

MINISTRY FOR NATURE & ENVIRONMENT, MONGOLIA
National Committee to Combat Desertification

NATIONAL REPORT

ON

UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION

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Abbreviations

SGH- State Great Hural

GoM-Government of Mongolia

MNE- Ministry of Nature and Environment

MoFI- Ministry of Agriculture and Industry

EPA- Environmental Protection Agency under MNE

LMA- Land Management Agency under MNE

HMEMA- Hydrometeorological and Environmental Monitoring Agency under MNE

CLEM- Central Laboratory for Environmental Monitoring

ESI- Environmental State Inspection

HMI- Hydrometeorological Institute

HMEC- Hydrometeorological and under MNE Environmental Monitoring Center
(at aimag level)

ICC- Information and Computer Center under MNE

PAB- Protected Areas' Bureau at EPA

PA- Protected Area`s

FWB- Forest and Wildlife Bureau at EPA

MNU- Mongolian National University

SPU- State Pedagogical University

AU- Agriculture University

MTC- Mongolian Telecommunication Company

UN CCD- UN Convention to Combat Desertification

NCCD- National Committee to Combat Desertification

NAPCD- National Action Plan to Combat Desertification

TPN- Thematic Program Network

MAP 21- Mongolian Action Programme for 21st century

DEC- Development and Environment Center, NGO

MACNE- Mongolian Association for Conservation of Nature and Environment

LRH- Local Representative Hural (Local Parliament)

MONGOLIAN NATIONAL REPORT ON UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION IMPLEMENTATION

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2. SUMMARY OF THE NATIONAL REPORT

Mongolia started to develop National Action Plan to Combat Desertification (NAPCD) in 1992. In the Action Plan it was defined environmental and antropogenic impacts caused desertification and assessed environmental, social and economical factors to combat desertification.

NAPCD was planned to be implemented in 3 stages. In the first stage the actions as consolidation linkages between central and local governmental organizations, NGOs and other participants, decentralization and creation of legal framework to combat desertification and Land management issues were planned as basics.

In the middle stage it was planned completion of capacity of monitoring on desertification, definition of areas severely affected by desertification and neutralization of the strength of desertification. In final stage NAPCD will be consolidated as nation wide capacity.

It is carrying out activities on developing and implementation of measures to Combat Desertification in relation to Mongolian Action Program for 21st Century and other social- economical and environmental programs.

Mongolian State Great Hural adopted UN Convention to Combat Desertification in 22 August 1996 then it was brought in force in 26 December 1996 and Mongolia was 42nd country joined in the UN CCD.

Ministry for Nature and Environment and National Committee to Combat Desertification (NCCD) within the structure of the Ministry are National Coordinating Bodies for activities targeted to Combat Desertification.

NCCD was established by National Seminar, in which represented Governmental and non-governmental organizations, research and private organizations and public. The national coordinator of UNCCD was elected by the seminar.

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National seminar meetings were organized in 1995 and 1997 to implement UNCCD and to develop NAPCD. During the seminars it was made assessment to the state of droughts and desertification in Mongolia.

41.3 per cent of Mongolian total territory is Gobi desert and arid zone. 78.2 per cent of the territory is under potential danger of desertification and 59.4 per cent of above territory is having extremely fragile ecosystems. Only 8.3 per cent of all territory is covered by forest. Main reasons caused desertification are considered as natural and antropogenic (related with human activity) impacts.

To Combat Desertification it was developed NAPCD first of all and it was carried out actions to implement and to finance NAPCD.

NAPCD consists from 20 projects, planned for short, medium and long terms.

The NAPCD is under implementation with contributions and supports from internal resource and external contributors.

Especially purposes of the first stage as consolidation linkages between participants and decentralization are under implementation successfully. Within the frame of implementation activities of UNCCD and NAPCD, it was carried out restructuring with establishment of Land management Agency and it is started monitoring on desertification and degradation.

It was adopted and brought in force over 20 laws and 200 legal regulations/acts for Land tenure reform, Environment protection and Sustainable use of natural resource strictly related with development of land management, neutralization of land degradation and combating desertification.

Also it was developed programs covered topics as forestry, water resource, Protected areas, biodiversity, reduction of natural disaster, environmental public awareness and protection of air to be implemented in interrelation with NAPCD. NAPCD was developed and under implementation in tight relation with Strategies on national development, State Policy on Ecology and Environmental Action Plan.

It was made progress in mobilization of and collaboration with governmental organizations (for Agriculture, Forestry, land management, water, health care, social insurance, education, science and infrastructure development), NGOs, women and youth organizations during meetings, seminars and symposiums for developing and implementation of NAPCD (in 1995,1997, 1998 and 1999)

The international organizations and donors as UNDP, UNEP, UNSO, Secretariat of UNCCD, GTZ from Germany, DANIDA, JICA of Japan and ADB are collaborating for implementation of UN CCD and NAPCD.

NCCD is the national coordinating body for coordinating and supervision on implementation of UNCCD and NAPCD, with joint representation of Governmental and non governmental organizations, consisted from specialists in different fields. However NCCD has no financial source but it has an authority to make suggestion

and consultancy using sources as budget, international projects and other financial mechanisms.

NCCD as national coordinating body is monitoring the state of desertification through network of stations for hydrometeorology and environmental monitoring, specialists of land management, researchers from Academy of Sciences and remote sensing unit in ICC, under MNE.

NCCD can assess desertification process and predict tendency of desertification using environmental information center and database branches.

It was created database consisted from contacts as address, telephone, fax or websites on related fields of participants and members of NCCD during implementation of UNCCD and NAPCD.

Under NCCD it was established comprehensive database and GIS on management, environmental and desertification status.

It was established on Land management Agency and its branches in rural areas to improve the land management making progress in land registration, cadaster, and land allocation.

Carrying out land tenure reform, it was reached initial results in land possession (renting till 100 years) , decentralization on decision making on land management and in improvement of land management.

3. STRATEGIES AND PRIORITIES ESTABLISHED WITHIN THE FRAMEWORK OF SUSTAINABLE DEVELOPMENT POLICIES

3.1 National Plans and Strategies available in other Social and Economic areas

Development of "Mongolian Action Programme for 21st century" (MAP-21) was initiated since the Mongolia had participated to United Nation's Conference on "Environment and Development", which was held in Rio de Janeiro, Brazil, and became a joined nation of MAP-21. The Agenda development was funded by UN Capacity-21 and started since June 1996 and it was collaborated by Mongolian Government. Thus the Sustainable Development Strategy, developed at regional and local levels was available in Mongolia. The Agenda includes development strategy concerned economic growth, social equality and efficient utilization of natural resources. Also current socio-economic and environmental situations has been assessed and national development objectives and priority, alternatives for the objectives achievement, and possible constraints have been defined within the MAP-21.

3.1.1 National Development Plan

Current and future situation of desertification process in Mongolia, objectives and activities to be undertaken to combat desertification were taken place in Chapter 14 of MAP-21 and general tendency of desertification in Mongolia was considered in climate change modeling. As noted in MAP-21 by nature of geographical location, weather condition and topology the Mongolia is included into arid area with high drought and desertification degree of risk. 41.3 per cent of total territory of Mongolia is a gobi-desert zone, 84.7 per cent is elevated above 1000 meters and 40.6 per cent of it is an ecosystem where dominated light chestnut, desert gray sandy soil.

Combat of desertification in Mongolia indicates as important framework concerning ecological safety, sustainable development and interest of present and future generations. Furthermore, livestock increase, intensive activity towards oil reconnaissance and gold exploration, and loss of soil fertility will take place more and more. Therefore there is urgent need to develop and implement a strategy to freeze the processes of declining of natural resources and extension of desertification due to natural and human influences.

The result of modeling covered within the MAP-21 shows that total area of gobi and steppe zones would increase 24.3-30.9 per cent by the year 2050. Particularly, it would be extended from Great Lakes hollow (located in northwestern part of Mongolia) and Dundgobi aimag towards north up to Tuul river bend.

In order to ensure public participation in activities for combating desertification, a project Sustainable Land Management to combat desertification in Zamyn-Uud soum (administrative sub-unit) of Dornogobi aimag has been implemented within MAP-21. The Project purpose was to show a real example on promotion of population and communities' participation and provision of collaboration between local authorities, communities and population for combating desertification.

3.1.2 National Environmental Action Plan

Environmental Action Plan was developed in 1995 under World Bank support and approved by the Government resolution No 163 (1996). The Plan concerned that

policy and activity for combat and prevention of desertification could be achieved in manner of improvement of land management, establishment of land fee and community involvement in land management. As the Plan was developed simultaneously with UN Convention to Combat Desertification all Convention's vision have been fully reflected in it.

National Action Program on Climate change is being finalized. There is entire part concerned natural protection issues in all, national, aimags and capital city Development Programmes at national, aimag and capital city levels include chapters on Nature Conservation.

