area with suitable conditions, to develop leading product line and establish cross-region, cross-sector industrial alliance to achieve industrialized corporation group management.

Share holding management. The State, collective entities, enterprises, social legal persons and the people can make investment in the form of capital, labor, land tenure and technique to



establish a share-holding enterprise to share profits and risks.

#### 7. 3. 3. 2 PROGRAMS MENEAGEMENT

To stipulate relevant management rules in accordance with the national infrastructure management requirement.

To approve projects in strict compliance with plan, management with projects, implement with work plan, and examination with criteria. The project implementation will abide by the regulation of legal person sponsorship and bidding mechanism. The project shall have perfect technical criteria for construction and supervisory system.

The project shall take reimbursement method, establishing special account for infrastructure capital and finance capital. One account shall be kept for one purpose and operate separately with other accounts. Audit will be made to monitor the use of capital.

To further strengthen the management of the combating desertification programs and the development of shelterbelt forests alongside of the farmland. Cultivation for more farmland will not be encouraged and continuous efforts will be made on the Research and Demonstration Project of technologies to meet the urgent needs for combating desertification in the vicinity of Beijing.

Afforestation shall be put into consideration in the overall planning of road construction projects and be covered in the budget with the effect of simultaneous planning, implementation and examination. For the existing roads, all works of life will be called upon to take active participation in the afforestation.

#### 7. 3. 4 INTESIFY TECHNICAL SUPPORTING SYSTEM OF COMBATING DESERTIFICATION

##### 7. 3. 4. 1 DISSEMINATION OF ADVANCED TECHNOLOGY AND SCIETIFIC RESEARCH OUTCOME

A number of techniques have been short listed from the technical reserve to be applied in the desertification control programs such as water saving and water holding, afforestation in windy and sandy area, aero-seeding for trees and grass in sandy land area, sandy land closure for **rejuvenization** of forests and grassland, shelterbelt system development, grass seeds improvement, prevention and control of insects and pests and so on.

To put emphasize on dissemination of a number of techniques that are suitable for ecological

rehabilitation and conservation, such as water saving irrigation, dry cultivation, land cover and green house, specialties cultivation, and “planting, raising and bio gas” combination technology and so on.

#### 7. 3. 4. 2 SCIENTIFI RESEARCH

In response to the need for selecting and reproduction of fine species of plants and the technical aspects in planted vegetation and its management in arid and semi-arid area, to undertake research on the techniques that is needed urgently focused on water saving revegetation in arid and semi-arid area, rehabilitation of degraded natural desert vegetation, oasis vegetation shelterbelt system development in arid zone, selecting technique in species, nursery and reproduction of fine and strong seedlings, prevention measure in forest disasters, project monitoring and information management technology in combating desertification, etc. To intensify the efforts made in research on combating desertification, including major national basic research program of “Desertification and its prevention and control in North China” and the “Key Technology Study on Combating Desertification” in the national tenth five-year scientific research project with a duration of 3 years and total input of 39 million Yuan. It can be amounts to over 40 research projects including experiments made in the five major areas in Talimu River, Black River, Yellow Plateau, Hunshandake sandy land and upper reaches of Min Jiang River, and the Sino-Japan Sandstorm Observation Cooperative Project.

#### 7. 3. 4. 3 TECHNICAL SUPPORT AND INSTITUTIONAL STRUCTURE

To make the Senior Advisory Group of China Coordination Committee to Combat Desertification into full play. Based on the respective backbone project management offices, the project will have the chief engineer sponsorship in charge of all the technical aspects of the project. To strengthen institutional structure in the scientific research and explore actively on the establishment and management ways of wind-breaking and sand-fixing nature reserves that have ecological function.

#### 7. 3. 5 STRENGTHEN PERSONNEL TRAINING IN COMBATING DESERTIFICATION

##### 7. 3. .5 .1 TRAINING IN DESERTIFICATION MONITORING TECHNIQUES

It is planned to train 2,000 staff for desertification monitoring within 5 years, among which 500 provincial technical staff and 1,500 local technical staff. The provincial level training will be under the responsibility of the National Bureau to Combat Desertification of the State Forestry Administration and the monitoring department at the provincial level will implement the local level training.

#### 7. 3. 5. 2 TECHNICAL TRAINING IN COMBATING DESERTIFICATION

It is planned to carry out systematic training of county level administrative officials in the key affected areas and to help farmers and women to get necessary desertification control techniques.

#### 7. 3. 5. 3 PUBLIC EDUCATION ON UNCCD

Along with the implementation of UNCCD, training will be conducted among focal points of the Coordination Committee, administrative officials in charge of combating desertification in forestry department of provinces and autonomous regions concerned for them to be familiarized with the nature of the Convention, relevant resolutions and awareness in this field, so that the international process will be learned and the implementation of the Convention within the country will be promoted.

#### 7. 3. 5. 4 TRAINING IN FOREIGN ADVANCED TECHNOLOGIES

Training will be conducted by way of overseas study tours, home training and inviting foreign experts to hold workshops to the technical and administrative staff in charge of desertification control in forestry departments in each affected provinces and autonomous regions so as to learn and absorb foreign experiences and better improve the desertification control of the country.

#### 7. 3. 5. 5 PROJECT PROPOSAL CONCEPT AND TECHNICAL TRAINING OF FOREIGN AID PROJECTS IN COMBATING DESERTIFICATION

To train staff in charge of desertification controls in forestry sector of each provinces and autonomous regions the theory and operation method in project formulation of international cooperation projects, to make the project proposals more relevant to the practical situation, and to promote the cooperation in foreign aid projects.

#### 7. 3. 6 ESTABLISHING AND IMPROVING MONITORING AND EARLY WARNING SYSTEM OF COMBATING DESERTIFICATION

To establish and improve monitoring and early warning system for China's desertification control, in an effort to realize all dimensional monitoring in desertification control programs,

revegetation development in affected areas and origination and development of desertified land.

To further improve the monitoring and early warning system for drought, including making criteria and indicators of the drought monitoring and early warning, enlarging monitoring station density, increasing resolution rate of drought monitoring, improving system software, setting up drought impact assessment model, and develop drought monitoring product and technology for users.

#### 7. 3. 6. 1 NATIONAL MACRO MONITORING

To provide national desertification macro data for the macro decision making in one period of five years. In 2003, the third nation-wide monitoring of desertification will be initiated.

#### 7. 3. 6. 2 DESERTIFICATION MONITORING IN KEY AREAS

To provide information on desertified land in the unit of a county within one period of five years, to report timely to the local government on the changes of land situation for the development and monitoring of combating desertification.

