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ACRONYMS

ADB – Asian Development Bank
CHP – Central heat plant
DP – Democratic Party
EU – European Union
EGPRS – Economic Growth Poverty Reduction Strategy
EIA – Environmental Impact Assessment
FAO – Food and Agricultural Organization
GHG – Greenhouse Gas Emission
GEF – Global Environmental Facility
GoM – Government of Mongolia
LDC – Least Developed Country
LLDCs – Land-locked developing countries
MNE – Ministry of Nature and Environment
MPRP – Mongolian People’s Revolutionary Party
MAP-21 – Mongolia Action Plan – 21
MDGs – Millennium Development Goals
MoSE – Ministry of Science and Education
MFA – Ministry of Foreign Affairs
MoFA - Ministry of Food and Agriculture
MF – Ministry of Finance
METF – Mongolian Environmental Trust Fund
MFA – Ministry of Finance and Economic
NGO – Non –governmental organisation
NPACD – National Plan of Action to Combat Desertification
NCSD – National Council for Sustainable Development
NAPCC – National Action Plan for Climate Change
NAMHEM – National Agency for Meteorology, Hydrology and Environmental Monitoring
NCSA – National Capacity Self Assessment
HOB – Heat –only-boilers
ROWA – Regional Office for West Asia
ODA – Official Development Assistance
UB – Ulaanbaatar
UNFCCC – United Nations Framework Convention on Climate Change
UNCCD- United Nations Convention on Combating Desertification
UNCBD – United Nations Convention on Biodiversity
UNDP – United Nations Development Program
UNEP – United Nations Environment Program
SEA – Strategic Environmental Assessment
WB – World Bank
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EXECUTIVE SUMMARY

The Strategy and Plan to provide the capacity required by Mongolia to fulfil its commitments under the UN Framework Convention on Climate Change (UNFCCC), the UN Convention on Biodiversity (CBD) and the UN Convention to Combat Desertification (CCD) (referred below to as “the three conventions”) summarize the results from the Mongolian national capacity self-assessment for global environmental management process. National Capacity Self-Assessment project is commenced from May 2004 and due to many reasons it lasted for 2 years. The Strategy and Action planning is a final stage for preparation of document which has goal of development initial document shall be implemented in the long term by providing synergy between 3 Rio Conventions.

The objectives of this document are:

· to justify the need for joint activities to build the capacity required for implementation of the three conventions;
· to provide a capacity building strategy which uses the synergies and possibilities for more efficient implementation of the three conventions;
· to propose a plan for the implementation of the strategy during the period of 2007-2015.

This paper and its preceding documents are the result of a series of studies, analyses and consultancies involving a broad range of stakeholders, experts and representatives of the agencies that coordinate the Conventions or have mandates relevant to their implementation.

In order to elaborate the cross-cutting assessment report and ensure high quality the National workshop was held in Ulaanbaatar for 8-10 February, 2007 and incorporated comments and recommendations from NCSA Task manager & GEF Liaison Officer, Division of the GEF Coordination Regional Office for West Asia /ROWA/ UNEP. Therefore this document focused on first, to elaborate cross-cutting assessment report based on recommendations and comments from national workshop, second to identify plan and strategies for next 5 years and finally, to develop 2-3 good projects proposals in strategic areas.

The NCSA has largely been derived from a broad-based consultative and participatory process, involving all key stakeholders. It was carried out incrementally in three steps. The first step was inception and planning. This step was initiated with an NCSA Inception and Planning Workshop to sensitize the stakeholders about the NCSA concept, process and methodologies and to form thematic working groups to provide inputs to the assessments in the respective areas of biodiversity, climate change and land degradation. Each thematic working group was made up of three to 5 members.

Based on the recommendation of the inception workshop, and NCSA Methodology Kit customized for Mongolia’s situation, terms of reference for the thematic working groups and work plan for the thematic assessments were prepared through a series of initial thematic working group meetings.

The second step pertained to the thematic assessments. These assessments entailed review of existing literature, questionnaire survey to take stock of existing capacity situation and needs in relevant sectors, a series of regional consultative workshops to secure local insights and views on capacity issues and needs, and consultations with key people in various agencies for additional information and clarifications. Thematic profiles were prepared, providing overview and analysis of information accumulated from the thematic assessments.

After the thematic profiles were completed, the NCSA moved to the third step which pertained to cross-cutting analysis and consolidation of the thematic profiles into an NCSA Report. To set in motion the third step, an inter-working group meeting was held for two days. At this meeting, the thematic working groups and other participants from relevant agencies revisited the thematic profiles, reviewed and prioritized capacity development needs based on a set of agreed criteria, and identified cross-cutting areas for capacity development. Subsequently, based on the outcome of the inter-working group meeting, in-depth review of the thematic profiles, additional literature review and further consultations with key people for additional information and clarifications, a consolidated NCSA Report and Action Plan were prepared.

The Action Plan is primarily based on the capacity development needs identified through the thematic assessments, which have been synthesized in Chapter VI, and the cross-cutting capacity development areas discussed in Chapter VII. The implementation of the Action Plan shall be guided by the following principles:
• **National ownership and leadership:** The efforts should be nationally owned, led and driven. They should be progressive encompassing self-monitoring, self-evaluation and learning-by-doing. High degree of commitment from key players such as MNE and the relevant line ministries to the capacity development process is critical for positive results.

• **Broad-based consensus and decision making:** Capacity development decisions should involve multiple stakeholders and be derived from broad-based consensus to the extent possible. Consultative and participatory process is essential to foster broad-based consensus.

• **Holistic approach:** All dimensions – the systemic, the institutional and the individual – of capacity need attention. Therefore, there is a need to establish a good balance between all the three dimensions. Capacity development efforts must be linked to the broader environmental management and sustainable development needs as reflected in the Millennium Development Goals, and the National Sustainable Development Strategy.

• **Partnership and collaboration:** Capacity development efforts will require concerted effort that draws upon the comparative advantages of multiple stakeholders to maximize impact and create synergies. Partnership and collaborative relationship between various stakeholders should be promoted to address capacity development needs.

• **Flexibility:** Capacity development efforts should have the flexibility, without losing the focus of purpose, to respond to changing circumstances and needs. Adaptive management of resources for capacity development is essential to allow such flexibility.

The Action Plan has been formulated to achieve the following objectives and outputs:

**Overall Objective** is *To ensure a sustainable environment through integration of sustainable-development principles in the global context, into national and international policies as well as reversing the loss of natural resources.*

The Action Plan has been formulated with the overall objective to strengthen the systemic, institutional and individual capacities of the Mongolia and its partners in the non-government, public and private sectors for effective implementation of the Rio Convention obligations consistent with national circumstances and needs for sustainable development as reflected in Mongolia 2015.

**Immediate Objective**
The immediate objective of the action plan is to address capacity development priorities at the systemic, institutional and individual levels of the Mongolia and its partners in the non-government, public and private sectors for improved implementation of the Rio Convention obligations consistent with national circumstances and needs for sustainable development over the next 8 years as reflected in cross-sectoral and sectoral plans and programmes.

The Action Plan, if and when implemented, is expected to result in the following broad outputs:
1. Policy and legal framework for environmentally sustainable development improved
2. Implementation of environmental management at national and local levels improved
3. Information and monitoring systems in the areas of biodiversity, climate change and land degradation strengthened
4. Implementation capacity of National Committees on Conventions and MNE enhanced to effectively function as national focal agencies for the Rio Conventions
5. Institutional mechanisms for environmental management strengthened
6. Environmental financing mechanisms strengthened
7. Environmental education and awareness programmes strengthened
8. Public participation at decision making and law making process increased

The capacity development needs identified for the thematic and cross-cutting areas have been translated into activities under each of the aforesaid outputs. The Action Plan also provides a Table of Action, giving an overview of the capacity development activities in relation to the thematic area, type of capacity, level of priority, implementation timeframe, and responsible institution(s).

It will be extremely difficult to implement the Action Plan as a single, consolidated package. Therefore, based on the proposed Table of Action, the MNE – in consultation with the stakeholders involved in the NCSA process – will package the capacity development priorities into 2 to 3 detailed project proposals for funding consideration by GEF, UNDP, UNEP and other potential donors in the field of environmental management capacity development. Each project proposal will provide the rationale, work plan, implementation arrangements, budget, and co-financing arrangements. Some project ideas that can be developed into project proposals to address capacity development needs identified through the NCSA include:

**Enhancing Environmental Management in Local Governance System,**
Environmental Management in Local Governance system, otherwise environmental governance at local level will be crucial coordination in providing sustainable development consistent with Rio Convention obligations. In order to ensure environmental governance system, a lot of policy arrangements and coordinations are required. We couldn’t conserve the nature and environment, even we have increased staffs in Ministry of Nature and Environment or numbers of inspectors. The cross-cutting and systemic arrangement is to strengthen local governance in environmental management.

**Strengthening Policy and Legal Framework for Environmental Management,** aiming at reviewing and revising existing policies and legislations that contain ambiguities and contradictions, developing and revising policies and legislations needed to ensure environmentally sustainable development consistent with Rio Convention obligations, conducting research to support development of policies and legislation, and developing instruments (guidelines, information dissemination, training workshop, networking and coordination mechanisms) to support the implementation of the policies and legislations. In this context, good Enforcement Programme need to be developed.

**Strengthening Information and Monitoring System for Environmental Management** that includes creation of an integrated environmental information system covering biodiversity, climate change and land degradation aspects and a GHG database and inventory system to monitor GHG emission trends and issues. This will aid planning and decision-making as well as enable production of State of the Environment.
OVERVIEW

Key Global Environmental Concerns

Our world today is challenged by numerous environmental problems. The wide range of environmental problems and concerns is manifested largely within the broad areas of biological diversity, climate change and desertification or land degradation. With modernization and globalization, consumption patterns have changed and demand on biological resources has increased rapidly. We are threatened by the irreplaceable loss of many species and genes and the deterioration of ecosystems' ability to meet human needs. Since 1600, about 500 animal species and 650 plant species are recorded to have become extinct. Changing lifestyle and consumption patterns are also heavily influencing climatic patterns. Today, human-induced climate change is the greatest global environmental challenge that the world faces as a result of increased concentration of greenhouse gases in the atmosphere over the years. It is estimated that the world emits more than 24,000 million metric tons of carbon dioxide alone every year. The extraction and use of energy for electricity and heat, manufacturing and construction, transportation, and other fuel combustion is said to account for nearly 80 percent of the total greenhouse gas emission. As population grows and human needs increase, there is increasing pressure on land resources. Desertification and land degradation are environmental problems of global dimension that affect more than 900 million people in some 100 countries, with the most severely affected being the least developed countries which do not have the resources to combat the problems. It is estimated that 3.6 billion hectares, i.e. a quarter of the Earth’s land area, are being affected by various forms of land degradation.

The Advent of Global Agreements for Environmental Management

In June 1992, the United Nations convened the UN Conference on Environmental and Development, also known as the Earth Summit, at Rio de Janeiro to discuss the wide range of environmental concerns and to come to an understanding of “development” that would support socio-economic development and prevent the continued deterioration of the environment. It was at this Summit that the foundation for global partnerships was laid for environmentally sustainable development between the developing and developed nations, based on mutual needs and common interests. The Summit resulted in Agenda 21, the Rio Declaration on Environment and Development and the Statement of Forest Principles. Also emanating from the Summit were the Convention on Biological Diversity and UN Framework Convention on Climate Change. Furthermore, the Summit deliberated on the issue of desertification as a major environmental concern and called on the UN General Assembly to establish an Intergovernmental Negotiating Committee to prepare what is now known as the UN Convention to Combat Desertification. Mongolia is a Party to all the three “Rio Conventions”.

Rationale for the NCSA Project

Environmental sustainability has been a cornerstone of Mongolia’s development philosophy long before environmental conservation became a global issue. While the country has been progressive in national environmental management and has become increasingly active in its efforts related to global environmental management, its limited capacity continues to be a major impediment in fully realizing its environmental management goals and objectives, and enhancing its participation in global environmental management initiatives. It is in this context that the UNDP/GEF National Capacity Self-Assessment Project was undertaken. The project provided the opportunity to examine the big picture of national capacity development issues, needs and priorities (at individual, institutional and systemic levels) related to global environmental management and identify actions to address them in a manner that is comprehensive and synergic. Specifically, the objectives of the National Capacity Self-Assessment were to:

• undertake and complete a comprehensive assessment of capacity building issues, needs and priorities at the individual, institutional and systemic levels within and across the thematic areas of biodiversity, climate change and land degradation, with particular attention to national obligations to the Rio Conventions and linkages with broader national sustainable development concerns;
produce a written account of this assessment and its results in the form of an NCSA Report; and
produce a Plan of Action to address the capacity development priorities identified through the NCSA and
to monitor and evaluate the implementation of those priorities.

The country and many of its people are dependent on natural resources such as grasslands, soils, forests, air and water, yet the quality of these is eroding even as their contributions to the public and shadow economies are increasing. This is due to current unsustainable overuse, in and the fact that there is an enormous illegal sector (in forestry and wildlife hunting) which contributes nothing to government revenues. This threatens the country’s progress towards achieving sustained economic growth, quality of life, meeting the MDG targets, and also reduces the options for future generations.

To this end, Mongolia needs to "raise the bar" and move toward a more consistent, concerted and outcome-oriented approach to addressing key issues in the natural resources and environment sectors. It is commendable that the Government has already enacted a series of environmental laws, expanded its system of nature reserves, piloted the adoption of energy efficient technologies and mainstreamed environmental concerns into the official Government program. Recent outputs indicating a renewed and strengthened government commitment include:

**In the framework of development of Environmental Legislation**

The Amendments on Law on Toxic Chemicals and Hazardous Substances and on Law on Hunting Resource use and on Hunting and Trapping Permit Fees were made in 2006. In same time some 519.0 thous.hec area has been incorporated into the Special Protected Area’s network in Mongolia. In the framework of enforcement of environmental law, several regulations, such as in the field of restoration from minig activities, SPA’s management, utilization of natural resources etc, have been issued by Government.

According to new amendments on Law on Environmental Protection, regarding encouragement local communities in their respective area, the “Procedure on possession, utilization and protection of natural resources by community “ have been approved and currently here are about 260 local communities have been established in Mongolia. Simultaneously, the investment for encouragement to local communities have been increased.

**In the framework of restoration and mitigation of environmental deterioration and biodiversity**

By performance in 2006, 4587 hectares area have been restored and 427.5 hectares area have been reforested under the Green Wall Programme. In addition, some of the research activities was made on defining resources of some animal species such as marmont, snow leopard, some species of fish, argali and musk deer.

The Information Center was established in Great Gobi SPA and extended the project contract on Creation of Deer Farm and Gobi Bear Dwelling.

Yet, in spite of these meaningful achievements, following key issues are considered as challenges.

**Degradation of Grasslands - Some 40 percent of Mongolians depend directly on productive grassland and soil resources.** There is little argument that current patterns of livestock grazing are causing a deterioration of grassland quality. However, estimates vary considerably as to the extent and degree of grassland degradation in Mongolia, and this reflects the differences in definitions of degradation used by different agencies. Apart from lowered productivity and increased density of unpalatable species, it is believed that dust storms of fine sand particles are increasing in frequency and intensity, although they are a long-established natural phenomenon. Large numbers of livestock are a major cause, although their impact on fragile lands varies: the soft feet of camels are innocuous, but the sharp hooves of goats are very damaging as they break the soil's woven biological crust, allowing the wind to erode sand at the exposed edges.

There is a presumed association made between land degradation and patterns of grassland use for livestock herding, and much has been made of the increase in livestock population since the early 1990s. On examination of the available evidence, there are certainly grounds for concern about increasing grazing
pressure in the higher-rainfall steppe and mountain-steppe areas where domestic livestock populations tend to be higher.

However, two commonly-held beliefs are cast into doubt; first, that rising animal numbers or increasing concentration of grazing pressure necessarily leads to rangeland degradation in Mongolia; and second, that where heavy grazing has reduced vegetation cover, it represents an irreversible change in range condition. This does not imply that land degradation as a result of grazing pressure is not a problem. Rather, these data point to the fact that incipient grassland degradation in Mongolia, under economic transition, is attributable to more complex institutional causes, and is complicated by the insipient effects of global warming and changes in rainfall distribution. Mongolia has developed programs (such as the major "Green Wall Program") for tree planting as a means to control land degradation. By recent World Bank assessment of the success of these indicated that they are a costly, a source of corruption and largely ineffective, and that the objectives would be better met by livestock management and encouragement of natural regeneration.

Forest Resources Management - The forest sector is in crisis, with poorly conceived and coordinated government policy, lack of planning, active management and inventory, loss of capacity, widespread illegal logging and corruption. Together these have led to a significant degradation of forest quality and virtual anarchy in the logging industry. Until now, instead of dealing constructively with the primary problem of unsustainable resource exploitation, GoM has tended to focus on - and has allocated budgets to - largely peripheral forest issues, such as an antiquated forest inventory system, forest fire suppression, insect and disease control, and (largely unsuccessful) reforestation. There is no apparent ecological or economic rationale for these activities, they can be a source of corruption, and top-down enforcement of regulations has been ineffective.

Forestry was once an important industry in Mongolia, and today has great potential as a source of sustainable livelihoods in forested aimags. It appears that in Mongolia where forestry is allied with environment, rather than with agriculture the economic potential is underestimated. The government policy of reducing consumption by restricting supply results in an unrealistically low harvest limit being set each year. This policy has had no real benefit as far as the management and conservation of the resource is concerned, and illegal operators who step in to meet the high demand for timber have faced little resistance from the authorities.

Biodiversity Protection and Illegal Wildlife Trade - Mongolia's biodiversity is facing significant threats from a host of sources, but the single greatest threat facing many species is hunting for commercial wildlife trade. Following the collapse of the USSR, this tightly controlled industry fell into disarray as wildlife became a valuable open access resource. Today, Mongolia has one of the world's highest proportions of hunters in the population, approximately 245,000 or one tenth of the total population. The fur trade alone contributes an estimated US$100 million to the economy, possibly the third largest contributor behind mining and tourism. The current situation is unsustainable and is resulting in dramatic wildlife population declines, both of species known to be endangered and also of those that until recently were considered widespread. The government operates under funding restraints, but if the Law on Reinvestment of Natural Resource Use Fees were followed, at least $2 million (50 percent of hunting fees) should have been available for wildlife management in 2004.

In general, land degradation refers to a change in land quality, most often as a result of human activities. However, since many of these definitions themselves are not readily available, one should be skeptical about the accuracy of the estimates. The Mongolian Land Administration Authority estimates that 11 million ha of grazing land or nine percent of total pasture land area, is "degraded to some extent". The National Environmental Action Plan 2000 (NEAP 2000) suggests that seven percent of all pasture land has become 'heavily degraded.' The MAP-21 estimates that between 5-9 percent of the total pasture land had become 'severely degraded' and 30 percent had been 'damaged' by 1998. It also estimates that 78 percent of the total land area is "damaged or depleted." The extent of Mongolian territory covered by sand (including dunes) appears to have been remarkably stable over the last 40 years, having increased by just 0.02 percent. If 'desertification' is understood in this narrow sense, the area in Mongolia is very limited. World Bank (2003). Mongolia Environment Monitor - Land Resources and their Management. East Asia Environment and Social Development Unit; Washington D.C., 2003

2 The Mongolian sub-population of the saiga antelope has crashed, declining 85 percent over five years from 5,000 individuals to less than 800, and the marmot, once a common sight across the steppe and of great importance to rural Mongolians for meat, fur and medicinal uses, is estimated to have declined by 75 percent over twelve years - an estimated 3 million Siberian marmot were harvested in 2004 alone, with an estimated market value of $30-40 million.
Water Supply and Quality - Both the quality and quantity of water in Ulaanbaatar are causing major concern and threaten livelihoods and health. Health risks from polluted water and poor sanitation are considerable. Water in urban areas contains chromium (from tanneries) and fecal material. The coverage of sewerage is one of the lowest in Asia, causing widespread contamination of surface and groundwater both in Ulaanbaatar and secondary cities. Surface water quality monitoring has improved in the last few years with an infusion of funds for upgrading instruments and skills. However, the quality of monitoring is not uniform, capacity remains low, particularly outside Ulaanbaatar, and the results are not shared with the public or even among local authorities, and rarely used to influence policy-making decision related to urbanization and/or water resources management. Natural population growth and urbanization are placing some groundwater sources at risk, and some wells and springs have dried up completely. As much as 60 percent of groundwater abstraction for commercial use is done without the required permits, and few metering systems are in place to monitor withdrawal levels.

Air Pollution - Bad air pollution in Ulaanbaatar and other urban centers is a major health issue - yet there is still no meaningful measurement or monitoring. Air pollution has been a serious problem in Ulaanbaatar for many years. Emissions from combined heat and power plants, heat-only boilers, industry and mines, and area sources such as household stoves, refuse burning, road dust and ash, and sandstorms present major health risks. Automobile emissions are also increasing rapidly as the numbers of personal vehicles in the capital grows. Fine paniculate matter is perhaps the major pollutant of concern for human health, and the number of children under the age of five suffering from respiratory diseases is increasing. However, neither local nor central authorities monitor fine paniculate concentrations. Levels of sulfur dioxide (SO$_2$) and nitrogen oxides (NO$_x$) often exceed standards, especially during the winter months when air can be acrid and difficult to breathe. Local laboratories have monitoring stations in Ulaanbaatar and in all four main secondary towns, but measurements seem to be unreliable as equipment is rarely maintained or calibrated. Finally, indoor air pollution from incomplete combustion in household stoves combined with poor ventilation also causes major health problems across the country.

Solid Waste Management - Solid waste collection and disposal are often haphazard, incomplete, underfinanced, with poor cost-recovery. Sewage sludge, coal ash, organic matter, plastics, and incineration are all in need or urgent action and all these risk increasing health risks, especially to the poor who are most likely to live and work near the collection, disposal and burning sites. The major responsibility within Mongolia for this falls on the Ulaanbaatar Municipal Government. Recycling initiatives are increasingly dealing with metals, plastics, paper and animal bones and support a significant population of collectors and sorters. Appropriate disposal of hospital waste remains a major concern.

Mining Activities and the Environment - There are serious latent impacts waiting to emerge as a result of poor environmental management in the Mongolian mining sector. Many ongoing operations are managed in a sub-optimal way leading to significant environmental damage and production losses. Issues faced include major landscape disturbance, damage to the soil, sedimentation in rivers, pollution of soil and of ground- and surface waters, air pollution, toxic chemical disposal, and poor rehabilitation of land. The impacts are aggravated by cases where the granting of licenses is in inappropriate areas. Among the most serious latent impacts of human health are those resulting from the use of mercury. Despite the fact that the sector's financial contribution to the economy is substantial, not enough has yet been done to systematically assess and address the costs of environmental damage from ongoing and planned activities.

Environmental Expenditure and Revenue Management - The expenditures on environment are far out of balance with their contribution to the economy. Mongolia is heavily dependent on natural resources. This translates into a contribution to GDP of around 20 percent two thirds of the population is involved in activities that deals with the environment and natural resources management. However, environmental expenditures by GoM are usually only a small percentage of environmental revenues at the national and local levels. Between 2001 and 2005, central government budget allocation for MNE was around 1 percent of the Government's total budget, and total environmental expenditures around 0.3 percent as a share of total GDP$^5$. Data for environmental expenditures by tine agencies other than MNE is very limited. It is common for developing countries to initially give most environmental responsibility to core agencies, and to mainstream into line agencies later. Finally, many public investment projects have
environmental components, but the government does not publish information specifically on environmental projects. Local governments are responsible for funding their own environmental expenditures; however, only three aimags (Orkhon, Darkhan-Uul, and Domgobi) and the city of Ulaanbaatar make positive contributions to the state budget. The other 18 aimags are subsidized by Mongolia's central government. Yet, even in those aimags with positive net incomes, the budget for environmental protection remains low and does not allow needed improvements to infrastructure or environmental services to be addressed. Public utilities are supposed to be self-financing. In essence, they are unable to serve the entire population and leave out large numbers of the poor in ger areas who cannot pay for services.

**Institutional and Regulatory Capacity** - Government capacity in institutional and regulatory capacity for environment and natural resources management remains weak. Effectiveness of environmental management is also hampered by poor coordination among ministries and government agencies which could be improved through a systematic dialogue and formal feedback system on sectoral issues.

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2. Consultations with national and local governments representatives on environmental issues related to secondary cities in Mongolia; Ulaanbataar, October 2005 and January 2006.
CHAPTER 1.
1.1. COUNTRY PROFILE

1. Geography

Mongolia (41°35’- 52°09’N and 87°44’E-119°56’E) is located in Northeast Asia covering an area of 1,564,000 km$^2$. It borders with the Russian Federation and the People’s Republic of China, and stretches for 2,392 km from west to east and 1,259 km from north to south (see Map). Mongolia is the seventh largest country in Asia and the 18th largest in the world. Also, It is one of the largest land-locked countries in the world.

Mongolia’s average altitude is 1,580 m above sea level. The highest point is Khuiten Uul (Mongolian Altai Range, 4,374 m) and the lowest point is Khoekh Nuur (Mongolian Eastern Steppe, 560 m). The northwest and central parts are high mountainous regions, while the eastern part is a vast steppe region. The southern part of the country is covered with semi-desert and desert area (the Mongolian Gobi). Forests cover 7.8% of the country and mainly consist of larch and pine. Certain areas in the Gobi are occupied by saxaul forests. There are four natural zones in the country: forest steppe, steppe, semi desert and desert. The territory is surrounded by high mountains that form a barrier from both the northern and western cold airmass and from the Pacific moisture airmass.

Among the temperate zones of the Northern Hemisphere, few nations compare to Mongolia in the size, diversity, and health of its natural ecosystems. However, as Mongolia undergoes a massive socio-economic transformation, threats to these natural areas, flora, and fauna are rapidly mounting.

2. Population.

The population of the country was 2.5331 million at the end of 2004, with an average population density of about 1.6 persons per km$^2$. Although the population has more than doubled since 1960, the average population density remains the lowest in Asia. The urban and rural population accounts for 59.1% and 40.9% respectively (2004). The capital Ulaanbaatar, with a population of 928,500, accounts for about 62% of all urban population and 36.65% of the total population (Mongolian Statistical Yearbook 2004).

Mongolia's population growth rate was one of the highest in Asia: 2.1-2.5% per year before the 1990s. However, it has been decreasing during the last decades. There is a strong trend toward urbanisation of the population, and the country has undergone rapid economic development and industrialisation in the past four decades. The accelerating growth in population, therefore, has been matched by an increase in the per-capita rate of natural resource consumption. The sustainable rates of use or loss of renewable natural resources, including surface water, ground water, forest, soil, fishery and rangeland resources, have already been exceeded in some areas; this situation is likely to become more widespread if current trends continue, and measures to conserve and manage natural resources need to be strengthened and implemented.

3. Political profile

Mongolia is Parliamentary republic. An election of State Great Khural (Parliament) takes place once in every four years and 76 Parliament members are elected. Local elections also take place once in every four years. By the local elections, the voters elect representatives to the Citizens Khural (Assembly) of aimags, Capital city, districts /in Mongolian “duureg”/ and soums. President of Mongolia is directly elected by public once in every four years.

The official language is Mongolian. The traditional religion in Mongolia is Lamaist Buddhism. The Capital city is Ulaanbaatar.

Mongolia is divided administratively into 21 aimags (provinces) and the Capital city. Aimags are divided into soums, which are further divided into baghs (the smallest administrative unit). The Capital city, Ulaanbaatar, is divided into 9 districts /sometimes called “duureg”/, which are, in turn divided into khoroo.
Table 1. Administrative Units

<table>
<thead>
<tr>
<th>Aimag and the Capital</th>
<th>Number of soums and districts</th>
<th>Number of bags and horoos</th>
<th>Territory (thous. km²)</th>
<th>Population, (in thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>340</td>
<td>1,671</td>
<td>1,564.1</td>
<td>2,533.1</td>
</tr>
<tr>
<td>Arkhangai</td>
<td>19</td>
<td>99</td>
<td>55.3</td>
<td>94.9</td>
</tr>
<tr>
<td>Bayan-Olgii</td>
<td>14</td>
<td>84</td>
<td>45.7</td>
<td>101.2</td>
</tr>
<tr>
<td>Bayankhongor</td>
<td>20</td>
<td>101</td>
<td>116.0</td>
<td>83.8</td>
</tr>
<tr>
<td>Bulgan</td>
<td>16</td>
<td>73</td>
<td>48.7</td>
<td>60.8</td>
</tr>
<tr>
<td>Gobi-Altai</td>
<td>18</td>
<td>83</td>
<td>141.4</td>
<td>60.9</td>
</tr>
<tr>
<td>Dorno-Gobi</td>
<td>14</td>
<td>51</td>
<td>109.5</td>
<td>52.5</td>
</tr>
<tr>
<td>Dornod</td>
<td>14</td>
<td>65</td>
<td>123.6</td>
<td>73.7</td>
</tr>
<tr>
<td>Dund-Gobi</td>
<td>15</td>
<td>68</td>
<td>74.7</td>
<td>52.5</td>
</tr>
<tr>
<td>Zavkhan</td>
<td>24</td>
<td>113</td>
<td>82.5</td>
<td>80.7</td>
</tr>
<tr>
<td>Ovorkhangai</td>
<td>19</td>
<td>108</td>
<td>62.9</td>
<td>113.2</td>
</tr>
<tr>
<td>Omno-Gobi</td>
<td>15</td>
<td>54</td>
<td>165.4</td>
<td>46.8</td>
</tr>
<tr>
<td>Sukhbaatar</td>
<td>13</td>
<td>65</td>
<td>82.3</td>
<td>56.6</td>
</tr>
<tr>
<td>Selenge</td>
<td>17</td>
<td>49</td>
<td>41.2</td>
<td>100.8</td>
</tr>
<tr>
<td>Tov</td>
<td>27</td>
<td>102</td>
<td>74.0</td>
<td>88.9</td>
</tr>
<tr>
<td>Uvs</td>
<td>19</td>
<td>89</td>
<td>69.6</td>
<td>81.0</td>
</tr>
<tr>
<td>Khovd</td>
<td>17</td>
<td>90</td>
<td>76.1</td>
<td>87.8</td>
</tr>
<tr>
<td>Khovsgol</td>
<td>24</td>
<td>121</td>
<td>100.6</td>
<td>121.4</td>
</tr>
<tr>
<td>Khentii</td>
<td>17</td>
<td>83</td>
<td>80.3</td>
<td>71.2</td>
</tr>
<tr>
<td>Darkhan-Uul</td>
<td>4</td>
<td>24</td>
<td>3.28</td>
<td>87.8</td>
</tr>
<tr>
<td>Ulaanbaatar</td>
<td>9</td>
<td>121</td>
<td>4.7</td>
<td>928.5</td>
</tr>
<tr>
<td>Orkhon</td>
<td>2</td>
<td>19</td>
<td>0.84</td>
<td>78.4</td>
</tr>
<tr>
<td>Gobi-Sumber</td>
<td>3</td>
<td>9</td>
<td>5.54</td>
<td>12.3</td>
</tr>
</tbody>
</table>

4. Employment

Table 2. Employment (Mongolian Statistical Book)

<table>
<thead>
<tr>
<th>Population of working age: including,</th>
<th>1,531,100</th>
<th>790,300 females</th>
<th>100.0%</th>
<th>51.6% female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economically active population:</td>
<td>986,100</td>
<td>503,000 females</td>
<td>64.4%</td>
<td>51.0% female</td>
</tr>
<tr>
<td>of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>950,500</td>
<td>483,400 females</td>
<td>62.1%</td>
<td>50.9% female</td>
</tr>
<tr>
<td>Unemployed</td>
<td>35,600</td>
<td>19,600 females</td>
<td>3.6%</td>
<td>55.1% female</td>
</tr>
<tr>
<td>Labor force participation rate</td>
<td></td>
<td></td>
<td>64.4%</td>
<td></td>
</tr>
<tr>
<td>Employment rate</td>
<td></td>
<td></td>
<td>62.1%</td>
<td></td>
</tr>
<tr>
<td>Unemployment rate</td>
<td></td>
<td></td>
<td>3.6%</td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Number of registered unemployed persons and the unemployment rate

<table>
<thead>
<tr>
<th>Years</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed (thousands)</td>
<td>38.6</td>
<td>40.3</td>
<td>30.9</td>
<td>33.3</td>
<td>35.6</td>
</tr>
<tr>
<td>Rate of unemployment (%)</td>
<td>4.6</td>
<td>4.6</td>
<td>3.4</td>
<td>3.5</td>
<td>3.6</td>
</tr>
</tbody>
</table>
5. Economic profile

Mongolia belongs to the group of Land-locked Developing Countries (LLDCs), but does not qualify for Least Developed Country (LDC) status, nor is it formally one of the Economies in Transition (EIT), although it shares many of the same transition and liberalization challenges.

Mongolia began in 1990 the difficult process of democratising its governance and transforming its economy from one directed by central planning to one guided by the open market. Since 1991, Mongolia has followed a policy of economic liberalization, including privatisation, financial liberalization and capital account convertibility. At the same time, the total private sector share of GDP increased from being nearly absent to 75% in 2002.