3.1.3 National and Local Agendas 21

In development of MAP-21 hundreds of different specialists have been involved and contributed their efforts and knowledge in choosing of effective socio-economic development alternatives in proper relation with issues of environment protection, efficient use of natural resources and combat desertification. A number of seminars and meetings were organised in different parts of Mongolia, with involvement of all interesting groups, to exchange of ideas and mutual consensus on vision and priority issues within the framework of development of the MAP-21 in a relatively short period. Taking simultaneous measures of same context and outline in 21 aimags there was developed Aimag's Sustainable Development Agenda 21 in every aimags and it was appointed by Local Representative Khural. Even such Agenda was available in some soums. National and Local Agendas consist of following four parties:

- Social sustainable development
- Economic sustainable development
- Environment protection and rational use of natural resources including combating to desertification
- Implementation means

All Aimag Governor's Council have paid attention and participated enthusiastically in activities of development of National Agenda 21. Every aimag has implemented a Pilot Project in pursuance with the Action Plan for implementation of Agenda 21. Advisors of aimag sustainable development have developed special programme for training and awareness, and involving stakeholders. Thus, Sustainable Development Agenda 21 of Mongolia changes traditional "top down" one-way management principle.

Provision on activities for combating desertification in 14 aimags' Agenda certain have been included.

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

There were no any strategy and plans on combating desertification before 1994 in Mongolia. Since Mongolia has shifted to the market economy in 1990s first attempts to incorporate socio-economic and environmental policies have been taken place. Constitution of Mongolia enacted in 1992 and adopted by Mongolian Parliament has defined Government and citizen's duty for nature and environment protection, rational use and restoration of natural resources and ratified legal basis of its possession and ownership by Mongolian citizen.

Issues related to implementation of new argo-technology for land efficient utilisation, prevention and combating to land fertility loss, soil degradation and desertification have been reflected In Food Programme and Master Plan for Power, enacted in 1994.

4. INSTITUTIONAL MEASURES TAKEN TO IMPLEMENT THE CONVENTION

4.1. Established and Functional National Coordinating Body (NCB)

4.1.1. Legal status of NCB and National Committee

According to the Mongolian Law on Governmental (approved and amended by Parliament in 1992, 1996 respectively), the Ministry of Nature and Environment is responsible for developing policy and coordinating activities on the use, preservation and restoration of natural resource with focus on prevention and combating desertification.

National Action Plan to Combat Desertification(NAPCD) approved by the Government of Mongolia in July 1996 and its initial implementation created pre-condition for implementation of UN Convention to Combat Desertification (UN CCD) at national level. The National Committee to Combat Desertification(NCCD), which is authorized to coordinate activities to combat desertification at national level, was established by the Order 59,1998 of the Minister of Nature and Environment. The responsibility of the Committee is coordination and supervision on activities for implementation of UN CCD at national level. Responsibility and Rights of the Committee is included in term of reference of the Minister of Nature and Environment. NCCD is not a statutory body, not carries functional activities for self-sustaining and its obligation is the mobilization, accumulation of financial resources and coordination, monitoring for it. The Committee collaborates with donor countries and International organizations for coordination of activities to combat desertification, mobilization of resources for above activities, gets professional support for development of project proposals. The Committee has non governmental status and functioning with 11 staff members. The Committee consists of senior specialists and researchers, representing whole structures of Governmental and Non-Governmental Organizations, private sector, science, health care, education, social and economic institutions, environment protection and land management to make it comprehensive and to give possibility on replacement. The Head of the Committee is acting as National Coordinator on activities to Combat Desertification in national level.

NCCD conducts its activities in close cooperation with the National Committee for Sustainable Development, headed by the Prime Minister.

4.1.2. Resource

The Ministry of Nature and Environment as National Coordinating body to Combat Desertification in Mongolia can be considered as an organization with sufficient manpower and human resource but lacks in financial resources.

a) Human resource

Issue on Combating Desertification and Protection of Environment with its objectives and steps reflected in Government Action Program, is being implemented as an inseparable part of Government policy and certain portion of the State budget goes to finance these activities.

The National Committee consists of representatives from land management, reforestation, forest and water management, nature conservation, protected areas, land anti-degradation sectors as well as from health, welfare, education, economic sectors. All the members work closely with each other through a wide range of

communications as information exchange, organization of seminar, workshops, circulation of decision letters for comments, participation in project implementation, internet and e-mail.

Table 4.1. Human resource and terms of reference of the Ministry of Nature and Environment as a National Coordinating body

Human resource/Position	Area of expertise	Sector/organization
Minister of Nature and Environment, State Secretary of MNE	Sustainable use, protection and restoration of Natural resource, environmental management	MNE, LMA, EPA, HMEMA
Counselor of the Ministry, Head of NCCD	Implementation, coordination and organization of NAPCD, UN CCD	National Committee, related organizations of MNE
Director of EPA, vice-director of EPA	Management of PAs, forest and water management, conservation of biodiversity, environmental state inspection	PAB, FWB, ESI, local Administrations of PAs
Director of LMA, vice-director of LMA	Land management and planning, land use	Local net of LMA
Director and vice-director of HMEMA	Monitoring, assessment and prognosis of hydro meteorology and environment	HMI, ICC, Center for Measuring equipment, Central Laboratory for environment monitoring
Staff of National Committee	Everyday duty of NCCD	

b) Financial resource

Despite having no financing structure, NCCD has participating in all decision making processes of MNE for financing activities towards land, forest, water management, restoration of land, hydro-meteorology and environmental monitoring and for allocating certain portion of revenues derived from natural resource use fees to finance nature conservation and desertification combating measures, through community, advising and developing, implementing some projects, (see Table 8.1)

In generating financial resource for the activities to combat desertification, the Law on Setup Portions for Funding of Restoration Measures From the Revenues Derived From Natural Resource Use (Parliament Law, 2000, No. 18) approved by SGH, plays a significant role. National coordinating body is contacting through its members represented from Governmental and Non-governmental organizations, local administrations, private organizations and units with their local organizations.

4.1.3. Mode of operation and composition

During the organization National Seminar, which attended all stake holders including Ministries, Members of Parliament, scientific organizations, Foreign Embassies in Mongolia, International Organizations and representatives of local community, members of NCCD were selected in democratic way. Managing group of NCCD consists from Director of Committee or National Coordinator, Deputy-director, Secretary and members. 20 per cent of NCCD staff and 40-50 per cent of staff under

NCCD organizations (LMA, Institute for Geo Ecology, Institute for Hydro meteorology and ICC) are female.

Activities on Prevention from Desertification, Neutralization of Desertification process and Combat Desertification are managed by the Governors of Provinces, Counties and villages and NCCD acts through local parliaments (Local Representative Hural). NCCD plans its activities annually and quarterly and calls meeting of NCCD not less than 4 times a year. When necessary, NCCD meets to discuss facing problems and urgent tasks. Meantime, NCCD had organized 2 National Seminars to Combat Desertification in 1995, 1997 respectively in Ulaanbaatar with the support from Secretariat of UN CCD to discuss facing problems at national level and to take related actions in future. In turn it gives good results for more involvement of people to Combat Desertification.

NCCD conducts its activities with the support of internal budget of MNE. But it is not enough to carry out all duties. NCCD quarterly reports of its activities to the Council of the Ministry. This procedure positively influences on the outputs.

4.1.4. Information and Database

NCCD uses computer network MAGICNET.MN and connected to Internet to get regular information. Local area network is used for communications and exchange information within Mongolian organizations. Also NCCD established Central Environmental Database, which process and archive data on land, water, forest, vegetation, hydro meteorology, wildlife and social economy, which located at ICC. It is on the stage to create GIS on some parts of Mongolia on the status of natural resources. ICC increases its budget to expand Environmental database.

NCCD has developed its website [http://ag.arizona.edu\(OALS\)CSTCCD](http://ag.arizona.edu(OALS)CSTCCD). It tells about National organizations related with Combat Desertification and Land Management and has now its database. Also it compiled Database consisted from reports on implementation of CCD for management. There have been developed desertification risk assessment map with scale of 1:250,000 on GIS and Desertification status map with scale of 1:5,000,000.

4.2. Institutional framework for Coherent and Functional Desertification Control

Desertification monitoring activities are carried out by next institutions:

- Network of Monitoring stations for Hydrometeorology and Environment
- Land management specialists in LMA
- Researchers of the Academy of Sciences
- Remote sensing section in ICC, MNE

Although the Government carried out some assessments and on strengthening and creating new mechanism by restructuring institutions authorized in land management, cadastral survey and control, but it yet started the implementation.

Involving representatives from 10 soums in Gobi-Altai, Khovd and Zavkhan aimags, an awareness raising seminar, which was held in Khokhmorit soum in Gobi-Altai had a great importance in understanding of causes and consequences of desertification by the local people and in increasing participation of local communities to desertification

prevention and in protection topsoil from overgrazing and degradation. International Day for Prevention from Desertification is celebrated on 17 June each year by nation wide broadcasting about UNCCD activities and importance of NAPCD. It is because a tradition to take the measures on training children, youth and women in restoring the consequences of desertification and broader involvement of communities in above measures on that day.

Prevention from overgrazing and degradation is considered to be the highest priority policy at national level and implementation measures on prevention is being carried out at local level.