#### 7. 3. 6. 3 MONITORING OF PROJECT EFFECTS

Data is updated once a year, which is to solve the problem of project effects and lay the foundation for the effect assessment and establishing the reimbursement management method. The monitoring of desertification control program in originating areas in Beijing and Tianjin is one of the main part of the project effects assessment. The monitoring system comprises sandification monitoring system, monitoring system of project quality and effect assessment system. The sandification monitoring is to monitor the sandy land in the project area and check the annual changes of the sandy land. Project quality monitoring refers to monitoring the output of the project, while the effect assessment means to make evaluation on the ecological effect of the project.

#### 7. 3. 6. 4 KEY TOPICS MONITORING

It refers to monitoring main problems such as the causes, development trend and strength of desertification and sandstorm, disaster aftermath assessment, and the problems met in the implementation of projects.

#### 7. 3. 6. 5 LONG-TERM MONITORING

On the basis of the existing over ten long-term monitoring stations, it is planned to expand to 30 stations, which will help to analyze development trend and cause of changing of desertification in key areas and provide justification for the long term research in desertification.

#### 7. 3. 6. 6 QUICK INFORMATION FEEDBACK SYSTEM

To establish a group of messengers who will provide group monitoring and reporting, positioning monitoring information, thus a quick feedback system would be established to solve **devegetation** induced by over tilling, over grazing and over logging and serve for the enforcement actions.

#### 7. 3. 7 CARRY OUT MULTI-LEVEL AND MULTI-CHANNELED INTERNATIONAL EXCHANGES AND COOPERATION IN COMBATING DESERTIFICATION

##### 7. 3. 7. 1 TO MOBILIZE FINANCIAL RESOURCES AND TECHNOLOGY TRANSFER FROM DEVELOPED COUNTRIES AND INTERNATIONAL ORGANIZATIONS TO COUNTRY IMPLEMENTATION OF THE CONVENTION BY WAY OF PARTNERSHIP BUILDING IN THE CONTEXT OF THE CONVENTION

From June 6-10 2001, China, in cooperation with UNCCD, GM, UNDP and ADB, held an international workshop on Partnership Building and Resources Mobilization in Support of China's Implementation of UNCCD. The meeting called on to establish a contact group lead by UNDP AND ADB for follow up actions to promote the support and cooperation of the international community with China.

The role of the contact group shall be put into full play to promote the support to China's implementation of the Convention from the donor agencies of the UN, such as UNDP, UNEP, FAO, UNESCO and regional organizations like ADB. It shall be conducted through demonstration project to obtain more extensive and practical support from GM to China. To take the opportunity that GEF making prevention of land degradation as a new area, to put desertification control programs into the Western Development Framework Project funded by GEF and increase the input to these programs. To try to put combating desertification into the

strategic framework of ADB for their investment in China in these ten years and use the grant fund of ADB to strengthen the input in the policy and technical assistance in this field. Trial projects can be possible for using loans to the development of desertification control programs.

#### 7.3.7.2 DEVELOPMENT OF REGIONAL COOPERATION TO FACILITATE REGIONAL UNCCD IMPLEMENTATION

As the host country for Desertification Monitoring and Evaluation Network of Asia, China will actively expand the cooperative channels on the current basis to strive for more support by donor countries so as to play bigger role in coordination and organization of regional and sub-regional cooperative projects and make full use of the Network.

China will develop cooperative projects with such countries as Japan, Korea and Mongolia on the issue of dust storm in northeast Asia, and strive for assistance to regional cooperative projects from international and regional organizations.

#### 7.3.7.3 FOSTERING CROSS-REGIONAL COOPERATION FOR COOPERATIVE PROJECTS

In its bidding for the host of the Asia and Africa Desertification Combating Research and Development Training Center, China will use those successful technologies and experiences accumulated in the field of combating desertification and the positive image formed in convention implementation to strive for hosting the center.

China will continue to conduct international collaborative research, including Laser Radar Dust Measuring in Deserts of China, Road Process Experiment Research on Qing-Zang Plateau, Land Cover Monitoring and Integrated Environment Management in Naiman, Inner Mongolia, China-Japan Cooperative Dust Storm Project, etc.

#### 7.3.7.4 FACILITATION OF NGO PARTICIPATION AND BRINGING WOMEN INTO FULL PLAY

Facilitation of NGO, and especially the community's participation in pilot projects regarding desertification combating and sustainable development, so as to expand the exchange and cooperation of Chinese NGOs with the international community and promote

the import of funds and technologies through such channels.

#### 7.4 OBJECTIVES OF THE NAP

Please refer to 7.2.

#### 7.5 SCOPE OF THE KEY PROGRAMME OF THE NAP

Since land sandification is the most penetrating problem in China's desertification issue, which needs to be resolved without delay, containing wind-eroded desertification naturally becomes the top priority in combating desertification on the prioritized list of the National Action Plan in the near future. The programme will cover 16 provinces (autonomous regions and municipalities) including Xinjiang, Qinghai, Gansu, Ningxia, Shaanxi, Inner Mongolia, Shanxi, Hebei, Beijing, Tianjin, Heilongjiang, Jilin, Liaoning, Shandong and Henan, and quite a few demonstration bases will be set up simultaneously in other provinces and autonomous regions with desertified land.

#### 7.5 DURATION OF THE NAP

The Programme duration is from 2001 to 2010.

#### 7.7 THE TARGETS AND LAYOUT OF THE KEY PROGRAMME OF THE NAP

##### 7.7.1 TARGETS IDENTIFIED IN THE KEY PROGRAMME

The overall target for the key programme is 17.867 million  $\text{hm}^2$ , of which 5.4 million  $\text{hm}^2$  existing vegetation will be protected, 12.373 million  $\text{hm}^2$  forest and grassland established, and 751,000  $\text{hm}^2$  seed and seedling bases constructed. The tree planting and grassland establishment will include 2.813-million  $\text{hm}^2$  afforestation and reforestation, 1.48 million  $\text{hm}^2$  aerial seeding and grassland establishment, 8.08-million  $\text{hm}^2$  mountain closure for natural regeneration.

With regard to the process, 6.66813 million- $\text{hm}^2$  forest and grassland will be established in the 1<sup>st</sup> phase (2000-2005), which includes 1.5187 million  $\text{hm}^2$  afforestation and reforestation, 0.7993 million  $\text{hm}^2$  aerial seeding and grassland establishment and 4.3633 million  $\text{hm}^2$  mountain closure for natural regeneration. The seed and seedling bases construction of 751,000  $\text{hm}^2$  will be finished by the end of the 1<sup>st</sup> phase.

5.692 million  $\text{hm}^2$  forest and grassland will be established in the 2<sup>nd</sup> phase (2006-2010), including 1.2947-million  $\text{hm}^2$  afforestation and reforestation, 0.6807 million  $\text{hm}^2$  aerial seeding and grassland establishment and 3.7167-million  $\text{hm}^2$  mountain closure for natural

regeneration.

The current 5.4 million hm<sup>2</sup> natural vegetation will be protected in the entire lifecycle of the programme.