Mongolia joined the WTO in 1997 and reduced import tariffs to a flat rate of 5%, except on some items such as alcohol. The share of manufacturing output in total production has fallen considerably since 1997, indicating increasing economic vulnerability. From 1990 to 2003, the share of industry in domestic output declined from 41% to 20%. The share of agriculture on the other hand increased from about 15% in 1990 to a high of 38% in 1998 before declining again to some 22% in 2003. This process is often referred to as de-industrialization. It increases economic vulnerability by increasing the relative weight of the agricultural and pastoral sectors which are diminishing-returns activities subject to volatility because of climate and other unforeseen factors.

Economic development faces serious challenges as Mongolia is navigating the difficult transition from a centrally planned to a market oriented economy, and overcoming considerable geographical obstacles to development, including being super-landlocked with an extreme continental climate. Under these tough circumstances, the Government has committed itself to market reform through an active privatisation programme, trade and investment liberalization and the unification of exchange rates. These policies have born fruit to a certain extent: declining growth rate of 1990 to 1993 has been reversed since 1994.

Exports are concentrated in mineral-based commodities, accounting for 40.7% of total exports in 2004, while natural or cultured pearls, precious metal and jewellery accounts for 28%, and textiles and related articles account for 22.7%. Annual increase of real GDP was 5.6% and 10.6% in 2003 and 2004 respectively. The GDP per capita in 2004 was estimated as 717,340.9 Tugrigs (or about US$ 700), compared to 460,055.3 Tugrigs in 2001 (Mongolian Statistical Yearbook 2004).

6. Climate

The climate is harsh continental with sharply defined seasons, high annual and diurnal temperature fluctuations and low rainfall. Because of the high altitude, Mongolia's climate is generally colder than other countries of the same latitude. Average annual temperatures are around 8.5°C in the Gobi and -7.8°C in the high mountainous areas. The extreme minimum temperature is -31.1°C to -52.9°C in January and the extreme maximum temperature is +28.5°C to +42.2°C in July. The annual precipitation amount is averaging 200-220 mm, ranging from 38.4 mm in the extreme south (Gobi desert region) to 389 mm in limited areas in the north. About 90.1% of precipitation evaporates, only 9.9% forms surface runoff, partially recharging into ground water aquifers. Most precipitation occurs in June, July and August; the driest months are from November to March. Mongolia has an annual average of 3,000 hours of sunshine, which is well above the amount received by other countries of the same latitude.

Climate change assessment suggests that during the period of 1940-2005, the average temperature in Mongolia has increased by about 1.9°C and temperature increases are stronger in winter months and in the mountain areas (2.0-3.7°C) of western and northern Mongolia than in the Gobi and steppe areas (0.7-2.0°C). The annual precipitation has decreased since the 1940s to about the mid-1980s, but it has since exhibited an increasing tendency in most areas, except the Gobi desert area.

Heavy rains, snowfall, strong winds, sandstorms, snowstorms, hails and flooding often bring substantial damages to life and property of the community. In 1998 and 1999, the total economic damage caused by disasters such as strong wind, blizzard, hail and thunderstorms, floods and hot weather conditions was estimated as 30 billion Tugrigs, which is about 3% of GDP (NAMHEM, 2001).

Devastating weather hazards, such as dzud and drought, are a well-known affliction of the nomadic herder. Dzud is the Mongolian term for an extraordinarily harsh winter that deprives livestock of grazing, a specific phenomena that takes its toll in the winter-spring season as high numbers of livestock die of
starvation. As a result of the dzud in 1999/2000, 2.4 million livestock were killed and economic losses reached to 104 billion Tugrigs by 1 June 2000. The social costs of the dzud are difficult to estimate (NAMHEM, 2001).

Drought in the spring and summer periods occur about every five years in the Gobi desert area, and once in every 10 years over most of the parts of the country. Drought induces forest and steppe fires, which have become more frequent and the size of burned areas has also increased. The El Niño-Southern Oscillation (ENSO) seems probably to have influenced the frequency and magnitude of drought.

7. Land use patterns

In general, as of 2004, land cover in Mongolia can be broken down as follows: 73.8% used for agriculture land (of which approximately 0.8% is cultivated, 1.6% is used for hay making, and 97.6% is pasture land); 0.28% is occupied by cities and settlements; 15.66% for state special needs (which includes land allocated for the state security and defence purposes, special protected areas, roads, and communication network of national importance); 9.39% is forest and shrubland; 0.62% is covered by water, and 1.7% is unused or not suitable for usage.

8. Water resources

Surface and groundwater resources play vital roles in the country’s economy, especially in agriculture, forestry, fisheries, livestock production, industrial and domestic water supplies, as well as to sanitation and health.

The total water resource of the country is estimated as 599 km$^3$ composed of waters stored in lakes (500 km$^3$) and glaciers (62.9 km$^3$). Only 4% and 2% of total water resources are other surface and groundwater, respectively.

The rivers in Mongolia originate from three large mountain ranges: Mongol-Altai, Khangai-Khuvsgul and Khentein. The rivers are divided into three main basins, depending on their drainage system: the Arctic Ocean Basin (AOB), the Pacific Ocean Basin (POB), and the Internal Drainage Basin (IDB) of Central Asia. Some of the largest rivers of the world such as Yenisei, Lena and Amur take their origin from the Mongolian’s mountain ranges. Therefore, river water resources have an international significance. 60% of annual runoff formed in the Mongolian territory drains to Russia and China.

There are 3060 lakes with a surface area of more than 0.1 km$^2$. Of these, four have surface areas larger than 1,000 km$^2$, 16 have surface areas larger than 100 km$^2$, and 27 have surface areas larger than 50 km$^2$. There are 262 glaciers in Mongolia, occupying a total area of 659 km$^2$. The majority of the glaciers is located in the Mongol-Altai mountain.

Fresh water resources consist of 85% of total and the Khuvsgul lake contains 93.6% of total fresh water resources in the country. Annual average specific discharge varies from 0.01 litre/sec km$^2$ in desert area to around 20 litres/sec km$^2$ in mountain ranges. Renewable water resource varies from 23 km$^3$ in low flow year to 69.5 km$^3$ in high flow year. The ground water aquifers are extensively used for domestic water supply, livestock and pasture watering in steppe and desert areas.

9. Energy resources

Socio-economic development is very much dependent on access to energy. Mongolia's power supply is separated into two parts. First, the major part of the country, in terms of population, is supplied by the interconnected grid operated by the Central Energy System (CES). Second, in the more remote areas of the country, non-interconnected power stations - mainly diesel powered, are installed. There are five coal-fired Combined Heat and Power (CHP) plants and 18 provincial enterprises that operate isolated energy systems.

Coal, mainly lignite, made up to 80% of primary energy supply. It was mined in the country and delivered by rail to the electricity generating and heating plants that consume 65%of the coal mined (Mongolian Statistical Yearbook 2004). Some 49% of total energy supplied to the heat and power plants was lost in conversion processes and 11% was lost in transmission, distribution and the operation of power stations. Thus, only 40% of the heat is lost in distribution via above ground, leaking and poorly maintained pipes. The net result is that only about 25% of the energy as coal was finally consumed as heat and electricity.
Apart from the inefficient use of coal resources, the main issues with respect to coal are damage to the environment at and around mine sites, and pollution from the electricity/heating plants. For example, air pollution from the five coal-fired thermal power stations in Ulaanbaatar have been an issue of great public concern, especially during winter when temperature inversion that restricts the air dispersion from the Ulaanbaatar basin is frequent and pronounced.

Since 1995, there has been a steady increase in the electricity generation and consumption. The total electricity generation was 3,303.4 million kilowatt-hours in 2004. However, only 2,357.0 million kilowatt-hours were consumed, of which industry and construction consumed 1,458.8 million kilowatt-hours (or about 61.9%); transport and communication consumed 98.5 million kilowatt-hour (or about 4.2%); agriculture consumed 25.6 million kilowatt-hours (or about 1.1%); and communal housing consumed 567.6 million kilowatt-hours (or about 24.1%) (Mongolian Statistical Yearbook 2004). However, losses in transmission and distribution accounted for 480.4 million kilowatt-hours in 2004, or about 14.5% of the total electricity produced.

With poor incentives for efficient consumption of energy, its use per unit of production is 1.5 times that of developed economies. Heat loss in buildings reaches 30%. Mongolia consumes more commercial energy per capita than any other developing country in the region. This is partly due to the severe climate but more to sheer wastage.

Mongolia does not produce natural gas and oil, and therefore, all requirements for petroleum products are met entirely by imports, primarily from Russia. Petroleum products, which are consumed mostly in the transport sector, represent an important source of vulnerability for Mongolia. Transportation consumes 26% of the total energy used. (Mongolian Statistical Yearbook 2002)

The non-commercial primary energy sources include fuel wood and animal dung, which are used in households for heating and cooking.

The rich renewable energy resources have not been exploited significantly. At present, there are only five small scale hydropower plant in the northwest, four of which can only be operated in summer because the river freezes in winter. Only the Mankhan plant in Khovd completed in 1998 is operated throughout the year (Batima et al., 2000). Mongolia’s hydropower potential needs to be considered carefully in the light of climate change, declining river flows, environmental impacts and total life-cycle costs. It may be prudent to restrict hydro-electric developments to small-scale and run-of-river projects. On the other hand, there is considerable potential to supply many nomadic families in the Gobi desert with small portable PV or wind generation systems. There are 43 geothermal sites in the Altai, Khangai and Khentii mountains where infrastructure is not yet developed. These areas are suitable for holiday homes, sanatoriums and greenhouse heating (Batima et al., 2000).

Some 33% of the population currently lacks access to electricity and 43% lacks access to central heating. The Government of Mongolia intends to improve energy supply equity so that the around 40% of the population living below the poverty line will obtain minimal access to modern energy sources. In 2001, the Government of Mongolia approved the Mongolia Sustainable Energy Sector Development Strategy for the period 2002-2010, a key policy document that outlines major policy guidelines and actions to be taken in short and mid-term.

10. Industry

Industry was developed after the independence in 1921. Traditionally, the economy has been based on agricultural production, namely livestock husbandry. Over the last few decades, heavy industries such as power, coal and gold mining, fuel and others have been established and developed. By the end of 2004, the gross industrial output was composed of mining and quarrying, 64.7%; manufacturing (including food products and beverages; textiles; paper and paper products; wearing apparel dressing and dyeing of fur; tanning and dressing of leather; luggage handbags, wood and wood products; chemical and chemical products; among others), 22.0%; and electricity, thermal energy and steam, 12.0%, and collection, purification and distribution of water, 1.3% (Mongolian Statistical Yearbook 2004).
The added value of the industry sector was 19.0% of GDP of Mongolia in 2003. The same year, industrial output increased by 2.0% at constant prices of 1995, compared with 2002, among which the manufacturing output grew by 6.7%.

Table 5. Gross industrial output (Mongolian Statistical Book)

<table>
<thead>
<tr>
<th>Years</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total, mln.Tugrugs</td>
<td>726 270.0</td>
<td>750 825.7</td>
<td>801 213.4</td>
<td>1 164 484.3</td>
</tr>
<tr>
<td>Mining and quarrying, %</td>
<td>47.2</td>
<td>47.3</td>
<td>49.6</td>
<td>64.7</td>
</tr>
<tr>
<td>Mining of coal</td>
<td>5.7</td>
<td>5.8</td>
<td>6.0</td>
<td>5.2</td>
</tr>
<tr>
<td>Mining of metal ores</td>
<td>37.7</td>
<td>38.8</td>
<td>40.4</td>
<td>56.8</td>
</tr>
<tr>
<td>Manufacturing industry, %</td>
<td>34.9</td>
<td>34.0</td>
<td>32.5</td>
<td>22.0</td>
</tr>
<tr>
<td>Manufacture of food products and beverages</td>
<td>12.2</td>
<td>12.2</td>
<td>11.1</td>
<td>8.4</td>
</tr>
<tr>
<td>Manufacture of textiles</td>
<td>11.6</td>
<td>8.7</td>
<td>6.2</td>
<td>5.5</td>
</tr>
<tr>
<td>Manufacture of wearing apparel dressing and dyeing of fur</td>
<td>4.4</td>
<td>6.0</td>
<td>7.0</td>
<td>3.2</td>
</tr>
<tr>
<td>Electricity, thermal energy and steam, %</td>
<td>16.0</td>
<td>16.4</td>
<td>16.2</td>
<td>12.0</td>
</tr>
</tbody>
</table>

Major part of total required chemicals for agriculture and industry is imported and only a slight portion is produced in the country. For example:

1. Petroleum products
2. Consumer chemicals/soap, washing powder, shampoo and cosmetics/
3. Pharmaceuticals

Table 6. Chemical Production /by percentage of total gross industrial output/ (Mongolian Statistical Book)

<table>
<thead>
<tr>
<th>Years</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical production</td>
<td>0.6</td>
<td>0.7</td>
<td>0.6</td>
<td>0.6</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Table 7. Chemical Production and Trade

<table>
<thead>
<tr>
<th>Chemical Type</th>
<th>Production/ Manufacturing (tons/year)</th>
<th>Imports (tons/year and value)</th>
<th>Formulation/ Packaging (tons/years)</th>
<th>Exports (tons/years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pesticides</td>
<td>58,882</td>
<td>150.6</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>(agricultural, public health, consumer use)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fertilizers a) Chemical</td>
<td>174.2</td>
<td>14,400.0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>b) Biological</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petroleum Products</td>
<td>139204.7 barrel</td>
<td>470.6</td>
<td>No</td>
<td>129.4 barrel</td>
</tr>
<tr>
<td>Industrial (used in manufacturing/)</td>
<td>No</td>
<td>1,160.5</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
11. Agriculture

Livestock husbandry is the base for the economy. The livestock population has reached 28,027.9 thousands in 2004, of which goats, sheep, horse, cattle and camel account for 12,238 thousands, 11,686 thousands, 2,005.3 thousands, 1,841.6 thousands and 256.6 thousands, respectively. Due to the privatization of the domestic livestock industry, the number of livestock has increased in the last few years. Most of this growth has been the increase in goats, as the demand for cashmere wool has increased significantly. However, most Mongolian livestock is an indigenous breed of animals, grazing all year on natural pastures, with very low productivity and they body sizes are small compared to other breeds of animals in the world. Intensive livestock activities, such as pig production, poultry, and dairy do not play an important role in the livestock sector. But, livestock population depends directly on weather conditions. For instance, almost 9 million of livestock were killed because of the drought and dzud (extremely harsh winter) condition which occurred during the spring and winter seasons of 1999 to 2002.

Traditionally, crop production has not been a major agricultural activity in Mongolia. Intensive land cultivation only began in 1958. The area of arable lands was increasing up to the 1990s when about 1.3 million ha was under cultivation every year. However, since 1991 the area has been decreasing due to the economic crisis, as marginal croplands that had been growing wheat have been taken out of production. The agricultural areas totalled 115,303.6 thousand ha in 2004, of which meadows and pastures accounts for 112,823 ha (or about 97.8%), arable land natural accounts for 705.7 thousands ha (or about 0.61%), and sown area accounts for 200.5 thousands ha (or about 0.17%) (Mongolian Statistical Yearbook 2004). The main crops are cereals, potatoes, vegetables and fodder crops.

Table 8. Gross agricultural output (Mongolian Statistical Book)

<table>
<thead>
<tr>
<th>Years</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total, mln.Togrog including:</td>
<td>419 519.7</td>
<td>394 196.5</td>
<td>358 196.2</td>
<td>410 945.3</td>
<td>474 844.6</td>
</tr>
<tr>
<td>Livestock, %</td>
<td>84.4</td>
<td>80.8</td>
<td>79.5</td>
<td>79.5</td>
<td>80.0</td>
</tr>
<tr>
<td>Crops, %</td>
<td>15.6</td>
<td>19.2</td>
<td>20.5</td>
<td>20.5</td>
<td>20.0</td>
</tr>
</tbody>
</table>

In livestock sector, the main producer is herder households. Households that run livestock production (meat, hide and skin, sheep and camel wool, cashmere, milk and milk products) for their livelihood are considered as herder households.

Table 9. Number of livestock, thous.heads (Mongolian Statistical Book)

<table>
<thead>
<tr>
<th>Years</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of livestock, thous.heads</td>
<td>30 227.5</td>
<td>26 075.3</td>
<td>23 897.6</td>
<td>25 427.7</td>
<td>28 027.9</td>
</tr>
</tbody>
</table>
In crop sector, the main producers are companies, enterprises and households. Main grains of crop production are wheat, potatoes, vegetables and fodder.

Table 10. Sown areas, by hectares (Mongolian Statistical Book)

<table>
<thead>
<tr>
<th>Years</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheat</td>
<td>209 256.2</td>
<td>217 598.1</td>
<td>285 719.2</td>
<td>225 874.4</td>
<td>200 498.3</td>
</tr>
<tr>
<td>Potatoes</td>
<td>194 734.6</td>
<td>199 593.6</td>
<td>263 045.6</td>
<td>207 311.2</td>
<td>172 328.3</td>
</tr>
<tr>
<td>Vegetables</td>
<td>7 882.6</td>
<td>8 859.4</td>
<td>10 232.9</td>
<td>8 421.1</td>
<td>9 078.6</td>
</tr>
<tr>
<td>Fodder crops</td>
<td>5 373.3</td>
<td>5 561.7</td>
<td>7 095.7</td>
<td>5 869.3</td>
<td>4 918.5</td>
</tr>
<tr>
<td></td>
<td>755.8</td>
<td>1 907.8</td>
<td>2 953.7</td>
<td>3 229.6</td>
<td>5 118.5</td>
</tr>
</tbody>
</table>

Mongolia began to use insecticides from 1950s to control internal parasites of livestock and disinfect the outer environment. The movement to exploit the virgin lands, initiated in Mongolia since 1958, was the beginning of the active development of agricultural sector in the country when the first agricultural entities were established. Since then, use of different kind of pesticides has been certainly required for plant protection practice. Especially during the year of 1963-1985, the agricultural entities on crop production broadly used extensive amount of fungicides and herbicides to control seed and plant infections. The wheat planting entities were mostly using Granozan (C₆H₅YgCl) for crop treatment.

From the end of 1970s until the beginning of 1980s, TMDT (C₆H₁₂N₂S₄) was used to control vegetable seed infection and some soil insects. The remains of this insecticide is still in use for vegetable treatment in some companies. Use of HCH (C₆H₆Cl₆), Chlorfos (C₆H₃O₄Cl₃P) – 40% and 80% and Carbofos (C₁₀H₁₉O₆PS) had been predominated during 1960s to mid 1980s for vegetable insects. The Chlorfos was also used in animal husbandry and veterinarian sector for internal parasites of livestock and disinfect the outer environment of meat factories from fly species. Huge amount of Zink Phosphide (Zn₃P₂) was applied during the period from mid 1960s until mid 1980s for harmful rodents in pasture and agricultural land.

Since the end of 1970s, Ammonium Sulfate-40% and Butyl ethir-70% have been in use to control the crop field weeds.

The usage of the most organochlorinated pesticides was banned since 1990s and the introduction of perythroid insecticides is getting to prevail in practice.

Although the Sumi-8 and Divident are permitted for use for seed treatment, the high price of the fungicides is making a problem for the agricultural entities to take regular control over infection. Therefore, there is an increasing trend of crop seed diseases in the country. For pest and insect control, Decis-2.5%, Sumitsidin-20% and Karate-5% are most commonly used by the local companies. For example, 12 tons of Sumitsidin was used in 2002-2003 for controlling pasture harmful grasshopper, 68 tons of Bromadiolone in 2002-2003 for Brandt’s vole and 132 tons of Raundap and 140 tons of Butyl ethir were used in 2001-2003 for weeds. According to the annual report from the Forest Research Center of Mongolia, Chlorphos – 80% and Decis-2,5% are used for forest pests.

Until 1990, Mongolia imported all pesticides from former Soviet Union and since 1990s with the transition to the market economy the importation of pesticides from countries such as the Russian Federation, Germany, China and the Republic of Korea is taking place. Mongolia produced 58,882 tons of insecticides and bio-pesticides in 2003.

Annual list of pesticides to be used and tested in Mongolia is approved by a joint ordinance of Ministers of Nature and Environment, Health and Food and Agriculture. Along with the approved list, a tender for producing and importing pesticides is announced.
Mongolia produces bio-fertilizers in small amounts, however, does not produce mineral fertilizers.

Table 11. Import of mineral fertilizers (1,000 tons)

<table>
<thead>
<tr>
<th>Years</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral fertilizers</td>
<td>9.0</td>
<td>10.4</td>
<td>13.3</td>
<td>14.4</td>
<td>12.4</td>
<td>18.4</td>
</tr>
</tbody>
</table>

(Mongolian Statistical Book 2004)

1.2. ACTORS’ ANALYSIS

Political
The largest political party in the parliament is the –originally comunist – Mongolian People’s Revolutionary Party (MPRP), which now regards itself as a social democratic party. The second largest parliamentary party is the Democratic Party (DP) comprising of several different democratic parties.

Social
A law on non-governmental organisations (NGOs), in force since 1997, has improved the status of lobby groups and NGOs within civil society. Progress, however, has been mixed toward improving civil society participation in Parliament and government decision-making, implementation, and monitoring. Participation in the policy process has been hampered by the lack of transparency. There are no formal mechanisms for enabling citizen consultation and participation in law-making (such as public hearings on draft laws), although NGOs have been invited to participate in legislative working groups on an ad hoc basis. It is important to strengthen civil society so that NGOs can be competent and influential advocates. So far, the Government has played a minor role in building civil society.

Environment
The most important environmental government institution is the Ministry of Nature and Environment (MNE). See in the Chapter IV.

Actor analysis and alignment
An important counterpart for the donor community of the Mongolian government is the Ministry of Finance (MF). This is the ministry coordinating donor contacts and financial aid. (Bi-) Annual donor meetings are organized under auspices of the MF. Donors are moving toward aligning their support for capacity building, private sector development and governance, in line with EGPRS objectives. The EU has been working on a donor activity matrix to improve the awareness of ongoing activities.

Cooperation within the donor community is well established, in particular between multilateral agencies (ADB, UN) and international NGOs. However, there is little or no involvement of local NGOs.

Mongolia is very dependent on Official Development Assistance (ODA), with up to 14 percent of GDP consisting of official aid, grants and concessional loans. The five major development partners of Mongolia are the Asian Development Bank (ADB), World Bank, the United States, Japan and Germany accounting for approximately 87 percent of gross ODA. Other (multilateral) donors include the International Finance Corporation, European Union, and various UN agencies.

The Asian Development Bank (ADB) is the single largest multilateral donor. The strategy supports the implementation of the two major pillars of the Government’s strategy: (i) stable broad-based growth and (ii) inclusive social development. The pillar of broad-based growth aims to contribute to agricultural and associated growth, increase productivity in key industries, open economic opportunities in rural areas, and widen the export base. The pillar of inclusive social development aims to contribute to increasing economic
opportunities and raising and stabilizing incomes, reducing unemployment, and improving education, health, and living conditions among the poor. Governance and gender concerns are woven into operations.

The *World Bank*’s recent loans with environmental content include projects on energy efficiency, rural vulnerability, pastureland management and support to technical assistance for the Ministry of Nature and Environment. The Bank has negotiated new IDA grant commitments of $26 million for fiscal year 2006, which represents an IDA front-loading of 30% given the high likelihood that Mongolia will be an IDA loan country by the end of the IDA period, and an IDA loans-grants blend country for 2007.

*UNDP* has had the longest association with Mongolia and its broad policy focuses on Democratic Governance, Human development and Poverty Reduction and Sustainable Natural Resource Management. The environmental programme aims to achieve a balance between environment protection and development in the context of the fragility of Mongolia’s environment and the high dependence of people’s livelihood on natural resources.

*USAID* plays a catalytic role in addressing some of the major issues in the country, including privatization, rural finance and democracy. USAID’s Gobi Initiative represented the first significant donor program outside the capital city, providing a model for other donors to follow. An extensive program of German bilateral assistance is in place in Mongolia containing several projects that target private sector development, environmental management, and the Government’s regional development strategy.

*Japan* is Mongolia’s major bilateral source of loan as well as grant assistance. Japan intends to support institutional and human resource development, rural development, environmental protection, and infrastructure development. Both the United States and Germany provide substantial grant assistance to the country. A number of other donors provide modest amounts of additional support. These other donors include Sweden (governance); Canada (rural and urban development); Korea (energy, desertification and health); the Czech Republic (health); Russia (humanitarian aid); China (housing); and India (information technology). Another possible and relatively unusual donor nation is the United Arab Emirates (UAE), which recently offered to help finance a hydroelectric plant in the countryside.

*Non governmental organizations* (NGOs) such as the Soros Foundation and World Vision make important contributions to Mongolia, each managing annual development programs valued at around $3 million. Numerous other NGOs from the United States, Japan, Europe, and elsewhere also provide important support, especially in the social sectors.

Table 12.

<table>
<thead>
<tr>
<th>Main focus of the programme</th>
<th>EU</th>
<th>UNDP</th>
<th>GTZ</th>
<th>WB</th>
<th>USAID</th>
<th>ADB</th>
<th>JAPAN</th>
<th>SWEDEN</th>
<th>KOREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable Resource Management</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy/Energy efficiency</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pollution control</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disaster mitigation</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private sector development</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural Finance/development</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The European Bank for Reconstruction and Development (EBRD) will soon begin providing advisory services and would like to start a loan assistance program once its board approves.

The leading donors in the field of environment are GEF, World Bank, UNDP, GTZ and the Netherlands. Especially UNDP and GTZ have a policy focus that is very much compatible with the Dutch priorities of ODA and therefore quality as strategic partners. The Dutch activities in partnership with GTZ are embedded in a Silent Partnership Agreement (signed between GTZ and the Embassy). With UNDP cooperation is under the General Framework Agreement (UN and Minister for DC). At this moment about 35% of the environmental programme is implemented in partnership with UNDP and GTZ.

The World Bank has growing interest in sustainable Resource Management and more specific in sustainable forest management. In 2004 the Netherlands Mongolian trust fund (NEMO-1) started under supervision of the World Bank. This ongoing programme is mainly focused on a diversity of environmental issues. A second phase of the Dutch trust fund is under preparation (WB/FAO) starting in 2007, especially focusing on (community) forestry issues.
CHAPTER III
CURRENT DEVELOPMENT TRENDS AND CHALLENGES

1. Development

1.1. Political developments

In 1990, the Mongolian one-party state gave way to a more democratic political system, with a freely elected State Great Khural (in legislative) and a president with limited powers. A new Constitution was adopted in February 1992. A democratic coalition came to power in 1996, comprising the Mongolian National Democratic Party (MNDP) and Mongolian Social Democratic Party, but its unity was shaky and easily undermined by the party of the former communists, the Mongolian People’s Revolutionary Party (MPRP), which had remained a strong force in Mongolian politics. The MPRP returned to power in 2000 and several democratic parties including the MNDP and the MSDP merged to form the Democratic Party (DP). The general election of June 2004 resulted in a coalition government of the MPRP and DP. However, this coalition was unstable, with internal party divisions and leadership struggles. President’s role is supposed to be largely ceremonial, even it has the power to veto legislation but it will be supported by two-third majority in State Great Khural. Under the Constitution, the judiciary is independent of both the legislature and the president. A separate Constitutional Court oversees the legality of legislation and the activities of members of the government. Finally, in 2006 the Coalition Government is created newly and delegates from small Parties, coalesced with MPRP, has entered into government cabinet structure.

International relations
Mongolia’s landlocked status and remoteness from major markets constrain economic development. Long-term growth and living standards are dependent on how well the country can take advantage of emerging opportunities and integrate its economy with economies of its immediate neighbours. Adequate transport, trade, and communication facilities are vital, and efficient access to seaport or gateway is key to increasing trade competitiveness. Mongolia spends about 15% of its export earnings to pay for transport. In addition to minimizing transit barriers, the joint formulation of transit routes with neighbouring countries is key for improved access to and from Mongolia.

Economic recovery in the Russian Federation and continued strong economic growth in the PRC offer the prospect of intensifying economic links. Economic integration with the PRC is particularly important given Mongolia’s vast mineral resources and the strong outlook for raw material demand in the PRC. Economic cooperation between Mongolia and its neighbours can be based on developed market principles and use models of subregional cooperation in energy, transport, trade facilitation.

It is clear that Mongolia’s foreign policies are subject to a need to balance relations with its two large neighbours, China and Russia, while cultivating its warming ties with the US. Politically, Mongolia hopes that its deepening relation with the US will act as a counterweight to Russian and Chinese interest in the country.

1.2. Economic development

Until 1990, Mongolia’s economy used to be centrally planned like the Soviet model. Then Mongolia opted for market-lead system. In 1991 Mongolia joined the World Bank, the IMF and Asian Development Bank (ADB). A rapid transition was achieved through radical privatization, currency reform and price and wage liberalization. In September 2005, the government published new guidelines for privatization during 2005-2008 for which the ADB has agreed to provide aid.

Mongolia is heavily dependent on commodity export, notably copper, gold and cashmere and on livestock herding. Mineral products accounted for 50.7% of total export earnings in 2003. This dependence however, makes the economy vulnerable to shifts in world commodity prices. Agriculture’s share of GDP has been
falling from 40% in 1998 to about 28% now. The economy has been adversely affected by the 1997-1998 Asian financial crises, the 1999 Russian crisis and the heavy loss of livestock in the winters of 2000-2002. Nevertheless, economic growth has been positive for the last couple of years, equaling nearly 10.5% in 2004. Medium-term prospects are broadly favourable, provided the authorities manage to slow down inflation and sustain supportive fiscal policies. Economic growth is expected to settle around at least 5%. Good agricultural and services performance, better administration of the state budget, as well as support by the IMF, helped to reduce the budget deficit to the equivalent of 2.2 of GDP in 2004.

1.3. Social development
Mongolia’s transition has many positive features – notably the rapid creation of a functioning parliamentary democracy, establishment of a legal and regulatory framework for private sector development, privatization of one of the strictest state-run economies of the Soviet era, and the good performance of successive governments in maintaining macro stability. However, cumulative growth has been insufficient to impact on the high level of poverty that emerged as a result of the transition shock. Overall growth has been unstable and uneven across sectors. Moreover, recent sources of growth are inequitable and inaccessible for many of the poor. GDP per head still remains low at US$606 in 2004. Nearly 36% of the population remains poor, and the country remains aid-dependent, with narrow and vulnerable economic base. Harsh natural conditions, geographical isolation, difficult access to financial resources, and unemployment are the major causes of poverty.

Since the year 2000 in-migration to Ulaanbaatar has increased dramatically. The main reason for this ongoing migration is the weak infrastructural situation in the rural areas of Mongolia and the absence of income-alternatives to mobile livestock-keeping, which is the dominant form of livelihood securing in most of the rural areas in Mongolia. There have been and still are enormous migration flows to urban settlements in the city’s outskirts, which are the fastest growing parts of Ulaanbaatar. With regard to sustainable development only a holistic approach can help to overcome the present problems. Sustainable urban and rural development cannot be realized isolated from each other.

Mongolia’s population grew by 1.2% a year from 1990 to 2003. Population density is low, at 1.5 persons per square km. About 36% of the population currently lives in the capital, Ulaanbaatar. About 20% of the working-age population is estimated to be unemployed or underemployed, with urban areas worse effected than rural areas. More than half of the unemployed (55.2%) are women and about half are under 35 years of age.

Education
Under communism, both education and health were fully state-funded, giving Mongolia a pool of highly literate and well-educated people. Many people studied also abroad like in former East Germany or Russia. After the transition, education provision deteriorated. A restructuring programme is now carried out with the support of the ADB and state expenditure on education rose from 14.8% of the state budget in 1996 to 19.6% in 2003. The high expenditures on education have, however, not resulted in increased primary education enrolment rates, which are now averaging in 91%. In line with the MDG targets, Mongolia still aims to achieve a 100 percent enrolment rate in 2015.

Health
External humanitarian aid, combined with the government’s poverty alleviation programme, ensured that the basic indicators of health improved in the 1990s. Budgetary expenditure on health services was 9.3% of GDP in 2003. Under-five mortality rate has reduced rapidly. Between 1990 and 2002 infant mortality more than halved to 29.6 per 1,000 live births, putting Mongolia well on track to achieving the MDG target by 2015. Maternal mortality remains high (1510 per 100,000 live births in 2002) especially in remote rural areas. The health sector is being reformed to provide more primary care and preventive medicine, and to make better use of health workers.
2. Challenges

2.1. Governance challenge

Mongolia scores relatively well in good governance issues. It is politically stable economy with a democratically elected government. Different stakeholders are involved in policy development although the country suffers from lack in capacity regarding the implementation of policies and the development of new legislation. Also, transparency and monitoring on policy implementation are weak. The government of Mongolia has taken measures to improve the juridical system, with support from both IMF and World Bank. There remain, however, a number of challenges concerning the access to court, especially for the poor, law enforcement and publication of new legislative measures. Furthermore, the World Bank has identified serious governance concerns stemming from issues related to central bank procedures and the lack of information on transaction. Non-transparency on transactions between the Bank of Mongolia and the Mongolian government has heightened concerns about governance.