After evaluation of monitoring on desertification and degradation, was established Land Management Agency with its branches in rural areas in 1997. As a result LMA carries out land management in 21 aimags and issues annual report on unified land territory makes study on land tenure to the citizens and certification pursuant to the Land Law. At the moment, over 218 thousand individuals and entities of Ulaanbaatar City and 21 aimags have got certificate on land possession for 1.4 mln. hectares.

Furthermore, preparation for land cadaster in croplands is being finalised.

4.3. NAPCD as Part of the National Economic and Social Development Plan and Environment Protection Plan.

4.3.1. Making the NAPCD coherent with other environmental strategic and planning frameworks.

National Action Plan to Combat Desertification (NAPCD) was approved by the Government in 1996 and is coherent with following plans:

- Strategy on National Development (1996)
- Mongolian Action Programme for 21st Century (1998)
- State Policy on Ecology (1997)
- Environmental Action Plan (1996)
- National Plan on Forestry (1998)
- National Action Program on Natural Disaster Reduction (1998)

There was organized a seminar at national level to assess above plans for more incorporation and it worked out a guidance for its implementation.

4.3.2. Linkages of the NAPCD with national development approaches

Implementation of NAPCD is planned with 3 stages. In the first stage it started measures like strengthening linkages between central governmental bodies and local administrative bodies, some initial activities on neutralization desertification process in severely desertification suffered areas. As the first priority for mitigation of impacts of desertification and degradation has been established legal background on land possession.

In next stage will be carried out a number of tasks as creation of monitoring system on desertification, defining territories under potential danger of desertification and development of technology on neutralization degradation process. And in the last stage of the National Action Plan to Combat Desertification will be strengthened

capacity. One of main purposes of NAPCD is **building of national capacity to combat desertification**. Implementation of Project on Improvement of Land Management to Combat Desertification in Zamyn Uud soum, Dornogobi, which severely suffered from desertification, with the support of UNDP within the framework of the NAPCD gives good results in creation of local capacity to combat desertification, identification of causes and consequences of desertification in this area, improvement of management on land, water and pasture and training of inhabitants in use of biological methods to stop sand movement and trees and shrubs planting. In order to involve all stake holders in combating desertification and to avoid overlapping efforts, activities in , NAPCD integrates its activities with a strategic plan for environment protection especially with a strategic plan for infrastructure development . It facilitates also coordination of supports and aids of donor countries and international organizations. Has been made renowned registration of unified land classification to implement Policy on land possession related laws and regulations. As results of above steps, has been seen a progress in sustainable use of natural resource to prevent desertification and degradation. SGH and the Government adopted and implemented over a dozen programs in the environmental field such as **Establishment of Protected Areas, Reforestation, Water resource, Pasture Management and Natural Disaster Prevention** and moreover nearly 20 projects on **Strengthening activities on neutralization of desertification, Restoration of degraded areas, Finding of water resources to improve water supply, Reduction of soil erosion degradation and Improvement of land and pasture management** were conducted under financing from the State budget. The Governmental Policy is targeted to the Sustainable Social and Economical Development in harmony with ecological carrying capacity of the country. linking the principles of UN CCD with plans and programs for Environment, Social and Economic sectors at national and local level allowed NAPCD to become strategic component in General Plan for Development of the country.

4.3.3. Linkages of NAPCD with subregional action programs.

In order to implement the Convention to Combat Desertification, have been organized different kind of seminars and meetings Asian countries and upon consultation processes established Thematic Program Network (TPN) for Asian subregion. Mongolia supported the establishment of TPN from its start and actively participated in formulation of 5 themes of Thematic Programs. Mongolia is elected as a host country for 5th theme in Thematic Programs titled “Strengthening of Capacity on Drought Mitigation and Combat Desertification”. Our country is developing proposal for the Project and our involved specialists are under training in countries as China, India and Israel.

4.3.4. Government’s agreement

Mongolian Government adopted the National Action Program (Resolution of the Government, No.169,1996), coherent with other development programs, strategic plans and Action Plan of the Government. Also the components of NAPCD as reforestation, water supply of pastures, improvement of management for Protected Areas, strengthening of land management and restoration of degraded areas are included relevant programs and reflected in the annual budget of the Government.

4.4. Coherent and functional legal and regulatory framework

4.4.1. Analysis of the legislation on environment and related fields

Until 1994 there were acting 6 environmental laws in Mongolia. Since that State Great Hural adopted and enforced over 20 environmental laws to date. These Laws contain many aspects targeted on increasing roles or involvement of local communities in protection of nature and environment, prevention from land degradation and desertification, awareness raising and sustainable use of natural resources.

In order to define roles of all stakeholders in society such as local administration, public organizations, private sector, scientific organizations, women and youth for the activities to Combat desertification and to create solid legal framework on land possession have been analyzed all environmental and other related laws and regulations, which were acting before for creation of new legal framework adapted to present status of development. According to the Governmental policy on Environment Protection and Combat Desertification, 20 laws and over 200 legislative acts which regulate aspects such as Governmental Policy on Ecology, reduction of degradation, balancing protection of natural resource with its exploitation, increase of efficiency of renewable natural resource were adopted and brought in force to create and improve basis of legislation, economy and management. Finally, adoption of above laws and acts created favorable condition in supporting and increasing public participation especially local communities to Combat Desertification.

4.4.2. Land Tenure Reform

Restructuring of legal status and organizational structure have taken place to implement Land reform policy and accelerate decentralization process and facilitate self-governance at local level.

The Mongolian Law on Land (Laws by SGH, 1994.) was adopted and contains following vital solutions:

- To possess land to Mongolian citizens with the term till 100 years
- To transfer decision making on land possession to local Governments (decentralization)
- To improve Land management

Land ownership issue for Mongolian citizens is under survey and assessment. Also was legal basis on use and possession of natural resource and on improvement of its management established. So far economical basis is on the way to be created.

Within the framework of Land reform The Laws on Forest, Water, Land and Natural Plants, targeted to develop the proper Management of natural resource, were adopted to legalize the rights of people to own and to possess land as a main source of their living. Contents of these laws and related resolutions or regulations from the Government are introduced to local communities in many ways. For example, such activities as "National Program for Alternative Education" adopted by the Government and Project "Remote teaching: To live learning" supported by UNESCO are not only educating thousands children not covered by official educational system, youth and adults in conservation ecology but conducting nationwide public awareness campaigns on UN CCD and NAPCD objectives and activities.

Awareness raising and consultation with local people on sustainable use of natural resource, land, water, forest, pasture and croplands are broadcasted by the mass media as radio, TV and periodicals.

Several projects on sustainable use of natural resource were implemented. For example, Project "Natural Resource Management Planning" under the aid of DANIDA was implemented in Dornogobi aimag (gobi desert zone) and Arkhangai aimag (forested mountainous steppe zone) in 1996/1997. Within the framework of the Project was developed models of Land management planning, pasture use and possession of pasture resource, involving local administrations and herders(end users) by training, seminars and interviews during the Project implementation.

In collaboration with UNDP the Project " Community Forest Development" was implemented in 1997/1998. As a result there have been established 8 communities in Selenge, Khentei and Arkhangai aimags.

Thus, many targeted measures have taken place at local level to ensure public participation in decision making processes and build local capacity for combating desertification and land degradation.

5. PARTICIPATORY PROCESS IN SUPPORT OF THE PREPARATION AND IMPLEMENTATION OF THE ACTION PROGRAMME

5.1 Effective participation of actors involved in defining the national priorities

To develop and implement national policy core documents such as Mongolian Action Programme for 21st century (MAP-21) of Mongolia, adopted by Mongolian Government and National Action Plan to Combat Desertification, the representatives from Parliament and Government agencies of Mongolia, Non-government organisations (NGO), the private sector, academic institutions, and local communities have been invited in local meetings, scientific and production conferences, workshops and discussions and their recommendations and suggestions have been reflected on development of above documents.

Within the UNDP Environmental Public Awareness Project (EPAP) implemented in 1997-1998 at the Ministry for Nature and the Environment, National Environmental Public Awareness Plan (NEPAP) was developed and approved by Decree No 39 of the Minister of Nature and Environment in 1999. Wide range dissemination and awareness campaigns on combating desertification and environment protection with participation of women, youth, children and environment related organisations have been organised within the Programme implementation.

Disseminating and providing reliable information on activities of the UN Convention to Combat Desertification to the state and local authorities, NGO representatives of local communities the National Committee to Combat Desertification ensures their participation in decision making process. Through the MAP-21 and National Action Plan to Combat Desertification (NAPCD), the main strategy for dissemination of information and propagation among communities has been defined at national and local levels. This strategy is being implemented at the present.

A number of meetings and seminars with attendance of representatives from Government agencies and NGO have been organised and main ideas and suggestions recommended at above procedures have been considered in definition of priority for the national strategy.

Also e-mail and information networks are being used broadly for implementation of projects, carrying out activities, dissemination and exchanging of information in accordance with the Programme priorities.