## 7.7.2 THE LAYOUT OF THE KEY PROGRAMME

Based on the climatic, natural and geographic conditions of the desertification areas in China, the present situation and characteristics of desertified land, existing problems and the similarities in desertification combating measures, the programme is divided into dry marginal area of desert and oasis, dry and semi-dry and semi-humid dry areas, highland sandy and windy areas. 8 core projects will be set up in the afore-mentioned 3 areas according to the specific management requirements.

### 7.7.2.1 DESERTIFICATION COMBATING PROGRAMME ON THE ORIGIN OF SAND AND WIND IN BEIJING AND TIANJIN MANICIPALITIES

Set up in the wind-eroded desertification area with a total of 0.46 million km<sup>2</sup> project area and 0.102 million km<sup>2</sup> wind-eroded desertified land, the project covers the area of Damao Banner of Inner Mongolia to the west-end, Aru Korqin Banner of Inner Mongolia to the east-end, Dai County of Shanxi to the south-end and East Udgemuqin Banner of Inner Mongolia to the north-end, involving 75 counties in 5 provinces (autonomous regions and municipalities) of Beijing, Tianjin, Hebei, Shanxi, Inner Mongolia.

Programme duration: 2001--2010

Programme contents: close-up and protection of forest and grass vegetations and exclusive ban on commercial logging; conversion of all steep slope farmland, soil and water eroded area and desertified land with low production for forest and grassland regeneration; tree-planting, aerial seeding and mountain closure for forest and grassland regeneration on existing barren hills, barren land and desert; development of farmland and grassland shelterbelt network by establishing wind-breaking and sand-fixation shelterbelt; natural regeneration of grassland through readjustment of livestock species and animal husbandry production style and practice of captive breeding; integrated small catchments management and supplementary water



conservancy infrastructure construction to ensure clean water supply; ecological migration on areas with fragile eco-system that are not suitable for human living.

Project targets: conversion of farmland for forest regeneration 2.629 million hm<sup>2</sup>, tree-planting and silviculture 4.949 million hm<sup>2</sup>, grassland management 10.628 million hm<sup>2</sup>, supplementary water conservancy facility construction 113,889, integrated small catchments management 23,445 km<sup>2</sup>, migration for ecological conservation purpose 180,000 population.

Project objectives: application of biological and engineering measures on the management of desertified land in Beijing, Tianjin, Bashang of Hebei, Wumeng Houshan of Hunshandake Desert of Inner Mongolia and Yanbei of Shanxi, protection and rehabilitation of natural vegetation in the project area so as to improve the eco-environment by reducing the sand and wind threats in north China, Beijing and Tianjin municipalities, and basically reversing the expansion of desertified land.

#### 7.7.2.2 THE 4<sup>TH</sup> PHASE OF THE THREE NORTH SHELTERBELT PROGRAMME

Set up in the wind-eroded desertification area, the programme involves 590 counties of 13 provinces (autonomous regions and municipalities) in the north-west, north and north-east China, of which 240 counties with a total land area of 2.9225 million km<sup>2</sup> are seriously under the threat of wind-eroded desertification, taking 41% and 72% of the total county number and programme area of the 4<sup>th</sup> phase of the Programme respectively. The total wind-eroded desertification land area in the programme area amounts 1.3 million km<sup>2</sup>.

Programme duration: 2001--2010

Programme contents: protection and management of forest resources; stop of such wrong-doings as neglect of forest management after planting, development before protection and destruction for development; protection of national forest of ecological benefits under the financing of national ecological benefit compensation fund; protection of forests of social benefits by the local government according to the division of administration; protection of commercial forest by individuals or collectives; establishment of a stable and effective shelterbelt system with rational composition of wind breaking and sand-fixation forest, farmland and pasture land shelterbelt, soil and water conservation forest and water resources conservation forest through tree-planting, mountain closure for natural regeneration and aerial seeding in the sandy areas.

Programme targets: effective control of Maowus, Korqin and Hulunberr deserts to reverse the expansion of 8 big deserts; establishment of high standard farmland shelterbelt system in the oasis to reverse the degradation and die-out of natural *populus diversifolia Schrenk* stand, *Tamarix raqmosissima Ledeb.* and *Haloxylon ammodendron (Mey.) Bungein* in certain parts of west Alashan Plateau and the lower reaches of Talimu River, and rehabilitated of forest stand to form a regional shelterbelt system so as to reduce windy and sandy weather and improve the eco-environment in these areas.

#### 7.7.2.3 CONVERSION OF FARMLAND FOR FOREST AND GRASSLAND REGENERATION

Set up in the wind-eroded and water-eroded desertification area, the programme involves 363 counties in 10 provinces (autonomous regions and municipalities) of Hebei, Beijing, Tianjin, Shanxi, Inner Mongolia, Henan, Shaanxi, Gansu, Qinghai and Ningxia.

Programme duration: 2001--2010

Programme contents: conversion of farmland for forest and grassland regeneration and afforestation and grassland establishment on barren land and hills. In order to ensure the smooth implementation of this programme, the center government has formulated incentive policies and measures including the provision of grain without payment and subsidy in certain amount of cash and money for purchasing seed and seedlings to households, which have returned their farmland.

Programme objectives: rehabilitation of the forest eco-system in the programme area and improvement of the eco-environment in middle and west regions, especially areas in the upper and middle reaches of the Yellow River, so as to promote the economic development of western regions and the readjustment of rural economic structure, and secure the poverty alleviation and rich-off of the farmers.

#### 7.7.2.4 NATURAL VEGETATION PROTECTION PROGRAMME

Set up in the wind-eroded and water-eroded desertification areas, the programme involves 7 provinces (autonomous regions) of Shaanxi, Gansu, Qinghai, Ningxia, and Inner Mongolia, Shanxi, Henan.

Programme duration: 2001--2010

Programme contents: exclusive ban on the logging of natural forest and reclamation and

destruction of natural vegetation; afforestation and grassland establishment on barren land and hills; seed and seedling bases construction. Due to the wide coverage and difficulty of the programme and related policy intensity, it will be implemented in a phased approach with the short-term priority focused on the ban on logging of natural forest and reclamation and destruction of natural vegetation, the establishment of forest of public benefits, and the re-direction and deployment of lay-off workers.

Programme objectives: improvement of the eco-environment in the programme area to secure the promotion of readjustment of agricultural planting structure and rural economic structure, the poverty alleviation and rich-off of farmers, the economic development in west regions and the social stability.

#### 7.7.2.5 GRASSLAND PROTECTION AND MANAGEMENT IN DRY AND SEMI-DRY AREAS IN NORTH CHINA

Set up in the wind-eroded desertification areas, the programme involves 238 counties (banners and cities) of Inner Mongolia, Shaanxi, Ningxia, Gansu, Xinjiang and north Shanxi and Bashang of Hebei, with 124.1-million hm<sup>2</sup> grassland available.