Corruption

There is an increasing recognition that the problem of corruption has reached levels that warrant focused attention in Mongolia. The Government of Mongolia is working hard to tackle corruption. The new Administrative Court System and the new Anti-Corruption Law are positive steps towards tackling this problem, but much will depend on the quality of the laws, associated implementing rules and regulations many of which are still being drafted or yet to be approved. According this law the Agency for Anti-Corruption will be established under the President’s responsibility, but so far who shall be appointed and mandates for this agency are still in discuss. Mongolia has signed the Anti-Corruption Plan of the ADB (2001), and the UN Convention against corruption (October 2005). Ultimately, it comes down to the capability and willingness to implement existing legislation. As recent as December 2005, the Prime Minister has called for greater transparency in government and public offices, especially regarding local budget planning and expenditures, distribution of foreign direct aid, state-involved tender bid announcements, and state procurement procedures. The recent appointed government emphasizes the importance of a stable legal and economic environment.

Notwithstanding these commitments, little actual progress has been made in complying with the Anti-Corruption Plan. Decision making is still perceived to be nontransparent, and patronage and lack of accountability remain major problems. Non-Mongolian support for Mongolia’s fight against corruption is spreadheaded by the ADB and UN. The diplomatic community, NGO’s, civil society and other stakeholders might serve the interest of the Mongolian people by reminding the Government of Mongolia of its obligations and by providing technical assistance to tackle corruption problems.

2.2. Social challenges

Poverty

Despite growing GDP figures, GDP per capita has not recovered to pre-transition period levels and poverty remains widespread in the country. It has been estimated that 36% of the Mongolian population lives below the national poverty line. While between 1994 and 1998 poverty appears to have stabilized, the depth and severity of poverty has increased, and the inequality gap between people has widened. If this trend is not reversed, the MDG target of halving the poverty headcount by 2015 will not be met. While there is no starvation in Mongolia, many household suffer food and nutrition shortage, especially in rural areas. Since 2000, the prevalence of underweight children under 5 has remained constant at around 12%. There are pronounced linkages between high level of tobacco use and alcohol abuse and poor nutrition, ill health and lack of education.

3 groups stand out among the poor: herder household, urban migrants, and the aged and disabled. Many herder household have remained poor because agricultural incomes are low and vulnerable to shocks and rural growth has been sluggish. In addition, geographical isolation of these households limits their access to
education and health services. Uneven access to health facilities and education among poor migrant households as well as the aged and disabled has withheld them a reasonable standard of living.

Poverty reduction is one of the most important challenges for the government over the short and medium term. The Mongolian government has the emergence and fight of poverty high on its agenda. Important poverty eradication programmes include the Economic Growth Support and Poverty Reduction Strategy (EGSPRS) and the Mongolian Action Programme for the 21st Century (MAP-21). The challenge is to broaden and sustain Mongolia’s economic growth, and provide opportunities for the many poor who have not yet benefited from the transition to a market economy. At the same time, more attention will have to be paid to sustainable use of the natural resources, protection of the environment, improving the access to health and education for the poor and to tackling general issues of good governance.

It is clear that poverty is direct related to environment. Mongolia’s growing population and changing lifestyles are intensifying pressures on the country’s fragile ecosystems. Overgrazing is degrading significant areas and displacing wildlife from its habitat. Pollution from industrial and growth is negatively affecting environmental quality. Grassland degradation due to climate change and/or overgrazing direct resulted in reduced income and even to migration to the cities. Deforestation has resulted in land degradation, decrease of the arable land and worsened the conditions of water availability. It also resulted in a lack of resources for generating energy. Protection of the environment and sustainable use of the natural resources will result in sustainable livestock and grassland management on community level and will therefore improve the livelihood conditions of local herding communities. The agricultural sector contributes 28% to the GDP, of which livestock production constitutes 89% of the total output of agriculture. Livestock production under nomadic condition is the most important economic and financial resource of Mongolia.
CHAPTER III
ENVIRONMENTAL ISSUES

The Mongolian environment has a large variety of features. The northern part of the country is covered by forest mountain ranges dominated by Siberian Larch sibirica, Siberian Pine sibirica, and Scotch Pine sylvestris, the southern part encompasses desert, desert-steppe and steppe areas with low mountains, rolling hills, hillocks with a sparse vegetation cover, the western part is made up of a cradle of snow capped high mountains and glaciers, and the eastern part consists of an area of vast plains and wild heaths. About 81 percent of Mongolian territory is situated higher than 1000 metres above sea level and the average elevation of the country is 1580 metres above sea level (the lowest and highest points being at 532 metres and 4374 metres, respectively). Besides, one third of Mongolian territory consists of desert and desert steppe zones. These examples show that the Mongolian landscape is one of great variety and contrast.

Mongolia can be divided into 6 natural belts and zones: the Alpine, Mountain Taiga, and Mountain Forest Steppe belts; the Arid Steppe, Desert-Steppe and Desert zones. These belts and zones differ from each other on the basis of their soil quality and plant and animal species which, in turn, are adapted to different habitats and climatic conditions characteristic to each of these belts or zones.

Recent climate change threatens to hasten the background post-glacial change and increase the country’s vulnerability to drought, to receding permafrost and tree-lines, and to increased frequency of dzuds and other major weather events. Internationally accepted global climate models show that climate change is expected to cause the desert to expand northwards into the steppe and that southern Mongolia would be very vulnerable to climate change, the northern half of the country less so.

During this same 50 year period, more than 100 animal and plant species have become threatened by extinction, and approximately more than 350 000 people have been forced to drink water, which contains an excessively high amount of minerals and this constitutes a health hazard. About 27 000 000 cubic meters of sewage is released into the environment annually. The air, water and soil have been polluted by more than 50 tons of chemical substances every year and it has been recorded that air pollution in some cities and settlements have exceeded permitted levels up to times.

Officially defined forests occupy 18.3 million ha but only 12.4 million ha of closed-canopy forest remain. There are two types of forest. The forests of the north and forest steppe include many tree species, the most common being larch (74 percent), cedar, pine and a mix of deciduous broadleaf species. The tree-line has moved north due to a combination of natural post-glacial trends, recent faster climate change and deforestation by man (mostly illegal logging). The saxaul forests of the southwest protect the semi-desert against erosion and provide seasonal fodder for livestock and fuel-wood. Deforestation is a serious problem with long-lasting impacts on groundwater recharge, local climate, permafrost melting, soil erosion and plain loss of sustainable income. During the 1990s annual harvest rates ballooned to about 60,000 ha/year, whereas the prevailing rate through the past century averaged some 40,000 ha/year. In addition, during the last 50 years, about 5 000 000 hectares of forest have been destroyed by forest fires and insects. Forests are poorly managed, wood resources are wasted and there is little replanting.

Socio-economic development is very much dependent on access to energy. Mongolia's power supply is separated into two parts. First, the major part of the country, in terms of population, is supplied by the interconnected grid operated by the Central Energy System. Second, in the more remote areas of the country, non-interconnected power stations - mainly diesel powered, are installed. There are five coal-fired Combined Heat and Power plants and 21 provincial enterprises that operate isolated energy systems. Coal, mainly lignite, made up to 80% of primary energy supply. Apart from the inefficient use of coal resources, the main issues with respect to coal are damage to the environment at and around mine sites, and pollution from the electricity/heating plants. For example, air pollution from the three coal-fired thermal power stations in Ulaanbaatar have been an issue of great public concern, especially during winter when temperature inversion that restricts the air dispersion from the Ulaanbaatar basin is frequent and pronounced.
Mongolia does not produce natural gas and oil, and therefore, all requirements for petroleum products are met entirely by imports, primarily from Russia. Petroleum products, which are consumed mostly in the transport sector, represent an important source of vulnerability for Mongolia. Transportation consumes 26% of the total energy used. The non-commercial primary energy sources include fuel wood and animal dung, which are used in households for heating and cooking.

The country is rich in minerals, with oil reserves and deposits of other ores. Of the land area, 81% is designated as pasture land, where camels, horses, cattle, sheep and goats are reared. The extreme continental climate restricts other agricultural activities. Many regions in Mongolia are seriously threatened by water scarcity, desertification, grassland devastation and soil degradation. The Government of Mongolia shows its commitment to environmental protection through its signatory to all major environmental treaties, including the 3 Rio Conventions.

The socio-economic development of Mongolia is dependant on the utilization of natural resources. Preservation of Mongolia’s fragile ecology is challenged by agriculture and animal husbandry practices that affected soil preservation and grasslands, mining industries, outdated technologies of energy generation and industrial plants, waste treatment (solid and water), and, increasingly, vehicle-based air pollution.

A large proportion of the Mongolian poor are dependent on agriculture. A serious threat to the agricultural sector is environmental degradation. Therefore poverty alleviation programmes should focus on preventing environmental degradation. The importance of sustainable use and management of natural environment is recognised in several policy programmes. Important threats to tackling the environmental challenges is posed by institutional weaknesses of the Ministry for Nature and Environmentm (MNE), limited law enforcement and low implementation capacity at local and regional government levels. In addition, monitoring and evaluation capacity for tackling MDG progress is especially poor on the environment indicators. Capacity building programmes are indispensable to prevent further degradation of Mongolia’s fragile environment.

According to the EGSPRS and National Action Plans, 6 principal areas of environmental concern have been identified by the Mongolian government;

1. Land resource management, with special attention to land degradation, pasture degradation, desertification and soil degradation and forest degradation. It is estimated that 78% of the total land area is currently degraded, with more than 20% “severely” degraded.
2. Water is one of the most scarce resources and crucial to be well managed. There is a need for an integrated approach through improved management plans. There is a lack on measured data. Institutional development and capacity building are principal starting point.
3. Water supply and water quality with special attention to the country’s scarce water resources, provision of adequate drinking water quality and to urban water consumption. Access to drinking water is still restricted and it is unlikely that the MDG target of halving the proportion of people without sustainable access to safe drinking water will be met before 2015 without considerable effort.
4. Biodiversity conservation, with special attention to protected areas. In an effort to meet MDG target 10, Mongolia has committed itself to increasing the protected land area to 30% of the country’s total territory. Deforestation is ongoing and surface of land covered by forest is declining. The need of timber is increasing every year. New developed management plans, policy development and capacity building should result in sustainable use of forests and regional economic development.
5. Air pollution, with special attention to indoor air pollution and vehicular pollution in Ulaanbaatar city.
6. Energy and climate change, with special attention to energy efficiency.

3.1. Disaster
Recent climate change threatens to hasten the prevailing background post-glacial change and thus increasing the country's vulnerability to drought, to receding permafrost and tree-lines, and to increased frequency of dzuds. Dzuds are very cold and long-lasting winter weather conditions. Mongolia's vulnerability to the occurrence of these events is well known. However, two major dzuds in 1999/2000 and
2000/2001, which followed very dry summers (limiting plant growth), severely impacted the pastoral economy. International humanitarian assistance from the EU and others was mobilised and brought to the fore the country's vulnerability to its climate. The incidence of natural hazards is often referred to as a critical concern for resource management. These include dust storms, grassland and forest fires, drought, and "zud", the particularly harsh winters. Outbreaks of pests in the forest estate and foot and mouth disease in livestock are also cited as natural hazards to be managed. Disaster is main cause for huge migration to the city, especially for people who are under the circumstance of direct relevance of livestock.

3.2. Land degradation

There is much debate about rates of land degradation and wildly different figures are presented. A key difficulty is differentiating man-made from natural degradation. Combating land degradation is seen as a high priority issue by government and this has been largely attributed to overgrazing, but also unsustainable agriculture and mining operations.

Herd numbers grew from 25 million in 1990 to 33 million in 2000, 35 million in 2006 and the number of herder households rose even more rapidly, indicating smaller herds per household. This clearly increased pressure on the carrying capacity of the grazing resource, but there have been a number of different factors affecting the equation. Contributing also to an escalation in livestock numbers was a collapse in market off-take mechanisms with a breakdown of Soviet collective organisation and market channels.

Poorer water well maintenance and sedentarisation has lead to more local overgrazing and possible under exploitation in more remote areas. Because of high prices for cashmere in the 1990s the composition of the herd moved in favour of goats and way from sheep. Goat hooves can be more destructive of the delicate rooting of the grass sward than sheep. The extreme bad winters in 1999-2000 and 2000-2001 lead to a dramatic reduction in the herd and absolute numbers are currently not at unsustainable levels.

In general precipitation is critical to restoring carrying capacity and the idea of serious irreversible degradation has been challenged by researchers. Livestock units (LUs) per km\(^2\) were calculated to be similar at 39.8 LUs/km\(^2\) to that in 1940 at 39.7 LUs/km\(^2\); they were highest in 2000 at 45.4 LUs/km\(^2\) and lowest in 1970 at 34.9 LUs/km\(^2\).

Households using motorised vehicles (including cars and motorcycles) have risen from 31,600 to 51,088 and loss of land from damage by tracking is considered to be serious. Losses to unrestored open cast mining excavations remains unqualified but is seen as a cause of 'desertification', ie irreversible loss of the productive land resource: Unsustained cultivation in arable agriculture (eg wheat) is another critical cause of land degradation.

Desertification, in terms of land-cover change from vegetated to non-vegetated area, may be relatively minor in Mongolia. On the other hand there seems to have been progressive drying up of lakes and streams in the south, and some damage by moving sand affecting wells and other structures.

Deforestation

Mongolian forest resources have never been subject to science-based sustainable forest management. Figures for former forest coverage are not readily available and difficulties with definitions of forest areas are a perpetual problem. Through the 1960s to 1990 average official harvest figures were approximately 1,500-2,000 million m\(^3\) per annum, very roughly 50% roundwood and 50% fuelwood. In 2002 official figures recorded a harvest of 620 million m\(^3\), almost all fuelwood.

The above figures are far from reflecting reality where 36-80% of harvest is estimated to be illegal and on which no royalties are raised. Illegal timber is wastefully harvested using old technologies. Conducting illegal activities are former forest officers who have lost their former employments. Other issues in forest management are the many forest fires and problems of disease control. The seriousness of these outbreaks
are a subject of debate. Much of the standing forest is poorly managed and over-mature. Legally required replanting after harvest of monocultures are not considered to add value to the forest estate.

The periodic infestations of Brandt's vole and grasshoppers on the grasslands and Siberian Silk and Gypsy moths in the coniferous forests are natural disasters with serious local impacts, for example approximately 7 million ha of steppe pasture became host to a plague of voles and 400,000 ha of forest were infected by Siberian Silk Moth in 1998.

Mongolia’s forest acreage is only 8% of national areage. Among these, forest is 83.7% and saxaul wood is 16.3%. The forest acreage per one people will be 4.8 ha at 2003. Forest resources are being degraded by forest fires, insects and by other related human activities.

98.5% of Mongolia’s forest area is being classified as the hazard area from forest fire by the state. Forest and steppe fires increase dramatically in dry autumn in spring (March to May) and autumn (September to November).

Illegal logging is being accelerated over time, particularly in the south area (Gobi area) of the country, saxaul wood is cut down illegally.

3.4. Solid wastes
In Mongolia, solid wastes are disposed in the open air near the city, at 2 final disposal sites, which exist in a suburb of UB. However, they are open dumping site by which the dispensation establishment and scattering and disclosure prevention appliance are not fixed. Soil is only put, stepped on and hardened on the solid wastes. Therefore, the wastes are diffused also in the surrounding ger /traditional home style/ accommodation space by the wind. Furthermore, possibility that the sewage which began to leak is polluting the underground water etc. is also considered. On the other hand, the garbage can in the city is loaded with the solid wastes which were not collected in large quantities. Or is abandoned in large quantities by the road side, a dry riverbed, clearing, etc.

Two disposal sites are usually left in the state of burn off dead grass. The smoke and combustion fly ash which were generated are poured on the surrounding ger cluster and township. It is considered by it for the hazardous chemical substance to have occurred. It is apprehensive about deterioration of soil, a crop, livestock, etc., and the damage to people (surrounding denizens and a surrounding garbage collector, waist-picker and others). There are much household garbage (33.8%), paper (18.9%), and plastics (15.2%) in summer. Ashes occupy no less than 60.2% in winter.

Solid wastes generated from factories, commercial establishment, and construction sites are collected by third party agencies. However, the solid wastes generated so much is over a wastes collection trader’s interested collection capacity.

In Mongolia, there are no proper wastes treatment facilities. Therefore, the wastes are thrown away across the township. Particularly UB city has the serious wastes problem. Now, the proprietary company of public establishment private management and civilian enterprises which were entrusted from the municipal government prefecture are carrying out drawing in and disposal of the wastes of UB city.

3.5. Soil pollution
Mongolia’s soil pollution is generated by the drainage and refinement which are generated in the factory using the tanning skin and chemical substance, the exhaust fume and oil of cars and mining process, employment of agricultural chemicals, etc. More, there are also cases where sewage flows out of wastes product disposal site or the sewage disposal plant by heavy rain. Employment of coal is the biggest causality of air pollution. Soon, they sediment on the ground. And soil is made to pollute. Scattering of the combustion ashes of coal is also one of the factors, which make soil pollute.
The number of cars have increased dramatically in recent years in UB. Petrol station is being located 100 or more. Furthermore, there are 10 backlog appliances of coal oil and small ar garages of hundreds. Many they are being located in the place where drainage arrangements are not fixed. They have rejected in soil much old oil which is not used. In addition, various medicine, such as disinfectant, an insecticide, and agricultural chemicals, medical wastes, architecture scrap woods, etc. are increasing with economic growth.

These are also the material factors which cause soil pollution. With regards to mining, gold mines are being exploiting in the northern Orkhon river and the Selenge river by 120 business corporation. But, they have rejected neglect of mining soil and stone, and corruption water in the condition as it is. Surrouding premises are remarkably destroyed by these. Mercury contamination is pointed out in gold ores. It is necessary to carry out the investigation of actual conditions of deterioration by a hazardous chemical substance in the place which is mining the mineral. And, investigations of actual conditions are required

3.6. Water pollution and water issues

Mongolia straddles a major continental watershed aligned east-west across the country. North of the divide, drainage is to the Arctic Ocean via the Lena River and Lake Baikal, and to the Pacific Ocean via the Amur and Yenisei rivers. South of the divide drainage terminates in dry lakes and salt pans with no outlet to the sea.

Aggregate water resources in Mongolia have been calculated at 599 km$^3$. Of this 83.7% is in large lakes located in the inter-montane basins of the Altai, Khuvs gul (314 km3), Khentein and Khangai mountain region, 10.5% (500 km3) in glaciers and 5.8% (34.6 km3) in rivers. The average annual precipitation of only 224mm (90.1 percent of which evaporates) varies widely from year to year and from one part of the country to another. The coefficient of variation over mountain steppe is +/- 28% on an average precipitation of 250 mm/year; over desert steppe it is +/- 50% on an average precipitation of 100mm/year. The 9.9% of effective rainfall (ie that does not evaporate) recharges aquifers and provides limited surface water; it is supplied in part by ice melt.

It is this surface water which is essential for human use and the living environment. Water shortage is one of Mongolia's major socio-economic (and ecological) problems. Indeed, water availability per capita is only 17,300 m$^3$. In the Gobi area it is 4,500 m$^3$ and in the Northern and Central Areas where most of the rivers and lakes are concentrated it is 46,000 m$^3$ per capita.

Though adequate in the north it is clearly a constraint on development in the south and particularly serious in urban areas including Ulaan Baatar, where water supplies are pumped from groundwater.

Little care has been taken over water supply and use. Water supply in pasture areas was improved over the period 1960/90 by construction of many wells to provide water to more than 60 percent of the rangeland, but only 40% of the existing 48,000 wells are currently functioning. Most wells drilled during the Soviet era were out of production by 1998. Over the ten years 1988/98 alone, the number of water supply points dropped by 20%. Over the same ten years, the number of livestock increased by 30%.

Effluent from factories, tanneries, processing plants, households, waste disposal sites and road runoff has polluted the main rivers where people and industry are concentrated, particularly the Tuul, Yuro, Selenge and Orkhon Rivers. Of 102 centralised Waste Water Treatment Plants built only 35 were in operation in 2002.

Water pollution problem is due not just to domestic waste effluent, but also to the high levels of heavy metal chromium used in the tannery process. Tanneries would be better located in special areas with the proper treatment facilities, well outside of and downstream from the city but an effective zoning system is not in place.

Even there are 5,500 rivers, 9,600 streams, 300 hot springs, 4000 lakes and 30000 wells registered in Mongolia, 3,000 rivers and streams had dried up by year 2000 and 1200 wells are no longer in use because
of depletion, deterioration of facilities or abandonment after the nomads migration to the city. As a consequence, the use of water resources is limited, causing water shortage.

Causes of deteriorated water environment in Mongolia are the followings;

i) deforestation: Along with rapid transition to market economy, the collapse of the community based pastoral management had lead to urban migration of the herders in the countryside and becoming ger dwellers. This has resulted in over logging of firewood for heating fuels in winterime (for ger residents). Wood is also used as construction materials for individual wooden houses (with brick walls) replacing traditional ger houses.

ii) Decrease in precipitation due possibly to global warming.

iii) Depletion of water vein due to over exploitation of ground water for mining and other industrial development.

iv) Increase usage of water supply as a result of population increase in the urban areas.

v) Negligence of proper water resource management by the municipal authorities.

Water supply in UB

UB’s water source is ground water from 4 wells located in the east and northeastern part of the city and has supply capacity of 237,000 m³/day. Water pumped from the 263 boreholes (36-40m depth) is conveyed to the feeding tanks located in the northeastern part of the mountain top, and supplied to the city amount of 170,000 m³/d, of which 87% is supplied for drinking and 13% for industrial use. Drinking water is supplied to apartments and ger districts. Ger districts connected with distribution network are supplied with 5,000 m³/day, and the ger district with no pipes connected obtain potable water from water tank trucks. Installation of water meters are underway in each household, but very slow in progress, partly because there are cases that water rates at some households have fallen since installation of meters.

With regards to water for industrial use, study was conducted on the development of ground water well fields for industrial use in September 2005. Among 80 factories surveyed in the study, excluding the tanneries, 40% of them possessed their own wells, of which the water quality was poor. As a consequence, 90% of the factories are using drinking water instead. It is vital to separate the use of drinking water from industrial use. Water tariffs are as follows: industrial water 315 tg/m³, domestic water connected with pipes 160tg/m³; and domestic water supplied by water tank trucks 500 tg/m³ (0.5 tg/l)

Wastewater in UB

In UB, wastewater treatment facilities have been constructed under the Soviet planned economy, however, due to recent increase in population in the ger district, no sewerage collection pipes are installed in the surrounding area. Because ger residents use latrines and discharge domestic wastewater directly into the gutter, all human wastes and domestic wastewater penetrate into the soil and this has led to underground water contamination.

Wastewater is treated at a central sewerage treatment plant (with 230,000 m³/day capacity). 100,000 m³ (with a capacity of 150,000 to 170,000 m³/day) of domestic sewerage is discharged everyday through domestic sewer pipe (of 1,200 mm diameters) and 70,000 m³ of industry sewerage is discharged everyday through industry sewer pipes (of 1,500 mm diameters) (with capacity of 150,000 to 170,000 m³/day). Central wastewater treatment plant has been rehabilitated with Danish grant assistance by replacing an old domestic wastewater discharge pumping system and also with Spanish financial assistance (soft loan: EUR 4 million) filters, aeration fans (3 out of 6) and pipes and pumps (3 out of 5) have been replaced in the industrial wastewater treatment line. Another financial assistance from Spanish government is under way in upgrading the wastewater treatment capacity and installing sludge dehydration facility.
Since tanneries’ wastewater contain chromium (Cr) and alkali (pH), it was pre-treated by neutralizing at wastewater treatment facilities within the factory. However, with the aging and running down of facilities, privatization of industries, and the use of out-dated technology, there has been an increase in a number of tanneries that discharge yellowish untreated wastewater directly to the central wastewater treatment plant, causing serious malfunctioning and serious ground water contamination. Sludge containing chromium is buried in landfills after sun drying.

3.7. Air pollution and energy issues

Sources of air pollution include emissions form vehicles, combined heat-and-power plants (CHP), heat-only boilers (HOB) and industry, together with stoves, refuse burning, road dust and sandstorms. Approximately 5.7 million tons of coal and 160 cubic metres of wood are used for energy generation, heating and cooking in Mongolia. In UB heating is required for 9 months in the year. Three CHP use 5 million tons of coal, 250 HOB plants use 400,000 tons and 70,000 inhabitants of ger areas consume 200,000-350,000 tons. In winter each household consumes 5 tons per person of coal.

Between 1995 and 2002 the number of vehicles has grown from 28,119 to 52,000 according to figures quoted in Mongolia Environment Monitor. Some 80% do not meet emission standards contributing 70 tons of pollutants each year. Ulaan Bataar is surrounded by mountains so that in the winter months, under the usual conditions of temperature inversion, levels of pollution remain very high. Though not so high to be a serious risk there is still a risk to general health and a serious problem of asthmatic children in the city. These conditions are aggravated by indoor pollution from coal burning.

Table 13. Air Pollution in Ulaanbaatar (micro-grams/cubic metre) 1997 to 2002

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<tr>
<td>Sulphur Dioxide: p.15</td>
<td>50</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>9</td>
<td>11</td>
<td>10</td>
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<td>Nitrogen Dioxide: p.16</td>
<td>40</td>
<td>8</td>
<td>21</td>
<td>22</td>
<td>30</td>
<td>28</td>
<td>28</td>
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<td>Carbon Monoxide: p.18</td>
<td>1000</td>
<td>500</td>
<td>800</td>
<td>800</td>
<td>1,100</td>
<td>1,000</td>
<td>n/a</td>
<td></td>
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<tr>
<td>Dust</td>
<td>150</td>
<td>131</td>
<td>137</td>
<td>105</td>
<td>124</td>
<td>162</td>
<td>n/a</td>
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According to the Ministry of Nature and the Environment (2003) the sources of air pollution are 44% from CHP; 39% from transport; 9% from HOB and 8% from homes. Mongolia is reckoned to have the highest Green House Gas (GHG) emissions in the world.

Air pollution in UB is caused by 4 main sources: polluting gases and dust emitted by i) coal burning in ger areas (by 500,000 inhabitants); ii) small coal-fueled boilers distributing heating hot water to schools and hospitals; iii) 3 central combined heating and powerstations; and iv) increased number of second-handed vehicles (over 100,000 by 2005’s figure)

As shown in Table 13 the average amount of SO$_2$ emission per day has increased from the March 2002 study, and how exceeds the Mongolian emission standard. This is mainly due to the increased coal consumption and population in the ger districts over the time. There is no significant change in the amount of NO$_2$ emission (since Match 2005) from the thermal power plants and vehicles exhausts, which leads to the presumption that it would not be main cause for air pollution. In the finally, the “MRI” research center of Mongolia and scientist from Japan and professor of Mongolian Science and Technology University of Mongolia Mr Kamo Yoshiaky conducted experience on the emissions, especially on the hard metals which are realased in UB. Hard metals contains in air are never been studied before and now in Mongolia. According to this study, every year 11 kg of dioxygens are emitted in the air in UB. Unfortunately this
tendences are growing in each year and dioxygen, which pollutes soil and environment is mostly emitted from coal firing. Moreover, about 2 kg of cadmium and 300 kg of mercury have been emitted in UB. Above mentioned hard metals are kept in the soil and give serious negative impacts in the human health. Therefore there is needed to make comprehensive assessment on health of the people, who are living in UB.

3.8. Loss of biodiversity

In the same time of global warming the negative impacts and threats from man-made in ecosystem are carrying consequences as desertification, creation of natural disasters, loss of biodiversity and water shortage, as well as difficulties to the socio-economic and environmental development in recent 40 years in Mongolia. According to endangered animals’ list by International Federation for Conservation Nature and Natural Resources 19 species of animals in Mongolia have been registered and 55 species of endangered animals and 5 species plants in Mongolia have been registered to CITES, Annex 1,2, and 81 species of animals have been registered to the CMS Annex 1,2.

Nevertheless, in the 1997 the Red Book of Mongolia has been elaborated according to global common standards and in fauna 30 mammals, 30 birds, 5 reptiles, 4 amphibian, 6 fish, 22 reptiles, 19 insects and 4 molluscs of species and in flora 100 species of plants have been registered into the list of rare and endangered flora and fauna of Mongolia.

Currently biodiversity have been utilized in a variety of ways, including the direct use of meat, skins, and other animal products by nomadic herdsmen and urban Mongolians; commercial marketing of skins; commercial marketing of fish; large-scale harvest of gazelles was carried out until the mid 1990’s and sport hunting of game and trophy species by Mongolian and foreign sportsmen. Some 59 mammal, 128 bird, and 30 fish species are utilized for commercial purposes and for direct substance. According to government estimates, over 2 million terrestrial animals are harvested annually. Commercial exploitation of fish began in the mid 1950’s with the main fishery industries located round the Buir, Buun Tsagaan and Ugii lakes.

Illegal hunting

Despite the rich heritage and long tradition of preservation, wildlife populations in Mongolia are mostly in decline with many species considered threatened or endangered. The causes of the decline are many including competition for forage, overgrazing, infrastructure development, and over-utilization - both legal and illegal. Grazing is an issue of concern in most areas of the country with an estimated 35.1 million head of livestock in Mongolia by December 2006. Perhaps the most significant cause of decline is poaching. Snow Leopards, killed for their pelts, are threatened or endangered throughout most of their range (Schaller et al.1994). The Argali are shot for sporting trophies and meat. With increased access to traditional Oriental medicine markets, poaching pressure has increased on mammals such as the Mongolian Saiga (Saiga tatarica mongolica) for its horn, Brown Bear (Ursos arctos) for its gall bladder and Siberian Elk (Cervus elaphus sibiricus) for its antlers, tails and genitals. The value of one kilo of elk antler on the local Soum market is approximately 7,000 MNT with each antler weighing around 5 kg (35,000 MNT) - the equivalent of a month's salary for many in the countryside. Ulaanbaatar prices are closer to 9 of 10 thousand MNT per kilo. One elk tail is worth approximately 60,000 MNT. Musk deer (Moschus moschiferus) are poached for the pods of the males used to produce perfume. Some species are killed for traditional uses. The Dalmatian Pelican (Pelecanus crispus), for example, is hunted for its beak which is used as a “sweat blade” to wipe down the flanks of horses after a run. Once numbering in the thousands, pelicans have been reduced to a few breeding pairs. From 1993 - 1997, the General Customs Office seized over 4 tons of elk antlers, 1.76 tons of blood antlers, 634 elk penises and 420 roe deer tails. More than likely, this is only a fraction of the actual impact.

Due to inadequate regulation by law, notably gaps in enforcement provisions in it, the illegal hunting is becoming most challenging area in Mongolia.

Wetlands

Mongolia joined the Ramsar Wetlands Convention in 1998 and has six sites of international importance designated which cover 630,580 ha. In total Mongolia's wetlands, including marshlands, occupy 1.5 million ha, varying from the cold, deep and very low nutrient. Lake Khovsgol to the numerous shallow and
temporary salt lakes. There are 3,500 freshwater and saline lakes, 3,811 rivers and streams with a total length of 50,000 km (many with expansive flood plains) and 187 glaciers (Water and Sanitation Report UNDP, 2004).

Mongolia's wetlands have been subject to only low levels of exploitation and thus remain relatively undisturbed. Low population density, especially around the lakes in the semiarid region, and the fact that fish and waterfowl are not traditional food sources, are two main reasons. A history of wildfowl protection dating back to the 13th Century and Buddhist influence from the 16th Century, have reinforced this protection of the wetlands.

However, economic changes are creating new impacts on wetlands. Fishing is increasing to satisfy demand from China. Mining along the Tuul River is raising its concentrations of heavy metals (mainly mercury) and increasing its sediment loads twenty-fold. In some areas, notably Zaamar, the floodplains are literally being turned upside down to find gold. Even the remote and large Lake Khovsgol suffers the occasional abuses of fuel trucks falling through the ice at the start and end of winter when they take a short cut across the ice, spilling their contents into the lake even if the practice has been outlawed, (see WWF).
CHAPTER IV
POLICY AND LEGAL FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT

Since the start of the recent political and economic transition period the government of Mongolia has subscribed to the international global environmental agenda which has brought in a host of bilateral and multilateral donor agencies assisting Mongolia to develop its own framework of policy and legislation. A National Environmental Action Plan was elaborated in 1996 and updated in 2000. A State Ecological Policy was produced in 1997, National Plan of Action to Combat Desertification (NPACD), Biodiversity Conservation Action Plan, National Plan of Action for Protected Areas all developed by the Ministry of Nature and Environment (MNE). Likewise, the Mongolian Action Programme for the 21st Century (MAP-21) included elements of district planning under the aegis of a National Council for Sustainable Development.

The primary development philosophy reference is the Good Governance for Human Security Programme (2001). The most recent and important national policy reference is now the Economic Growth and Poverty Reduction Strategy (EGPRS) 2003. Both documents have strong emphasis on environmental sustainability concerns. The UNDP is monitoring achievement towards the Millennium Goals in its Human Development Reports. The most recent undertaking is a proposal in application for the US funded Millennium Challenge Account 2005. Significant sums of money could be forthcoming through this source of funding. The fundamental criterion for eligibility is an open democracy —Mongolia has this if not 'good governance'.