The following references are being used for dissemination and awareness raising on environment and combating of desertification:

- Books, booklets and
- Brief introduction and brochures
- Pamphlets
- Posters
- Stands
- Newspapers and journals
- Video recordings and video films
- Slides and Audio introduction
- Calendars

- References
- Others

Using above references as meeting, travel and excursions, in-situ meeting, discussion, competition and questionnaire are being organised.

Environmental Public Awareness campaign covers public strata including women, youth, children, herdsmen, farmers, landladies and etc.

5.1.1 Methods of participation of various actors

Within the public awareness on desertification and disaster campaign, in 1997-2000 there had been organised 8 meetings and seminars on environmental and desertification issues involving about 500 people and published and distributed about 10 books, booklets with over 150 research and awareness articles in more than 2000 copies in Ulaanbaatar with participation of Government agencies and NGOs such as "Development and Environment" center, "Ochirbat fund", "Mongolian Association for Conservation of Nature and Environment" (MACNE) and "Mongolian Women Society". These campaigns have been organised and supported financially by NGO "Ochirbat fund" and private companies working on the field of environmental impact assessment such as ENKO Co. Ltd., EKOS Co. Ltd., EKO-TRADE Co. Ltd., ECOLOGY Co. Ltd., and EKO-MON Co. Ltd.

Organisation of meetings, seminars and discussions on desertification, disasters and ecosystem change issues have been carried out in areas where desertification causes serious problems - Gobi area (Sainshand, Zamyn-Uud, Dalanzadgad cities and Khukh Morit soum of Gobi-Altai aimag) and Mongolian and Russian joint scientific conferences have been organised in Khovd and Ulaangom cities of Western area of the country and local government authorities, representatives of communities and private sectors, and entities have participated. Many people have attended those meetings and seminars and 15 per cent of them were women.

Video movie showed activities for combating of desertification in Khukh Morit soum of Gobi-Altai aimag and Zamyn-Uud city of Dornogobi aimag has been produced and 2000 copies of published materials on awareness on desertification combat activities in Mongolia and UNCCD have been disseminated in collaboration with NGOs, scientific institutions and local women organisation. Projects on combat desertification, protection of Gobi bushes and bunches, limitation of their use for fuel, preparation of briquette using powdered coal for substitution of wood, installation of water pumps in gobi pasture and plantation of trees and bushes in Gobi areas have been successfully implemented.

Internet presentation of information on research organisations and scientists studies on desertification, utilization of Web page, development of database acceptable to interesting people are being carried out. Thus, organisation of meetings, seminars and discussions, involvement of communities more feedbacks.

58.5 per cent of the total population of Mongolia are youth aged up to 25 and 50 per cent of rural population is women. Particularly, many women live in Gobi areas. Therefore dissemination information on public awareness and combating desertification and efficient use of should focus on women and youth.

5.1.2 Representatives of various actors in the national priorities identification processes

Environmental NGOs such as “Development and Environment” center, MACNE, Mongolian Women Society, Social-democratic Women Society and Mongolian Youth Society, and consultants from environmental consulting companies actively participate and support measures for environment protection, combating desertification and public awareness.

Under the UNDP Project on EPAP the Ministry for Nature and the Environment had realized over 10 series of training, seminar and methodological training in 1997-1998 among those organisations in order to introduce objectives and activities of EPA and role of these organisations.

A Committee, consisting of participating organisations has been established under TESIS project of European Union to carry out discussion, training and meeting on regular basis, improve capacity of above organisations, coordinate environmental NGOs’ activities and organisation of meeting, in every quarter for cooperation and exchange information.

The following financial support mechanism is used for awareness activities:

- Organisation of nation-wide meetings and exchanging of information under support of Government and International organisations.
- Organisation of national and local meetings is carried out with financial support of NGO and private sectors.
- Organisation of meeting by public initiative organisations.

Over 4000 people were involved in over 10 such training organised in 1997-1999.

Organisation of national level discussion and exchanging of information in local areas facilitates local people participation.

5.1.3 Nature and scope of information, education and communication actions

The following network for dissemination and exchanging of information is set-up:

Public media (radio and TV):

- Newspapers and regular journals
- Internet, Web page and e-mail
- Pamphlets
- Books and booklets
- CD
- Video and cassettes
- Informal education
- Mobile awareness
- Others

The following measures have been taken:

- More than 10 books, booklets and pamphlets on desertification study and awareness have been published.
- 6-8 radio and TV programmes advertising prevention and combating desertification have been prepared and translated per a year.
- Last 3 years 4 video movies were produced and used for public awareness.

- Information of over 20 organisations, related to desertification combating, has been presented on Internet and designed their Web pages.
- 3 entire series of newspaper dedicated for desertification have been published and disseminated.
- Mobile awareness has been organised in rural areas 3 times.

At the present notwithstanding of involvement of various organisation in activities of information provision and getting information from information network is in its beginning stage, technical provision is still insufficient. In other hand, dissemination of information to rural areas, especially to soum, bags (the lowest administrative unit) and residents, is still remaining with difficulties.

5.1.4 Extent of uptake

- **of local concerns at the national level**
- **the results of national consultations at the local level**

Series of training-seminars on development, detachment and analysis of National Action Programme Plan to Combat Desertification and development and implementation of Programmes of Land, Water and Forest were organised in 1995, 1997, 1998, 1999 and 2000 and representatives from capital city and 21 aimags participated in solution of nation-wide issues.

Every year there are organised seminars for land management and efficient use of land in Mongolia. During the seminars draft of laws and resolutions of Land utilisation, to Combat desertification, which as proposed to present to Parliament for their approval, was discussed and corresponding suggestions and recommendations were reflected on it. Such coordination of national policy and establishment of legal basis identifying local issues is becoming as a standard approach and method.

National consultations at the local level are at the beginning stage. Although information dissemination is realized through the system mentioned in 5.1.3, it is still difficult to distribute information at soums, bags and individual residents. Therefore it is necessary to extend information dissemination facilities and network in order to improve activities in participation of various social and organisations' representatives.

6. CONSULTATIVE PROCESS IN SUPPORT OF THE PREPARATION AND IMPLEMENTATION OF THE NATIONAL ACTION PROGRAMME AND THE PARTNERSHIP AGREEMENT WITH THE DEVELOPED COUNTRY PARTIES AND OTHER INTERESTED ENTITIES

6.1 Effective support from international parties for cooperation

6.1.1 Degree of participation of international partners

The Government of Mongolia pays more attention to get and coordinate support activity of International and Donor countries for the implementation of UNCCD and extends cooperation in this direction.

Every year the Ministry for Nature and the Environment prepares a Report on State of the Environment based on studies. Based on such report of 1996 the Ministry identified that drought, desertification and loss of land fertility are the environmental priority issues of Mongolia and has taken significant steps for acceleration of activities to combat desertification at national and international levels and directing the attention of International Community towards the pending issues.

Mongolia supports the initiatives of UNCCD since its initial stage and participated in its all development, preparation stages. Mongolia joined and signed the UN CCD in October 1994 in Paris and the Parliament of Mongolia ratified it in August 1996.

In order to resolve the environmental problem - pasture degradation and its fertility loss, deforestation, sand movement and reduction of fresh water resources, which are impossible to resolve only by financial, economic and technical capacities of the country, with support of International Community the Donor Meeting is being organised every year.

Since 1990 the Mongolia in collaboration with Japan has organised 6 such meetings in Tokyo and the 7th meeting of Donor countries was held with support of World Bank in July 1999 in Ulaanbaatar. The meeting was attended 24 countries, 11 international organisations and 3 NGOs. Meeting document stated that the 15 per cent of total fund is allocated for dealing with environmental issues and development of private sectors.

At the Government level the Mongolia has concluded 7 bilateral agreements with such countries as Russia and China and Kazakstan and Kirgistan, which share the same natural zone and environment problem, protection of trans-boundary water, hydrology and meteorology, and environmental monitoring, and 8 interministrial agreements and memorandums between Ministries Departments of Environment of USA Islamic Republic of, Iran, Republic of Korea, Russia, Hungary, Germany and Japan.

In 1995 and 1997 the national seminars to combat desertification were organised with collaboration of Secretariat of UNCCD and participation of representatives of Embassies of Donor countries in Mongolia and International organisations. Development of National Action Plan to Combat Desertification and analysis of its implementation were concerned at the seminars and it drawn up a recommendation.

As result of over 20 projects' proposal to request for financial and technical supports, presented to international organisations and Governments of developed countries for

future implementation to combat desertification and stop land fertility loss in 1996-1999, 14 projects with total cost of US\$ 24.6 mln. implemented and being implemented at national and local levels with support of Donor countries and international organisations.