Programme duration: 2001--2010

Programme contents: grassland closure, captive breeding and rotation grazing; rodent and pest control; grassland protection by ban on the grassland reclamation and destruction of grassland vegetation; promotion of grass planting, aerial seeding and pasture land improvement and the construction of supplementary water-saving and irrigation systems to facilitate the implementation of the rotation system; grass and shrub planting in the marginal areas of desert to increase the vegetation cover in wind breaking and sand fixation process in order to reverse the desertification in grassland; establishment of grassland nature reserves.

Programme objectives: protection of grassland and the management of desertified grassland in the programme area to reverse the deteriorating eco-environment in the grassland and promote the sustainable development of agriculture and animal husbandry.

#### 7.7.2.6 GRASSLAND PROTECTION AND MANAGEMENT IN THE UPPER AND MIDDLE REACHES OF THE YELLOW RIVER

Set up in the water and wind eroded desertification area, the programme involves such provinces (autonomous regions) of Shaanxi, Gansu, Ningxia, Qinghai, Shanxi, Henan.

Programme duration: 2001--2010

Programme contents: readjustment of agricultural structure, conversion of farmland to grassland and rehabilitation and increase of grassland vegetation by grass, shrub and trees; establishment of resistant forage grass in areas with serious soil and water erosion; establishment of artificial grassland, improvement of natural grassland and increase of animal husbandry in grassland area; establishment of grassland nature reserves.

Programme objectives: rehabilitation, increase and improvement of grassland vegetation in the programme areas to reduce the soil and water erosion and the wind and sand threat and promote the economic development through high-efficiency agriculture and animal husbandry.

#### 7.7.2.7 KEY SOIL AND WATER CONSERVATION PROGRAMME IN THE YELLOW RIVER BASIN AREA

Set up in the water-eroded desertification areas, the programme involves 126 counties (banners) in 7 provinces (autonomous regions) of Shaanxi, Shanxi, Gansu, Inner Mongolia, etc.

Programme duration: 2001--2010

Programme contents: construction of fundamental farmland and water-saving irrigation with stress on the integrated small catchments management; establishment of vegetation by the conversion of farmland for forest and grassland regeneration with stress on shrub; construction of ditch management projects to control soil and water erosion.

Programme objectives: increase of the forest and grass cover in the programme area to 25% and per capita fundamental farmland owned by farmers reaches to 2 mu; effective control of soil and water erosion and reduce of sand eroded into the Yellow River by a large margin so as to reverse the deteriorating eco-environment and improve the people's livelihood.

#### 7.7.2.8 KEY SOIL AND WATER CONSERVATION PROGRAMME IN INLAND RIVER BASIN

Set up in the water-eroded desertification areas, the programme includes the inland river basin areas in Inner Mongolia, west Gansu, Zhunger, Talimu, Qinghai, covering such provinces and autonomous regions of Xinjiang, Inner Mongolia, Gansu and Qinghai.

Programme duration: 2001-2010

Programme contents: water saving and soil conservation, water-saving irrigation and shelterbelt establishment.

Programme objectives: wise use of water resources in the programme area, improvement of eco-environment and sustainable economic development in the oasis.

China's programme framework in combating desertification formed by the above-mentioned key national ecological programmes will promote in full drive desertification combating process in China, and reverse effectively the expansion of desertification in China, in order to lay a foundation for the overall management of desertified land and the improvement of eco-environment in desertification areas in China.

## 7.8 FINANCIAL RESOURCES MOBILIZATION MECHANISMS

According to the situation in China, the general principle for the investment on key programmes is that the main portion is provided by the central government and supplemented by investment from local governments. Meanwhile we will also strive for investment from external channels.

Special fund for eco-environment development will be gradually increased and 85% of the investment from the central finance will be provided without payment.

The People's Bank of China has cancelled the discounted loan for desertification combating in 2001 and replaced by currency and credit policies to promote in the future the support to combating desertification by banks in line with relevant credit principles.

## 7.9 SAFEGURAD SYSTEM FOR PROGRAMME IMPLEMENTATION

### 7.9.1 ENHANCEMENT OF RESPONSIBILITY SYSTEM FOR OFFICIALS OF VARIOUS LOCAL GOVERNMENTS

Local governments of various levels will take the primary responsibility for the programme. Routine check, circulation of assessment report will be used and rewards and punishment system will be set up, and the change of desertified land area within their administrative territory is listed as an index for the assessment of the officials. The State Forestry Administration will take the responsibility for the evaluation, monitoring and coordination of programme implementation.

### 7.9.2 IMPROVEMENT OF PROGRAMME CONSTRUCTION MECHANISM

The main body for the construction is the masses, and women shall play a special role in the programme. Contracting system by individuals will be used to mobilize the initiatives of the farmers in combating desertification and various economic sectors be encouraged in procuring the use-right of desertified land for management. New approaches such as shareholding cooperative shares system and will be promoted, and such policy of one who plants, who owns and benefits will be abide by. The one who manages the desert will enjoy priority for desert development and the management result can be transferred and inherited.

#### 7.9.3 SCIENCE AND TECHNOLOGY DEVELOPMENT TO EXTEND ADVANCED AND APPLIED TECHNICAL ACHIEVEMENTS

Technologies related to combating desertification will be publicized and problem-tackling will be organized by the state on key issues hampering the programmes; applied techniques will be extended in the programmes and pilot technical bases will be established to enhance the contribution of science and technology.

#### 7.9.4 STRENGTHENING LEGISLATION SYSTEM AND SAND MANAGEMENT BASED ON THE LAW

Human economic activities shall be regularized restricted by the law and regulations to stop such destruction as illegal logging, grass digging and reclamation, medicinal herb and nostoc digging. Permit for sandy area development will be used to set strict formalities for the review and approval of desertified land development and use. Industrial development projects in the desertified areas such as mining and transportation should protect the vegetations and assume the responsibility for rehabilitation if vegetation destruction happens. All activities related to the prevention of land desertification, management, development and use of desertified land should be conducted according to the regulations of the Law of Combating Desertification.

#### 7.9.5 ESTABLISHMENT AND IMPROVEMENT OF PROGRAMME MANAGEMENT TO INTENSIFY PROJECT MANANGEMENT

Special project management rules will be formulated in line with the requirements of the state on infrastructure management to strengthen assessment, acceptance and auditing systems. Project will be set up according to the planning, managed by the rules, constructed according to the design and accepted according to the standards. Legal person system will be applied in the project, project-monitoring system will be introduced in the whole process, and

reimbursement system will be used.

#### 7.10 REGULAR DESERTIFICATION MONITORING

The Chinese government will conduct regular national desertification monitoring based on the requirements for desertification combating to get precise and timely information of the situation of desertification in China and serve for decision-making. The national monitoring runs at 5-year cycle according to the practical needs. Monitoring will be conducted in particular areas and areas with sensitive conditions whenever necessary. Monitoring station will be established in areas with representative desertification type to conduct long-term monitoring on the relevant factors of desertification.