Taken together it can be seen that Mongolia has no shortage of plans, along with an array of diagnostic and pilot studies, almost all donor-funded. Progress on implementation is constrained as indicated but there would be a significant opportunity to translate the above "action" plans into a reality. Although much of the budgeted bid tender is not in the environmental management sector it will be of critical interest to see whether the government, if successful, is ready to free up resources and better fund environmental management monitoring and control activities from its own funds.

The recent UNDP Study on Ecological Vulnerabilities and Human Security in Mongolia (July 2004) lists government elucidated concerns on ecological security as covering the following areas for policy and management intervention.

• Conservation by using ecologically safe technology and standards. Prevention of devastation of environment due to poverty. Elimination of air, water and soil pollution in urban areas. Making stricter the norms of labour and environmental protection.
• Implementing measures to fight desertification, drought and severe winter, and to reduce their consequences.

• Concluding bilateral and multilateral agreements to prevent, compensate for and eradicate trans-boundary transfer of radiation, chemical contaminants, acid rain.
• Restoring and disseminating knowledge about traditional nature conservation practices.
• Setting aside 30% of Mongolia's territory as unique areas to be protected.

The Mongolian Action Programme for the 21st century MAP-21 initiative included many important natural resource management initiatives but has been seen to be repetitious and lacking in prioritization. The next major policy plan was in the Good Governance Program (2001). The major current reference is the Economic Growth Support and Poverty Reduction Strategy (EGSPRS) 2003, which identified initiatives to assist risk management.

Economic Growth and Poverty Reduction Strategy, 2003

Identified Environmental Management Needs

• Implementing land reform
• Planning, financing and management of rural environmental protection actions
• Rehabilitating land and wetlands destroyed by over-exploitation
• Implementing existing land and natural resources laws and regulations
• Guiding land utilization by use of differential fees related to land productivity, water availability, fertility and location
• Adopting measures to leave pasture fallow to enable recovery
• Strengthening regional international capacity to cope with disasters
• Improving forest management
• Planting trees in green belts and urban areas and establishing forest parks
• Increasing local participation in prevention/response to forest and steppe fires
• Increasing participation in prevention of and response to natural disasters
• Improving implementation of EIA law, and monitoring mitigation actions
• Improving capacities for environmental management

See in the Annex II about Mongolian government policies for poverty eradication in details.

The economic and social policy of the government is focussed on the strategic goal of poverty reduction by means of macroeconomic stability and private-sector led growth. Mongolia has successfully formulated environmental policies and regulations, but they are weak when it comes to enforcement due to following reasons;

1. There is no regulatory body engaged in enforcement of environmentally related policies and regulations. Ministry of Nature and Environment is responsible for promoting compliance with laws and regulations, however, is still not yet capable to monitor and supervise to enforce compliance.
2. Lack of human resource, institutional capacity for the law enforcement
3. Individual environmental related laws are not consistent with one another
4. Lower public awareness on environmental issues. Established laws are published for public but they are not diffused widely. Government is not enthusiastic about its publicity.

4.1.1 MDGs in Mongolia

Government Leaders of 189 countries of the world gathered together at the UN high-level Summit 2000 to discuss the challenging issues the world has been encountered and propose the package of joint activities to address it up to 2015 and the President of Mongolia had pleasure to participate in it to express sincere support. These issues then were adopted in the historical document called Millennium Declaration at the 8th Session of UN General Assembly in 2000.

The Government of Mongolia has produced its 1st Report on MDG progress assessment consistent to the Millennium Declaration concept in 2004. The Parliament of Mongolia, supporting Millennium Declaration and UN proposed goals to reduce poverty in the new Millennium, has adopted the 9 goals and 22 targets on Mongolia-MDGs up to 2015 by its Resolution 25 in 2005, which included one more, the 9th goal, Fostering Human Rights and Strengthening Democratic Governance which was recognized widely as the specific to Mongolia.

See in Annex III. MDGs assessment in Mongolia and its goals.

4.1.2. Sustainable development policy

In order to conform to the new Constitution, amended in 1992, and adhere to the world tendency towards a sustainable future, Mongolia formulated a new development strategy, which was approved by the State Ikh Khural (the Parliament) in 1996. This development strategy, integrating socio-economic and environmental objectives, provided the basis for formulating national sustainable development strategy and action plans. The government of Mongolia, endeavoring to fulfill its obligations under UNCED, established the National
Council for Sustainable Development (NCSD) in 1996 as a coordinating mechanism to develop the Mongolian Action Programme for the 21st century (MAP-21) and local sustainable development programmes. The MAP-21 and national sustainable development strategy were developed with the assistance of the United Nations Development Programme (UNDP), ensuring the participation of government and non-government organizations, and the civil society. The MAP-21 and national sustainable development strategy annexed to the programme were adopted by the Government Resolution No.82 in 1998. The national sustainable development strategy identified the following as the basis for sustainable development of Mongolia in the 21st century: a democratic political system that respects and values human rights and freedom;

- a policy to ensure equity and justice;
- a legal and institutional framework for environmental protection and
- promotion of economic development within the carrying capacity of natural ecosystems;
- a more environmentally sustainable economic system, based on knowledge and national capacity, as well as taking into account international partnership;
- a sound education, cultural and scientific framework to promote knowledge based development; and
- the national will towards achieving the sustainable development objectives.

The overall aims of the strategy include:

- combating poverty in the next 10-15 years, bearing in mind that poverty poses a threat to national sovereignty;
- reversing environmental degradation, in particular water resources depletion,
- deforestation and desertification, and increasing the adaptation to climate change;
- providing economic, social welfare, educational, cultural, and information basis for human development and better life quality; and
- increasing its role in international development and strengthening international cooperation, in particular in tackling global environmental degradation, coping with natural disasters.

The national sustainable development strategy sets out 45 objectives in three main areas:

- human development and life quality (17 objectives);
- environmental sustainability (13 objectives); and
- economic development (15 objectives).

It also defines a set of measures (14 objectives) as a means of implementation of the national sustainable development strategy.

The national sustainable development strategy of Mongolia is envisioned as the core for government policies and programmes. Since 1996, the NCSD has been acting as the main platform for coordinating policies, programmes and actions pertaining to the implementation of the national sustainable development strategy and for bringing together all relevant stakeholders. It is also emphasized that the determination and efforts of government and non-government organizations, academic institutions and business and civil society will be the driving forces for the implementation of the national sustainable development strategy. Within the framework of the MAP-21, local governments have developed their sustainable development programmes and action plans, and have established coordinating mechanisms for addressing sustainable development issues. During the past decade, considerable progress has been achieved in the formulation of sustainable development policy in Mongolia. However, there is a need to further elaborate the national sustainable development strategy, taking into account integrated implementation of the MDGs and sustainable development objectives.

See in Annex IV, NSDS assessments in Mongolia.

National Council for Sustainable Development

In 1996, the government of Mongolia established the National Council for Sustainable Development as a coordinating body for the formulation and implementation of sustainable development strategy and programmes and the main platform for bringing together all relevant stakeholders. The NCSD is chaired by the Prime Minister and includes members representing ministries, government agencies, as well as representatives from non-governmental organizations (NGO) and the business and civil society. Since its
establishment, the NCSD has carried out several measures supporting the implementation of the national sustainable development strategy such as setting up an institutional framework for the coordination and implementation of sustainable development policy at the national and local levels, developing a set of indicators to monitor the achievement of sustainable development objectives, implementing pilot projects at the local level, and strengthening Mongolia’s role in global and regional sustainable development efforts. In particular, the NCSD has implemented more than 20 projects and programmes in areas such as poverty reduction, social welfare provision, promotion of national production and manufacturing, and environmental protection. Projects for combating desertification, promotion of small and medium enterprises, improving livelihoods for the poor, and setting up sustainable development local funds have generated concrete outcomes as they have integrated measures for environmental protection, clean production, and sustainable livelihoods with other income generation and business activities. Furthermore, various programmes for sustainable development education, including sustainable development curriculum development and the publication of textbooks and training materials, have been successfully implemented. After the adoption of MAP-21 and the national sustainable development strategy in 1998, sustainable development programmes of provinces (aimag) and districts have been developed and adopted. These programmes have been integrated to some extent in development policies, as well as in Governor’s Action Plans. Local coordinating mechanisms for sustainable development have been established at the Governor’s Offices in most provinces. Since 2004, activities of the NCSD have been reduced due to the lack of financial resources. The operation of some local coordinating bodies for sustainable development has also been interrupted or stopped. Consequently, the implementation of the sustainable development strategy and programmes has been impaired to some extent. The first assessment of the implementation of sustainable development strategy was carried out in 2002. The results of the assessment indicated that about 80 percent of the objectives of the national sustainable development strategy were integrated in national and local policies, whereas 67 percent of the objectives were at various stages of the implementation.

Mainstreaming the Sustainable Development Strategy into decision-making

The assessment carried out by this project aimed at evaluating the integration of the sustainable development strategy objectives into the Government Action Plan; local development strategies, policies and programmes, and their implementation at the national, sectoral and local levels. The new Government of Mongolia, formed as a result of the 4th parliamentary elections held in June 2004, has defined its Action Plan for 2004-2008, which was adopted by the Parliament on 5 November 2004. The main objectives of the Government Action Plan incorporate the principles of sustainable development, in particular:

- providing a legal framework for ensuring human rights and creating safe living environment; and carrying out a human development policy aimed at educating citizens who respect education, culture and their traditional heritage and who are highly conscious about environmental protection, values of democracy and their own rights.

A survey on public awareness on sustainable development has been conducted involving civil servants as well as representatives of NGOs. A questionnaire, containing 19 questions relating to, inter alia, the definition and principles of sustainable development, national sustainable development strategy, issues of human development, economic sustainability, protection and sustainable use of natural resources and environmental education, and measures for achieving sustainable development objectives, have been distributed to 300 civil servants employed at ministries, government agencies and local governments. Interviews have also been conducted with senior government officials like directors of departments and senior officers.

A strategic assessment of the national sustainable development strategy was carried out by the research team of the project. The outcomes of the study are drawn on the results of qualitative analysis of development strategies, policies and action plans at the national, sectoral and local levels, as well as findings from the questionnaires and interviews with civil servants. Some progress have been achieved in implementing sustainable development. In particular, considerable efforts have been taken and brought about successful results in the following areas of sustainable development.
The national sustainable development strategy is mainstreamed in the decision-making at both national and local levels. The Government Action Plan for 2004-2008 incorporates 61.0 percent of the objectives defined in the national sustainable development strategy, whereas local development strategy papers and Governor’s Action Plans of provinces incorporate on average about 71.0 percent of the national sustainable development objectives. The Government of Mongolia has identified MDGs as its main objective. Furthermore, the Mongolian Government has identified 11 priority issues, including the integration of environmental objectives into economic development policies with the aim of achieving sustainable development and ensuring environmental sustainability. Several government programmes and projects such as Good Governance programme, Economic Growth and Poverty Reduction Strategy Paper and Regional Development programme also include sustainable development objectives. Hence, sustainable development objectives provide the basis of the development strategy of Mongolia.

The concentration of foreign investment and aid with a purpose of promoting economic reform and infrastructure development to ensure the sustainability of economic development has brought about significant results. In particular, there have been considerable achievements with regard to strengthening national capacity, promoting national manufacturing industries, enhancing international cooperation, and developing legal framework and necessary environment for better use of market mechanisms. These measures create opportunities for rapid economic growth and development progress in the near future.

Policies at international and national levels have been conducted on building democracy, reducing poverty and increasing living standards, and have generated some progress.

There has been notable progress in achieving economic sustainability. Accomplishments have been noted regarding consolidating free market mechanisms for banking, finance and trade, increasing the contribution of entrepreneurs and private sector, maintaining the economic growth at the current rate, and expanding foreign trade.

A reform of the legal framework for protection and sustainable use of natural resources has being carried out and importance is given to strengthening the enforcement of environmental laws and regulations. Efforts taken in this regard include a reform of environmental policy, enhancing institutional capacity, promoting public participation, and environmental awareness and education.

The implementation of the national sustainable development strategy, however, faces challenges. Obstacles in achieving sustainable development objectives include:

- Several factors such as problems associated with the transition to a free market economy, low infrastructure development, ineffective structure of the traditional economic system and harsh climatic conditions slow down the economic growth, thus slowing the progress in economic sustainability.
- Programmes relating to social and human development and environmental sustainability are not adequately financed/funded. There is a need to allocate special funds for programmes on poverty reduction, reducing unemployment rate, ensuring sustainable livelihoods, and environmental protection.
- There are noticeable effects of climate change on the economy. There is an increasing trend of natural disaster occurrence with significant damages and losses caused by frequent natural disasters. Annually, a considerable amount of resources is used for preventing, reducing and mitigating effects of natural disasters and damages caused by them. Unpredictable agricultural production due to climatic conditions and natural disasters exacerbates socio-economic issues, particularly in rural areas.
- Market mechanisms, regulation and practices are not fully utilized for improving the economic efficiency in many sectors.
• Limited public awareness and legal knowledge affect adaptation to changes resulted by economic reform and transition to a free market economy seem to be scarce, lacking efforts in this regard.
• The role and responsibilities of newly-formed private sector in sustaining economic growth of the country is not clearly defined.
• There are still lacking significant efforts in continuing the economic reform, promoting decentralization, encouraging regional and local development, and developing free trade zones/agreements. The centralization of authority and resource management impedes the local development as local authorities have a limited power in consolidating and allocating of financial resources/. Hence, local authorities have insufficient capacity of carrying out a local development policy. Small and inefficient administrative units and inadequate local economic capabilities to promote private entrepreneurship also represent further obstacles to the local development.
• Although numerous projects on various areas of sustainable development are being implemented, there is a lack of coordination among the programmes and projects. Moreover, in general these programmes have limited scope of activities, with most of them being pilot-scale and research projects. Measures for promoting traditional knowledge and practices of environmental protection and sustainable use of natural resources are still lacking.
• A number of sustainable development officers have been trained and positions of sustainable development officers have been set up at both national and local level. However, most of these positions were abolished during the restructuring of administrative positions.

### 4.1.3. Other Enabling Activities

First of all it must be stated that, so far a Master Plan for Environmental Sector hasn’t yet developed in Mongolia. Therefore the NCSA process is playing vital role for developing Master Plan in Environmental Sector. All in all, there are a total of 32 laws relating to environmental management in Mongolia and some 150 associated regulatory documents (in excess of 40 in the case of forests, 20 for water etc.). Dealing with this issue, there are about 30 programmes and plans have been formulated in Mongolia and some of them already finished and some of them are developed recently, such as National Implementation Plan on POPs. According to making analysis on these programmes several kind of points had been arisen out;

1. All these programmes and plans have good point and good goals in the respective fields.
2. But harmonization between each other and with related sector policies and strategy is neglected
3. Financial mechanism, which is main condition for good implementation of these programmes, is placed on state budget allocations and contribution from donor organizations, business entities and citizens. But this regulation is not possible to enforced and too unclear. Otherwise most of the programes are as a “sleeping beauty”.
4. Management and institution structure for these programmes is also unclear and incoherent. Who will manage? Who will monitor? and by what capacity? are always have question mark.

See in Annex V, Other enabling activities in environmental sector.

In addition there are to many important sectoral policies and plans such as; National Development Concept, Road Master Plan, Power Sector Master Plan, Tourism Master Plan, and Renewable Energy Master Plan.
4.2. LEGAL SYSTEM FOR ENVIRONMENTAL ISSUE

4.21. Legislative

State Great Khural /Parliament/

As mentioned before the State Great Hural is supreme legislative body with 76 members elected on the basis of universal suffrage and serve a term of four years. The State Great Khural holds two sessions per year, one in the spring and one in the fall which are required to last at least 75 days, but generally stretch for as long as 140 days. The State Great Khural general responsibilities include passing laws, defining domestic, foreign and financial policy, setting economic and social development guidelines, and supervising the implementation of its laws and decisions. The State Great Khural is divided into seven Standing Committees each responsible for a specific subject matter. One of the Standing Committee for environmental issues is Standing Committee on Environment and Agriculture, responsible for precise issues like as:
- natural resources of land and soil, forest, water, animal and plants
- state protected rea and pasture and agricultural land
- environmental monitoring on geology and mining exploration
- air pollution, toxic substances in the environment
- waste and its recycling and reusing issue
- environment policy
- environment research and development
- hunting

Parliamentary Act

A Parliamentary Act is legislation enacted solely by the State Great Hural pursuant to its constitutional authority, by prescribed means and in certain form such that it becomes the law governing conduct within its scope.

Since 1990, the State Great Hural has issued 32 acts related to the environment.

<table>
<thead>
<tr>
<th>No</th>
<th>Name of the Law</th>
<th>Year adopted</th>
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<tbody>
<tr>
<td>1</td>
<td>Law on Environmental Protection</td>
<td>1995 revised in 2006</td>
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<tr>
<td>2</td>
<td>Law on Land</td>
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<td>3</td>
<td>Law on Land Cadaster and Mapping</td>
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<td>Law on Land Possession</td>
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<td>6</td>
<td>Law on implementation of regulations related to Land Possession Law</td>
<td>June, 2002</td>
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<td>7</td>
<td>Law on Geodezy and Cartography</td>
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<td>Law on Special Protected Areas</td>
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<td>10</td>
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<td>11</td>
<td>Law on Water and Mineral Water Resource Fee</td>
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<td>Law on Prevention of Steppe and Forest Fires</td>
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<td>15</td>
<td>Law on Reinvestment of Natural Resource Use Fees for Conservation</td>
<td>Jan., 2000</td>
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<td>16</td>
<td>Law on Natural Plants</td>
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<td>17</td>
<td>Law on Natural Plant Use Fees</td>
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<td>18</td>
<td>Law on Protection of Plants</td>
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<td>Law on Fauna</td>
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<td>21</td>
<td>Law on regulation of export and import of endangered species of flora and fauna</td>
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<td>22</td>
<td>Law on Hunting Reserve Use Payments and on Hunting and Trapping Authorization Fees</td>
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<td>23</td>
<td>Law on Underground Resources</td>
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<td>24</td>
<td>Law on Minerals</td>
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<td>31</td>
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<tr>
<td>32</td>
<td>Law on prohibiting export and transportation of Hazardous Waste</td>
<td>Nov.,2000</td>
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**Parliamentary Resolutions**

Parliamentary Resolutions are governed by Law on Parliament. This provision specifically grants the Parliament the authority to issue "other decisions" which will have the title of "resolution". Parliamentary Resolutions may regulate the following issues:

- Organizational issues;
- One time orders;
- Implementation matters for the Cabinet Ministry and other organizations.

Parliamentary Resolutions are often concerned with specific topics for the implementation of a broad range of activities by the Cabinet Ministry. A Parliamentary Resolution usually does not refer directly to the ministries under the Cabinet Ministry.

**Citizen Representative Khurals**

As promulgation in Constitution Mongolia has government structure “…Governance of administrative and territorial units of Mongolia shall be organized on the basis of combination of the principles of both self-government and central government.” The local governments are divided into Aimag and, Soum, and Bag. The Capital of Ulaanbaatar is similarly divided where the capital itself is the equivalent of an Aimag, subdivided into Duureg /District/ and Khoroo. The central government maintains the authority to administer national needs and affairs. The local governments are accorded a certain amount of authority to control local affairs. The Constitution defines local governments as "administrative, territorial, and socio-economic complexes with their functions and administrations provided for by law." It further states that the "self-governing body" of Aimag, Capital City, Soum and Duureg /District/ shall consist of Citizen Representative Hurals /like as local Parliament/, at Bag and Khoroo levels, this body shall comprise Citizen’s Public Hural="/like as local Parliament/"

One of the major functions of these Khurals is to discuss and make decisions on the affairs of governance within their territory including economic and social development, finances, nomination of and recommendations for the removal of the same level Governor, inspection of the Governor's work, etc. The decisions that they make are in the form of resolutions as authorized by the Constitution. It is the responsibility of the Governor to implement these decisions. In this sense, the local Khurals act as a
legislative authority for the local area. They are restricted by the tenets of the Constitution and other national level legislation.

Citizen Representative Khural Resolutions

Many of Mongolia's environmental laws delegate responsibilities to local *Hurals* for the promulgation of specific measures related to conservation requirements. For example, the newly enacted Law on Fauna requires *Soum* and *Duureg Khurals* to "[a]pprove measures and budget for the protection of Very Rare and Rare fauna within their territory". The Law on Environmental Protection delegates a longer list of authority to *Aimag* and Capital City *Khurals* including the right to enact certain measures for environmental protection, to fix maximum limits for the use of natural resources, to take land within their territory under local protection, to establish boundaries for special zones to meet sanitary requirements, etc. Altogether, more than 109 provisions in the laws reviewed by the authors delegate rights and responsibilities to the *Aimag, Soum,* and *Bag Khurals,* many of which explicitly provide for the promulgation of local regulations.

The President

The President is the head of state. He/she must be an indigenous citizen at least 45 years of age who has resided in Mongolia for a minimum of five years prior to being elected. The President is elected for a term of four years and may be re-elected only one time. Among other rights granted by the Constitution, the President has the power to issue Presidential Decrees.

Presidential Decrees

The president is specifically authorized to issue decrees in accordance with the Constitution and Mongolian law. Presidential decrees and ordinances must conform with the rights granted by the Law on Presidents. These rights were originally listed in the Constitution and again in the Law on Presidents. The law on Presidents is more detailed and divides the rights into four categories including regulation of government structure and state administration, national security and defense, foreign relations, and additional areas of competency. Generally speaking, Presidential Decrees are minor pieces of legislation which do not significantly affect the regulation of any particular subject.

However, every now and then they do touch on environmental topics. For example:

- Presidential Decree #84 issued on the International Day of the Environment in 1991 appeals to all citizens to protect the environment.

The Constitutional Council or Tsets /like as court for Constitution/

At the pinnacle of Mongolia's legal system is the Constitutional Council or Tsets. Consisting of nine members, the Council is responsible for issuing conclusions regarding the application of constitutional law in the country. No other court has this authority. After a conclusion has been rendered, the *Ikh Khural* must decide by a simple majority whether to accept the Tsets decision. If the *Ikh Khural* rejects the Council's decision, the case will be heard by the Tsets meeting en bane. To overrule the *Ikh Khural* decision, the Tsets must affirm its original decision by a 2/3 majority.

The Supreme Court into the legislative process

The Supreme Court of Mongolia can issue two types of decisions - judicial decisions applicable to a specific case and official interpretations of law (excluding the constitution). Both types of decisions are important for environmental law, however, only the interpretations have a general application and are, therefore, an integral part of the body of law in practice. Legal theory in Mongolia does not consider Supreme Court Interpretations to be a part of Mongolia's 'legislation' - or more accurately 'subordinate legislation' - because they do not establish norms, but rather only explain the law. On a theoretical level, this may be true. However, the
Supreme Court's explanations have practical implications for all citizens and unless changed or ruled by the *Ikh Khural* are to be considered a part of the law. For this reason, we include them here.

**Judicial Decisions**

The court system in Mongolia is based on the continental law system as practiced in Russia and Germany. It is not a common law system and therefore decisions issued by the various courts do not have precedential value. Judicial decisions by the Mongolian Supreme Court, by contrast, are limited to the individual case. Although they are binding upon all courts and other persons for the purposes of that case, they do not enjoy further power to generally affect legislation of a given topic. They, therefore, do not become 'law' in a general sense.

**Official Interpretations**

The legislative authority of the Supreme Court comes with its constitutionally authorized power to issue official interpretations for the correct application of all laws except the Constitution itself. The formal interpretations of the Supreme Court take the form of a resolution and once issued are to be considered a part of the original parliamentary act. At present, there is no specific law which requires the promulgation of explanations according to a standardized system. In practice, the impetus for issuance of interpretations comes from both experience within the court system and results of research conducted by legal professionals. Legal professionals include those who, according to Mongolian definition, 'use' the law - i.e., judges, prosecutors and lawyers. However, nothing prevents other professionals from also providing the Supreme Court with research on specific points of law.

**Basic hierarchy of Law**

<table>
<thead>
<tr>
<th>Mongolian Constitution</th>
<th>Decreasing precedence</th>
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<td>International Treaties</td>
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<td>Cabinet Ministry Resolutions</td>
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<td>Ministry Orders</td>
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<td>Agency Orders</td>
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<td>Aimag/City Representative Hural Resolutions</td>
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<tr>
<td>Aimag/City Governor’s Ordinances</td>
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<tr>
<td>Soum/District (Duureg) Representative Hural Resolutions</td>
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<tr>
<td>Soum/District (Duureg) Governor’s Ordinances</td>
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<tr>
<td>Bag/Khoroo Public Representative Hural Resolutions</td>
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<tr>
<td>Bag/Khoroo Governor’s Ordinances</td>
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</table>
4.2.2. Executive

The Executive is that branch of government responsible for the implementation of the laws and legal acts described in the previous section. The Cabinet Ministry is the highest executive authority in Mongolia. To understand the practice of environmental law requires understanding the structure of the executive, institutional responsibilities and territorial divisions within and among the implementing authorities.

The Cabinet Ministry

The Cabinet Ministry is the highest executive authority and consists of the Prime Minister and several Ministries. With the elections in July 2004, the ministries have been reorganized and now include:

1. Ministry of Finance
2. Ministry of Foreign Affairs,
3. Ministry of Justice and Internal Affairs
4. Ministry of Nature and Environment
5. Ministry of Fuel and Energy
6. Ministry of Industry and Trade
7. Ministry of Health,
8. Ministry of Urban development and construction
9. Ministry of Food and Agriculture,
10. Ministry of Defense,
11. Ministry of Science and Education.

But State Inspection Agency and Emergency Agency are included into structure of Cabinet Ministry.

Cabinet Ministry Resolutions

Cabinet Ministry Resolutions have many forms and functions. In their simplest form they are a formality used to adopt decisions by a higher level of government. For example, the Cabinet Ministry may issue a resolution formerly adopting a piece of legislation which has already been voted on by the parliament. Resolutions can, however, also rise to the level of regulation. For example, the same Cabinet Ministry may also issue a resolution which limits the import and export of an endangered species. In this sense, Cabinet Ministry Resolutions can be a primary method for the enactment of all forms of implementing legislation.

The Cabinet Ministry has several responsibilities some of which are counterparts to those held by the Parliament. The primary responsibilities are listed below.

Very Rare and Rare Species

- Registering Very Rare and Rare flora and fauna in the Mongolian Redbook - registering is not simply rubber stamping the list approved by Parliament and some discrepancies exist between the two. The Redbook, however, is only a reference book which describes species considered to be Very Rare, their habitat and the threats they face. It has no legal status.
- Regulating the use of Rare species of flora and fauna
- Prohibiting the taking of Very Rare species of flora and fauna

Protected Areas

- Setting protected area boundaries
• Creating an economic and organizational system for and within Strictly Protected Areas, National Conservation Parks, Nature Reserves, and Monuments

National Policy Development
• Developing, financing, and coordinating the implementation of the national programs
• Encouraging the introduction of environmentally sound technologies
• Establishing a general system for 'ecological security' and 'natural balance'

Natural Resource Management
• Studying natural resources
• Conducting assessments of the quantity of natural resources
• Restricting by law the use, import, and export of natural resources
• Establishing effluent limits and standards for adverse affects specific rights
• Coordinating and regulating activities of governmental and non-governmental organizations
• Organizing ecological education and training
• Prohibiting economic and other activities of citizens and economic entities that adversely affect the environment

The Line Ministries and Agencies
All Ministries (referred to in legislation as "State Administrative Central Organizations") and Agencies have the power to issue legal acts pursuant to specific delegations of authority from the Ikh Khural and the Cabinet Ministry. For example, the Law on Environmental Protection specifically states that the Ministry of Nature and Environment shall "approve decisions, rules and procedures" to be followed by other governmental organizations. The environmental laws often delegate this authority to the Ministry of Nature and Environment, although other ministries are indicated, including the Ministry of Trade and Industry, the Ministry of Justice and Internal Affairs, the Ministry of Infrastructure, and Civil Defense.

The standard form for a legal act issued by a Ministry or an Agency is called an "Order". The actual order is generally a mandate to or approval of the promulgation of any number of legislative forms, including rules, regulations, instructions, operating procedures, and guidelines. Rules typically refer to internal regulations and operating procedures. Instructions or Guidelines are effectively the same thing and are used to implement the actual environmental laws which the MNE has the delegated authority to act upon.

Ministerial Orders from the Ministry of Nature of Environment
According to the Law on Government Ministries have right issue Orders in respective area and if necessary joint Orders shall be issued.
Local Governors
As declared by the Constitution, legal acts may be issued by the Governors of the Aimags, Capital City, Soums, Duuregs, Bags and Khorooos. These legal acts are to be called “Ordinances” and must conform with the law of the nation. Similar to the rights and responsibilities of local Hurals, Governors receive instructions from the national government as to what areas they must act upon through the various forms of national legislation.

Governor’s Ordinances
In the context of environmental laws, governors are most often called upon to implement various provisions, In some cases, they are asked to provide additional regulation.

The Ministry of Nature and Environment plays a central role in the protection of Mongolia's resources. However, a number of other ministries also have significant positions relevant to the environment like as Ministry of Fuel and Energy, Ministry of Food and Agriculture, Ministry of Trade and Industry. Within each of these Ministries is an agency or department directly responsible for either the use or protection of natural resources. The basic structure of the executive branch relevant to the environment can be illustrated in a simple diagram (Table 14). Those ministries responsible for environmental issues are set out in bold in the diagram and respective agencies.
<table>
<thead>
<tr>
<th><strong>PRIME MINISTER of MONGOLIA</strong></th>
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<tbody>
<tr>
<td>› Open Government</td>
</tr>
<tr>
<td>› Central Intelligence Agency</td>
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<tr>
<td>› State Property Committee</td>
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<td>› Information Communication Technology Agency</td>
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<thead>
<tr>
<th><strong>Deputy Premier of Mongolia</strong></th>
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<tr>
<td>› Center of Standardization and Measurement</td>
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<tr>
<td>› Unfair Competition Regulatory Authority</td>
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<tr>
<td>› Intellectual Property Office</td>
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<tr>
<td>› National Authority for Children</td>
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<tr>
<th><strong>Cabinet Secretariat of Government of Mongolia</strong></th>
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<tr>
<td>› Management Academy</td>
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<tr>
<td>› State and Governmental Service Agency</td>
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<tr>
<th><strong>Ministry of Finance</strong></th>
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<tbody>
<tr>
<td>› Mongolian Tax Administration</td>
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<tr>
<td>› General Customs Office</td>
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<tr>
<th><strong>Ministry of Justice and Internal Affairs</strong></th>
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<tbody>
<tr>
<td>› General Police Department</td>
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<tr>
<td>› General Authority for Border Protection</td>
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<tr>
<td>› State Center for Civil Registration and Information</td>
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<tr>
<td>› General Authority for Implementing Court Decisions</td>
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<td>› National Archives</td>
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<th><strong>Ministry of Foreign Affairs</strong></th>
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<tr>
<td>› Department of Service for Diplomatic Corps of Ministry of Foreign Affairs</td>
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<tr>
<th><strong>Ministry of Environment</strong></th>
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<tbody>
<tr>
<td>› National Agency of Meteorology, Hydrology and Environment Monitoring</td>
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<td>› Water Authority</td>
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<tr>
<th><strong>Ministry of Construction and Urban Development</strong></th>
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<tbody>
<tr>
<td>› Administration of Land Affairs, Geodesy and Cartography</td>
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<td>› National Center-Construction, Urban Development and Public Utilities</td>
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<tr>
<th><strong>Ministry of Defence</strong></th>
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<tr>
<td>› General Staff of the Mongolian Armed Forces</td>
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<th><strong>Ministry of Education, Culture and Science</strong></th>
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<th><strong>Ministry of Roads, Transportation and Tourism</strong></th>
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<td>› Civil Aviation Authority</td>
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<td>› Railway Authority</td>
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<th><strong>Ministry of Social Welfare and Labour</strong></th>
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<tr>
<td>› General Authority for Social Insurance</td>
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<td>› Labour and Welfare Service Agency</td>
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<tr>
<th><strong>Ministry of Fuel and Energy</strong></th>
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<tr>
<th><strong>Ministry of Industry and Commerce</strong></th>
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<tr>
<td>› Foreign Investment Agency</td>
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<tr>
<td>› Minerals and Oil Authority</td>
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<tr>
<th><strong>Ministry of Food and Agriculture</strong></th>
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<th><strong>Ministry of Health</strong></th>
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<tbody>
<tr>
<td>› Mongolian State Committee of Physical Culture and Sports</td>
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<th><strong>Minister of Mongolia</strong></th>
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<td>› State Professional Inspection Agency</td>
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<th><strong>Minister of Mongolia</strong></th>
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<td>› National Emergency Management Agency</td>
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At least three other agencies and two additional ministries indirectly impact environmental protection given the potential affects on the environment of the types of activities within their control. These include:

State Customs Agency - within the Ministry, of Economics. Obligated to control the trade in endangered species across Mongolia's international borders and responsible for providing initial approval for tourism operators who wish to do business in protected areas.

Police Department - within the Ministry of Justice and Internal Affairs. Responsible for issuing hunting rifle licenses and for determining the cause of fire events.

State Border Patrol - within the Ministry of Justice and Internal Affairs. Charged with fighting fires and patrolling border areas, some of which are important for migrating species, such as gazelle (Dornod region) and wild Bactrian camels (Gobi region).