These projects are as following:

Table 6.1. International Projects in Combating Desertification in Mongolia

- In the field of protection of natural resources, inclusion of certain areas under state protection and management of these areas:

No	Project name and brief description	Sponsor country/organisation	Project cost	Period
1	“Environment Protection and Buffer Zone Development”, Model Management in 2 strictly protected areas	Germany, GTZ	21 mln DM	1995-2006
2	“Eastern Mongolian Biodiversity conservation and Sustainable Livelihood options”, Conservation of Biodiversity and Mongolian steppe area and rational land management policy in relation to local development programme.	GEF, UNDP	6.1 mln US\$	1998-2006
3	Pilot projects on Environmental protection and improvement of protected areas’ management.		100 thous. SHF	1998-2002
4	“Improvement of management of Khustain Nuruu Mountain Steppe reserve area”, Biodiversity Project	Government of the Netherlands	3.2 mln. US\$	1998-2002
5	Improvement of Khuvsgul National Park Management	USAID	699 thous. US\$	1999-2000
6	Interstate Programme on “Information System for Environment and Agriculture Monitoring”	TACIS Project		1999-2001
7	“Environment Trust Fund” (Fund for Biodiversity protection and to Combat desertification)	Government of Mongolia, UNDP		1998

- Improvement of pasture and land use management, reduction of pasture degradation and combat desertification.

No	Project name	Sponsor country/or- ganisation	Project cost	Period
1	“Pasture Management Planning Systems”	International Develop- ment Agency of Denmark -	1.1 mln US\$	1995-1997

		DANIDA		
2	Small projects for establishment of green zones, well drilling and awareness raising in the areas with severe desertification (Khukhmorit and Bayan-Uul soums of Gobi-Altai aimag and Durvuljin soum of Zavkhan aimag).	Secretariat of UNCCD	22.1 thous. US\$	1998
3	Improvement of Land Management” (Zamyn-Uud city of Dornogobi aimag).	Under UNDP project on MAP-21	35 thous. US\$	1997-1998
4	“Strengthening of Land Policy”	Asian Development Bank	480 thous. US\$	1996-1998
5	“Study of Pastoral Livestock Production”	Asian Development Bank	600 thous. US\$	1996-1997

- Provision of national capacity and public awareness:

No	Project name	Sponsor country/or- organisation	Project cost	Period
1	“Environmental Public Awareness Programme”	Government of Netherlands and UNDP	397 thous. US\$	1996-1999
2	“Strengthening of Environmental Management Capacity”	Asian Development Bank	569 thous. US\$	1996-1997
3	"Assistance to National Environmental Action Program"	TACIS Program		1998-1999
4	“Strengthening of Agricultural Sector Capacity”	Asian Development Bank	800 thous. US\$	1996-1997

- Forest resources and reforestation:

No	Project name and brief description	Sponsor country/or- organisation	Project cost	Period
1	“Natural Disaster Management and Community Forestry Development”	UNDP	329 thous. US\$	1996-1998
2	“Integrated Fire Project”	GTZ of Germany	3 mln. DM	1997-2000
3	“Study of Forest Resource in Selenge”	Japan, JICA		2000-2001
4	“Afforestation”	Japan, Hyogo	50 thous. US\$	2000-2001

6.1.2 Future activities to be taken by the Government

Secretariat of UNCCD supported the Mongolian request to host the Theme 5 “Strengthening of capacity of drought mitigation and Combat Desertification” – the one of the six Thematic Programme Network (TPN) for Asia and Pacific Region, which plays an important role for regional intensification of activities to combat desertification and at the present the preparation activities were already started.

From the first half of 2000 the Government of Mongolia is proposing to implement long-term project on “Pasture Management and Combat Desertification” with financial and technical assistance of Germany in two aimags’ territory of Gobi area and its feasibility study has been started.

The project proposals for provision of future implementation of National Programme to Combat Desertification have been presented to partner countries for their support.

6.2 Establishment of an informal consultation and harmonisation process for actions between partner countries

There has been established a mechanism for exchanging ideas and consultation regarding to the development of policy and projects and preparation of documents for environmental protection, combating desertification and sustainable development through participation of representatives from the Government relevant agencies, International organisations and Donor countries.

Except donor countries’ meetings and bilateral agreements as mentioned before the Government of Mongolia planned to organise thematic meeting involving partner countries’ representatives in order to coordinate loan and grant projects, designated for Mongolia to improve its management. The first meeting on “Governance issues and Effective utilisation of Assistance” was held in November 1999. The next proposed meeting would concern “Environment and its critical issues”. These activities are the one of the approaches of involvement of partner countries and coordination of their activities in close relation with combating desertification.

There have been already established formal and friendly relations between partner and donor countries, international and national organisations, and National Focal Point of UNCCD in a traditional form of cooperation such as meet frequently each other and discuss, exchange ideas and suggestions, distribute information, books and booklets, submit project proposals and requests. Also Internet and Web pages used for information exchange.

During conferences, meetings, seminars and consultations organised by UNCCD framework every year National Focal Point and its representatives meet with representatives of partner countries and organisations and discuss and solve issues related to NAPCD. Also National Focal Point organises meeting with representatives embassies and councils of partner countries in Mongolia and during a visit of high level delegation on certain issues and proposals for combating desertification.

7. MEASURES TAKEN OR PLANNED WITHIN THE FRAMEWORK OF THE NATIONAL ACTION PROGRAMMES, INCLUDING MEASURES TO IMPROVE THE ECONOMIC ENVIRONMENT, TO CONSERVE NATURAL RESOURCES, TO IMPROVE INSTITUTIONAL ORGANISATIONS, TO IMPROVE KNOWLEDGE OF DESERTIFICATION AND TO MONITOR AND ASSESS THE EFFECTS OF DROUGHT

7.1 Adequate diagnosis of past experience

7.1.1 Synthesis and evaluation of activities undertaken in the field of combating desertification

Mongolia is located in the center of Euro-Asian motherland, separated from sea and elevated in average 1580 m above sea level. There is essential significant dry climate, low fertility of soil and sparse vegetation cover in Mongolia. 41.3 per cent of total territory of the country is included in Central Asian Gobi-desert area.

Total territory of the country is 156411.6 thousand hectares, 121.9 million hectares of it are used for agriculture purpose (125.7 thousand hectares of which for natural pasture, 952.9 thousand hectares for arable land and 2045.4 thousand hectares for hay-field).

78.2 per cent of total territory of Mongolia is under risk of desertification, 59.4 per cent of it is the area with high risk of desertification. At the present over 70 per cent of total pasture area is degraded and 64306.1 thousand hectares or 50.8 % of it is under medium rate of degradation, 26027.4 thousand hectares or 20.7% is under high degradation and 1814.5 thousand hectares or 1.4% is severe degraded.

Since 1960s substantial area of land (1.3 mln. hectares) has been ploughed and used as arable land however by mid of 1990s 46.5 % (561.5 thous.hec.) of arable land is degraded and 158.4 thous.hec (28.2%) of it is under medium, 72.4 thous.hec (1.9%) is highly degraded.

Only the 8.3 per cent of total territory are occupied by forest. In 1974-1998 the area of forest resource is reduced by 1.4 mln.hec due to timber preparation, fire and harmful insects. Although in 4.5 mln.hec of gobi-desert area were planted saxaul forest, which plays significant role in soil protection, due to natural dryness and human activities the area of young and medium aged saxaul forest is reducing.

7.1.2 Factors of desertification

Factor of desertification in Mongolia could be divided into following two categories:

- Natural
- Human induced

However these two factors are interrelated, sometimes they impact each other positively, sometimes negatively. Human activities – the factor of desertification, occurred on the background of natural dryness, cause negative impacts.

Natural factor

Study of climate change for the last 500 years in Mongolia [Gordon and others, 1996] shows that single-side fluctuation towards dryness or wetness is not observed however certain fluctuation of climate within certain period of time has been taken

place. As shows meteorological observation data of last 60 years in the middle of 1940s and 1980s there were less amount of precipitation throughout the several years and accordingly, drought intensity has been increased. Summer drought covered more than 50% of the territory is occurred 1-2 times per 10 years. But in 1941-1950 and 1981-1990 it occurred 3-4 times respectively and in the middle of 1980s many streams and springs, and some lakes in Gobi area have dried up and underground water level has lowered.

Spring season is usually very dry and drought occurs almost every year.

Human factor

Human activities causing desertification basically intensify negative impact of desertification background effected by natural factor. The human factors should be separately considered for pastureland, arable land and residential area.

From the last 40 years' experience on use of arable land in Mongolia it is clear that soil-processing technology is not suitable to soil nature and climate of the country.

There are many human factors causing desertification. For instance:

- The traditional technology for pasture utilisation has been lost. Last 70 years number of livestock head increased rapidly (in 1924 there were 13.7 mln.livestock heads and it increased to 33 mln.heads at the end of 1999) however area of pastureland decreased by 20%.
- Water supply in pastureland is not sufficient. Last 10 years it reduced much more. As study shows that pasture within 1-3 km areas around a water point is degraded significantly.
- Sand movement intensified due to massive use of Gobi tree vegetation including saxaul for fuel and use of lake reeds for fodder resources.
- Soil techno-genetic erosion intensified since 1960s. Because of military heavy techniques' movement and military field training 600 thous.hect areas' soil degraded.
- Mining activities are one of the factors causing significant soil erosion and recreation of the land is not almost done. During gold mining activities carried out about 120 entities in Orkhon-Selenge river basin soil with 2 mln. tonne fodder resources have been degraded.

Above diagnosis and conclusions concerning desertification status of Mongolia were a basis of development of the National Action Plan to Combat desertification and definition of its major strategy and strategic priorities.