The national desertification monitoring is classified into three levels of national macro monitoring, typical monitoring in sensitive areas and monitoring stations.

The macro monitoring will use sampling techniques to acquire macro data of national desertification land and desertified land by sampling investigation on the basis of province (autonomous region). Patch mapping will be used for provinces and autonomous regions with scarcely distributed small area of desertification land. On-the-spot sampling will be used in the sampling investigation, and TM satellite image interpretation is used for inaccessible places.

Typical monitoring in sensitive areas is the special monitoring in areas with active expansion of desertification or remarkable management results and outburst events (dust storm, flood, and mining). The scope of monitoring and time interval will be identified according to the real situation.

Typical monitoring station on different area type will establish fixed monitoring stations in different area type to conduct long-term and systematic monitoring on the factors relevant to the formation of desertification and provide information on the cause, development and process of desertification, controlling method and its result.

Desertification monitoring not only provides reliable information base for decision-making regarding desertification combating and the programme implementation, but also plays an immense role in China's Western Development Strategy.

Follow-up and evaluation of the results of the NAP is also covered by the national desertification monitoring to enhance the effect of the National Action Plan.

## 7.11 ESTABLISHMENT OF EFFECTIVE INCENTIVE MECHANISM

Volunteer migration will be conducted in a proper manner in conjunction with conversion of farmland for forest and grassland regeneration.

Preferential policies on taxation will be formulated to exempt the agricultural special product tax for 10 years starting from the year when first income is generated from agricultural special products for conversion farmland for forest and grassland regeneration and eco-environment protection in the western regions.

## **8. FINANCIAL MECHANISM AND CAPACITY SAFEGUARDING**

### 8.1 APPROVED FINANCIAL MECHANISM

#### 8.1.1. MEASURES FOR THE PROMOTION OF THE AVAILABILITY OF CURRENT FINANCIAL RESOURCES BY LOCAL AGENCIES

Chinese government has incorporated combating desertification into the national economic and social development plan, thus special programme fund, discounted government loan, special fund for integrated agricultural development and fund for poverty alleviation and disaster relief will be allocated for combating desertification and the integrated desertified land development. Apart from the input from the central government, counterpart fund for project construction by each province (autonomous region and municipality) is required by the state. Thereby the funding for the National Action Plan for combating desertification will come from financial allocation of the central government and local governments, provision of work as a form of relief and labor input by the farmers.

Regarding the input policy for the environment development project, the project of national level relies mainly on the input from the central government whereas input from the central government is the supplementary to projects of local level. In principle, the use of financial input in the projects of public benefits is without payment, and the use in the projects of no public benefits is with compensation. Local government with better financial conditions will provide more counterpart fund than government with worse financial conditions. The counterpart fund from the provincial finance to integrated agricultural development project is required to be no less than 70% of the total counterpart fund, and the financial input from the



central government to the local government will be reduced if the counterpart fund from the local government is not allocated as required.

Chinese government has launched pilot projects on the use of forest of public benefits with compensation to provide financial compensation to collectives and individuals managing forest with public benefits. This fundamentally resolves the problem of financial resources for the protection and management of forest of public benefits, and marks the end of the history when forest ecological values were used without payment in China.

The 10<sup>th</sup> article of the Law of Combating Desertification stipulates that “Unified planning shall be made for combating desertification. All activities for combating desertification, reclamation and utilization of desertified land, shall be abide by plans to combat desertification. The plans to combat desertification shall have explicit stipulations on the time limit, steps and measures for curbing the expansion of land desertification and for gradual reduction of desertified land. The detailed implementing programmes shall be incorporated into the five-year plan and the annual plan for national economic and social development.”

The 4<sup>th</sup> article of the Law of Combating Desertification stipulates that “The State Council and the local people’s governments at or above the county level located in the desertified regions shall incorporate combating desertification into the national economic and social development plan, guaranteeing and supporting endeavors to combat desertification. The local people’s governments located in the desertified regions shall take effective measures to prevent desertification, rehabilitate desertified land, maintain and improve the ecological quality in their respective administrative areas. The State shall establish combating desertification target responsibility system in the desertified region for awarding and punishing government leaders in their term of office. Local people’s governments at or above the county level located in the desertified region shall report combating desertification to the people’s congresses and their standing committees at the corresponding level”.

#### 8.1.2 EXPLORATION OF NEW AND PROPER WAYS TO MOBILIZE INNER AND OUTER FINANCIAL RESOURCES

Funds from various channels will be mobilized. 1. Many preferential taxation policies have been formulated by the government to protect the environment of western regions, including the Circular by the National Western Development Office of the State Council on the Implementation of Several Policies relevant to the Western Development transmitted by the General Office of the State Council, Circular on the Issue of Preferential Taxation Policy regarding Western Development by the Ministry of Finance, State Administration of Taxation and General Administration of Customs, which stipulates that the agricultural special product tax will enjoy an exemption of 10 years starting from the year when the first income is generated on the income generated from agricultural special products for conversion farmland for forest and grassland regeneration and eco-environment protection in the western regions; 2. Article 19 of the Income Tax Law of the People's Republic of China for Enterprises with Foreign Investments and Foreign Enterprises and Article 66 of the Detailed Rules and Regulations for the Implementation of the Income Tax Law of the People's Republic of China for Enterprises with Foreign Investments and Foreign Enterprises stipulates that income tax of the royalty received for the supply of technical know-how in agriculture, forestry, animal husbandry and fishery, environment protection and capacity strengthening against natural disasters by foreign enterprises may, upon approval, be exempted. 3. The arrangement of discounted loan for combating desertification will introduce increase loan from the banks. 4. Study on the various patterns for management, development and shareholding system will allure social investment and foreign investment to desertification combating. Policies such as one who plants and manages, who benefits, conversion of farmland for forest regeneration, mountain closure for vegetation regeneration, individual contract and provision of grain as a form of relief will be carried out. The contracting period is 50-70 years and may be inherited and transferred and extended according to the relevant regulations when the contract expires. Various economic entities are encouraged to invest in China's combating desertification. The State will provide grain to household, which has returned farmland without payment. The standard for grain provision is 150 kg/mu for farmers living in the upper reaches of the Yangtze River and 100 kg/mu for the farmers in the upper and middle reaches of the Yellow River every year. The State will also provide subsidy for household, which has returned farmland, and the rate is RMB 20 yuan/mu every year for a certain period. The State will also

provide subsidy to household, which has returned farmland for the cost of seed and seedlings, the rate is RMB 50 yuan/mu for conversion of farmland for forest and grassland regeneration and afforestation and grassland establishment on barren hills and barren lands. 5. The auction of the use right of four barrens (barren hills, barren lands, barren ditches, barren desert). So far the main body for the management of 23 million hm<sup>2</sup> has been identified, 6.53 million hm<sup>2</sup> barren hills, lands, ditches and desert has been sold through auction with 3.1 million households participated and RMB 2 billion Yuan collected by the rural collective economic organizations, 50% of the land sold has been put under initial controlled. 6. The Law rules that Chinese citizen between 11-60 (male) and 11-55 (female) shall plant 3-5 trees per year and make due contribution for greening China and desertification combating.