Ministry of Health - in cooperation with the MNE, responsible for the establishing protection regimes for 'Protected' and 'Sanitary' zones as per the Law on Water.

**Ministry of Nature and Environment**

The MNE currently has a staff of approximately 45 persons divided into 4 departments, 4 divisions and three agencies.

**Organizational Chart of the MNE**
The Ministry of Nature and Environment

As we stated previously, the MNE has 92 rights and responsibilities delegated to it by the environmental laws. In general, it is responsible for developing and enforcing the Cabinet Ministry's environmental policy and laws as well as regulating use and restoration of natural resources.

General Environmental Protection Policy Development

- Establish policy for environmental protection, the rational use of natural resources, their rehabilitation, and ecological safety and balance
- Take preventative measures against any negative environmental impacts
- Develop conservation and natural resource restoration programs
- Determine natural standards for the regulation of negative impacts to the environment
- Set limits for the annual use of forest resources and plants, and place restrictions on the use of certain kinds of natural resources

Hazardous Chemicals

- Organize and regulate elimination of effects of natural disasters, commercial accidents, loss of radioactive and hazardous substances or sources
- Cooperate with state authorities to make a list of hazardous substances and sources, and organize the control over use, storage, protection, transport and safe packaging
- Natural Resource Use and Extraction

- Determine and approve, in collaboration with other authorities, general rules for the extraction and rational use of natural resources
- Determine in collaboration with local administration scheduled figures of timber cutting, game permitted for hunting by law and other natural resources possible for the processing industry
- Cooperate with the Ministry of Industry and Trade to examine and select business organizations that intend to serve foreign hunters and grant them licenses (or permission)
- Manage and organize land and forest tenure, census of animals (fauna), and to regulate activities affecting their use and protection

Science and Research

- Be responsible for the Redbook of Mongolia, for territories under special state protection and eco-tourism
- Improve the system of financial estimates and compensation for natural resources
- Organize surveys on natural and climatic conditions, on water, pasture, flora, and fauna resources and changes to them, and pollution of the environment and evaluation of the results of these surveys
- Provide businesses, other organizations, and the population with necessary information about the environment.
- Conduct ecological examinations and draw conclusions on the planning of urban areas, technical and economic substantiation, construction and reconstruction technology of factories and other buildings.
- Be responsible for estimates of and an information databank on soil, mineral and other resources such as forests, water, air, flora and fauna.
• Establish a database for natural resources including land, minerals, forests, water, animals, and plants.

• Coordinate research and development for environmental protection

• Coordinate activities of Certified Organizations

• Provide methodological assistance to local authorities on environmental protection

Police Powers

• Provide for implementation of environmental legislation and stop violations thereof

• Monitor implementation of environmental legislation

• Provide State Inspectors with self defense weapons and equipment

• Organize work to remove of damages incurred due to violations of these regulations.

At local level

Aimag Government Structure

The local government at the Aimag level has between 50-60 people on staff. By Cabinet Ministry Resolution, the Aimag Government is to be composed of 10 separate departments or agencies including police, customs, finance and inspection, tax, education and culture, social security, public health, statistics, military and civil defense and industry and infrastructure, environment. But this structure is not exactly the same from place to place, being dependent on personnel and budget available.

Soum and Bag Government Structure

The structure of Soum government is much smaller and simpler in form and function. It consists governor, vice governor and about 8 staffs in administration including accountant, secretary, officer for Children’s Affairs, officer for Internal affairs, officer of Social Affairs, environmental inspector, land inspector, labor inspector. A bag is smallest political subdivision in Mongolia, has a governor sometimes consisting of no more than a few families. It is therefore difficult to describe it in terms of the formal structures.

Ulaanbaatar City Government Structure

The structure is essentially the same as the Aimag government structure, but includes more departments (or implementing agencies) to handle the increased management needs associated with the Capital City. Aside from an expanded administration department, the various offices include police, tax, social insurance, customs, education, health, common services, financial accounting and inspection, environmental inspection, property youth and sports, culture, statistics, information and research, military and civil defense, land relations and city construction. Ulaanbaatar City government is the only local level government organization which maintains an inspection office dedicated to environmental issues. This job is combined in the office of Expert inspection at the Aimag level. Soum governments have environmental inspectors.
Governor of the Capital City and Mayor of Ulaanbaatar

Council of Governor
Vice Mayor
Governor's office

Mayor's office

1. Mayor's office
2. Property Relations Department
3. Investment Department
4. Police Department
5. Health Department
6. Education & Science Department
7. Art & Culture Department
8. Statistics Department
9. Social Insurance Department
10. Sports' Committee
11. Labor & Social Welfare Department
12. Children's & Youth Department
13. Urban Planning Scientific Research Institute
14. Archives Department
15. Disaster Management Department
16. Professional Supervision Department
17. Taxation Department
18. Court Decisions Enforcement Department
19. Civil Registration & Information Department
20. Land Department
21. Veterinary Department
22. Food & Agriculture Department
23. Information Technology Department
24. Public Transportation Department
25. Environmental Protection Department

1. Division of Public Administration Management
2. Division of City Development Policy Planning
3. Division of Finance, Economy and Treasure
4. Division of Social Development
5. Division of International Relations and Cooperation
6. Division of Legal Affairs
7. Division of Military Affairs
Duureg Government Structure
Similar to the Soum government procedure, the precise form and function of the Duureg governments in Ulaanbaatar are to be prepared by the Ulaanbaatar City governor for approval by the Cabinet Ministry. Previous legislation set out different structures for each Duureg.

Aimag and Capital City Governors
Aimag and Capital City Governors have more than 100 responsibilities pursuant to environmental legislation. A brief summary is included here.

- Organize implementation of environmental laws and Cabinet Ministry decisions.
- Develop and implement measures for environmental protection, proper use and restoration of natural resources within their territory.
- Submit all environmental data to the MNE.
- Control any activities of local business entities. If necessary, temporarily enjoin any activities which have adverse environmental impacts.
- Coordinate activities of local environmental organizations.
- Equip chief inspector with required tools and transportation.

Soum and Duureg Governors
Soum and Duureg Governors are the most heavily burdened by environmental legislation with 171 responsibilities listed. Some of these are repeats of those held by Aimag and Capital City Governors such as the overall implementation of environmental laws and Cabinet Ministry decisions. A summary of their general rights and responsibilities includes:

- Organize implementation of environmental legislation and the decisions of higher level organizations within their territory
- Issue licenses for the use of nature resources pursuant to law
- Monitor the use of natural resources and establish the areas of use
- Control any activities of local business entities. If necessary, temporarily enjoin any activities which have adverse environmental impacts
- Direct the work of rangers
- Designate garbage and waste disposal locations and take measures to mitigate pollution
- Ensure that land possessors and users are using and protecting land and land resources efficiently, rationally and accordance with law and contract

Line of Authority
Apart from the general structure, a direct line of authority runs from the Prime Minister through each executive head down to the lowest political level. The line of authority begins with the appointment process. The Ministers, including the Prime Minister, are nominated by the Ikh Khural (parliament) and subsequently approved by the President. The lower level governors follow a similar pattern whereby the governor of a given level is nominated by the local Citizen's Representative Khural of the same level (Aimag, Soum or Sag level parliament) and approved by the next higher level governor. Each governor, starting at the Bag level, is subject to the authority of the next higher level governor. In essence, the Prime Minister has a direct 'chain of command' all the way to the smallest political head in the country representing often no more than a small collection of herding families.
Impact of Political Divisions on Environmental Law

An important part of the executive is this physical division of authority. Even though the responsibilities listed above give power and responsibility to the MNE to 'implement' environmental legislation, it is in reality the lower level governmental authorities who make up the executing force in the country. All laws, not just environmental laws, delineate rights and responsibilities of local governments (and Citizen Representative Khurals). Local governments are required to set out water protection zones, hunting reserves, plant protection zones, etc. They are the ones who negotiate and sign land use and land possession contracts with private citizens and companies. They are supposed to compile all primary data for natural resource management. In fact, there is just about nothing that local governments cannot or are not required to do.

By contrast, the Ministry of Nature and Environment, like other line ministries, is primarily focused on policy development (all forms of legislation) and implementation oversight. With the exception of protected area management, where ministry employees are in the field implementing all types of activities, ministries are not themselves concerned with the day to day execution of the law. In effect, the responsibility for carrying out directives supplied by laws falls to Aimag, Soum and Bag Governors with assistance from Citizen Representative Khurals and, where indicated, Expert Organizations.

Local governments are, however, severely hampered by a lack of funding, training and personnel necessary to accomplish the goals established by law. The typical budgetary practice involves funding only a percentage (often only 30% or 40%) of the local governments estimated budgetary needs. Bridging the gap between what they receive and what they need is their responsibility. To do this, they must rely on those resources most readily available, including taxes on local businesses, fines and penalties for violation of laws, and the sale of the natural resources within their territory. Some areas are better off than others due to the presence of significant forest, mineral, or wildlife resources. Perhaps none of the local governments, however, are truly capable of covering the difference created by the funding gap.

4.2.3. The Judiciary

The new Constitution proclaimed that “..The judicial system shall consist of the Supreme Court, Aimag and capital city courts, Soum, inter-soum and district courts. Specialized courts such as criminal, civil and administrative courts may be formed. The activities and decisions of the specialized courts shall not but be under the supervision of the Supreme Court”. Neither a private person nor any civil officer be it the President, Prime Minister, members of the State Great Hural or the Government, officials of political parties or other voluntary organizations shall not interfere with the exercise by the judges of their duties.

Today, judges are subject only to the constitution and other legislation and judicial power is vested exclusively in the courts. They are appointed by the President upon recommendation of the General Council of Courts and may only be removed from their position upon grounds provided by the constitution, the law on the Judiciary, or a valid court decision. A General Council of Courts shall function for the purpose of ensuring the independence of the judiciary. General Council of Courts, without interfering in the activities of courts and judges, shall deal exclusively with the selection of judges from among lawyers, protection of their rights and other matters pertaining to the endurance of conditions guaranteeing the independence of the judiciary. In the judicial level, it classified into 3 level; Trial, Appellate jurisdiction and Tribunal.

The Supreme Court is highest judicial organ and shall exercise the following powers:
1) to try at first instance criminal cases and legal disputes under its jurisdiction;
2) to examine decisions of lower-instance /trial/ courts through appeal and supervision;
3) to examine and take decision on matters related to the protection of law and human rights.
and freedoms therein and transferred to it by the Constitutional Court and the Prosecutor
General;
4) to provide official interpretations for correct application of all other laws except the
Constitution;
5) to make judgments on all other matters assigned to it by law.

The decision made by the Supreme Court shall be a final judiciary decision and shall be
binding upon all courts and other persons. If a decision made by the Supreme Court is
incompatible with law, the Supreme Court itself shall have to repeal it. If an interpretation
made by the Supreme Court is incompatible with a law, the latter shall have precedence. The
Supreme Court and other courts shall have no right to apply laws that are unconstitutional or
have not been promulgated.

The Prosecutor shall exercise supervision over the inquiry into and investigation of cases and
the execution of punishment, and participate in the court proceedings on behalf of the State.
The President shall appoint the State Prosecutor General and his/her deputies in consultation
with the State Great Hural for a term of six years.

The Tsets (or Constitutional Council)
For resolution of constitutional questions, Mongolia has opted to establish a special council
titled Constitutional Tsets. The Constitutional Tsets is composed of nine members, three
each selected by the Ikh Khural, the President, and the Supreme Court. They must be at least
40 years of age and experienced in politics and law. The Constitutional Tsets is responsible
for resolving constitutional questions and may offer advisory opinions on legislation pending
before the Ikh Khural. Although members of the council are lawyers in high standing, they
are not defined as judges by law and do not render decisions, but rather "conclusions". This
slight difference in structure is because the council's opinions on a given constitutional
question are not final until reviewed and accepted by the Ikh Khural or, if not accepted,
reaffirmed by the 'Council itself.'

The Constitution guarantees three avenues of recourse for violations of rights established
either by the constitution or other legislation.
First, the Constitution grants the right to submit a petition or complaint to state bodies and
officials. State bodies and officials are obliged to respond to the petitions or complaints of
citizens in conformity with law. Second, the Constitution gives citizens the right to appeal to a
court to protect their "rights" as established by Mongolian law and/or any international
treaties to which Mongolia is a signatory. We believe that the most important word in this
second avenue is "rights". As a general matter of practice, environmental laws and treaties
generally do not establish specific rights of citizens, but focus rather on the responsibilities of
governments and public authorities for protection of the environment. The Constitution
clearly establishes the right of citizens to live in a clean and healthy environment. Other than
this clause, however, it remains unclear and untested by Mongolia's court system what if any
'reights' exist and how they might be applied to a given legal question. Finally, the
Constitutional Tsets must hear cases initiated in response to requests from the Ikh Khural, the
President, the Prime Minister, the Supreme Court or the Prosecutor General. It may also
decide to directly consider petitions from Mongolian citizens. Before allowing judicial
review, the Chairman of the Constitutional Tsets assigns petitions to court members to
determine the existence of a constitutional question. If the petition does not contain a
constitutional issue, it is returned without comment. The petitioner may appeal this initial
decision to a three member panel of the council. If on appeal the members find the case has
merit, the case moves to a five member panel in a public hearing. After a conclusion has been
rendered by the Council regardless of how it has arrived in their court, the Ikh Khural must
decide by a simple majority whether to accept the Tsets decision. If the Ikh Khural rejects the
original decision, the case will be heard by the Tsets meeting en bane. To overrule the Ikh
Khural decision, the Tsets must agree by a 2/3 majority.
The Local Judiciary

The trial courts, or courts of first impression, are the lowest level in the Mongolian court system. Currently they number 36. Larger Soums have their own courts of first instance, otherwise two or more smaller Soums have what is known as an inter-Soum court. Ulaanbaatar has eight district courts with the same first instance jurisdiction. Three judges sit en bane during the proceedings. These courts deal with misdemeanors and less serious crimes and civil cases where the amount in dispute is less than 10 million MNT. Most environmental penalties are set so that these courts have first instance jurisdiction over citizen compliance with environmental law.

For more serious crimes and civil matters where the amount in dispute is greater than 10 million MNT, the court of first impression is the Aimag court in the Aimag center or the Capital City court in Ulaanbaatar. There are 22 courts of appeal - one per Aimag and one in Ulaanbaatar. The judges for these courts are also appointed by the General Council of Courts and sit en bane during proceedings.

Decisions issued by trial court judges are recorded on a standard form with space for a few short sentences to explain the legal basis and actual decision applied. These decisions are part of the confidential file for the accused and may not be accessed by lawyers not involved in the case for purposes of research. Any rulings, arguments or standards applied in previous cases are not considered for subsequent similar legal questions.

Conflict and Hierarchy of Law

Mongolian legal system has a number of mechanisms designed to weed out conflicts before they occur. For example, Cabinet Ministry Resolution drafts must be reviewed for conflicts with laws, regulations and Presidential Decrees and certified by the Chairman of the Administration Department of the Cabinet Ministry before they may be signed by the prime Minister. The Standing Committees of Ikh Hural has also recently established a commission whose sole purpose is to study the inter-relatedness of laws, among other things, determine where there may be hidden conflicts. The MJIA is also required to conduct a review of draft legislation for conflicts.

Despite these preventative efforts, conflicts occur. This is not a sign of weakness inherent in the system of review. It is simply a reality of any legislative framework that conflicts will often times remain hidden until a practical event makes them apparent. This is particularly true during a period of rapid legal development such as the one Mongolia is currently experiencing. In recognition of this unavoidable reality, MJIA is further required to execute an additional review of legislation after adoption (during implementation of the law) to determine if there are any conflicts previously undiscovered and, where necessary, take measures to correct the conflicts by developing comprehensive definitions or even requesting official interpretations from the Supreme Court.

Sometimes, of course, conflicts are not discovered until someone brings them to the attention of the court.

4.3. Multilateral Environmental Agreements

In terms of an overarching framework, Mongolia is a signatory to the Millennium Declaration, and has published its first Millennium Development Goals Report in 2000 and then in 2004 produced an last report. Besides, Mongolia has signed nearly all the important international conventions related to the environment and has been actively involved in all intergovernmental negotiations from 1990s.
Table 15. Conventions ratified

<table>
<thead>
<tr>
<th>Year Signed</th>
<th>Environmental Conventions Ratified by Mongolia</th>
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<tbody>
<tr>
<td>1992</td>
<td>Convention on Biodiversity</td>
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<tr>
<td>1992</td>
<td>Convention on Climate Change</td>
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<tr>
<td>1994</td>
<td>Convention to Combat Drought and Desertification</td>
</tr>
<tr>
<td>1996</td>
<td>Convention on International Trade in Endangered Species of Flora and Fauna</td>
</tr>
<tr>
<td>1996</td>
<td>Vienna Convention on Protection of the Ozone Layer</td>
</tr>
<tr>
<td>1996</td>
<td>Montreal Protocol on Substances that Deplete the Ozone Layer</td>
</tr>
<tr>
<td>1996</td>
<td>Basel Convention on Control of Trans-boundary Movement of Hazardous Wastes and their Disposal</td>
</tr>
<tr>
<td>1999</td>
<td>Convention on Wetlands of International Importance as Waterfowl Habitat</td>
</tr>
<tr>
<td>1999</td>
<td>Convention on Migratory Species of Wild Animals</td>
</tr>
<tr>
<td>2002</td>
<td>Kyoto Protocol</td>
</tr>
<tr>
<td>2003</td>
<td>Cartagena Protocol on Bio-safety</td>
</tr>
<tr>
<td>2003</td>
<td>International Whaling Convention</td>
</tr>
<tr>
<td>2004</td>
<td>Persistent Organic Pollutants</td>
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</table>

**Institutional coordination of the UN Conventions**

The signature of international agreements were undertaken through the Ministry of Foreign Affairs. Implementation of the commitments and obligations outlined within these UN Conventions is then delegated to the relevant ministries and departments with the appropriate national mandates.

The Ministry of Nature and Environment was established in 1996 through the amalgamation of several entities. The Ministry’s duties and responsibilities are highlighted in its official mission statement: “...To ensure sustainable and equitable development through promotion of sound environmental principles, conservation of our national heritage, and efficient communication infrastructure.”

According to the Cabinet Resolution, the Minister of Nature and Environment is heading the National Committee on Climate with the members from all related Ministries, academia and NGO representatives. However, the National Coordination Committee to implement the UN Convention on Biological Diversity and to Combat Desertification are created by the decree of Minister of Nature and Environment only. The internal organisational structure of the National Committees and the infrastructural capacity that exists to inform the obligations and commitments under the CBD, UN FCCC and UNCCD is presented below.

National Committee for implementation of UN Conventions are all headed by the Ministry of Nature and Environment with the representation of officers from Ministry of Food and Agriculture, National Agency of Meteorology, Hydrology and Environmental Monitoring, Water Authority, and academia, institutions and universities. And all day- to- day process involving MEAs is going on International Cooperation Department of MNE, which is actually as division status, has 4 officers and director at all.

The national committees in CBD and UNCCD are not at the same high level as UNFCCC. For example, the national committee on implementation the activities of CBD is headed by the Director General of the Sustainable Development and Strategic Planning Department and UNCCD is headed by the Director General of the Information and Monitoring Department. This mean that the national committee on implementation of CBD, UNCCD can not be truly
inter-agency commission, because the members of the National Committees do not have power in their respective Ministries so the objectives of the Conventions can be integrated into planning processes. Actually, this mechanism is inadequate and it curbs interaction between each other and involvement in decision making. Despite, National Committee on Climate can be a good example of inter-agency commission if it was supported by full time permanent officer/secretariat.

The officers of Multilateral Cooperation Department of Ministry of Foreign Affairs and Ministry of Finance must be included in all National Committees.

The national focal point coordinators are located in the Ministry of Nature and Environment. National responsibilities under the UN FCCC have been delegated to the National Agency for Meteorology and Hydrology and Environmental Monitoring (NAMHEM) under the Ministry of Nature Environment. The Ministry of Nature and Environment should carefully consider the capacities of the institutes to whom it delegated some responsibilities, so the capacities should not be questioned even at international level.

As it is seen from the National Committees on implementation of UN Conventions all duties and responsibilities are lays with one Government Agency, in this case, Ministry of Nature and Environment. However, the duties and responsibilities with regard to implementation of UN Convention assigned to Focal Points are additional work overload on the shoulders of a particular person. Therefore, the focal point basically overpressured and lacks time to be doing extra in addition his/her routine work. The liasoning officer for implementation of UN Conventions is based at the International Cooperation Division of MNE, and again, it is simply too much work for one person to handle all 10 Conventions, to which Mongolia ratified.

The work of the National Committees are not stable and they meet only occasionally on ad-hoc basis. The inter-ministerial coordination truly lacks. The advantage of locating all UN Convention’s Focal Points and GEF Operational Focal Point in one line Ministry has to be fully utilized, at least by assigning an officer with responsibilities to cross-sectorally coordinate the implementation of inter-related UN Convention at national level.

The table below gives a picture on stakeholders who are connected by their activities associated with implementing the conventions in Mongolia.

Table 16. Mandates of government organizations relating to 3 Rio Conventions

<table>
<thead>
<tr>
<th>Organization</th>
<th>CBD</th>
<th>UNFCCC</th>
<th>UNCCD</th>
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<tbody>
<tr>
<td>Ministry of Nature and Environment</td>
<td>Main body in the Government to implement this convention</td>
<td>Main body in the Government to implement this convention</td>
<td>Main body in the Government to implement this convention</td>
</tr>
<tr>
<td>National Agency for Meteorology and Hydrology and Environmental Monitoring</td>
<td>Provision of scientific information related to water, land, etc</td>
<td>Actual implementation related duties have been transferred to this agency</td>
<td>Provision of information related to land degradation, dust and sand storms</td>
</tr>
<tr>
<td>Water Authority</td>
<td>All water related issues are dealt from this agency</td>
<td>Influence of climate change to permafrost, underground and surface water</td>
<td>Water issues are linked with land degradation</td>
</tr>
<tr>
<td>Ministry of Justice</td>
<td>International treaties are prevailing</td>
<td>International treaties are prevailing</td>
<td>International treaties are prevailing</td>
</tr>
<tr>
<td>Ministry of Foreign Affairs</td>
<td>Credentials to participate at COPs, reporting the implementation of convention</td>
<td>National laws, so before ratification to conventions the Ministry should screen</td>
<td>National laws, so before ratification to conventions the Ministry should screen</td>
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<tr>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>Ministry of Finance</td>
<td>National budgets for all line Ministries are revised</td>
<td>National budgets for all line Ministries are revised</td>
<td>National budgets for all line Ministries are revised</td>
</tr>
<tr>
<td>Cabinet Secretariat of Government of Mongolia</td>
<td>Facilitate the inter-linkage between the Ministries</td>
<td>Facilitate the inter-linkage between the Ministries</td>
<td>Facilitate the inter-linkage between the Ministries</td>
</tr>
<tr>
<td>Ministry of Food and Agriculture</td>
<td>Livestock vs wildlife, agro-forestry, food security vs biosafety</td>
<td>GHG emission from arable land, crop</td>
<td>Pasture land degradation</td>
</tr>
<tr>
<td>Ministry of Fuel and Energy</td>
<td>GHG emission, energy efficiency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ministry of Road, Transport and Tourism</td>
<td>Eco-tourism</td>
<td></td>
<td>Degradation of land by vehicles,</td>
</tr>
<tr>
<td>Ministry of Construction and Urban Development</td>
<td></td>
<td></td>
<td>Land degradation, urban and rural planning</td>
</tr>
<tr>
<td>Ministry of Defence</td>
<td>Only in the case of severe steppe and forest fire, that lead to loss of habitat</td>
<td>Only in the case of severe steppe and forest fire, that lead to land degradation</td>
<td></td>
</tr>
<tr>
<td>Ministry of Trade and Industry</td>
<td>Trade of GMOs, import and export of endangered species of flora and fauna</td>
<td>Carbon trade</td>
<td></td>
</tr>
<tr>
<td>Ministry of Education, Culture and Science</td>
<td>Public awareness and environmental education</td>
<td>Public awareness and environmental education</td>
<td>Public awareness and environmental education</td>
</tr>
<tr>
<td>Ministry of Health</td>
<td>Access to safe water</td>
<td>Emissions affecting public health</td>
<td></td>
</tr>
<tr>
<td>State Inspection Agency</td>
<td>Monitoring and evaluation, enforcement of Environmental Impact Assessment</td>
<td>Monitoring, evaluation, enforcement of Environmental Impact Assessment</td>
<td>Monitoring, evaluation, enforcement</td>
</tr>
<tr>
<td>National Emergency Management Agency</td>
<td>Forest and steppe fire, rodents and brands vole of pasture land</td>
<td>GHG emission from fires</td>
<td>Land degradation, dzud and drought</td>
</tr>
<tr>
<td>Institute of Biology</td>
<td>Research and</td>
<td>Research on</td>
<td>Loss of habitat,</td>
</tr>
<tr>
<td>Institute of Botany</td>
<td>Research and scientific information on species of flora</td>
<td>Research on influence of climate change on wildlife</td>
<td>Influence of climate change on grazing land</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------------------------------------</td>
<td>--------------------------------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Geo-Ecology institute</td>
<td>Research on endangered species of flora</td>
<td>Research on influence of climate change on vegetation cover</td>
<td>Vegetation cover change</td>
</tr>
<tr>
<td>International NGOs, e.g. WWF, WCS, World Vision, etc.</td>
<td>Research, public awareness, training, education, grassroots level activities</td>
<td>Research, public awareness, training, education, grassroots level activities</td>
<td>Research, public awareness, training, education, grassroots level activities</td>
</tr>
<tr>
<td>National NGOs</td>
<td>Research, public awareness, training, education, grassroots level activities</td>
<td>Research, public awareness, training, education, grassroots level activities</td>
<td>Research, public awareness, training, education, grassroots level activities</td>
</tr>
<tr>
<td>Private sector</td>
<td>Eco-tourism, hunting companies</td>
<td>Carbon trade</td>
<td>Mining – land degradation</td>
</tr>
</tbody>
</table>

### 5.2. At the local level

According to “Constitution Law”, governance of administrative and territorial units of Mongolia shall be organised on the basis of combination of the principles of both self-Government and central Government. The self-governing bodies in Aimag, capital city, Soum and district shall be Hurals of Representatives of the citizens of the respective territories; in Bag and Horoo-the self-governing bodies shall be General Meetings of Citizens. State power shall be exercised in the territories of Aimag, the capital city, Soums, districts, Bags and Horoos by their respective Governors. Candidates for Governors shall be nominated by the Hurals of respective Aimag, the capital city, Soums, districts, Bags and Horoos by their respective Governors. Candidates for Governors shall be nominated by the Hurals of respective Aimag, the capital city, Soums, districts, Bags and Horoos by their respective Governors. Candidates for Governors shall be nominated by the Hurals of respective Aimag, the capital city, Soums, districts, Bags and Horoos by their respective Governors. Candidates for Governors shall be nominated by the Hurals of respective Aimag, the capital city, Soums, districts, Bags and Horoos by their respective Governors. Candidates for Governors shall be nominated by the Hurals of respective Aimag, the capital city, Soums, districts, Bags and Horoos by their respective Governors.

Regarding the power and responsibilities for Governors, the “Law on Administrative and Territorial Units and Their Governance” has stated that; “Common Rights of the Governors of Aimag, City, Sum and District is to protect the nature and environment, to make better use of natural resources, to work on their restoration and to monitor the obeisance of the legal acts thereon;”.

Full Rights of the Aimag and City Governors is to settle matters connected with land ownership, rent of land, use of natural minerals and resources and their exploitation according to the laws enforced and for Sum and District Governors, they have to undertake measures to increase the local budget income by introducing appropriate taxes and fees for the utilization of land and natural resources according to legal regulations. Bag and Horoo Governors have to exercise control over the use and protection of natural resources, wild animals, harvest and pasture, arable fields within the territory.

Regarding the relationship between Central Government and Aimag, City Governors is regulated by this law in Chapter 29; … The Governors of the aimag and city shall cooperate and coordinate their activities with the central government organizations in the organizational
work for implementation of the state policy and in enforcement of the legal acts. The central
government organization and the Governor may take joint decisions in order to implement
sectoral and inter-sectoral policy.

Each aimags and soums have Environmental Protection Agency and Director appointed by
respective Governors. Therefore, the environmental concerns in local level is more important.
But like as lack of institutional mechanism in National Sustainable Development Strategy,
there isn’t any institutional mechanism involved in MEAs implementation in the local.
CHAPTER V
ENFORCEMENT CAPACITY AND FINANCIAL RESOURCES

Since the Government policy is focused more on looking on day to day social well-beings of citizens and lacks long term visioned approach as written earlier it allocates more budget to short term actions and very little to future oriented actions, such as environmental issues. At the Cabinet level, the Environmental Minister has the third from bottom budget, 7,524,951.100 Tugrugs per annum, which is equivalent to 6,459,185 USD that gives a clear picture on the political attitude of the Government's commitment without further explanations.

Table 17: The Government Budget, May, 2006

<table>
<thead>
<tr>
<th>Government Institutions</th>
<th>Income should be contributed to State Budget, mln Tugrugs *</th>
<th>Allocation from the State Budget, million Tugrugs**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prime Minister</td>
<td>19,397,302.0</td>
<td>16,391,911.0</td>
</tr>
<tr>
<td>Deputy Prime Minister</td>
<td>1,879,255.4</td>
<td>12,056,895.3</td>
</tr>
<tr>
<td>Cabinet Secretariat</td>
<td>891,243.8</td>
<td>19,720,244.1</td>
</tr>
<tr>
<td>Minister of Foreign Affairs</td>
<td>10,563,640.5</td>
<td>13,222,622.0</td>
</tr>
<tr>
<td>Minister of Finance</td>
<td>824,515,431.8</td>
<td>273,720,260.5</td>
</tr>
<tr>
<td>Minister of Justice and Internal Affairs</td>
<td>3,203,327.7</td>
<td>59,523,754.0</td>
</tr>
<tr>
<td>Minister of Nature and Environment</td>
<td>3,287,754.6</td>
<td>7,524,951.1</td>
</tr>
<tr>
<td>Minister of Defense</td>
<td>518,639.4</td>
<td>27,433,095.9</td>
</tr>
<tr>
<td>Minister of Construction and Urban Planning</td>
<td>3,046,532.4</td>
<td>8,149,221.8</td>
</tr>
<tr>
<td>Minister of Education, Culture and Science</td>
<td>33,150,845.3</td>
<td>204,967,557.3</td>
</tr>
<tr>
<td>Minister of Road, Transport and Tourism</td>
<td>54,199,646.6</td>
<td>111,940,742.4</td>
</tr>
<tr>
<td>Minister of Social Welfare and Labour</td>
<td>164,930,297.5</td>
<td>256,780,229.1</td>
</tr>
<tr>
<td>Minister of Fuel and Energy</td>
<td>560,666.7</td>
<td>39,212,691.4</td>
</tr>
<tr>
<td>Minister of Industry and Trade</td>
<td>16,146,568.0</td>
<td>5,889,317.5</td>
</tr>
<tr>
<td>Minister of Food and Agriculture</td>
<td>166,067.7</td>
<td>14,190,754.6</td>
</tr>
<tr>
<td>Minister of Health</td>
<td>3,853,753.7</td>
<td>103,138,025.8</td>
</tr>
<tr>
<td>Minister responsible for state inspection</td>
<td>1,586,841.1</td>
<td>5,694,178.3</td>
</tr>
<tr>
<td>Minister for emergency management</td>
<td>88,080.0</td>
<td>15,067,608.0</td>
</tr>
</tbody>
</table>

A major assessment of environmental issues of MNE capacity conducted in 2004 and funded by the World Bank found that public service pay is so low there is no sense of accountability for service provision engendered among public servants. The assessment found that while pressures on natural resources grow MNE leadership is inadequate, a result of poor coordination, wasteful use of very limited funds and lack of motivation.

* The Parliament approves on an annual basis the income to Government State Budget have to be generated from the Government Implementing Agencies activities and other related activities, for example under direct supervision of the Prime Minister there are agencies, such as State Property Commission should contribute to State Budget 13766,000.0 Tugrugs, Telecommunication Agency 3.731,108.2 Tg and other Government Agencies 1,900,193.8 Tg. The Intellectual Property Agency under the Deputy Prime Minister have to contribute 11,010.3 tg and other Government Agencies 1,879,255 Tg. Similarly, for environment, the Environment Protection Staffs at aimag level 2,539,796.4 Tg, Water Saving Center 229,318.8 Tg, hunting and proceeds from natural resource utilizations is 518,639.4 Tg.

** The Parliament approves the allocation from Government State Budget for the Ministries and respective agencies on an annual basis.
Clearly this is unlikely given that the Ministry of Nature and Environment’s administrative budget in 2006 was 260 million Tugrugs, or about a little more than USD 220,000, and there were 50 employees in 2006.