These diagnosis and conclusions were made in relation to Government multiyear' policy and activities, their influence to land utilisation and protection and socio-economic situation. Several study projects on these diagnosis and conclusions were implemented and discussions, meetings and seminars concerned results of the projects were organised and final conclusions have been made on these arrangements.

Based on above diagnosis and conclusions mentioned in 7.1.1 and 7.1.2, the NAPCD and measures to be taken under its implementation and project proposals will be developed.

7.1.3 Evaluation of measures undertaken to combat desertification

On the basis of diagnosis and conclusions made regarding to current condition of desertification in Mongolia the Government has carried out all-around activities addressed to combat desertification at the government level since 1970s. However its effect on weakening of desertification intensity was low. Its main reason is insufficiency of financial resources, a survival of techniques and technologies and lack of legal environment, mainly the issues regarding land ownership and possession is not yet resolved up to nowadays. Specific nature of pasture livestock breeding such as utilisation of land owned by the community and nomadic life with specificity of movement from one place to another changing pastureland throughout the year, is blocking a coordination of land utilisation on scientific basis. Although land ownership and possession is practicable, the social consciousness is still low.

Last 10 years the Ministry for Nature and the Environment (MNE) has developed series of legal statements concerning an efficient use of natural resources, environment protection and combating of desertification and approved number of programmes including NAPCD to be implemented at the government executing agencies level. It ensures allocation of certain amount of fund from state budget and national and international projects for future use it in improvement of land management, prevention of land fertility loss and reduction of soil poverty.

7.2 Established technical programmes and functional integrated projects to combat desertification

In accordance to NAPCD the National Committee to Combat desertification has evaluated activities on natural resource management, desertification monitoring and to combat desertification and modified policy and programmes of MNE.

Thus a number of measures have been undertaken in regards to implementation of projects under foreign partners' financing and assistance, modification and renovation of policy coordination at national level and efficient use of financial resources.

7.2.1 Inventory, adaptation and integration of projects underway within the NAP process

Upon development and approval of NAPCD by the Government of Mongolia in 1996, many programmes with relation to activities to combat desertification such as Programmes of Forest and Water, Reduction of Natural Disaster and Public ecological education have been developed and are being implemented. Also the issues to combat desertification have been taken place in long-term visions such as MAP-21. For implementation of above programmes the following measures have been undertaken with support of national financial resources:

- Laws of Natural resources' utilisation payment has been amended by new article on use of the payment revenue for recreation of natural resources.
- In 1950-1960 1000-6000 m³ saxaul have been used as fuel annually. But since 1990s it is used for herdsman's fuel consumption in a few amounts.
- Experience-study on plantation of woody vegetation and trees in Gobi area including saxaul, tamarisk, oleaster and *Populus diversifolia* is being carried out.
- As result of intensification of forest recreation work, the last 4 years areas of over 18000 hectares have been reforested and the Government has allocated about

170 mln.tugrug for this purpose. In 1998 fruits, berries, trees and bunches have been planted in the areas of over 370 hectares. Timber preparation amount has been reduced 3 times in comparison to year 1980.

- Plantation of multiyear vegetation and creation of its band is taken place. Grass vegetation has been planted in highly degraded area of 600 hectare and sandy area of 200 hectares in Orkhon soum of Selenge aimag in 1996-1998.
- Last 5 years over 20 springs have been recreated.
- Harmful insects distributed over 400 thous.hec of forest area are being studied and such insects of 2250 hectares area been destroyed.
- Recreational works of eroded areas due to mining activities are being executed systematically and last 3 years it covered area of 3.5 mln.hec. But it comprises only 30% of total eroded areas.
- Recreational works are intensified in sand movement area of Dornogobi and Gobi-Altai aimags.
- Activities to combat forest and steppe fire and its prevention are extended and number of fire occurrence is reducing year to year.
- The following measures being undertaken to combat desertification:
 - ? Provision of policy and legal environment for land renovation and management
 - ? Provision of legal environment for establishment of natural resources utilisation payment system

7.2.2 Specific actions to strengthen the national capacity to combat desertification, in particular at the local level

The following actions to combat desertification have been taken:

- Organisation of training and seminars designating for local representatives, foresters and farmers
- Development and implementation of certain programmes and technical programs
- Strengthening of capacity to implement international projects

A.Training and seminars

- “Green movement” programme
- Forest programme
- National Plan on Water

“Green movement” is designated to train local population for land utilisation, establishment and operation of private entities dealing with the land and improvement of their living condition.

Forest programme is directed to increase community involvement in efficient utilisation and protection of forest, reforestation, prevention from harmful insects and creation of public use-forest.

National Plan on Water is developed to ensure use of abandoned pasture due to lack of water herein and improvement of water supply in residential areas.

B. Implementation of international projects

Implementing the following projects in 1996-1999 the national capacity has been strengthened:

- DANIDA: “Pasture Management Information System”
- UNDP: “Prevention of natural disaster and community forest development”
- Germany, GTZ: “Prevention of forest fire”

Totally over 20 training have been organised in participation of local community and achieved certain results implementing above projects.

It is paid attentions for strengthening of national capacity. Particularly, significant achievements have been taken place in combating of forest and steppe fire, prevention of soil techno-genetic erosion and soil recreation. It indicates that the areas covered under forest and steppe fire is being decreased from year to year. In this matter Project on "Prevention of Forest fire", implementing since 1998 under GTZ of Germany support plays important role. Law of Forest and Steppe fire, enacted in 1996 has intensified duty and responsibility of citizens, local administrative authorities.

There are operating number of tens tree plantation organisations dealing with reforestation and coordination and financing of such activities has been visibly improved.

"Green movement" programme, implementing since 1997 improves community skill for land utilisation and links poverty alleviation and natural protection activities. Sand movement programme in Zamyn-Uud and Khukhmorit has been started with financial support of international organisations.

7.3 Action Programmes implemented in compliance with priority fields set out in the Convention

7.3.1 Measures to improve institutional organisation

National coordination of policy and actions to combat desertification is not well organised. The actions are coordinated by National Committee to Combat Desertification however its legal status is not set up clearly and due to lack of independent financing it limits their activity.

Involvement of community in the activities to combat desertification is weak and the government organizations and agencies are still taking initiatives. Herdsmen are still using traditional pasture utilisation method and there is a need of new land management approach. The participation of NGOs is taken place only in implementation of projects. All these are related with deficiency of proper procedure between organisations and agencies dealing with natural protection, nature utilisation and communities, and non-establishment of relation and collaboration approach of government agencies, local administrative organisations and NGOs with entities, and issue of land possession and ownership is still not resolved.

7.3.2 Monitoring and evaluation measures for the effects of desertification and drought

Hydro-meteorological and environmental monitoring stations and posts and Institutions of Academy of Science of Mongolia undertake monitoring and evaluation measures. Mongolian and Russian expedition carried out almost 40 years' survey on territory of Mongolia play significant role in this direction and it developed Desertification map.

Hydro-meteorological Service of Mongolia is in charge of desertification monitoring and there are used ground and remote sensing data. Hydrometeorological Institute every 10 days during warm season produces drought and vegetation map using pasture vegetation estimation carried out at over 300 meteorological posts and stations and it is clarified by remote sensing data.

As there is dominating pasture-based livestock breeding in agriculture of Mongolia operational monitoring of drought gives an important feedback in economy of the country. If in summer occurs drought apart from winter condition whether it was with much snow or not, high loss of livestock takes place.

7.3.3 Measures to improve the economic environment

The Government of Mongolia undertook the following measures to implement National Action Plan to Combat Desertification in 1996-2000:

- Market price on all kinds of goods has been established.
- Market price on fuel and electricity has been set up.
- Inflation has been declined in 3 times.
- Taxation hierarchy has been reduced.
- High rate of custom tax for forest exporting has been set up.
- Law concerning with use of natural resources' utilisation payment revenue for measures and actions to combat desertification has been enacted.

7.4 Linkage achieved with sub-regional and regional action programmes

Measures for implementation of UNCCD and NAP is undertaken in close relation with ESCAP Unit to Combat Desertification and regional and sub-regional cooperative projects. In particular, in order to implement Asian Regional Action Programme the measures in charge of and for preparation of one of Thematic Programme Network (TPN) on "Strengthening of capacity on drought mitigation and combat desertification" is being undertaken. In addition, the Mongolia participates in measures to combat desertification and loss of land fertility undertaken within North east Asian environmental cooperation.

Also Mongolia actively participates in various activities on desertification survey and monitoring, and freezing of desertification undertaken in neighbouring countries in Central Asia and Asian and East Asian region.

Project on land use and land cover change in North Eastern Asia is implementing within International Programme "Geobiospher". At the first stage of the Project a database is being created and map of land cover by 1992 year has been developed. This project also deals with change of land cover, its factors and future condition.

7.5 Effectiveness of measures in local capacity building

To build local capacity for improvement of land management and combating desertification every year since 1997 there is organising 7-14 days training and seminars for local land managers in Mongolia. As result of it the measures of land inventory and prevention of land fertility loss has been taken in local areas. In order to ensure efficient use, protection and control of natural resources, we organise training and seminars directed to exdention of local administration authority and improvement of capacity regularly and provide handouts and training materials.