## 8.2 FINANCIAL RESOURCES MOBILIZATION FOR THE NAP

### 8.2.1 DOMESTIC FINANCIAL RESOURCE MOBILIZATION

Each year more than US\$ 1.2 million is allocated from the central finance for desertification monitoring (before it was around US\$ 0.6 million). Start from 2001, each year the fund from the central and local governments for forestry ecological programmes in the National Action Plan is US\$ 6-8.5 billion, the fund for combating desertification in integrated agricultural development is over US\$ 42 million, the fund for soil and water erosion control is US\$ 200 million, the fund for sand control along the railway is US\$ 1.2 to 2.4 million, the fund for roadside greening is US\$ 76 million, the discounted loan for sand control is US\$ 70 million. On top of that, a large amount of money is used in grassland management, poverty alleviation, and research and development and land reclamation in desertification areas. The Chinese government stipulates that 3% of the total investment for key forestry ecological programmes and 10% of the total investment for integrated agricultural development shall be used for research and development.

### 8.2.2 EXTERNAL FINANCIAL RESOURCES MOBILIZATION

Please refer to 4.3.4.

### 8.2.3 GLOBAL MECHANISM FINANCING

The GM has acknowledged an amount of US\$ 100,000 for Ningxia and Inner Mongolia in total for pilot project construction, but so far the investment and project activities still need to be put into action.

## 8.2.4 PARTNERS PROVIDING FINANCIAL SUPPORT

The contribution of the executive committee members is stated in the above text. Main international partner countries include Japan, Germany, Australia, the Netherlands, Korea, Israel, Belgium and Canada, and main international partner organizations include UNDP, FAO, WB and ADB.

## 8.2.5 AVAILABLE AMOUNT OF FINANCIAL RESOURCES

The available amount of financial resources for the National Action Plan is stated in paragraph 4.1.2, 4.3.4 and 8.2.1.

## 8.3 TECHNICAL COOPERATION

### 8.3.1 INITIALIZATION OF TECHNICAL COOPERATION

China has already applied to FAO, UNDP/UNSO and GTZ for technical support, and has received support from international consultants in the implementation of relevant projects. At present China is applying for small TA project from ADB, which is anticipated to commence late this year.

### 8.3.2 PRIORITIZED REQUIREMENTS IN IDENTIFYING TECHNICAL ASSISTANCE

With regard to the required technical assistance, the following components are necessary: establishment of partnership, dust storm control and desertification monitoring, local actions, national policy and the formulation of supplementary law and regulations, pilot projects for desertification combating, participation of NGO and community.

## 8.4 CAPACITY ASSURANCE IN IMPLEMENTING THE NAP

1. Organization and leadership. The target and responsibility system for various governments will be introduced in the implementation of the programme to ensure five identifications (target, responsibility, task, fund and grain subsidy) to the provincial level.
2. Infrastructure construction of materials such as seed and seedlings. This includes: establishment of material supply responsibility system and the balanced supply and demand plan for material supply; enhancement of material production and technical level; establishment of material dispatch and monitoring system; mobilization of the enthusiasm of farmers, herdsmen and the community in seedling breeding.
3. Research and development. This includes: application and extension of existing scientific

results; fundamental and applied research on new technologies, new materials and new methodologies; establishment and the exercise of scientific and technological support responsibility system; technical training, publication and education of various levels; relevant policies regarding the provision of technical consultation by technical researchers.

4. Desertification combating according to the law and regulations. This includes: education to the citizens on legal knowledge, strict monitoring and law enforcement to ensure a legalized desertification combating.

5. Management and set up of regulations. This includes: formulation of rules, regulations and standards for the management of all projects in implementing the National Action Plan. Project will be set up according to the planning, managed by the rules, constructed according to the design and accepted according to the standards. Legal person system will be applied in the project, project-monitoring system will be introduced in the whole process.

6. Institutional building and coordination among agencies. This includes: coordination, leadership, organization, guidance and institutional building for the implementing agency, coordination among agencies and information sharing.

7. Partnership building. Combating desertification is a severe challenge to the mankind, which relies on international cooperation. Based on the outcome of the Round Table Meeting on Partnership Building and Resources Mobilization for UNCCD Implementation in China, China will enhance the introduction of international resources and technology in the implementation of all programmes within the National Action Plan.

## **9. REVIEW ON BENCHMARK AND INDICATORS OF DESERTIFICATION MONITORING AND ASSESSMENT**

The benchmark and indicators system and the integrated assessment China applied in reviewing the progress of NAP are mainly divided into two parts: one is the national desertification monitoring, which reflects the dynamic change of desertified land after implementing the NAP, and it is also the objective of implementing the NAP. This has been brought into the phase of application; the other is the benchmark and indicators system used to guarantee the implementation of the NAP, which reflects the progress of the efforts made

by the state during its implementing of the NAP.

## 9.1 NATIONAL DESERTIFICATION MONITORING

### 9.1.1 BACKGROUND

#### 9.1.1.1 THE GOVERNMENT OF CHINA ATTACHES GREAT IMPORTANCE TO THE ESTABLISHMENT OF BENCHMARK AND INDICATORS OF DESERTIFICATION MONITORING

The Government of China attaches great importance to the establishment of benchmark and indicators of desertification monitoring. As early as 1995, the Former State Commission of Science and Technology initiated the research project of “Indicators for Desertification Monitoring and Assessment System and Evaluation Method”. The Commission, in 1996, listed a topic of “Indicators System for Sandy Desertification and Dynamic Evaluation” at the Ninth Five-year Plan (1996 -2000) key project of “Desertification Combating Technology Study and Demonstration”. In 1998, the National Natural Science Foundation Committee approved and funded a research project of “Desertification Occurrence Mechanism and Optimistic Model for Combating Desertification” (1999 - 2002), which again includes the topic of “Indicators System of Desertification Classification and Expert System”. In the meantime, China Desertification Monitoring Center drafted “the Master Plan of China Desertification Monitoring Technology” and “the Regulations of the Fixed Location Monitoring Technology in the Typical Desertified Areas of China” and both of them were revised three times. And on the basis of the national desertification survey in 1995, they for the first time carried out experimental monitoring in desertification areas.

9.1.1.2 China is a large country affected by desertification, and is also a leading country in implementing UNCCD.

China carried out two round of desertification monitoring respectively in 1994 and 1999. And the results were directly applied in national and local desertification combating. For instance, desertification monitoring exerted great importance in preparing national, provincial or county level programmes, identifying key control areas and macro policy selection for control measures in different areas.