The Table 18. below gives the totals of the 2006 budget:

<table>
<thead>
<tr>
<th>Budget Line</th>
<th>Tugrugs</th>
<th>Equivalent to USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total environmental budget, out of which</td>
<td>7,524,951.100</td>
<td>6,459.185</td>
</tr>
<tr>
<td>MNE administration*</td>
<td>260,777.000</td>
<td>223.842</td>
</tr>
<tr>
<td>Extra-budget resources (Environmental Protection Fund)</td>
<td>249,385.000</td>
<td>214.064</td>
</tr>
</tbody>
</table>

Table 19. : Breakdown of Ministry of Nature and Environment’s administration, 2006

<table>
<thead>
<tr>
<th>No</th>
<th>Description of Expenses</th>
<th>Budget Million Tg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Expenses for products and services</td>
<td>215,077</td>
</tr>
<tr>
<td>2</td>
<td>Salaries and incentives</td>
<td>104,820.0</td>
</tr>
<tr>
<td>3</td>
<td>Social security taxes</td>
<td>27,672.0</td>
</tr>
<tr>
<td>4</td>
<td>Insurance for pensions and allowances</td>
<td>24,313.0</td>
</tr>
<tr>
<td>5</td>
<td>Unemployment insurance</td>
<td>943.0</td>
</tr>
<tr>
<td>6</td>
<td>Health insurance</td>
<td>5,031.0</td>
</tr>
<tr>
<td>7</td>
<td>Stationeries and documentation</td>
<td>8,000.0</td>
</tr>
<tr>
<td>8</td>
<td>Transportation and fuel</td>
<td>29,205.0</td>
</tr>
<tr>
<td>9</td>
<td>Local per diem</td>
<td>6,557.6</td>
</tr>
<tr>
<td>10</td>
<td>Overseas per diem</td>
<td>18,000.0</td>
</tr>
<tr>
<td>11</td>
<td>Expenses for foreign guests</td>
<td>4,479.0</td>
</tr>
<tr>
<td>12</td>
<td>Dues to international conventions</td>
<td>13,365.0</td>
</tr>
<tr>
<td>13</td>
<td>Capital expenses</td>
<td>29,700.0</td>
</tr>
<tr>
<td>14</td>
<td>Other expenses</td>
<td>20,325.4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>260,777.0</td>
</tr>
</tbody>
</table>

Mining companies and forestry companies are supposed to pay license fees and stumpage fees in order to undertake mining and forestry activities. Mining royalties and trophy hunting fees accrue to central government, as also 90% of fines. The total raised by natural resource fees in 2003 was Tg 24.2 billion (about $21.1 million), amounting to 2.5% of government revenue in that year. About 47% was from mining fees.

Table 20: Proceeds of Natural Resource Fees, 1996-2003

<table>
<thead>
<tr>
<th>Category of income</th>
<th>1996 (Tg mil)</th>
<th>2000 (Tg mil)</th>
<th>2003 (Tg mil)</th>
<th>2003 ($’mil)</th>
<th>Per cent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest use</td>
<td>155.1</td>
<td>460.4</td>
<td>629.9</td>
<td>547 7</td>
<td>2.5</td>
</tr>
<tr>
<td>Water</td>
<td>123.1</td>
<td>200.6</td>
<td>3150.4</td>
<td>2,739.4</td>
<td>13.0</td>
</tr>
<tr>
<td>Land use</td>
<td>493.9</td>
<td>3,224.3</td>
<td>6,077.2</td>
<td>5,284.5</td>
<td>25.1</td>
</tr>
<tr>
<td>Mineral resources</td>
<td>2.575.0</td>
<td>3.431.5</td>
<td>11.545.9</td>
<td>10,039.5</td>
<td>47.7</td>
</tr>
<tr>
<td>Hunting*</td>
<td>396.3</td>
<td>907.5</td>
<td>2,174.3</td>
<td>1,8917</td>
<td>9.0</td>
</tr>
<tr>
<td>Other</td>
<td>26.4</td>
<td>1.6</td>
<td>636.8</td>
<td>5537</td>
<td>2.7</td>
</tr>
<tr>
<td>Total</td>
<td>3773.8</td>
<td>8,226.1</td>
<td>24,214.5</td>
<td>21,056 1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source MNE

Total available finance for environmental management related activities was $35 million. Of this sum only $4.26 million derives from domestic resources. Clearly much of the total sum is in international staffing and equipment costs of donor projects.
With delegation of enforcement functions to the SIA from MNE donor agencies are said to have lost interest in support for enforcement activities. The expenditure for environmental inspection activities is now part of the budget of State Inspection Agency. The total of that budget in 2006 was 1,586,841 Tugrugs (equivalent to 1.3 million USD). Pro-rating by the environmental inspectors’ relative strength within State Inspection Agency (700 staff out of a total of about 3,000), the environmental component of State Inspection Agency’s 2006 budget was therefore about 0.4 million Tugrugs. Yet the SIA is recognised by WWF and others as a more purposeful organisation than MNE. What is needed is programme support to SIA so that it can show that it can increase knowledge and respect for the law, and in this way help raise resource use fees which will in turn help fund natural resource management so that local government can develop a more sustainable financial structure.

5.1. Donor’s Assistance in the environmental field

A number of donors are active in environmental management (Details are referred in Annex 1.). They recognize that the rapid economic transition had generated pressures on country’s environment by lack of proper environmental management and over-exploitation of natural resources, therefore, challenges to environmental theme are seen as one of the key issues in pursuing country’s sustainable growth and poverty alleviation in the long run.

**WB** is activities concerning environment, include “Implementation of the Household Stove in UB” for GHG reduction and several bio-diversity, environmental conservation related projects with GEF financing. Others include “Energy Project (with an emphasis on energy efficiency)”, and “UB Urban Services Improvement Project phase (I and II)”, which include water supply improvement in the ger district etc. From 2003 the project by WB “Strengthening environmental management capacity at national and local levels (IDF Grant TF 051255)”. In 2001 the Ministry of Nature and Environment (MNE) of Mongolia requested World Bank assistance in the area of capacity building for environmental management and an IDF grant request was prepared. The long term development objective was to ensure that Mongolia in its phased transition to a market economy and accords importance to the environment, thus securing an enhanced quality of life for its citizens and environmentally sustainable economic development. The objectives of the IDF grant are to: (i) enhance the policy and technical capacity for environmental management; (ii) develop viable environmental standards and strengthened enforcement capabilities; and (iii) initiate strategic sectoral environmental planning and management. Due to the subjective reasons and confusions over prior actions, the project started in August 2003 even though it was approved by the World Bank in January 2002. Since early 2004, the project started experiencing some problems and constraints. Then the “Environmental Reform (IDF054416)”project was implemented for February 2005-November 2006, as continuation of the IDF/TF051255 project. The goal of the project was to support by grant aid for the small-scale projects developed by local people and environmental NGOs and to encourage activities in environmental public awareness with workshops, seminars, discussions and TV programme through mass media. For the strengths, there was a great involvement from environmental NGOs. In the framework of this project, 29 NGOs had been supported and the tender was carried out by “Open Society Institute” NGO. The project activities was appreciated by public, especially in the local level this kind of the projects should be carried out to expand great involvement of local people in the environmental conservation.

**ADB** has taking an integrated approach to environmental problems, in other words, supports for environmental improvement are provided through its sector operations rather than through standalone projects. There operations can be through combination of lending and TA, such as “Energy Rehabilitation Project”, “UB Heat Rehabilitation”, “Renewable Energy Development in Small Towns and Rural Areas” etc. It is also worth mentioning that ADB was one of the first donors to provide support in strengthening its environmental management capacity though
UNDP, in the field of environmental sector, has focused on environmental management through both upstream (policies, capacity building etc) and downstream (community base development, implementation of pilot projects in rural areas etc) approach. Many of the projects/programs are co-financing with GEF, that include bio-diversity related, deforestation, conservation activities. UNDP also provides support for pollution abatement and energy efficiency (“Energy Efficient Housing”, “Provision of Energy Efficient Social Services” and other small-scale renewable projects etc.)

The success UNDP had in securing GEF resources for Mongolia was noted in 2001. Major GEF co-financing has been a feature of assistance since then. The Second Country Cooperation Framework for Mongolia 2002-2006 envisages application of UNDP-developed models such as Sustainable Development of the Eastern Steppe Region in Altai-Sayan and Gobi areas, and calls for refinement and expansions of community-based sustainable livestock management. It also calls for expanded support for conservation activities through Mongolian Environmental Trust Fund. The framework envisages some support for pollution and energy efficiency (especially in the building sector and in small scale renewables), and in disaster management. The projected budget includes $9 million of GEF resources and $3 million worth of other trust funds to supplement UNDP regular resources of $1 million.

GTZ of the Germany is one of the bilateral donors, mostly active in the field of governmental-related activities. The activities include support for renewable energy and forestry sector as well as resource conservation (along with improved livelihood). Extensive program of German bilateral assistance is in place in Mongolia containing several projects that combine resource conservation with improved livelihoods, as well as projects in the renewable energy and forestry sectors, making GTZ the single most important source of grant finance for environment-related activities in Mongolia. The GTZ projects addresses all three conventions and even with the financial support of GTZ the local communities representatives (two women from Bayan Olgii and South Gobi) had a chance to participate in Indegineous Peoples Forum organized in the framework of COP7 of CBD. The Dutch Government continue to support projects tackling issues related to CBD implementation at national level and very important project aimed at centralized information system that will be one obligation of the parties of conventions.

Spanish and French and Dutch government have been supporting projects concerning urban environmental problems (improvement in wastewater treatment, cleaner production etc). Other bilateral donors include Japan (rehabilitation of UB water production facilities, solid waste management, improvement of upper water resources etc), Canada, and Korea etc. also play a role in the environmental sector.

The U.S. Government has renewed its commitment to financing sustainable development of the Gobi area, partially implementing activities of UNCCD. Nordic financing has been vital to current environmental awareness building activities. Several other bilateral or multi-lateral sources (Japan, France, Korea, Canada, EU TACIS) have also played a role. A number of private foundations have been supporting specialized biodiversity conservation efforts as have several international NGOs. Other international NGOs have been active in reforestation (e.g. World Vision) and public health and sanitation.

5.2. Aid dependency or donor assistance in the environmental field

The country is too aid-dependent. National policy, as articulated by the Minister of Finance and Economy at the Consultative Group Meeting in Tokyo in November, 2003, provides
another perspective on Official Development Assistance (ODA): “The history of the last century has proved that, without official foreign development assistance, Mongolia would have not been able to strengthen her independence and reach the current level of development. We, Mongolians shall provide the answer without any doubt to the question of whether ODA for us in necessary or not. It is essential. The key concern is how to use it efficiently and achieve the goals in the shortest possible period.”

The statements made at the 2003 Donor Consultative Group (CG) in Tokyo mention the familiar donor objectives for Mongolia, i.e. identification of shared priorities, policy cohesion, transparency and efficiency in information sharing, harmonization of procedures, and agreement on the allocation of scarce development cooperation resources. Some of the more specific calls made by the donors ("prioritize and establish key policies and programs and their costing to assess what areas can be credibly financed", “develop informative, publicly available budget documents and a realistic Public Investment Plan”) can be applied with full force to environmental management. Some of the other, more specific, priorities voiced by the CG do have significant environmental repercussions. Greater attention to demographic and economic trends is counseled, amounting to another element with an important if indirect environmental dimension whether it is via the growing importance of the urban service sector or changing pattern of rural economic activities led by small-scale mining. Need for a more effective harmonization of donor policies has emerged as a clear priority. This is not new. Environmental management has not been the subject of the five theme groups set up. A proposal made in the aftermath of the CG Meeting to establish four donor working groups to improve effectiveness of donor assistance has also bypassed environmental management possibly indicating that the harmonization and consultation needs are greater elsewhere. Two of the proposed working groups are largely sectoral (infrastructure, health), two cross-cutting or “multi-task” (governance, private sector). Once more, environmental management has not been among the candidates. In Mongolia no less than elsewhere, there is a reasonable appreciation on the donors’ side of the need to reduce unnecessary administrative cost that poorly coordinated donor assistance imposes on the recipients. The list of such cost items includes things such as overloading local bureaucracies with a multitude of confusing and fragmented projects, proliferation of missions, complex review and reporting requirements, failure to widen the scope of programming to sectors or cross-sectoral concerns, insufficient delegation to country-based staff for policy dialogue, etc. Despite improved donor coordination in recent years, more remains to be done.

It is useful to break down the ODA figures in terms of grants (US$1.22 billion) and loans (US $ 1.14 billion) for the period 1991 to 2002. The main components for grants are balance of payments support (US$331.1 million), capital assistance (US$333.4 million) and technical assistance (US$557.5 million). Similarly, for loans the official breakdown is as follows: project loans (US$921.5 million), financial loans (US$122.1 million) and IMF loans (US$90.3 million). These figures confirm the importance of technical assistance as a grant element, and the importance of projects as a loan portfolio. For technical assistance it is difficult to calculate rates of return, but for project financing, in principle, estimates of rates of return can be calculated either by government or by the respective donor.

For our purposes it may be more suitable to see ODA’s sectoral contribution. In this method of classification, the main ranked sectoral recipients are transport, special assistance, energy, human resource development, industry and macroeconomic restructuring.

In terms of the source for ODA, it is instructive to see the concentration of interest and support. In terms of loans that may be recalled, which comprised about 48 percent of total ODA, ADB (32 percent) Japan (21 percent) World Bank (16 percent) Russia (9 percent) and the IMF (8 percent) were by far the largest in the order of magnitude. Similarly, for grants the ranking of donors is Japan (50 percent), USA (11 percent), Germany (9 percent), UN (5 percent) and ADB (3 percent). Japan is by far the most significant donor both in absolute
terms or in terms of grants, and second only to ADB in loans – human security is of specific importance to Japan development assistance.

Table 22. Official Development Assistance: Recent Years (Cumulative, since 1991)

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Million USD</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>404.9</td>
<td>16.3%</td>
</tr>
<tr>
<td>Special assistance</td>
<td>368.2</td>
<td>14.9%</td>
</tr>
<tr>
<td>Energy</td>
<td>253.4</td>
<td>10.2%</td>
</tr>
<tr>
<td>Human resource development</td>
<td>234.7</td>
<td>9.5%</td>
</tr>
<tr>
<td>Industry</td>
<td>195.7</td>
<td>7.9%</td>
</tr>
<tr>
<td>Macroeconomic restructuring</td>
<td>188.2</td>
<td>7.6%</td>
</tr>
<tr>
<td>Other</td>
<td>165.5</td>
<td>6.7%</td>
</tr>
<tr>
<td>Agriculture</td>
<td>154.41</td>
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</tr>
<tr>
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</tr>
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<tr>
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<tr>
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<tr>
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<tr>
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<tr>
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</tr>
<tr>
<td>Total</td>
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<td>100.0%</td>
</tr>
</tbody>
</table>

(Millions of US dollars)

<table>
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<td>94.6</td>
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<td>79.0</td>
<td>87.1</td>
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<tr>
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<td>207.4</td>
<td>238.3</td>
<td>173.6</td>
<td>212.9</td>
<td>174.3</td>
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</tbody>
</table>

The staffing strength of both the central and local levels of government administration is heavily dependent upon the continuation of foreign assistance. ODA plays a vital role in the funding of environmental activities and contributes more than is made available from the national budget. Not including regional natural resource and environmental projects and those funded through other ministries and universities, approximately $22 million of ODA was provided to MNE for projects over the period 2000/04. The 4-year cumulative total MNE budget was $13.8 million.

Over the decade 1993 to 2006 the MNE received committed ODA for about 100 different natural resources and environment projects worth US $42 million. Other similar projects were funded too. A serious weakness with dependency on ODA is its focus on projects, whereas the Government needs to focus on programmes and action priorities. The funding of research, demonstration and pilot projects assists understanding of the issues but does not assist the country to address them. What is required is for the country to identify national objectives and priorities, to design and implement management programs, and to take charge of development programs seeking ODA in specific identified fields.
By contrast, increasingly the central government has delegated responsibility for natural resources and environment administration to the aimags (province or district) and soums (sub-districts). However, staff at this level have even more limited relevant training or necessary equipment and resources to undertake allocated tasks. The ambiguity of national law is also a serious difficulty.

Incentives may also be perverse. For example local administrations are supposed to receive 30% of hunting fees but there is little incentive to raise such revenues on behalf of local government where these fees will be netted out of their next budgetary allocation from the centre.

The MNE is responsible for implementation of environmental and resource management policy but it has inadequate commitment and resources to achieve this task. Policy statements and programmes therefore remain unimplemented beyond those managed in the field by donor organisations. However in forest utilization zones outside protected areas supervisory presence is inadequate to control illegal exploitation.

The Ministry of Nature and Environment is responsible for achieving sound environmental management but it cannot accomplish this because capacity and funds are limited. The key institutional problem in Mongolia's environmental management today is imbalance between the assignment of implementation responsibilities and the allocation of budget resources. Most of the former, and all work done at the field level with the exception of protected area management, has largely been put at the door of local governments. Yet the local government budgets and existing assignment of revenue sources mean that the implementation is seriously constrained unless local budget resources are supplemented by donor funding. In other words, the pattern of local environmental management continues to be unsustainable.

A second area of financial and capacity constraint relates to aimag and soum implementation of environmental and related regulations (forestry, mining, environmental impact mitigation, environmental quality standards and the Land Law (1994). Government offices at these levels have neither the funding nor the training to do their jobs. Effective management requires wide coordination among different ministries, agencies, provinces and local authorities, researchers, NGOs and the public but coordination and even dialogue is very limited.
CHAPTER VI
THEME-SPECIFIC CAPACITY DEVELOPMENT NEEDS

6.1. Specific to Biodiversity Thematic Area

6.1.1. Systemic Level

Review and revision of sectoral policies, laws and programmes

Even strategies on biodiversity conservation are reflected in the policy documents such as “Ecological part of Mongolian National Security Concepts”, Environmental part of Mongolian State Development Concept, State Policy on Environment, National Programme on Special Protected Areas, Action Plan of the Government for 2004-2008 there have still lack of synergies and coherence of policy documents on biodiversity conservation. Moreover, by the existing laws on hunting the fees or other responsibilities for illegal hunters are too outdated. Revision and updating prohibited and permitted activities for all environmental laws are needed. In addition the assessment of National Sustainable Development Strategies gives a conclusion of lack of coherence of national and local policies with sustainable development.

National Biosafety Act

In accordance with the CBD in general and the Cartagena Protocol on Biosafety in particular, countries party to these treaties are required to take legal measures to ensure adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health and specifically focusing on transboundary movements. It is also noted that in absence of a Biosafety Act, Mongolia is highly vulnerable to unwanted biotechnological interventions given its geographic proximity to China and Russia. Therefore, there is a need to formulate a National Biosafety Act. Although the National Biosafety Act was developed under the project from GEF, the ratification delayed for many reasons, mainly from political instability.

6.1.2. Institutional Level

National Commission for CBD

Currently, the CBD implementation coordination is out of control in Mongolia even there is an National Commission for CBD and Focal Point. By the mandate for MNE, the International Cooperation Department is responsible to coordinate all the conventional issues in Mongolia but lack of staff and capacity there is MEA unit is not working. Creation of a MEA unit under the MNE with staff with full-time responsibilities for CBD and other conventions related tasks will bring focus, continuity, consistency and expeditiousness in the coordination, monitoring and implementation of CBD related activities in close interaction with various partner agencies.
Inter-institutional Coordination and Collaboration Strategy for Biodiversity Conservation

At the present, coordination and collaboration between various agencies involved in biodiversity conservation is limited and ad hoc. In such a situation, biodiversity conservation efforts tend to be overlapping and at times even contradictory. To enhance harmony and complementarity between the programmes and activities of various agencies, bring clarity to the purpose and roles of different agencies, and make the most optimal use of limited organizational, financial and human resources in the area of biodiversity conservation, mechanisms for coordination and collaboration between MNE, MFA and other relevant agencies need to be developed and implemented.

Protected Area Management Infrastructure

Infrastructure for conservation management in these areas is largely limited to protected area management offices and rangers’ posts, basic facilities for information and research and staff quarters. Even where buildings are in place, staff are inadequate. Many of the existing staff have no formal training and capacity in conservation at all.

Expansion of Ex-situ Conservation Programme

At the present, ex-situ conservation programme is largely centralized. There is the need to expand the programme to national and local levels so that ex-situ conservation is able to contribute more extensively to public education and professional understanding of biodiversity.

6.1.3. Individual Level

The biodiversity thematic assessment lists the following skills development and training needs:

- Training for local governors and officers in Environmental Protection Agency at aimag and soum
- Training for the staff of MNE and National Committee for CBD to conduct biodiversity assessments and monitoring. These staff also need training in survey of species population, distribution and habitat, risk assessment, and research and monitoring techniques;
- Wildlife management training for territorial forestry staff so that can employ fundamental wildlife management knowledge and skills;
- Trained professionals are more needed in biotechnology, plant breeding, genetic engineering (with focus on rice crop), non-wood forest products, biometric/research, and socio-mitophalogy. In the connection of this, national educational system for specialists, professionals in these area.
- School curricula on biological diversity conservation and biosafety.
6.2. **Specific to Climate Change Thematic Area**

6.2.1. **Systemic Level**

Harmonization of policy and strategy

The NAPCC is developed as an integral part of other national and sectoral action plans and policy documents. Therefore, the success of the measures and actions identified in the NAPCC will depend directly on the level of integration with these national and sectoral development and action documents. Climate change concerns and problems are not reflected directly in these policy documents. However, some of them include climate change matters. In case of absence of such climate change related issues in a policy document, these issues should be taken into account in implementing activities under these programmes or plans. Existing environmental regulations, sectoral development policy documents and other related laws need to be amended if this is required for adaptation or mitigation actions.

Passing new laws or amending existing laws, particularly policy or development programmes or plans guiding different economic sectors, and the development of an improved strategy document should follow national and sectoral strategies and policies related to climate change concerns.

There is a need to review and analyse existing national programmes on sustainable development. Based on this review and analysis, a national climate change policy and strategy, as well as a national strategy to integrate climate change concerns into sustainable development programmes for various key socio-economic sectors, including strengthening the cooperation between the public and private sectors, should be developed.

The national climate change policy and strategy must be submitted to the Cabinet for review and consideration, with a view to developing relevant legislation for integrating climate change concerns into the national environmental legislation, as well as into the development planning process.

GHG mitigation strategy

Mitigation options based on the enhancement of carbon sinks should be assessed. These may include the rehabilitation of degraded grasslands, afforestation and reforestation.

Based on the above analyses, a draft *National GHG Mitigation Strategy* must be developed. This Strategy will include programmes containing measures to mitigate climate change. It will highlight the barriers for adopting cleaner technologies, as well as for promoting cleaner production and consumption. Both legal (e.g., law and legislation) and economic (e.g., tax incentives) instruments may be necessary for promoting mitigation measures. “Polluter pay” system introduction for financial mechanism regulation. A list of environmentally friendly mitigation technologies, including renewable energy technologies, should be identified and assessed. Appropriate mitigation projects need to be identified for bilateral and multilateral funding, including those under the CDM of the Kyoto Protocol. Mechanisms will be explored to promote the participation of private sector in mitigation measures, perhaps through a public-private sector partnership.

Urban Development Policy

Due to huge movement to city, urban development policy need to be elaborated, involving great construction in ger area, introduction environment-friendly fuel end energy and movement of some ger area.
Master plan on Air quality management in UB city

According to “City Regional Development Programme for 2006-2015”, the Master Plan on Air Quality Management will be developed for 2006-2008. Therefore it is need to be move in process immediately.

Waste Management Policy

Given the growing problem of solid waste in urban centers, there is a need to formulate a Waste Management Policy involving all relevant stakeholders. In absence of such a Policy, existing initiatives such as the ban on use of plastic bags are neither strategic nor effective. Furthermore, the roles and responsibilities of different agencies and coordination mechanisms for waste management tend to be ambiguous with no policy and legislation in place.

National Adaptation Strategy

Based on the above assessment, a draft National Adaptation Strategy for key socio-economic sectors should be developed. The National Adaptation Strategy would include: (i) the review of both analysis of measures and technologies for minimizing damages and for mitigating adverse impacts of climate change; (ii) the identification of cost-effective adaptation measures for climate change and related extreme events; (iii) the development of interactive mechanism between key socio-economic sectors, and their sub-sectors, as well as between public and private sectors on climate change impacts and adaptation; (iv) the development of special information materials (e.g., maps, diagrams, decision matrices) for policy makers; (v) a list of top priority measures recommended for inclusion in sustainable development strategy; (vi) analysis of barriers and necessary actions for integration of adaptation measures in the mid-term and long-term national development plans, including climate-related disaster risk reduction.

Available methodologies that may be able to reflect the national situation should be used to undertake the assessment. The application of integrated assessment methodology, such as IAM (Integrated Assessment Modelling), which is an important tool for assessing impacts and adaptation options for climate change at the global, regional and national levels, would be explored. This will also include the development of integrated vulnerability indices for key socio-economic sectors where possible.

Participation by communities in the assessment should be encouraged and promoted so as to ensure that the adaptation options, strategies and measures developed are viable and culturally acceptable by the communities.

6.2.2. Institutional Level

Institutionalize the Climate Change Office

In order to carry out day to day activities related to implementations of responsibilities and commitments under the UNFCCC and Kyoto Protocol as well as of the NCC, and to manage the nation wide activities, and to bring into actions/integration of climate change related problems in various sectors, the Climate Change Office (CCO) under the supervision of the Chairman of the NCC was established within the National Agency for Meteorology, Hydrology and Environment Monitoring. However, activities of the CCO is very weak because of mis-coordination and its unclear status.
Monitoring of the implementation of the NAPCC at the local levels should be carried out by the Local Centres of Meteorology, Hydrology and Environment Monitoring or the Local Governor’s Offices.

**Improvement GHG Database**

Previous inventory data for 1990-1998 would be re-calculated based on the new methodology as appropriate so as to facilitate comparison and trend analysis. The emission of NMVOC, which was not previously considered before, must also be estimated. In addition, the emissions of methane and nitrous oxide from international bunkers and aviation should also be estimated. The activity data of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆), which are controlled by the Kyoto Protocol, must also be collected for the same period 1999-2002 where available.

Appropriate national or regional emission/sink factors will be used to estimate GHG emissions/sinks where available and appropriate, so as to reduce the uncertainties and enhancing the data quality. In particular, country-specific emission GHG factors for forest and steppe fires, as well as methane emission factor for the waste sector, and as well as for the enteric fermentation for cattle of all ages from birth up to complete maturity, will be developed. An efficient and user-friendly database system, together with a user manual, will be developed for archiving, updating and maintaining the GHG inventory data, including emission factors and other relevant data and information.

Policy makers and other stakeholders need to be provided with relevant information, so as to enhance their awareness on the importance of GHG inventory, which should be taken into consideration in national development planning. If possible, a long-term programme on the improvement of future GHG inventories must be developed.

**Transfer of Environmentally Sound Technologies (ESTs)**

A comprehensive review, analysis and assessment of the country-specific technological requirements and opportunities of their use, transfer and introduction in key socio-economic sectors should be conducted, as well as their social, economic and environmental impacts for adaptation and mitigation. Assessment of existing endogenous ESTs so that they could be promoted or further developed.

Based on the mitigation and adaptation technologies, a database for ESTs, and their potential for development and transfer to Mongolia, must be established.

6.2.3. **Individual Level**

**Education, Training and Public Awareness**

National planners and policy makers play an important role to ensuring that climate change concerns will be taken into consideration in their planning and decision-making processes. Thus, they must be made aware of the results of the V&A assessment in key socio-economic sectors. To this end, training workshops will be organized for the national and local planners, as well as policy and decision makers from all relevant ministries and government agencies, especially those of the Ministry of Finance.

Within this issue of Education, Training and Public Awareness (ETPA), the following future needs are identified:

1) *A National Programmes* on education, training and public awareness on climate change will be developed;

2) Outreach materials in Mongolian language (leaflets, booklets, calendars, posters, video, CD) should be further developed and disseminated through mass media (TV, radio, newspapers, magazines, Internet, etc.). The information provided by relevant sources would be used for outreach activities where appropriate;
3) A special video documentary on the vulnerability of Mongolia to climate change and its potential impacts, as well as possible adaptation options may be produced and shown at all central and local TV stations and educational institutions;

4) A user-friendly database will be established with the inputs of other subject groups;

5) Enhancement of an existing website for climate change. This will facilitate information dissemination and sharing of experiences and lessons learned among communities. Capacity-building for updating and maintaining this website is essential in order to ensure its sustainability even after the completion of the project;

6) Strengthening of education on climate change at the primary, secondary and university levels;

7) Continuous public awareness campaigns in Ulaanbaatar and all provinces;

8) Strengthening of the institutions involved in climate change related studies both in terms of resource facility, including information materials and personnel, and promoting the use of this resource facility by the general public;

9) Encouragement of scientific and policy research relating to climate change at the universities and research institutes through domestic and international scholarship and/or fellowship programmes;

10) Incorporation of climate change issues into non-formal education and into the different levels of curricula of the formal education systems;

**6.3. Specific to Land Degradation Thematic Area**

**6.3.1. Systemic Level**

**National Action Programme to Combat Land Degradation and Green Wall programme**

In absence of a plan to address land degradation in a holistic manner based on inter-sectoral approach and in view of the need to have such a plan according to the UNCCD, a National Action Programme to combat land degradation and its effects needs to be developed. Such a Programme would help bring various stakeholders, including local communities, together to plan and implement coordinated actions.

However the very good synergistic programme “Green Wall” programme was developed in 2004, the feasibility study still hasn’t conducted on it. Therefore there is need to make feasibility study and to elaborate this programme for better implementation.

**Sustainable Land Management Policy**

There is currently no targeted program or policy on land degradation and desertification affecting ecosystem services, and little inter-sectoral work at the landscape level. Furthermore, Mongolia has not gained enough experience in implementing land management policies in the market economy and is only beginning to address land ownership issues which would improve security of tenure. As land privatization is planned to be extended through arable and rural areas, it is essential that the perspective of local inhabitants (and especially herders) be incorporated into this process. It is also important that the government develop an overriding strategy – including a legal framework built around property rights - to tackle the country’s severe over grazing problem.

Land management and animal husbandry are linked together and to potential degradation and are key to any integrated strategy of agriculture, industry and environment. To reverse the degradation, improved rangeland management (e.g., rotational grazing, plant mix and fertil-
izer use), improved water management and improved livestock (via breeding, health improvement, parasite control and food supplements) are required. Improved and healthy livestock would be worth more (the meat, skins and wool yields would be higher and the quality better than at present) and would survive stress better. The health of the fragile rangeland ecosystem is inextricably linked to the health of the animals and the socio-economic development of the herders. A ‘common property rights regime’ has been proposed, whereby groups of herders would have user rights over their traditional seasonal ‘pastures’ and be able to maintain livestock mobility. Private ownership of land may not work because of the inherently unstable nature of the fragile land but a pasture fee system could provide a means of ensuring long-term sustainability of the resource and provide funds for the restoration of wells and the provision of basic social and disaster support programs.

There is an urgent need for the formulation and implementation of a scientifically sound and participatory land management policy in Mongolia. This should be coupled with interventions to promote sustainable land management that involve central governments, local authorities, NGO’s and rural communities.

**Integrated River Basin Management**

Water resource management, for both water quality and water quantity. Mongolia’s water resources are susceptible to the pressures of over-utilization for human activities. Water consumption has been increased due to expansion of population, production and industrial activities. The deterioration and pollution of water sources near the large cities and settlements has negatively affected the living environment of human population. The water run off in the Tuul, Kharaa and Kherlen rivers is decreasing and the rates of pollution in exceed the standards by a large margin, mainly due to the intensive timber work and mining carried out in the water-feed zone of these rivers without proper.

In the past 10 years, the quantity and quality of groundwater have also been adversely affected by pollution. The increasing use of groundwater and slow or declining recharging of aquifers have led to saline intrusion and pollution of groundwater from domestic sewage, factory waste and agricultural chemicals.

Integrated River Basin Management is a good approach to look at the complexity of water resources management taking into account forests (water conservation), urban areas (users and polluters), agriculture (production systems) and ecology. According to the WSSD Mongolia will have to design a National Water Management Plan. So far this has not been done.

**Amendment of Law on Environmental Impact Assessment and its methodology improvement**

The Law on Environmental Impact Assessment (Revised 22 Nov 2001) is under discussion with a view to further amendments in the area of public participation. The law should have an important role in enduring new projects are in conformity with other relevant laws and that such projects are indeed subject to scrutiny in relation to design, location and proposed management practices and their environmental impacts.

The experience in implementation has seen mixed results. EIAs are undertaken by consultancies registered by (and with close links to) the MNE. The recommended methodologies are unduly complex and not conducive to being effective aids to decision-making, without sufficient emphasis on significance assessment or elucidation of alternatives. Indeed, EIAs do not seem to be perceived as tools for aiding environmental sound development but rather to simply fulfill an administrative requirement.

EIAs in Mongolia are too narrowly focused on "ecological“ impacts and often undertaken by those with a restricted view of sustainable development, excluding the critical economic and social dimensions of the environment.
6.3.2. Institutional Level

Soil Mapping and Database

There is a need to create central and regional facilities for production of national and local soil maps and maintenance of soil database. These will require upgradation of existing equipment as well as procurement of new equipment for the some organizations and institutions, complemented with trained soil specialists and data managers.