7.6 Partnership agreements applied

Cooperation and partnership of government and non-government organisations and private sectors arrange and participate in many activities on protection, efficient use and recreation of land, forest and vegetation resources in accordance with Law of Land, Law of Land Cadastry and other related legal statements and issueing

appropriate agreements and contracts. Agreements on possession and utilisation of natural resources are regulated by local administration. Within implementation of UNCCD and NAP Mongolia has entered in various agreements with international organisations such as UNEP, UNDP, UNESCO, UNSO, FAO and ADB, and such countries as Japan, Germany and Denmark and achieved certain results.

8.FINANCIAL ALLOCATIONS FROM BUDGETS IN SUPPORT OF IMPLEMENTATION AS WELL AS FINANCIAL ASSISTANCE AND TECHNICAL COOPERATION RECEIVED AND NEEDED IDENTIFYING AND PRIORITISING REQUIREMENTS

8.1. Adopted Financial Mechanisms

In relation to the shift of Mongolia to the market economy, all legislation for social and economical structures were renowned and 22 laws and nearly 200 legal acts on Environment Protection, Sustainable use and Restoration of Natural resource were adopted and brought in force. In Paragraph 33 in the Law on Environment Protection pointed out: "Required financial resource on supervision and control on implementation of Laws and Regulations related with Environment Protection should be extracted from the State Central or local budgets to the Governmental and Rural Representative Organs". Actually this Paragraph is legalized financial source for activities on Environment Protection and to Combat Desertification. Also it must be taken into account direct and indirect investments in related sectors to Combat Desertification as Agricultural production, Infrastructure and Social welfare etc.

Participation of parties in financing and management of activities to Combat Desertification is legalized and regulated by the laws.

8.1.1. Measures to facilitate the access of local actors to existing sources of funding

Financing of activities on Restoration of Environment and on neutralization of Desertification process from the National Budget in 1997/1999 is shown in Table 8.1.

Table 8.1. Allocated Sum for Restoration of Nature and Environment and Neutralization of Desertification process
From the National Budget, in mln. tugrics, \$1=1090 tug.

	Expenditure items	1997	1998	1999
1	Restoration and re-equipping abandoned wells to reduce overgrazing	-	240.0*	282*
2	Survey on water supply in local settlements ***	86.0	200.0	88.0
3	Forestation and related measures (forest management, reforestation, protection and seedling plantation etc.)	172.0	165.0	240.0** **
4	Protected Area (restoration of degraded areas)	96.2	119.7	138.7** **
5	Pilot Projects	13.6	25.31	5.3
	In Total	367.8	750.0	754.0

Reference: * Resolution a/66,129 of Ministers of Agriculture and Industry and of Finance in 1998

** the report of the Company for Irrigation

*** the reports of Ministry for Agriculture and Industry and Agency of Mineral resource

**** annual reports of EPA, MNE

During last two years the contribution for Environment Protection from the State and local budgets is increased at 60% and it is planned to spend 2,889.4 mln. tugrics in 2000. 57.7% of the sum will be disbursed from the State centralized budget and 42.3 from local budgets. The disbursement for the activities to Combat desertification from the State budget is increasing year by year.

8.1.2. NAPCD financing

Have been created 2 ways to finance activities to Combat Desertification:

- Establish funds and use its accumulated resources for activities to Combat Desertification.
- Establish System for natural resource use fees within the National legislative framework.

A. Funds for Activities to Combat Desertification

The next 2 funds were established for implementation of measures for Environment Protection and Combat Desertification:

- "Fund for Environment Protection" was established by the Governmental Resolution 188 in 1998. Certain pilot Projects being implemented by the Fund support each year. In total 43.6 mln. tugrics have been spent for financing projects in 1997-1999.
- "Environmental Trust Fund" was established with supports of GEF and UNSO. As initial source of the Trust Fund it is planned to disburse 1.6 billion tugrics from the central State budget this year. The generated resource will be spent for 2 activities as Protection of Mongolian Biodiversity and Combat Desertification. Including above resource, total expenditure for environment protection and combat desertification from the State and local budgets will reach the sum of 5.2 billion tugrics.

With the support of above funds it will be able to finance pilot projects as Improvement of Land Management, Pollution Reduction, Mitigation of Degradation and Combat Desertification.

B. Financing by the Revenue derived from natural resources use fees

There is a principle to generate expenditure for Environment Protection from revenue, derived from fees for use of Natural resources common in the countries oriented to the market economy. The principle is reflected in Environmental laws and regulations. For example:

- It is stated in the Law on Forest that annual Budget for protection of forest and reforestation activities should not be less than 70% of revenues, derived from forest resource use fees in that year;
- Legally established the right of the Government to fix the most part of revenues for land protection and restoration for Combat desertification depending on amount of fees and planned measures in that fiscal year by Law on Land Use fees.

In 2000 planned to disburse 250.0 mln. tugrics for Land management and Land protection and this sum equals to 16% of the revenue.

- 1 mln. tugrics, a revenue from Natural Plant use Fees, will be disbursed from local budgets

- It is planned to accumulate 158.4 mln. tugrics, revenue from water and mineral water use fees, to finance activities for conservation of water resources, restoration of water environment.

Thus, all income from the use of natural resource flow to the local budget and local people, economic entities and organizations are involved in activities on environment protection and restoration of natural.

Stakeholders are participating and monitoring financial management of desertification combating activities through the local representative meeting.

C. Technical cooperation with International organizations and developed donor countries

Since 1996 have been conducted surveys on technology of nomadic pastoralism adapted to Mongolian weather and climatic condition for implementation of several projects targeted to improvement of management on pastoralism, to protection and sustainable use of land with technical cooperation with international organizations as Secretariat of UN CCD, UNDP, UNSO, UNEP, Danida, JICA, GTZ, UN ESCAP, Asian Development Bank and World Bank and donor countries. See Par. 6 for projects.

D. Contribution from global mechanism.

To date, there was no share or support from global mechanisms of UNCCD to the measures on Combat Desertification in dry lands of Mongolia.

8.1.3. Analyses on Investment for Development of dry lands

Water supply in dry lands

Dry lands of Mongolia in gobi desert and desert steppe are shaped by the location and long term climate changes and the area belongs to fragile environment with low productive.

Dry lands were used in breeding animals for thousands years by nomads. Annual precipitation in Mongolian dry lands is 50 to 200 mm, which is 20 to 4 times less than evaporation and it causes shortage of moisture and limited biomass productivity.

Current situation in nomadic pastoralism causes degradation of pasture creating epicenters of desertification around watersources, which have ecological importance in Gobi-desert area.

Therefore Mongolian Government developed policy on water supply of unused pastures by increasing numbers of wells and it has started implementation of "National Program on Water of Mongolia".

Within the framework of given Program, was restored 337 abandoned wells, for which spent 522 mln. tugrics in the first stage during last two years (Table 8.1). As result of these activities being improved pasture and water supply for 1.07 mln. heads of animals. Nearly 40 mln. tugrics disbursed from local budgets on digging 3,000 wells for use of near ground.

Reforestation

By considering the amount of investment one can recognize that priority is given to forestry sector. (Table 8.1).

Reforestation was made in 5,299.6 hectares in 1998, in 5,005.0 hectares in 1999 and it is planned reforestation in 10,000 hectares in 2000.

It was spent for forestation 120.3 mln. tugrics in 1997, 119.7 in 1998 and 180.0 in 1999 respectively.

Destruction of pests was made on territory of 2,400 hectares in 1997, 2,250 hectares in 1998 and 9,092 hectares in 1999.

It was spent 8.2 mln. tugrics in 1997, 4.1 in 1998 and 68.0 in 1999 for monitoring and destroy of pests.

Infrastructure, industry and mines in dry lands

It is planned to connect 5 soums to the Central Energetic system (1.8 bln. Tugrics to complete operations) in Dundgobi, Ovorkhangai and Dornogobi aimags and other 4 soums in 4 aimags are planned to connect with the expenditure of 2.2 bln. Tugrics in 2000. 25 soums in 8 aimags in Gobi desert zone with greater difficulties in energy supply will be provided with small size diesel generators.

Hospitals and schools in Gobi desert zones planned to be supplied with combined solar and wind energy sources.

9. REVIEW OF THE BENCHMARKS AND INDICATORS UTILISED TO MEASURE PROGRESS AND ASSESSMENT THEREOF

9.1. Operational mechanisms for monitoring and evaluation

9.1.1. Establishment and/or strengthening of national environmental monitoring and observation capacities

There is a step to establish monitoring capacity, which will monitor and observe land degradation and desertification process to prevent negative impacts in earlier stage of desertification, to use land resource in sustainable way and to create favorable ecological condition.

The following progresses were achieved in establishing environmental monitoring capacity:

a. Training, retraining and strengthening of capacity

50 to 60 specialists are graduated from Mongolian State University, State Pedagogical University and University of Agriculture each year on geography, biology, geo botany, zoology, land management, meteorology, hydro geology, ecology, forestry and agronomy. The number of specialists graduated abroad is reduced but increased the number of students joined training for Master degree. Recently "Eco-Asia" college was established for preparing professionals on ecological education.