**9.1.1.3 China has officially incorporated desertification monitoring into the nation’s**

### **economic development plan.**

The Law on Combating Desertification which came into force on January 1, 2002 substantially regulates the national desertification monitoring, which may be the first concrete legal binding on desertification monitoring in the world. Different from other parties to UNCCD, desertification monitoring in China has become a productive phase of serving directly the nation's economic, social development and eco-environment construction, but not a research contained within a small scope. In another words, in China, desertification monitoring is an economic productive activity, not a research programme within a small scope. Therefore, although benchmark and indicators still needs perfecting, key issues at present are using these benchmark and indicators to accurately identify the nation's and various region desertification monitoring China has carried out two rounds of national desertification monitoring separately in 1994 and 1999. The results of monitoring are directly applied to the nation's or local desertification combating. For instance, desertification monitoring has exerted its contribution in the areas such as formulating of national, provincial or county level desertification combating and prevention plans, defining key projects areas and macro decision-making for selecting measures for various areas of different patterns. China has set up data bank and map bank in 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 that as long as they have abided the pertinent procedure. The main results of national or provincial desertification monitoring are officially released by the administrative body of the central government or provincial governments. The officially released data can be freely used by domestic or foreign agencies or individuals. At present, China is studying setting up a mechanism of promoting the desertification monitoring results to be widely applied by the society. In the future, the social and economic benefits of desertification monitoring will be more fully acquired.

#### 9.1.2 Principles set for the benchmark & indicators of monitoring

The identification of the benchmark & indicators of desertification monitoring should obey the following principles besides the common principles followed by all the country parties:

##### 9.1.2.1 It should adapt to China's special condition

China has its special natural and social & economic situations different from other countries. Therefore, China has both followed the benchmark & indicators set by the Convention and conformed to China's special situation, defining China's patterns of desertification in 4 patterns: wind erosion, water erosion, salinization and alkalization, and freezing and melting. Defining freezing and melting as a pattern of desertification in China is based on the fact that large area of freezing & melting erosion exists in China.

#### 9.1.2.2 It should has maneuverability

This is based on the fact that China's monitoring is no longer contained at the phase of study, whereas it has already come into the phase of practice, which requires the benchmark or indicators should first of all, be maneuverable and easy to be maneuvered. Next, it should be easy to be grasped by the mass of local technicians.

#### **9.1.2.3 It should be relatively stable:**

At present, the task of monitoring is to serve for macro decision-making of the state, province or county level for combating desertification. To accurately identify the detailed scope and causes for desertification expansion or reversion, it is necessary to maintain the benchmark and indicators as stable as possible, so as to keep the two different monitoring at the same gauge and not to trouble **comparison**. The present situation is that after the programme of national or local monitoring is formulated, they should be consulted with the pertinent experts and administrative bodies, and reviewed by the authorities technology consultation agencies. After being reviewed, it should be strictly performed and should not be casually revised.

#### 9.1.3 Nation's action

9.1.3.1 According to the aforesaid principles, during the process of monitoring desertification, on the one hand, China makes necessary revision and perfection to the irrational benchmark and indicators, on the other hand, the stability of most benchmarks and indicators being implemented in the monitoring programmes should be maintained, so as to ensure the accuracy and scientific feature of the qualities and quantities data of dynamic



change of desertification provided by the monitoring.

For example, during the first round of national monitoring, five patterns of desertification, wind erosion, water erosion, freezing and melting erosion, salinization and alkalization and ‘the miscellaneous’ are defined according to the main factors caused desertification. The ‘the miscellaneous’ pattern emerged was confined by the fact that the technology at that time was under developing, some main factors causing desertification in some areas can not be ascertained (such as some areas where both water erosion and wind erosion happened). Whereas during the second round of desertification monitoring launched in 1999, it is stressed that this pattern should follow the factual situation and be allocated into a fixed pattern. Thus the present patterns include only four categories: wind erosion, water erosion, salinization and alkalization and freezing and melting erosion.

#### 9.1.3.2 The Chinese government attaches great importance to desertification monitoring

China not only incorporated desertification monitoring into her nation’s economic development plan, but also put it on the legal track. The Chinese government has launched desertification-combating projects such as the Wind-sand Source Control Project for Beijing and Tianjin and the Fourth Phase of the “Three North Shelterbelt Project” which mainly target combating desertification. To correspond with the developing of these projects and to enforce the Law on Combating Desertification, the pertinent technology documents are being formulated such as “Rules for Technologies Applied to Combating Wind and Stabilizing Sand”. The benchmark and indicators referred to will be added into the ongoing desertification monitoring, so as to perfect the benchmark and indicators system.

#### 9.1.4 Implementation mechanism for monitoring and assessment

9.1.4.1 Article 14 of Law on Combating Desertification coming into force recently provides as the following:

“The Forestry Administration of the State Council shall organize other concerned agencies to undertake monitoring, statistics and analysis relating to the status of land desertification in the whole country, and regularly disseminate the results.” The Law is the legal basis for

desertification monitoring. As early as 1994, China set up the National Monitoring Center, which is the backbone of the nation's desertification monitoring and assessment. Besides, provincial monitoring centers are set up in more than 30 provinces. In the future, monitoring system of three levels, national, provincial, and county levels will be set up.

9.1.4.2 China also pays high attention to training the technicians who grasp benchmark and indicators

Training will be provided to the technicians at different levels before each round of monitoring. They cannot engage in monitoring before passing the exams. At every phase of monitoring, the organizing agencies at different levels will dispatch investigation teams to check the monitoring all across the country according to the quality guarantee rules, so as to ensure the actual implementation of the benchmark and indicators.

9.1.5 Obtaining and application of the result information of monitoring

9.1.5.1 The results of the two rounds of monitoring have been formed into the national and provincial data bank and map bank

Users can consult detailed data on desertification-affected land in any geological or administrative area in China at any time. Users can do that as long as they have abided the pertinent procedure. The main results of national or provincial desertification monitoring are officially released by the administrative body of the central government or provincial governments. The officially released data can be freely used by domestic or foreign agencies or individuals. At present, China is studying setting up a mechanism of promoting the desertification monitoring results to be widely applied by the society. In the future, the social and economic benefits of desertification monitoring will be more fully acquired.

9.1.5.2 The national and provincial data bank and map bank have directly provided foundations for macro decision-making for China's combating desertification and formulation of the national and local action plans, which have achieved excellent social and economic benefits.

9.2 The benchmark and indicators for guaranteeing the implementation of the NAP

### 9.2.1 Background

Benchmark and indicators is an effective tool for nation-wide or regional desertification monitoring, providing a channel for description, monitoring and assessment of desertification. According to the informal process initiated by the INCD on the basis of the decisions of 9/12 and 10/9, international, regional, sub-regional, NGOs and the interested members of INCD will discuss benchmark and indicators relating to the UNCCD. In 1997, the UNDP assisted project of CPR/96/111 – Capacity Building for the Implementation of the UNCCD (1997-2000) also includes the work of desertification monitoring and assessment. An expert group composed of 8 persons carried out field research and held workshops to study the construction of China's Monitoring and Assessment system for combating desertification.