Development and encouragement of local communities in forest use and protection

However a good provision, focusing on encouragement of local-communities in natural resource use and protection, has been amended in Mongolian Law on Environmental Protection it is requiring more regulations rather than promulgation. Actually some projects in this field have been carried out some changes are required. For example; relating to pature land use. Therefore legal environment for community need to developed by a specific project or programme.

Strengthening of NCCD for UNCCD Related Tasks

In order to effectively function as the national focal agency for UNCCD, the NCCD will need to be strengthened in terms of training of its staff on the modalities and workings of the UNCCD and its instruments, incorporating UNCCD related tasks in the functions of the institution and job descriptions of concerned individuals, and establishing inter-institutional coordination for matters related to implementation of UNCCD obligations.

6.3.3. Individual Level

The land degradation thematic assessment lists the following skills development and training needs:

- In the local, there is need for training in agricultural soil conservation and land management techniques soil fertility management, sloping agriculture land technology, agro-forestry and irrigation management, and livestock and grazing management;
- In the road sector, training is needed for road engineers and private contractors in environment-friendly road construction techniques including bioengineering;
- In the mining sector, there is need for training in mining engineering, environmental management of mining operations including environmental restoration of mined areas;
- In the urban development sector, there is need for training on urban landscape planning and management.
7.1. Cross-cutting Areas for Capacity Development

There are several areas that cut across the themes of biodiversity, climate change and land degradation. These cross-cutting areas present opportunities for coordination and collaboration between different sectors and agencies and for an integrated approach to address environmental management issues and capacity development needs more comprehensively and with greater synergy. The following cross-cutting areas have been identified based on the views of the NCSA thematic working groups at the inter-working group meeting, additional information analysis and expert opinions from key people in the environment field:

- Environmental Impact Assessment
- Strategic Environmental Assessment
- Harmonization of Environmental Laws and revising it by encouragement of citizens involvement
- Public Awareness and Education for Environmental Management
- Strategic Planning for Environmental Management
- Integrated Environmental Information Management System
- Sustainable Financing Mechanism
- Local Environmental Governance

7.1.1. Environmental Impact Assessment

The need to introduce and implement procedures for assessment and management of environmental impacts of projects which are likely to have significant adverse impacts with a view to avoid or minimize such impacts is emphasized in the CBD and UNFCCC. Although the UNCCD does not specifically mention the need for environmental impact assessment (EIA), it is apparent that EIA will be a valuable tool to combat land degradation and its effects.

7.1.2. Strategic Environmental Assessment

The CBD stresses the need for integration of, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies. Similarly, the UNFCCC states the need for integration of climate change considerations in social, economic and environmental policies and actions. As in the case of EIA, the UNCCD does not specifically mention the need for strategic environmental assessment (SEA), but it is apparent that SEA will be a valuable tool to ensure that land degradation considerations are taken into account when formulating, revising, modifying or implementing development policies, programmes and plans.
7.1.3. Harmonization of Environmental Laws revising it by encouragement of citizens involvement

Some of the existing laws relevant for environmental management are inconsistent, overlapping or contradictory, and constricted by sectoral biases. The Mongolia is attempting to formulate an umbrella legislation for environmental management that will reconcile existing differences between various laws and address a comprehensive range of environmental management needs to serve as the apex environmental law. However, the process has met with very little success so far because of resistance from various sectors with the concern that such a law may only further complicate the existing situation and compromise sector-specific needs. Having said that, there is general consensus that, even if there is no need for an umbrella environmental legislation, existing environmental laws need to be reviewed and rationalized in the context of the overall national objectives and with the premise that they will be more effective and useful if they are mutually-reinforcing and practicable. Recent years, however, several amendments have been amended into environmental laws, at the same occasional new conflicts have also arisen, for instance those among Land Law, Buffer Zone Law and Mineral Resources Law. In most cases, these conflicts have been arisen out due to lack of participation from citizens or local communities.

7.1.4. Environmental Education and Awareness

All the three Rio Conventions stress the need for environmental education and awareness. The cross-cutting nature of environmental education is reinforced by the thematic assessments, each of which recurrently reflects capacity development needs for environmental education. Environmental education and awareness programmes are being conducted by various institutions such as MoSE, MNE, and Educational Institute. There is the need for coordination between these and other relevant agencies to integrate biodiversity conservation, climate change and land degradation topics in environmental education and awareness programmes wherever appropriate. This will not only mean better use of limited resources (manpower, money, material and time) but also help demonstrate the linkages between the three themes. The other aspect is that while environmental education programmes by various agencies have been going on for a long time, there seems to be little impact on the ground particularly in terms of reducing litter and environmental pollution. There is a need to review past and ongoing environmental education programmes and evaluate their impacts.

7.1.5. Strategic Planning for Environmental Management

All the Rio Conventions require formulation and updating of national plans and programmes related to the three respective thematic areas. The CBD requires a national biodiversity action plan, UNFCCC requires a national adaptation programme for action, and UNCCD a national action programme to combat land degradation. Use of strategic planning tools, e.g. root cause analysis, objective-oriented planning, logical framework and prioritization/ ranking matrix, can be very valuable for the preparation of the national plans and programmes associated with the three Rio Conventions and related instruments. In some cases, the use of such tools is obligatory or highly recommended. Furthermore, such tools can be effectively applied in enhancing the design of strategies and projects for environmental management and subsequent monitoring and evaluation.

7.1.6. Integrated Environmental Information Management System

Several data needs will be common to two or all the three themes. The following table shows examples of such data needs:
Table 1: Examples of Data Needs Common to the Thematic Areas

<table>
<thead>
<tr>
<th>Data Needs</th>
<th>Biodiversity</th>
<th>Climate Change</th>
<th>Land Degradation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land use type</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Vegetation type</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Forests (type, condition, density)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Soil type</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Agriculture type</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Fertilizer and pesticide use</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Population and human settlements</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Livelihood activities</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Meteorological data</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

It is therefore desirable to design and maintain an integrated environmental information management system which addresses common as well as specific data and information needs. This would entail developing an integrated environmental database customized for application at local, sectoral (MNE, MFA, MF etc) and national levels and installation of the database at the various levels, followed by training of data producers, managers and users. Using this integrated database, a national environmental information portal can be created on government’s website for public consumption.

7.1.7. Sustainable Financing Mechanism by developing economic measurements

Although environmental sustainability is a cornerstone of the country’s development philosophy, much of the capital funding for environmental management comes from international donor agencies. External funding assistance can be unpredictable and are time-bound and conditional, thereby affecting the continuity of environmental management programmes and activities and inhibiting the flexibility of financial resource use to respond to changing circumstances. While there are signs that external donor support is helping some of the sectors consolidate their environmental management programme, there is a need to plan and install mechanisms to ensure that financial resources are available to sustain environmental management even after external funding ceases. In order to address sustainable environmental financing need to explore and elicit public investment in environmental management. For instance, by introducing economic measurement like as polluter pay/user pay system the source for environmental conservation will be increased. Therefore the possibility of Private-Public Partnership for Environmental Financing needs to explored.

7.1.8. Local Environmental Governance

Existing governance system is difficult to implement local environmental governance. Power given by law to the Governors and Environmental Agencies in aimags is too unclear and almost impossible to create close relationship between MNE and these officials in aimags. In other side, the national review undertaken in the run-up to the World Summit on Sustainable Development highlights lack of local capacity as one of the greatest barriers to the implementation of Agenda 21. A concerted effort to develop local capacity for
environmentally sustainable development is one of the highest priorities for the country in the coming decade. It is therefore vital to build on past initiatives and lessons learnt and consolidate local environmental governance through continuous and vigorous capacity development.

7.2. Capacity Development Needs for Cross-Cutting Areas

7.2.1. Systemic Level

Related to Harmonization and revision of Existing Environmental Laws by encouraging public participation

There is the need to harmonize and revise different laws concerning environmental management. This can either be achieved on a case-by-case basis or through the enactment of an umbrella legislation for environmental management such as the Law on Environmental Protection. There is also need to create mechanism to encourage public participation into law producing stages.

Related to Strategic Environmental Assessment

There is no any SEA mechanism in Mongolia. In addition all the conventions said about harmonization of cross sectoral policy. Therefore there is need to develop mechanism to conduct SEA (who?, how?, when?)

Related to Public Awareness and Education for Environmental Management

The MNE has drafted a “Environmental Educational Programme” to serve as a guiding framework for implementation of environmental education programmes. However, the strategy has yet to become operational. There is a need to review and finalize the strategy and propagate it for implementation.

Inter-institutional Coordination and Collaboration Mechanism

Inter-institutional coordination and collaboration mechanism for environmental education and awareness needs to be developed. The mechanism will need to be determined in the Environmental Educational Programme.

Related to Sustainable Financing Mechanism

There is the need to develop and operationalize a public-partnership strategy outlining various viable mechanisms of mobilizing domestic funds from private sector for environmental management.

Related to Integrated Environmental Information Management System /IEMS/

However all the convention says that there is an project in Geo-Information System establishment in Mongolia, also highlights about Integrated Information Management System. Effective IEMS is required and who will conduct?, in which system?, how?-questions waiting for responses.

Related to Local Environmental Governance
However the existing governance system is difficult to change into environmental governance, there are many exits and possibilities to create institutional system for local environmental governance. But also mechanism is required.

7.2.2. Institutional Level

Related to Environment Impact Assessment
EIA recommended methodologies are unduly complex and not conducive to being effective aids to decision-making, without sufficient emphasis on significance assessment or elucidation of alternatives. Indeed, EIAs do not seem to be perceived as tools for aiding environmental sound development but rather to simply fulfill an administrative requirement. There is also limited consultation and little transparency in a process designed to fulfill procedure rather than to negotiate acceptable compromise (reasonable mitigation) between stakeholders for mutual benefit. Together with restoration and mitigation measures, occupational safety and health should be part of an environmental management plan to be implemented and monitored by the developer, leaving only and inspection or auditing requirement on the part of the national authorities. Also it should be increase public involvement in EIA monitoring.

Related to Strategic Environmental Assessment

Development of SEA Guidelines

There is a need to develop guidelines on SEA, outlining tools and procedures for employment at various stages of the formulation at the central, local government.

Related to Public Awareness and Education for Environmental Management

Monitoring and Evaluation

There is the need to review past and ongoing education programmes and evaluate their impacts across different segments of the society, e.g. school children, herders. The evaluation should also highlight lessons and provide recommendations to improve environmental education programmes.

Related to Integrated Environmental Information Management System

An integrated environmental database will need to be developed, customizing it for application at local, sectoral and national levels. The database will then have to be installed in the offices of the relevant agencies. Using this integrated database, a national environmental information portal can be created on government’s website for public consumption.

Related to Sustainable Financing Mechanism

Depending on the ability to mobilize additional funds, METF needs to expand its grant-making portfolio beyond biodiversity conservation and protected area management and cover other areas of environmental management, particularly those which are under-funded.
7.2.3. Individual Level

**Related to Environmental Impact Assessment**

Personnel in the environmental units in the line ministries and agencies, and in local Environmetal Protection Agency at the local will need specialization training in environmental assessment, clearance and monitoring.

**Related to Strategic Environmental Assessment**

The staff at the Department of Sustainable Development and Strategic Planning will need to have training in SEA concept, approaches and tools. This need can be addressed to the relevant agencies’ officials /WA/.

**Related to Strategic Planning Skills for Environmental Management**

Personnel, especially those who have the responsibility for preparing plans and programmes, from various environmental management institutions, will need training in strategic planning tools and techniques such as problem and root cause analysis, objective-oriented planning and logical framework development. This can be ideally done by organizing a series of two or three short training workshops with resource persons from a reputed international/regional institute, complemented by national resource persons.

**Related to Integrated Environmental Information Management System**

Data producers, managers and users will need to be trained in the application and functions of the integrated environmental database. The training will need to cover various aspects of data management such as collection, collation, analysis and dissemination.

**Related to Local Environmental Governance**

Training of all governors and officials in aimags and need to be trained and, if possible, this training should be combined with local governance capacity development programmes.

7.3. Opportunities for Synergy

7.3.1. National Environment Strategy and Action Plan

Conventionally environmental management actions are compartmentalized in sectoral plans often with very limited linkages and synergy. The National Environment Strategy was developed to guide the implementation of environmentally sustainable development actions in a holistic manner. It is envisaged that a National Environmental Action Plan will be prepared to support the implementation of the National Environment Strategy. Such a plan will be valuable in providing an inter-sectoral framework to target the critical environmental management needs in a coordinated and concerted manner.

7.3.2. Millennium Development Goals

The Millennium Development Goals (MDGs) embody the broad aspirations and commitment for improvement in the quality of human life, with numerical and time-bound targets to be achieved by 2015. As a common platform for planning, implementing and monitoring the development commitments, it brings together multiple stakeholder researchers and catalyzes collective
awareness, thinking and action. It also provides for interface of global and national objectives. In the case of Mongolia, the various MDGs are in themselves high priority development themes for the country. Therefore, the MDGs are a useful vehicle for creating synergy between global and national efforts for environmental management in particular and sustainable development in general.

7.3.3. Preparation of Convention-related Documents

The preparation of Convention-related documents such as the Biodiversity Action Plan under CBD, National Communication to the UNFCCC and GHG Inventory, and the National Adaptation Programme of Action for Climate Change, have involved considerable teamwork. Inputs were drawn from various sectors and consultations involved series of stakeholder workshops at regional and central levels. Such preparation process brings about interaction between multiple stakeholders, generating cumulative knowledge and ideas. National Action Programme is expected to provide an excellent opportunity for developing synergy between the multiple stakeholders seeking to address land degradation issues.
CHAPTER VIII
STRATEGY AND ACTION PLAN

8.1. Objectives and Outputs

8.1.1. Objectives

*To ensure a sustainable environment through integration of sustainable-development principles in the global context, into national and international policies as well as reversing the loss of natural resources.*

The Action Plan has been formulated with the overall objective to strengthen the systemic, institutional and individual capacities of the Mongolia and its partners in the non-government, public and private sectors for effective implementation of the Rio Convention obligations consistent with national circumstances and needs for sustainable development as reflected in Mongolia 2015.

**Immediate Objective**

The immediate objective of the action plan is to address capacity development priorities at the systemic, institutional and individual levels of the Mongolia and its partners in the non-government, public and private sectors for improved implementation of the Rio Convention obligations consistent with national circumstances and needs for sustainable development over the next five years as reflected in cross-sectoral and sectoral plans and programmes.

According to the National Report of 2004 on the 'Implementation of the Millennium Development Goals in Mongolia' priorities are indicated for the development assistance.

<table>
<thead>
<tr>
<th>MDG GOAL 7</th>
<th>1990</th>
<th>2000</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target 11: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of land covered by forest</td>
<td>9</td>
<td>8.2</td>
<td>9</td>
</tr>
<tr>
<td>Land area protected to maintain biological diversity (%)</td>
<td>7</td>
<td>13.3</td>
<td>30</td>
</tr>
<tr>
<td>Carbon dioxide emissions (ton/person)</td>
<td>4.08</td>
<td>4.19</td>
<td>4.0</td>
</tr>
<tr>
<td>Target 12: Protect river and spring sources, undertake rehabilitation measures for their protection</td>
<td></td>
<td>-</td>
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</tr>
<tr>
<td>Target 13: Halve, by 2015 the proportion of people without sustainable access to safe drinking water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of population using improved water source</td>
<td>30.8</td>
<td>37</td>
<td>70</td>
</tr>
<tr>
<td>Target 14: By 2020, to have achieved a significant improvement in lives of slum dwellers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of population using adequate sanitation facilities</td>
<td>22</td>
<td>25</td>
<td>50</td>
</tr>
</tbody>
</table>
8.1.2. Outputs

The Action Plan, if and when implemented, is expected to result in the following broad outputs:

1. Policy and legal framework for environmentally sustainable development improved
2. Implementation of environmental management mandates at national and local levels improved
3. Information and monitoring systems in the areas of biodiversity, climate change and land degradation strengthened
4. Implementation capacity of National Committees on Conventions and MNE enhanced to effectively function as national focal agencies for the Rio Conventions
5. Institutional mechanisms for environmental management strengthened
6. Environmental financing mechanisms strengthened
7. Environmental education and awareness programmes strengthened
8. Public participation at decision making and law making process will be increased.

8.2. Activities

8.2.1. Related to Output 1

In the Area of Biodiversity

a. Amendment on prohibited and permitted laws in environmental laws of Mongolia.

b. Finalization of National Biosafety Act

In the Area of Climate Change

c. Formulation National Climate Change Policy.

d. Formulation GHG Mitigation Strategy, including “polluter pay” mechanism, and market incentives to promote energy efficiency, dissemination of energy conservation technologies and promotion of renewable energy in rural areas.

e. To renew Waste Management Programme.

f. Formulation National Adaptation Strategy

g. Master plan on Air quality Management

In the Area of Land Degradation

h. Feasibility study on Green Wall Programme and its elaboration.

i. National sustainable land management policy through improved rangeland management, improved water management, improved livestock, community-based pasture and forest management

j. Integrated River Basin Management strategy

k. Revision of EIA law and procedure.
In Cross-cutting Area

l. Harmonize environmental laws and associated regulations through formulation of a National Environmental Protection Law (umbrella environmental legislation) or any other appropriate mechanism.
m. Development of Environmental Master Plan.
n. To review government policies and other sectoral policies.
o. Development of Forest Management Strategy in Local level by encouraging local community

8.2.2. Related to Output 2

In the Area of Biodiversity

a. Develop and implement inter-institutional coordination and collaboration strategy for biodiversity conservation, especially in relation to implementation of the Biodiversity Action Plan
b. Expand ex-situ conservation programmes.

In the Area of Climate Change

c. To clear mandates and status of Climate Change Office
d. Institutionalize environmental management functions in the industrial sector

In the Area of Land Degradation

e. Strenghtening capacity of MNE, MoFA, NCCD and Environmental Protection Agency at aimag.
f. Develop and disseminate land use management guidelines

In Cross-cutting Area

g. To revise existing local institutional system into local environmental governance
h. Develop and disseminate land use management strategy
i. Training and strengthen SIA, Borders and Customs officials
j. Training forestry staff, local communities
k. Sustainable Land Management Policy

8.2.3. Related to Output 3

In the Area of Biodiversity

a. Integrated information system for flora and fauna conservation

In the Area of Climate Change

b. Development of GHG database and inventory system
In the Area of Land Degradation

a. Development of desertification monitoring network
b. Water quality monitoring and water treatment facilities

In Cross-cutting Area

c. Creation of integrated environmental information management system and install at local and central levels, followed by training of staff in application and function of the system

8.2.4. Related to Output 4

In the Area of Biodiversity

a. Creation of a MEU within the International Cooperation Department of MNE to effectively carry out the tasks of the national focal agency to the CBD on a regular basis
b. Training the staff of the CBD-National Committee on the working framework and modalities of the CBD, including aspects such as Biodiversity Action Plan, National Biosafety Framework, networking and reporting to the CBD

In the Area of Climate Change

c. Create a National Coordination Unit within the NECS to effectively carry out the tasks of the national focal agency to the UNFCCC on a regular basis
d. Train the staff of the UNFCCC-National Committee on the working framework and modalities of the UNFCCC, including aspects such as UNFCCC, GHG Inventory, NAPA and CDM

In the Area of Land Degradation

e. Train the staff of MoFA, MNE and local authorities with UNCCD-related responsibilities on the working framework and modalities of the UNCCD, including aspects such as National Action Programme to combat land degradation, networking and reporting to the UNCCD

8.2.5. Related to Output 5

In the Area of Biodiversity

a. Development of infrastructure for protected area management

In the Area of Climate Change

b. Strengthening of Air Quality Staff to effectively monitor and technically backstop activities related to vehicular emission control and enforcement of vehicular emission standards across the country
c. Establishment of institution for research and development of energy efficient devices and alternate/clean energy
In Cross-cutting Area

d. Establishment of full-fledged Environmental Units in Ministries of Agriculture, Fuel and Energy, and Health
e. Training to the staff of Environmental Units in the aforesaid ministries and in environmental assessment, clearance and monitoring
f. Creation of Strategic Environmental Assessment Unit under the Department of Planning
g. Development and dissemination of guidelines for strategic environmental assessment
h. Training to local government officials, sectoral planning officers and planning officers on the concept, approaches and tools for strategic environmental assessment
i. Training to staff with planning responsibilities in various environmental agencies on strategic planning tools and techniques, such as problem and root cause analysis, objective oriented planning and logical framework

8.2.6. Related to Output 6

In the Cross-cutting areas

a. Development and implementation Public-Private Partnership strategy for environmental financing
b. Expansion of METF funding portfolio to cover additional areas of environmental management

8.2.7. Related to Output 7

In the Cross-cutting areas

a. Finalization of Environmental Education and Awareness Strategy
b. Review and evaluation past and ongoing environmental education and awareness programmes as a precursor for the development of the environmental education and awareness strategy
c. Development and institutionalize inter-institutional coordination and collaboration mechanisms for environmental education and awareness
d. Training in the field of environmental education and communication to the staff of Customs, State Inspection Agency, and Municipality

8.2.8 Related to Output 8

In the cross-cutting areas

a. To involve citizens delegation into Nature and Environment Minister’s Council
b. To develop a plan to create mechanism in taking public opinion to law making process
c. Connection of public opinions into integrated information system.
1.1 Table of Action

The Table of Action presented in the following pages gives an overview of the capacity development activities in relation to the thematic area, type of capacity, level of priority, implementation timeframe, and responsible institution(s).

The explanation of the table is as following:

Column 1: Capacity development activity is listed under the output to which it will particularly contribute

Column 2: Relevant thematic area (biodiversity, climate change or land degradation) is mentioned. Where the activity is common to all the three thematic areas, cross-cutting area has been mentioned

Column 3: Type of capacity is mentioned as systemic (policy, legislation, management system), institutional (infrastructure, information, processes, human and financial resources) and individual (job-related skill and knowledge, work ethics, etc)

Column 4: Level of priority is mentioned as high, medium or low. In the biodiversity thematic area, seven capacity development needs have been prioritized of which 1, 2 and 3 have been rated high priority, 4, 5 and 6 medium priority and 7 low priority. In the climate change thematic area, 12 capacity development needs have been prioritized of which 1-4 have been rated high priority, 5-8 medium priority and 9-12 low priority. In the land degradation thematic area, ten capacity development needs have been prioritized of which 1-4 have been rated high priority, 5-7 medium priority and 8-10 low priority. In the cross-cutting area, 22 capacity development needs have been prioritized of which 1-7 have been rated high priority, 8-15 medium priority and 16-22 low priority. Attention has been taken to give the same level of priority to inter-linked priorities

Column 5: The implementation timeframe is divided in sub-columns: short-term, medium-term and long-term. Within the context of 8 years, the timeframe is distinguished as short-term for activities to be undertaken in the first 1-3rd year, medium-term for activities to be undertaken by the 4-6th, and long-term (for activities to be undertaken by the 7-8th year.

Column 6: Responsible institution(s) for the particular capacity development activity has/ have been mentioned. Where more than agency is responsible, the primary responsible agency has been mentioned first.

Column 7: Additional information, if any, regarding the particular capacity development activity is given.
<table>
<thead>
<tr>
<th>Capacity Development Activity</th>
<th>Relevant Thematic Area</th>
<th>Type of Capacity</th>
<th>Level of Priority</th>
<th>Implementation Timeframe</th>
<th>Responsible Institution(s)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTPUT 1: Policy and legal framework for environmentally sustainable development improved</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1.1 Amendment on prohibited and permitted laws in the environmental field of Mongolia.</td>
<td>Biodiversity</td>
<td>Systemic</td>
<td>High</td>
<td>X</td>
<td>MNE</td>
<td></td>
</tr>
<tr>
<td>1.2 Finalization of National Biosafety Act</td>
<td>Biodiversity</td>
<td>Systemic</td>
<td>High</td>
<td>X</td>
<td>MNE</td>
<td></td>
</tr>
<tr>
<td>1.3 Formulation of National Climate Change Policy.</td>
<td>Climate Change</td>
<td>Systemic</td>
<td>High</td>
<td></td>
<td></td>
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<tr>
<td>1.4 Formulation of GHG Mitigation Strategy, including “polluter pay” mechanism, and market incentives to promote energy efficiency, dissemination of energy conservation technologies and promotion of renewable energy in rural areas.</td>
<td>Climate Change</td>
<td>Systemic</td>
<td>Medium</td>
<td>X</td>
<td>MNE, NCC</td>
<td></td>
</tr>
<tr>
<td>1.5 Formulation of National Adaptation Strategy.</td>
<td>Climate Change</td>
<td>Systemic</td>
<td>High</td>
<td>X</td>
<td>MNE, MFA</td>
<td></td>
</tr>
<tr>
<td>1.6 Elaboration of Master plan on Air quality management.</td>
<td>Climate Change</td>
<td>Systemic</td>
<td>High</td>
<td>X</td>
<td>MNE, Municipality</td>
<td></td>
</tr>
<tr>
<td>1.7 Feasibility study on Green Belt /or Green Wall/ Programme and its elaboration.</td>
<td>Land Degradation</td>
<td>Systemic</td>
<td>High</td>
<td>X</td>
<td>MNE, Science Academy, Ge- ecology institution</td>
<td></td>
</tr>
<tr>
<td>Capacity Development Activity</td>
<td>Relevant Thematic Area</td>
<td>Type of Capacity</td>
<td>Level of Priority</td>
<td>Implementation Timeframe</td>
<td>Responsible Institution(s)</td>
<td>Remarks</td>
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<tr>
<td>1.8 Formulation of national sustainable land management policy through improved rangeland management, improved water management, improved livestock, community-based pasture and forest management</td>
<td>Land Degradation</td>
<td>Systemic</td>
<td>High</td>
<td>X</td>
<td>MNE, MFA, Water Agency, Local Governors,</td>
<td></td>
</tr>
<tr>
<td>1.9 Integrated River Basin Management strategy</td>
<td>Land Degradation</td>
<td>Systemic</td>
<td>High</td>
<td>X</td>
<td>MNE, MFA, Water Agency</td>
<td></td>
</tr>
<tr>
<td>1.10 Revision of EIA law and procedure</td>
<td>Land Degradation</td>
<td>Systemic</td>
<td>Medium</td>
<td>X</td>
<td>MNE, SIA</td>
<td></td>
</tr>
<tr>
<td>1.11 Harmonization of environmental laws and associated regulations through formulation of a National Environmental Protection Act (umbrella environmental legislation) or any other appropriate mechanism.</td>
<td>Cross-cutting</td>
<td>Systemic</td>
<td>Medium</td>
<td>X</td>
<td>MNE, SIA</td>
<td>The MNE is working on formulation of a National Environmental Protection Act as an umbrella legislation but the process has met with little success so far</td>
</tr>
<tr>
<td>1.12 Development of Environmental Management Master Plan</td>
<td>Cross-cutting</td>
<td>Systemic</td>
<td>High</td>
<td>X</td>
<td>MNE</td>
<td></td>
</tr>
<tr>
<td>1.13 Revision of government policies and other sectoral policies such as National Development Concept, Road Master Plan, Power Sector Master Plan, Tourism Master Plan, and Renewable Energy</td>
<td>Cross-cutting</td>
<td>Systemic</td>
<td>High</td>
<td>X</td>
<td>MNE, MFE, MRTT, Municipality</td>
<td></td>
</tr>
<tr>
<td>Capacity Development Activity</td>
<td>Relevant Thematic Area</td>
<td>Type of Capacity</td>
<td>Level of Priority</td>
<td>Implementation Timeframe</td>
<td>Responsible Institution(s)</td>
<td>Remarks</td>
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<td>---------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Master Plan.</td>
<td></td>
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</tr>
<tr>
<td>2.1 Development of Forest Management Strategy in Local level by encouraging local community</td>
<td>Cross-cutting</td>
<td>Systemic</td>
<td>High</td>
<td></td>
<td>Local authorities, MNE, MFA</td>
<td></td>
</tr>
<tr>
<td>OUTPUT 2: Implementation of environmental management at national and local levels improved</td>
<td></td>
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</tr>
<tr>
<td>2.2 Development and implementation of inter-institutional coordination and collaboration strategy for biodiversity conservation, especially in relation to implementation of the Biodiversity Action Plan</td>
<td>Biodiversity</td>
<td>Institutional</td>
<td>High</td>
<td></td>
<td>MNE, NCBD</td>
<td></td>
</tr>
<tr>
<td>2.3 Expansion of ex-situ conservation programmes.</td>
<td>Biodiversity</td>
<td>Institutional</td>
<td>Low</td>
<td></td>
<td>MNE, SPAD</td>
<td></td>
</tr>
<tr>
<td>2.4 To clear mandates and status of Climate Change Office</td>
<td>Climate Change</td>
<td>Institutional</td>
<td>High</td>
<td></td>
<td>MNE, NCC</td>
<td></td>
</tr>
<tr>
<td>2.5 To Institutionalize environmental management functions in the industrial sector</td>
<td>Climate Change</td>
<td>Institutional</td>
<td>Low</td>
<td></td>
<td>MNE, GoM</td>
<td></td>
</tr>
<tr>
<td>2.6 To strengthen capacity of MNE, MFA, NCCD and Environmental Protection Agency at aimags.</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>High</td>
<td></td>
<td>MNE, Local Governors, GoM</td>
<td></td>
</tr>
<tr>
<td>Capacity Development Activity</td>
<td>Relevant Thematic Area</td>
<td>Type of Capacity</td>
<td>Level of Priority</td>
<td>Implementation Timeframe</td>
<td>Responsible Institution(s)</td>
<td>Remarks</td>
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<tr>
<td>2.7 Development and dissemination land use management guidelines</td>
<td>Land Degradation</td>
<td>Institutional</td>
<td>Medium</td>
<td>Short-term</td>
<td>X</td>
<td>MNE, MFA</td>
</tr>
<tr>
<td>2.8 To strengthen human and technical capacity of SIA</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>Medium</td>
<td>X</td>
<td>MNE, SIA</td>
<td></td>
</tr>
<tr>
<td>2.9 To train forestry staff, local officials</td>
<td>Cross-cutting</td>
<td>Individual</td>
<td>High</td>
<td>X</td>
<td>MNE,</td>
<td></td>
</tr>
<tr>
<td>2.10 To train SIA, Border and Customs officials</td>
<td>Cross-cutting</td>
<td>individual</td>
<td>High</td>
<td>X</td>
<td>MNE</td>
<td></td>
</tr>
<tr>
<td>2.11 To revise existing local institutional system into local environmental governance</td>
<td></td>
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</tr>
</tbody>
</table>

OUTPUT 3: Information and monitoring systems in the areas of biodiversity, climate change and land degradation strengthened

<table>
<thead>
<tr>
<th></th>
<th>Relevant Thematic Area</th>
<th>Type of Capacity</th>
<th>Level of Priority</th>
<th>Implementation Timeframe</th>
<th>Responsible Institution(s)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Integrated information system for flora and fauna conservation</td>
<td>biodiversity</td>
<td>institutional</td>
<td>medium</td>
<td>X</td>
<td>MNE, NCCBD</td>
<td></td>
</tr>
<tr>
<td>3.2 Development of GHG database and inventory system</td>
<td>Climate Change</td>
<td>Institutional</td>
<td>High</td>
<td>X</td>
<td>MNE, MFE, NAMHEM</td>
<td></td>
</tr>
<tr>
<td>3.3 Development of desertification monitoring network</td>
<td>Land Degradation</td>
<td>Institutional</td>
<td>Medium</td>
<td>X</td>
<td>MNE&lt; MFA, Geo ecology institute</td>
<td></td>
</tr>
<tr>
<td>3.4 Water quality monitoring and water treatment facilities.</td>
<td>Land Degradation</td>
<td>Institutional</td>
<td>Low</td>
<td>X</td>
<td>MNE, Water Agency</td>
<td></td>
</tr>
<tr>
<td>3.5 Creation of integrated environmental information management system and</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>High</td>
<td>X</td>
<td>MNE</td>
<td></td>
</tr>
</tbody>
</table>

"Geographical Information System"
<table>
<thead>
<tr>
<th>Capacity Development Activity</th>
<th>Relevant Thematic Area</th>
<th>Type of Capacity</th>
<th>Level of Priority</th>
<th>Implementation Timeframe</th>
<th>Responsible Institution(s)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>install at local and central levels, followed by training of staff in application and function of the system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>project” was initiated by Dutch Government and currently in initiation process.</td>
</tr>
<tr>
<td>OUTPUT 4: Implementation capacity of National Committees and MNE enhanced to effectively function as national focal agencies for the Rio Conventions enhanced</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.1 Creation of MEU in MNE to effectively carry out the tasks of the coordination of national focal agencies to the Multilateral Agreements in environmental field on a regular basis</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>High</td>
<td>X</td>
<td>MNE,</td>
<td></td>
</tr>
<tr>
<td>4.2 To train the staff of the CBD-National Committee on the working framework and modalities of the CBD, including aspects such as Biodiversity Action Plan, National Biosafety Framework, networking and reporting to the CBD</td>
<td>Biodiversity</td>
<td>Institutional</td>
<td>Low</td>
<td>X</td>
<td>MNE, CBD secretariat</td>
<td></td>
</tr>
<tr>
<td>4.3 To train the staff of the UNFCCC-National Committee on the working framework and modalities of the UNFCCC, including aspects such as UNFCCC, GHG Inventory, NAPA and CDM</td>
<td>Climate Change</td>
<td></td>
<td></td>
<td>X</td>
<td>MNE,</td>
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<tr>
<td>4.4 To train the staff of MoFA, MNE and</td>
<td>Land</td>
<td>Institutional</td>
<td>Low</td>
<td>X</td>
<td>MNE, CCD</td>
<td></td>
</tr>
<tr>
<td>Capacity Development Activity</td>
<td>Relevant Thematic Area</td>
<td>Type of Capacity</td>
<td>Level of Priority</td>
<td>Implementation Timeframe</td>
<td>Responsible Institution(s)</td>
<td>Remarks</td>
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<tr>
<td>local authorities with UNCCD-related responsibilities on the working framework and modalities of the UNCCD, including aspects such as National Action Programme to combat land degradation, networking and reporting to the UNCCD</td>
<td>Degradation</td>
<td>Institutional</td>
<td>Medium</td>
<td></td>
<td>Secretariat</td>
<td></td>
</tr>
</tbody>
</table>