Local environmental inspectors and land managers, who graduated a college are covered by evening courses and retraining. Especially Mongolian Society for Protected Areas involves environmental inspectors in retraining.

Environmental specialists and researchers being trained with in Research Institute for Desert in Lanchzhou in PRC, Research Institute for Desert of Jakob Blaustein in Israel and Research Institute for Dry Lands in India (State Radjasthan).

b. Information facility and equipment

A basis of Environmental Information System was established in 1972. ICC exchanges weather information through the telecommunication network of the World meteorological organization to regional centers in Novosibirsk and Beijing and disseminates weather information throughout the country .It also serve National remote sensing center.

This net for exchange meteorological and environmental information is only computer global network in Mongolia, which cover all territory of the country for 24 hours a day. Hydrometeorological Institute, MNE receives meteorological data through internal and external nets meteorological data and processes them to distribute to the users.

The Institute receives TOVS satellite data to process pressure in different layers of atmosphere, temperature, wind and moisture and receives GRID prognosis information for Northern Hemisphere from regional centers of the world meteorological organization to calculate maximum minimum and mean of daily temperature and prognosis on precipitation for half day.

ICC received NOAA satellite data since 1970. At present the Center receives data 6 times a day through receiving station and process it for environmental status monitoring purposes.

Laboratory for Geo Informatics in Institute for Informatics, Academy of Sciences has processed multi channel image from outer space complex Soyuz T4-Salut 6-Soyuz 39 to get pasture, soil and vegetation status for survey. As results of studies, were developed thematic maps.

Within the framework of technical cooperation with UNDP has been installed system "ERDAS 7.5", which gives capacity to make complex analyses in high resolution multi channel satellite image, in the Center. By installation of ground station for receiving radiometric SAR data from ERS-1.2 satellite in collaboration with German specialists it started new phase in environmental monitoring.

9.1.2. Information system on desertification at national level

However it isn't created yet real Information system on desertification under NCCD, but information on desertification and natural disasters needed for analyses and decision making available in the databases of Governmental or Non-governmental Environmental organizations.

The most of information related with desertification is kept in Institutions under MNE as Library, ICC, HMI, LMA and EPA. Other part of information is stored in Institutes of Academy of Sciences: Geography, Geo Ecology, Botany, Biology and Informatics and in Institute for Animal Husbandry, State Geodesy and Cartographic Service and Center for Geo Information and Remote Sensing, Ministry for Agriculture and Industry.

Air photo with scales 1: 45,000 and 1: 32,000 covered all territory of Mongolia in negative or positive films of multi channel satellite images/air photo are stored in the Laboratory for processing air photo and satellite images in State service for Geodesy and Cartography. Digital data will be available in near future.

Information, materials, guide books, dissertations, books and scientific reports on natural resources as land, water, forest, wildlife and vegetation and on social study of nomadic herders and on desertification are stored in Institutes for Geography, Botany and Geo ecology in Academy of Sciences.

MNE pays attention on establishment of information system and it implements out related project. Within the framework of the Project has developed the first version of database. Environmental and Combat Desertification Database structure can be classified as following:

- Database on Environment/Desertification
- Maps
- Books and publications

a. Database on Environmental /Desertification

The database consists from next components:

- Main Environmental database
- Environmental statistical database

- Environmental sub-database
- GIS (maps)

• **Main Environmental database**

It consists from basic line information and general parameters on environmental status, natural resource, changes and use. Database is available on Internet.

• **Environmental statistical database**

This database consists from 217 parameters on changes of natural resource, exploitation of natural resource and restoration. Database is supplied by annual reports on environment and statistic information from aimags. For example, information on changes in size and quality of land fund is supplied annually from soums, districts, aimags and cities.

• **Environmental sub-databases**

At present it is established next sub databases as:

- Environmental status and pollution
- Vegetation and wildlife
- Forest
- Soil
- Surface and ground water
- Protected Areas
- Natural disaster
- Standards and normative
- Legislation
- Databases in related organizations/ researchers

• **GIS (maps)**

All the existing maps transferred through computer into digital maps. At present the next maps were included in GIS database with scale 1:1,000,000 as:

- Ecosystem
- Forest
- Landscape types
- Geological structure
- Fodder resource
- Resource of ground water
- Administrative boundaries

They are prepared to be used in GIS for analyses.

b. Mapped Information

"National Atlas of Mongolia", contained over 280 maps, sections and schemes on environment, population and economy, was published in size 45 cm by 60 cm with 172 pages in 1990. The Atlas gives a possibility to make analyses on sequences forming industrial-territorial complexes and geographical structure maps on environment, social and economy.

- Mongolian scientists completed Vegetation Map of Mongolia with scale 1:1,500,000 in 1979, Soil Map with scale 1:2,500,000 in 1981, and Classified Forest Map (1:1,500,000) in 1986, which used in planning measures to Combat Desertification and Environment Protection.
- 9 thematic maps were developed using satellite images, on Pasture and Hay making areas, Soil, Landscape types, Land fund, Forest fund and Resource of surface and ground water with scale 1:1,000,000 were published in 1981
- Maps on Ecosystems of Mongolia and Geology published in 1995 and 1999 respectively, of which the Map on Ecosystems classified into 399 ecosystems with their erosion of different stage became the main map in Desertification monitoring.

c. Books and publications

Every year have been published nearly 10 books on Environmental issues and periodicals as magazines "Uyaxhan Zambuutiv (Earth)", "Sustainable Development", "Environmental News", "Science and Life" and "Tumen Bodis (Nature & Environment)" and newspapers as "Baigal" (Nature) and "Sustainable Development".

9.1.3. Coordinating of existing mechanisms and structures

LMA, EPA established as agencies within structural organization of MNE and were established also Laboratory on Land Cadaster . Moreover Departments of Land Management were established in Governors' Offices in aimags.

Research activities on combating desertification being conducted by ICC, HMI in MNE and by Institutes on Geology, Geo Ecology and Botany in Academy of Sciences in the form of Projects.

Other surveys are conducted by laboratories like Central Laboratory for Environmental Monitoring in MNE and specialized laboratories(on soil, water, chemical, vegetation physiology and Geo information etc.) in Institutes of Academy of Sciences.

9.1.4. Main actors' access to available information

Main participants are organizations under MNE, Institutes of Academy of Sciences, NGOs and consulting private companies on environmental impact assessments. At present there is not yet established mechanism on exchange of information between them. Above participants communicate by internal computer networks, internet and e-mail. At present needed information processed by institutions and scientists are transferred by diskettes.

9.1.5. Mechanisms for consultation concerning the analysis of results

The problems as assessment of negative impacts from desertification and natural disasters, prevention from them, measures on restoration, monitoring, getting internal and external aids and implementation of projects are discussed and solved by scientific seminars, meetings of Minister's committee and Committee on science and technology in MNE or meetings of NCCD and Government.

- **Scientific seminars(Symposium).** International and national seminars and symposiums such as "Global Changes and Gobi desert", "Global Changes and Uvs Lake", "Reduction of Natural disaster", "Changes in Ecosystems of Mongolian

Plateau" and "Climatic changes in Dry Lands of Central Asia" have been organized to discuss the results of surveys and research studies.

- **National Seminars.** National seminars to Combat Desertification were organized in collaboration with UNDP, UNSO and Secretariat of UN CCD in Ulaanbaatar in 1995 and 1997 respectively to develop NAPCD, to assess current situation and to implement planned activities. Within the framework of seminars were organized training at different level and declarations have been addressed to Government and public attention.

- **NCCD** meets 3 times a year to discuss status of action plan, implementation of NAP, contracted activities in affected areas of desertification, implementation of new projects and results of pilot projects. Raised problems having been discussed and solved in the Minister's Council in MNE.

9.1.6. Regular production of reports

Reports on activities, carried out according to CCD and NAPCD, being produced for presentation to Minister's Council every year. National Report on UN CCD prepared and delivered to 4th Conference of Parties in UN CCD by the Mongolian Government to the Secretariat of UN CCD in 2000 according to the resolution 11/cop.1 issued by 1st Conference of Parties.

9.1.7. Suggestion on evaluation for NAPCD management

The first step in creation of unified environmental information system was made by joining MNE and NCCD with ICC in local computer network. In future the network will be expanded and developed to the extent of environmental information exchange, processing and delivering information between NGOs and Institutes.

At present Institutes, centers and laboratories conducted survey on Desertification feel severe shortage for equipment and materials. Restoration of degraded area is usually being ignored due to shortage in financial resource. Moreover there is no innovation and progress in improving national capacity. By paying more attention to the above problems, can it be improved management to combat desertification.

**Members of National Committee to
Combat Desertification of Mongolia**

(by Order 59,1998. Minister for Nature & Environment
of Mongolia)

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3. Dr. Dash D. Secretary of NCCD, Geoecological
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4. Dr.Batjargal Z. Chairman of National
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