#### 9.2.2 Principles to be formed

measurability: indicators can be measured for a certain objective or goal. Therefore, no matter it is for qualitative or quantities indicators, they should be easily measured and understood through valid information.

Relevance: indicators should effectively reflect a certain issue, and can reflect its change.

Reliability: the data or information related to indicators should be reliable and can be used and can be easily updated. Reasonable analyzing method and relevant knowledge should be applied to identify monitoring and assessment indicators.

Reality: the data or information needed for collecting, analyzing and identifying indicators should meet the requirement of economical, technological feasible and social satisfaction, etc. therefore, the indicators system should involve the consideration of cost and benefit.

Practicability: indicators should be simple and easy to understand. And they should directly and effectively reflect or well express an issue. They should be closely linked with the objectives or goals of the society. So the expression of indicators should tally the objectives or goals of the society.

#### 9.2.3 Nation's Action

##### 9.2.3.1 Operation mechanism for monitoring and assessment

##### 9.2.3.2 Setting up and / or strengthening national environment monitoring and observing

capacity

China is considering setting up a set of suitable methods and basic framework so as to formulate the indicator system for various industries and sectors. China has already made experiments for applicability of national and county level desertification indicator system. The formulation and assessment of local indicators at community level will be carried out within the next two years.

#### 9.2.3.3 The National Desertification Monitoring & Assessment Information Network

The establishment of Desertification Information Network (DIN) is based on the following reasons:

It is necessary to establish the DIN to effectively support China's implementation of UNCCD and to reach the targets set by the NAP.

It is important to collect, coordinate and processing the information from various fields and various levels and produce knowledge which can comprehensively reflect the national and local situation on desertification and combating desertification. Meanwhile it will continuously update and renew the data on DIN.

To promote the information exchange among desertification research, training, monitoring and preventing agencies and individuals, to form a wider cooperation among agencies and individuals from various fields, so as to enhance the development and popularization of desertification combating technologies.

To set up desertification monitoring & assessment system on the basis of DIN, and carry out synthesized analysis on the data from DIN, and assist the government and its decision-making circle to strengthen its ability of decision-making. So as to accumulate the national and local ability of combating desertification.

For the afore-mentioned purposes, it is necessary for the DIN to have the following functions:

1) data exchange; 2) information sharing; 3) information dissemination; 4) information management; 5) synergetic operation.

The coverage of DIN mainly serves for the pertinent national agencies and some key prefectures (counties), whereas interested agencies and individuals can register and look through it. This will help make contributions to the world's combating desertification.

#### 9.2.3.4 Main agency's obtaining of the existing information

The 'China Desertification Information Network' made by the China Research and Development Center on Combating Desertification and the 'Asia Desertification Monitoring and Assessment Network' was separately launched in July 1997 and March 1999. Now they are operating in gear.

#### 9.2.3.5 Summary of results acquired at the present phase——China's Framework of Benchmark and Indicators System (Draft)

The benchmark and indicators being discussed and adopted by international organizations are divided into two categories: Implement Indicators and Impact Indicators. Implement Indicators are used for monitoring and assessing the implementation and progress of UNCCD at national level; Impact Indicators are used for assessing desertification general impact on resources, society and economy and other factors. The two kinds of indicators can be used in various time and space scale. Whereas, some experts suggest dividing desertification M&A indicators into three categories: Implement Indicators, Status Indicators and Impact Indicators. We are inclined to the latter. One indicator can be got out via three kinds of benchmark and indicators and several parameters involved, so as to facilitate global comparison. The levels and interrelations of the three are as the chart.

As of present, the establishment and application of the benchmark and indicators for desertification monitoring and assessment is still in the initial stage and it will take several years to provide necessary information to precisely assess the situation of desertification and combating desertification as well as to make a decision to raise the level of desertification combating in other countries. Meanwhile, it has to be recognized that the establishment of benchmark and indicators is a step-by-step process and they need to be adjusted and collated according to the increase of information and experience, enhancement of capacity, advancement of technologies, social demand and changes of priorities.

#### Chart of Framework of General Benchmark and Indicators System

#### **9.2.3.6 Indicators to Implement the UNCCD**

The indicators to implement the UNCCD is inclusive of overlooking whether the National Action Programme includes relevant parameters for desertification monitoring and

assessment system and operational mechanism or not. The indicators to implement the UNCCD are composed of 8 indicators and 27 parameters.

#### **9.2.3.7 Status Indicators**

The status indicators are used to describe and interpret the status and trend of desertification. For instance, the work through remote sensing and mapping means will produce the information on the dynamic status of desertification occurrence and expansion, and predict and forecast the future trend of desertification so as to provide basic data for establishing early warning system on desertification combating. The status indicators comprise 5 indicators and 27 parameters.

#### **9.2.3.8 Impact Indicators**

Impact indicators are intended to reflect that what impact and negative effects the desertification combating actions *vis-à-vis* social and economic development will produce and what feedback it will produce. Because what the influential indicators will reflect is a process of the social and economic development of the whole society, their information collection, analysis and announcement will be undertaken by government statistics departments. Therefore, all social and economic influential indicators should be found out in the information bulletin announced by the State and other relevant information can be made available from various competent departments. The influential indicators are composed of 13 indicators and 37 parameters.

#### **9.2.3.9 Work out report periodically**

The aforesaid assessment is the most detailed assessment for institutional and policy capability.

#### **9.2.3.10 Assessment and feedback to Programme Management**

The UNCCD will possibly seek technical backstopping when assess the influences of the National Action Programme. However, the mechanism of managing the National Action Programme and its results assessment, extension and feedback is not available yet..

## Postscript of the report

According to the decisions of 11/COP.1, 5/COP.2, 5/COP.3, 1/COP.5, 3/COP.5 and 5/COP.5, and document of ICCD/CRIC (1)/INF.5, the Secretariat of China National Committee for the Implementation of the UNCCD (CCICCD) has organized a group of expert, headed by Mr. Liu Tuo, Director General of National Bureau to Combat Desertification and the National Focal Point to UNCCD, to organize the updating of the National Report to Implement the UNCCD submitted in 2000. During the process, we have the honor of obtaining the great support and assistance from the member agencies of the China National Coordinating Group to Combat Desertification. We would like to take this occasion of report completing to extend our appreciation to all the agencies and individuals who have contributed assistance to the report during the preparation of the report.

It is also appreciated that the Secretariat of the UNCCD has financed the compilation of the report.

Two experts panels have been held to review and discuss the report after the draft copy was prepared, from whom many constructive comments were obtained. This final report was re-prepared on the basis of wide and valuable consultation with the experts and various sectors. Hereby we would like to extend our highest consideration to all these experts and staff from these sectors.

The report was compiled as following arrangement:

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