**OUTPUT 5: Institutional mechanisms for environmental management strengthened**

<p>| 5.1 Development infrastructure for protected area management | Biodiversity | Institutional | Medium | | X | NCD | Infrastructure development for protected area management is taking place through various donor support to individual protected areas |
| 5.2 To strengthen Air Quality Office to effectively monitor and technically backstop activities related to vehicular coal firing emission control and enforcement of air quality standards across the country | Climate Change | Institutional | High | X | MNE, NAMHEM | |
| 5.3 Establishment of institution for research and development of energy efficient devices and alternate/clean energy | Climate Change | Institutional | Medium | X | MNE, MFE, Science Academy | |</p>
<table>
<thead>
<tr>
<th>Capacity Development Activity</th>
<th>Relevant Thematic Area</th>
<th>Type of Capacity</th>
<th>Level of Priority</th>
<th>Implementation Timeframe</th>
<th>Responsible Institution(s)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.4 Establishment of full-fledged Environmental Units in Ministries of Agriculture, Fuel and Energy, and Health</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>High</td>
<td>X</td>
<td>MNE</td>
<td>Respective ministries,</td>
</tr>
<tr>
<td>5.5 To train staff of Environmental Units in the aforesaid ministries and in environmental assessment, clearance and monitoring</td>
<td>Cross-cutting</td>
<td>Individual</td>
<td>High</td>
<td>X</td>
<td>MNE, Convention Secretariat</td>
<td></td>
</tr>
<tr>
<td>5.6 Creation a Strategic Environmental Assessment Unit under the Department of Sustainable Development and Strategic Planning Department of MNE</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>Medium</td>
<td>X</td>
<td>MNE</td>
<td></td>
</tr>
<tr>
<td>5.7 Development and dissemination of guidelines for strategic environmental assessment</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>Medium</td>
<td>X</td>
<td>MNE</td>
<td></td>
</tr>
<tr>
<td>5.8 Training to local government officials, sectoral planning officers and planning officers on the concept, approaches and tools for strategic environmental assessment</td>
<td>Cross-cutting</td>
<td>Individual</td>
<td>Medium</td>
<td>X</td>
<td>MNE, National Committees</td>
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</tr>
<tr>
<td>5.9 Training to staff with planning responsibilities in various environmental agencies on strategic planning tools and techniques, such as problem and root</td>
<td>Cross-cutting</td>
<td>Individual</td>
<td>Medium</td>
<td>X</td>
<td>MNE, National Committees</td>
<td></td>
</tr>
<tr>
<td>Capacity Development Activity</td>
<td>Relevant Thematic Area</td>
<td>Type of Capacity</td>
<td>Level of Priority</td>
<td>Implementation Timeframe</td>
<td>Responsible Institution(s)</td>
<td>Remarks</td>
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<td>-----------------------------------------------------------------------------------------------</td>
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<td>--------------------------------</td>
</tr>
<tr>
<td>cause analysis, objective oriented planning and logical framework</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td><strong>OUTPUT 6: Environmental financing mechanisms strengthened</strong></td>
<td></td>
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<tr>
<td>6.1 Development and implementation of Public-Private Partnership strategy for environmental financing</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>Low</td>
<td>X</td>
<td>MNE, State Tax Authority</td>
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<tr>
<td>6.2 Expand METF funding portfolio to cover additional areas of environmental management</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>Low</td>
<td>X</td>
<td>MNE</td>
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<tr>
<td><strong>OUTPUT 7: Environmental education and awareness programmes strengthened</strong></td>
<td></td>
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<tr>
<td>7.1 To finalize Environmental Education and Awareness Strategy</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>Low</td>
<td>X</td>
<td>MNE, MSE</td>
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<tr>
<td>7.2 To review and evaluate past and ongoing environmental education and awareness programmes as a precursor for the development of the environmental education and awareness strategy</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>Low</td>
<td>X</td>
<td>MNE, Institute for Education</td>
<td></td>
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<tr>
<td>7.3 To develop and institute inter-institutional coordination and collaboration mechanisms for environmental education and awareness</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>Low</td>
<td>X</td>
<td>MNE, MSE</td>
<td></td>
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<tr>
<td>7.4 To provide by training in the field of</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>Low</td>
<td>X</td>
<td>MNE, National</td>
<td></td>
</tr>
<tr>
<td>Capacity Development Activity</td>
<td>Relevant Thematic Area</td>
<td>Type of Capacity</td>
<td>Level of Priority</td>
<td>Implementation Timeframe</td>
<td>Responsible Institution(s)</td>
<td>Remarks</td>
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<tr>
<td>environmental education and communication to the staff of Customs, State Inspection Agency, and Municipality</td>
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<td></td>
<td></td>
<td></td>
<td>Committees</td>
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<tr>
<td>OUTPUT 8. Public participation at decision making and law making process will be increased</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>To involve citizens delegation into Nature and Environment Minister’s Counsil</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>High</td>
<td>X</td>
<td>MNE</td>
<td></td>
</tr>
<tr>
<td>To develop plan to create mechanism in taking public opinion to law making process</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>High</td>
<td>X</td>
<td>MNE</td>
<td></td>
</tr>
<tr>
<td>Connection of public opinions into integrated information system</td>
<td>Cross-cutting</td>
<td>Institutional</td>
<td>High</td>
<td>X</td>
<td>MNE</td>
<td></td>
</tr>
</tbody>
</table>
1.2 Next Steps

It will be extremely difficult to implement the Action Plan as a single, consolidated package. Therefore, based on the proposed Table of Action, the MNE – in consultation with the stakeholders involved in the NCSA process – will package the capacity development priorities into 3 to 5 detailed project proposals for funding consideration by GEF, UNEP and other potential donors in the field of environmental management capacity development. Each project proposal will provide the rationale, work plan, implementation arrangements, budget, and co-financing arrangements. Some project ideas that can be developed into project proposals to address capacity development needs identified through the NCSA include:

**Enhancing Environmental Management in Local Governance System.** Environmental Management in Local Governance system, otherwise environmental governance at local level will be crucial coordination in providing sustainable development consistent with Rio Convention obligations. In order to ensure environmental governance system, a lot of policy arrangements and coordinations are required. We couldn’t conserve the nature and environment, even we have increased staffs in Ministry of Nature and Environment or numbers of inspectors. The cross-cutting and systemic arrangement is to strengthen local governance in environmental management.

**Strengthening Policy and Legal Framework for Environmental Management,** aiming at reviewing and revising existing policies and legislations that contain ambiguities and contradictions, developing and revising policies and legislations needed to ensure environmentally sustainable development consistent with Rio Convention obligations, conducting research to support development of policies and legislation, and developing instruments (guidelines, information dissemination, training workshop, networking and coordination mechanisms) to support the implementation of the policies and legislations. In this context, good Enforcement Programme need to be developed

**Strengthening Information and Monitoring System for Environmental Management** that includes creation of an integrated environmental information system covering biodiversity, climate change and land degradation aspects and a GHG database and inventory system to monitor GHG emission trends and issues. This will aid planning and decision-making as well as enable production of State of the Environment.
## Donor’s Assistance

<table>
<thead>
<tr>
<th>Projects</th>
<th>Implementing agency</th>
<th>Period</th>
<th>Amount (thous. USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodiversity Conservation and Sustainable Livelihood Options in the Grasslands of Eastern Mongolia</td>
<td>UNDP, GEF</td>
<td>1998-2005</td>
<td>6,117</td>
</tr>
<tr>
<td>Nature Conservation Pilot Projects in Western Mongolia</td>
<td>GEF, WWF</td>
<td>1997-2001</td>
<td>41,8</td>
</tr>
<tr>
<td>Conservation and Sustainable Management of Natural Resources</td>
<td>Government of Germany, GTZ</td>
<td>2002-2008</td>
<td>6,123</td>
</tr>
<tr>
<td>The conservation of the Great Gobi and its umbrella species</td>
<td>UNDP, GEF</td>
<td>2003-2007</td>
<td>1034</td>
</tr>
<tr>
<td>Strengthening environmental management capacity at national and local level</td>
<td>WB, IDF (Ins.Dev.Facility)</td>
<td>2003-2005</td>
<td>362</td>
</tr>
<tr>
<td>Community-based conservation of biological diversity in the Mountain landscapes of Mongolia’s Altai Sayan Eco-region</td>
<td>UNDP, GEF</td>
<td>2004-2009</td>
<td>4,700</td>
</tr>
<tr>
<td>Development of Biosafety Framework of Mongolia</td>
<td>UNDP, GEF</td>
<td>2003-2005</td>
<td></td>
</tr>
<tr>
<td>Crisis Prevention and Recovery – Strengthening the Disaster Mitigation and Management System in Mongolia</td>
<td>UNDP, Luxembourg</td>
<td>2002-2005</td>
<td></td>
</tr>
<tr>
<td>TV Trust for Environment</td>
<td>UNDP</td>
<td>2003-2004</td>
<td></td>
</tr>
<tr>
<td>Biodiversity</td>
<td>UNDP</td>
<td>1998-2005</td>
<td></td>
</tr>
<tr>
<td>Small Grant Projects</td>
<td>UNDP/GEF</td>
<td>2003-2006</td>
<td></td>
</tr>
<tr>
<td>Support to implementing MAP</td>
<td>UNDP</td>
<td>1999-2005</td>
<td></td>
</tr>
<tr>
<td>Disaster Management II Phase</td>
<td>UNDP</td>
<td>2005-2007</td>
<td></td>
</tr>
<tr>
<td>Conservation and Sustainable use of Natural resources</td>
<td>GTZ</td>
<td>2002-2006</td>
<td></td>
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</tbody>
</table>
### Air pollution

<table>
<thead>
<tr>
<th>Project</th>
<th>Implementing agencies</th>
<th>Period</th>
<th>Amount (thous.USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional strengthening for the implementation of Montreal protocol in Mongolia</td>
<td>UNEP, GEF</td>
<td>2000-2005</td>
<td>66</td>
</tr>
<tr>
<td>Climate Change assessment</td>
<td>Netherlands</td>
<td>2000-2005</td>
<td>210</td>
</tr>
<tr>
<td>Improved household stoves in Mongolian Urban Centers</td>
<td>WB, GEF</td>
<td>2001-2006</td>
<td>750</td>
</tr>
<tr>
<td>Commercialization of Super Insulated Buildings in Mongolia</td>
<td>UNDP, Norwegian Government</td>
<td>2003</td>
<td>1,439</td>
</tr>
<tr>
<td>Energy Efficient Housing</td>
<td>GEF/WB</td>
<td>2001-2006</td>
<td>1,750</td>
</tr>
<tr>
<td>Recovery and recycling of CFC-12 Refrigerant Project</td>
<td>GEF/WB</td>
<td>2002-2004</td>
<td></td>
</tr>
<tr>
<td>Technology Needs Assessment in Energy Sector</td>
<td>GEF/Norway/UNDP</td>
<td>1999-2001</td>
<td>98,0</td>
</tr>
<tr>
<td>Greenhouse Emission Reduction from Industrial Sources in Asia Pacific (GERIAP)</td>
<td>SIDA</td>
<td>n.a</td>
<td>2,500</td>
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<tr>
<td>Promotion of Renewable Energy, Energy efficiency and GHG Abatement Projects</td>
<td>ADB/Netherlands</td>
<td>2001-</td>
<td>5,000.0</td>
</tr>
</tbody>
</table>
### Forestry

<table>
<thead>
<tr>
<th>Projects</th>
<th>Implementing agencies</th>
<th>Period</th>
<th>Amount (thous. USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Support to the development of participatory forest management</td>
<td>FAO</td>
<td>2004-2005</td>
<td></td>
</tr>
<tr>
<td>2. Community based natural resource management (Phase II)</td>
<td>FAO</td>
<td>n.a</td>
<td></td>
</tr>
<tr>
<td>3. Forestry project</td>
<td>WB Netherlands</td>
<td>2005-2006</td>
<td></td>
</tr>
<tr>
<td>4. Forest landscape conservation and development</td>
<td>WB MNE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Friendship Afforestation</td>
<td>Hyogo Pref, Japan and Kobe Steel</td>
<td>2000</td>
<td></td>
</tr>
<tr>
<td>6. Conservation and Sustainable Use of Forest Resource in the Western Region of the Khan Khentii Protected Area</td>
<td>GTZ</td>
<td>2000-2003</td>
<td></td>
</tr>
<tr>
<td>8. Emergency Measures to Fight Forest Pest</td>
<td>FAO</td>
<td>n.a</td>
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</table>

### Environmental Conservation

<table>
<thead>
<tr>
<th>Projects</th>
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<th>Period</th>
<th>Amount (thous. USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reforestation, Prevention of Desertification in Umnogovi and Selenge Aimag</td>
<td>Korea</td>
<td>2002-2007</td>
<td></td>
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<tr>
<td>Combating Desertification in Asia</td>
<td>ADB/CCD</td>
<td>2000-</td>
<td>450.0</td>
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<tr>
<td>Prevention and Control of Dust Storms in North-East Asia</td>
<td>ADB</td>
<td>2003-</td>
<td></td>
</tr>
<tr>
<td>Assessment of Impact and Adaptation to Climate Change in Multiple Regions and Sectors Programme</td>
<td>GEF/UNEP/START/TWAS</td>
<td>2002-2004</td>
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</table>

### Desertification

**TA/Capacity Building relevant to Environmental management**

<table>
<thead>
<tr>
<th>Projects</th>
<th>Implementing agencies</th>
<th>Period</th>
<th>Amount (thous USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strengthening Environmental Assessment Procedures</td>
<td>ADB</td>
<td>1992</td>
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<tr>
<td>Strengthening Environmental Management Capability of MNE</td>
<td>ADB</td>
<td>1997</td>
<td></td>
</tr>
<tr>
<td>UB Heat Rehabilitation</td>
<td>ADB</td>
<td>1996</td>
<td></td>
</tr>
<tr>
<td>Energy Rehabilitation</td>
<td>ADB</td>
<td>1996</td>
<td></td>
</tr>
<tr>
<td>Renewable Energy Development in Small Towns and Rural Areas</td>
<td>ADB</td>
<td>2002</td>
<td></td>
</tr>
<tr>
<td>Project Description</td>
<td>Implementing Agency(s)</td>
<td>Period</td>
<td>Amount (thous)</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
<td>-----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Geser Sum Sacred Urban Landscape Protection Initiative</td>
<td>WB Ulaanbaatar Municipality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrying out several workshops and associated training programs</td>
<td>WB The Institute of Geo-Ecology, Mongolian Academy of Sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improving the level and quality of environmental governance</td>
<td>WB/MNE</td>
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<tr>
<td>Strengthening environmental management capacity at national and local level</td>
<td>WB</td>
<td>2003-2004</td>
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### Water supply

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<th>Implementing agencies</th>
<th>Period</th>
<th>Amount (thous)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehabilitation of UB’s Water Production Facilities</td>
<td>JICA</td>
<td>1996-1999</td>
<td>22,000</td>
</tr>
<tr>
<td>The project for Improvement of Water Supply Facilities in UB</td>
<td>JICA</td>
<td>2005-2007</td>
<td>14,000</td>
</tr>
<tr>
<td>Ulaanbaatar services improvement project I</td>
<td>WB</td>
<td>1997-2003</td>
<td>12,300</td>
</tr>
<tr>
<td>Ulaanbaatar services improvement project II</td>
<td>WB</td>
<td>2005-2009</td>
<td>18,000</td>
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<tr>
<td>Water and waste water Master Plan of Ulaanbaatar</td>
<td>France</td>
<td>2005-2006</td>
<td>740</td>
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<tr>
<td>Rehabilitation of UB’s Central Waste Water Treatment Plan I</td>
<td>Spain (loan)</td>
<td>2002-2003</td>
<td></td>
</tr>
<tr>
<td>Rehabilitation of UB’s Central Waste Water Treatment Plan II</td>
<td>Spain (loan)</td>
<td>2006-2007</td>
<td></td>
</tr>
<tr>
<td>Privatization of small-scale water supply agencies</td>
<td>France</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community development sanitation in ger areas of Ulaanbaatar</td>
<td>WB Ulaanbaatar Municipality</td>
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</table>

### Wastewater

<table>
<thead>
<tr>
<th>Projects</th>
<th>Implementing agencies</th>
<th>Period</th>
<th>Amount (thous USD)</th>
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</thead>
<tbody>
<tr>
<td>Enabling activities to facilitate early action on the implementation of the Stockholm Convention on POPs in Mongolia</td>
<td>GEF UNIDO</td>
<td>2003-2006</td>
<td>362</td>
</tr>
<tr>
<td>Cleaner production and Waste Water Pollution Abatement by Mongolian Industries</td>
<td>Netherlands Grant</td>
<td>1999-2003</td>
<td>2,000.0</td>
</tr>
<tr>
<td>Solid waste management</td>
<td>Netherlands Grant</td>
<td>2002-2003</td>
<td>n.a</td>
</tr>
<tr>
<td>UB Wastewater Treatment Plant Rehabilitation</td>
<td>Spain Soft Loan</td>
<td>2003-2004</td>
<td></td>
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<tr>
<td>Improvement in UB Solid Waste Management</td>
<td>JICA</td>
<td>2004-</td>
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## Water Resource

<table>
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<th>Projects</th>
<th>Implementing agencies</th>
<th>period</th>
<th>Amount (thous)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conservation of the Eg-Uur Watershed</td>
<td>WB, GEF, IMF</td>
<td>2003-2008</td>
<td>2,000</td>
</tr>
<tr>
<td>The river basin management model project for the conservation of wetland ecosystem and its sustainable use of Mongolia</td>
<td>JICA</td>
<td>2005-2010</td>
<td></td>
</tr>
<tr>
<td>Dynamics of Biodiversity Loss and Permafrost Melt in Lake Hovsgol National Park</td>
<td>GEF/WB</td>
<td>2001-2005</td>
<td>830.0</td>
</tr>
<tr>
<td>Preparation of a Strategic Action Program (SAP) for the Tumen River Area</td>
<td>GEF/UNDP</td>
<td>2000-2001, 2001-2003</td>
<td>5,000.0, 5,199.9</td>
</tr>
</tbody>
</table>
Annex II

Mongolian government policies for poverty eradication

The different democratically elected governments of Mongolia all had the emergence and fight of poverty high on their agenda. A number of policies and action plans have been developed addressing the problems of the poor. In this section we will give a brief overview of a number of relevant policies and action plans that have been developed and their impact on poverty.

**Government Action Program**

The Government outlined its strategic objectives in the Action Program of the Government of Mongolia for 2004-2008. The Action Program emphasizes that the Government will promote and sustain higher economic growth and improve the living standards of its citizens by the implementation of economic reform, improving access to social services, and promoting sustainable development. With specific regards to the poor, employment generation was highlighted as the central factor in eradicating poverty. From the Government of Mongolia has promulgated that Year of the Creation of New Work places for 2007.

**Good Governance for Human Security Program**

In 2001, the “Good Governance for Human Security Program” (GGHSP) was created in order to support the priority objectives of the Government’s Action Program for 2000-2004. Receiving strong UN support, the program was designed to target 4 main components.

- economic transition
- equity and social policy
- environment and sustainable development
- sound governance

These objectives have been further developed in the Program’s 10 point action plan:
1. Facilitate stabilization of the macro-economy, by reform and re-structuring
2. Rehabilitate the banking and financial system
3. Facilitate economic growth by revitalizing national industry with export-oriented strategies.
4. Identify a policy to create the legal basis for regional economic development.
5. Create an equitable social environment for human development, such as improving the quality of education, and access to health services at all levels.
6. Government actions to reduce unemployment, poverty, in order to improve the population’s livelihood.
7. Implement environmental policy aimed at providing sustainable development and ecological balance by harmonizing protection of biodiversity with regional socio-economic development.
8. Improve the living environment of the citizenry by reducing air, water and soil pollution in big urban areas, and by recycling garbage and waste.
9. Remove the governance crisis and create goods governance for human security technical support, and information on product markets. Since 2002, interest rates have also lowered due to increased competition on the micro-credit market. The government hopes to further reduce the rates by encouraging competition among lenders. It is recommended that commercial banks be encouraged to increase the average size of their loans to SMEs in order to supply households and small businesses with more than adequate working capital.
10. Establish a democratic civil society with high social ethics that protects basic human rights and ensures the freedom of its citizens through, freedom of the press.

**National Poverty Alleviation Program**
The Poverty Alleviation Office, under the Ministry of Social Welfare and Labor of Mongolia, manages the National Poverty Alleviation Program (NPAP). The objective of the program was to set up a large public works program as strategy to increase employment levels among the poor. The UN, ADB, UNDP and other donors invested 19 million USD with the aim of reducing poverty of 10% of the total population.

Though a popular approach in other developing countries for poverty alleviation in urban and rural areas, the NPAP program fell short of its objectives. In 1998, the Living Standard Measurement Survey showed that 35.6% lived below the poverty line and no significant improvement took place in 2000.

Between 1994 and 2000, the public works program of NPAP was introduced at the local level, which comprised of more than 600 public works schemes, such as construction of roads, bridges, dams, sanitation facilities and repairing of schools. The scheme generated 27,430 temporary jobs of six-week periods, with an average wage payment of 27,400 Tug (approximately 25USD) per month.

The impact of this project on the alleviation of poverty ended up being quite limited. The public work schemes only had to some degree impact and were criticized for not addressing the underlying reasons of poverty. Overall however, the schemes were noted to have a positive impact on strengthening the community’s economic and social infrastructure by a number of training programs and the development of a pre-school education system.

**Poverty Advisory Unit**

Under the Ministry of Finance, a poverty advisory unit has been established with the mandate to formulate national economic policy counteracting on poverty eradication. The unit supports the decision-making process in the different line ministries with regard to poverty policy issues. From information obtained from interviews conducted with the staff, this advisory unit has given guidance to the design of a regional development plan for the five main regions of Mongolia. The plan we reviewed during this study looked very much like a business plan for the different regions, spelling out the different products that they should produce. The weakness of the plan is that the main trust for the operationalization is with the government. Little attention is given to overall conductive policies that could stimulate economic growth through effective support to the private sector and community-based activities. Plan seems to be based on the earlier central planning tradition and could become an important tool if it would have more of a policy focus working with stimulating measures for strategic industries and geographical areas.

**Unemployment Insurance Scheme**

Mongolia has an unemployment insurance scheme, to which in principle all workers are entitled. Workers must pay a premium, (equivalent to 1% of their monthly salary) for a minimum of two years. The person is then entitled to receive payments up to 45 to 70% of the level of wages during the last three months of employment, depending on total years of service. Unemployment benefits last for up to a maximum of two and half months or until a new job is found.

This employment insurance scheme encourages people to register at the employment offices in their locality. However, many unemployed people don’t register, and only 1.5% of the unemployed that do registered are actually eligible for unemployment benefits. The very limited impact is an indication that the scheme must be revised, as it is ineffective in reaching the majority of the working population.
ANNEX III

MDGS AND ITS ASSESSMENT IN MONGOLIA

Considering the commitments on implementations of Millennium Declaration Concept and Mongolia-MDGs adopted by Parliament of Mongolia, the Government of Mongolia has prepared the MDGs Needs Assessment Report where it clearly states the complex of policies issues to be applied for MDGs achievement, regulatory and coordination activities to be undertaken and financial needs required.

The Mongolian MDGs needs assessment was undertaken in 8 specified and interlinked areas and results are presented below:

1. The current level of MDGs achievement in Mongolia and further trends have been defined by indicators;
2. The policies main directions were identified to achieve MDGs in short and mid run;
3. The priority areas were formulated linking the progress being made to achieve the MDGs, its targets and economic and social development trend;
4. The target framework defined;
5. The framework for implementing the main interventions defined;
6. The vision of results to be achieved defined;
7. The estimates of required resources were made on annual basis and by capital and current expenditures;
8. The macroeconomic forecast produced, financing sources estimated;

9 Millennium Development Goals and 22 targets, including Goal 1. Reduce poverty and hunger; Goal2. Universal primary education; Goal 3. Support Gender equity; Goal 4,5,6. Protect Health; Goal 7. Ensure environmental sustainability, including infrastructure; and Goal 9. Foster human rights and strengthen democratic governance will be implemented and the MDGs needs assessment was undertaken including the estimates of current level of achievement and output indicators to be achieved based on developed future trend until 2015, policy main directions, coverage and interventions to be implemented on each individual goal defined.

For Goal 7. Ensure environmental sustainability, following interventions are defined;

**Target 12; Integrate the principle of sustainable development into country policies and programs and combat air pollution in urban areas, especially in Ulaanbaatar city.**

1. Reduce air pollution through technical and technological restructuring of fuel and energy system;

   Undertake technical restructuring in the fuel and energy system of big cities;
   - undertake fuel reform
   - increase connections to the central network
   - economize fuel consumption through partial renovation of technology and equipment to reduce carbon dioxide emission from thermal and power plants;
   - increase consumption of improved, environment friendly fuel for households of ger areas.

   Improve energy service and supply for rural area and aimags;
   - connect to central grid
   - expansion of renewable energy source production
2. Renew fuel consumption of public transport;

**Improve transport facilities of big cities;**
- Improve public transport fuel consumption (increase gas, electric devices)
- Improve, widen city roads, reduce traffic loads

**Renew Ulaanbaatar city transport fleet and road;**
- undertake impact assessment of vehicle gas emission for the environment and population, jointly develop cological health standards, requirements in related sectors to reduce the consequences and implement it;
- take actions to reduce use of liquefied gas (through private sector investment) for Ulaanbaatar city transport (bus, taxi)
- renovate public transport fleet (through public and private sector investment);
- introduce use liquefied gas (through public and private sector investment ) for Ulaanbaateer city transport (bus, taxi)
- introduce transport (bus, taxi) to use liquefied gas (through private sector investment)
- take actions to impose more tax for vehicles caused negative impacts, damages to the environment and population due to run exceeding the norms, not meeting technical requirements and standards, to introduce the system to compensate or recover the damages;
- ensure smooth operation of auto transport examination and diagnostic centers and provide safe traffic and environmental conditions;
- increase number of diagnostic lines monitoring impacts on air quality caused by transport vehicles (establish 8 new diagnostic lines);
- Improve Ulaanbaatar city auto roads: building of new roads and repairing, building new bridges and repairing (88 bridges will be financed from the city and state budgets) in the capital city were included in needs assessment.

3. Expand building of energy efficient housing units

**Expand building of energy efficient housing units;**
- implement 40000 housing units program, by 2001-2030 of ger area households will move to improved conventional housing;
- develop building insulating norms and standards and reduce heat loss by 50-70% of level of building constructed before 1997. Consequently fuel consumption and air pollution will decline.
- Introduce new advanced source for heating system
- Reduce heat loss

**To enhance the coordination activities in and cross sectors to reduce air pollution;**
- pursue policy on energy efficiency
- implement clean development mechanisms and certify air pollution reduction amount
- operationilise “advisory mechanisms on environment impact assessment”
- implement “model program to improve heating results of one particular district” under the economic and technological cooperation framework

Target 13: **Protect river and spring sources, undertake rehabilitation measures for their protection**

1. Increase green areas through planting trees in gobi desserts, steppes in order to combat desertification and soil degradation, mitigate the climate;
- conduct comprehensive eco system study and analysis on formation of trees, bush and grass in Gobi, steppe areas, spread, biomass, structure of soil, availability of water sources and climate
- create green area with trees, bush, plant cover completed with deep wells, water supply points, in order to reverse desertification and sand movement at Gobi, steppe edges.
- Provide protective green strip (windbreak) in order to protect the pasture and agriculture lands;
- Conduct advocacy programs, training on establishing green zones

2. Prevent from natural disasters (fire, insects damaging the forests, disease), reduce forests damages, and strengthen forest protection capacity;
- intensify research work on insect damaging forests and disease, identify short and long reproductive period of the insects damaging the forests, take protection and combat measures
- carry out cleaning and build fire protection strips (zone) against fire outbreaks in forests and places with the highest probability of occurrence of fires
- conduct extensive training, advocacy and communication on forest fire protection and preventive measures

3. To eliminate negative impacts of human activities, stop illegal logging;
- improve protective management through allowing to possess and utilize forest area for long term with professional and public participation
- rehabilitate about 2000 ha area where the mining activities have been extensively taken place in the old system while the rehabilitation was far behind
- improve legislation on forests

4. To undertake exploration work on forests fund using advanced technology, define forest spread, resources, structure, develop forest mapping and management plan, establish forest information database, assess size, scope of negative impacts caused by forest fire, insects, illegal activities;
- define forest spread, resources, structure, composition through using remote satellite devices and GIS, develop forest mapping and sustainable management plan (the forest law specifies to organize the forests once in 10 years, thus it will require to organize 1.8 million ha per year)
- establish forest database based on GIS, regularly update the database, introduce the system enabling to monitor forest changes every year

5. Rehabilitate and reforestate areas being cut, or damaged by fire, insects or diseases;
- to establish planting farms to plant trees, bushes needed building green strip or reforestation, to increase trees, bush supply;
- to reforestate and build green parking area in not less than 10000 ha areas;

Target 14: Halve, by 2015, the proportion of people without sustainable access to safe drinking water

1. Water supply of urban and rural population;
- renovation and repair of water supply central facilities in capital city and regional pillar centers;
- build water pipelines for customers needed to be connected to the central facilities and provide maintenance service;
- install watermeters in the water supply lines for city households;
- increase water tariffs for water use to be paid by urban and rural residents, recover maintenance cost and maintain lossless operation;
- Improve economic regulation to support local organizations and private sector investment to build small size water supply facilities for rural customers;
- In connection with zoning of the aimags and soums newly build, repair and protect rural soums and inter soums water supply sources facilities;
- Establish committees and associations for protection and monitoring of river basins;

2. Sanitation facilities;

- renovate, expand and repair waste water treatment plants, central sewage facilities of capital city, regional pillar centers and local development centers;
- renovate, expand, newly construct sewage wells at soums and inter soums settlements with better development perspectives;
- connect soum center or ger area hospitals, schools to the sewage line;
- provide technical assistance to households at ger area to improve their individual or shared sanitation facilities (latrines, sewage wells, etc)
- impose charges for use of sewage lines and facilities, improve payment collection system, recover operation cost;
- set penalty for contaminating drinking water and enforce it;

3. Training and awareness programs on hygiene
- advocate mind and tools of rational use of drinking water for public, implement program to foster it;
- incorporate in schools programs the issues of hygiene, foster students to behave in compliance with hygiene and ecological requirements.

Resource needs
Costing of water supply. Considering the need to provide highly skilled engineers and technicians for urban water supply facilities as well as need to fully renew the chemicals and equipment spare parts it was estimated that the water supply facilities maintenance cost will be 336.5 mil USD in next 10 year up to 2015 which is significantly higher against the 2005.

It will require 299.9 mil USD enable 69.3% of population to access improved water supply facilities in 2015.

Sanitation facilities cost estimates. The rehabilitation, renovation of urban and rural sanitation facilities will require 495.8 mil USD in 2006-2015.

Target 15; By 2015, to have achieved a significant improvement in the lives of slum dwellers.

1. Improve housing law, legal environment, management, institutional and monitoring system;
- improve legal environment for housing and housing finance;
- renew, approve and enforce housing construction norms meeting current requirement;
- develop and approve housing related standard
- rationalize system of organizations dealing with the housing construction, improve their relationship;
2. Implement adequate policy on integrated planning of urban development and hosing.
- increase housing supply by re-planning;
- introduce partial planning with participation of ger area residents, connect to the primary infrastructure or water and sewage network, consequently develop this area as public and private residential area;

3. Increase housing supply and develop financing system.
- Develop primary and secondary market system for housing long term loan;
- Raise financial resources through issuing government security for housing purposes thus re-flowing free resources of the market to the housing finance;
- Utilize resources received as loan, grant from foreign countries, international bank and financial institutions; review opportunities to support and attract foreign and domestic private investment;
- Develop subsidizing, discounting system for housing;
- Establish and develop renting system for housing, build housings for rental use by state, local public, and private investment and provide it for low (poor, poor of poor), middle (newly married, elderly, civil servants) income citizens;
- Allocate funds and get approved in annual state and local budget and use it for construction of infrastructure as power, water, sewage, heating connections for new residential area.

4. Improve quality of housing construction work, improve inspection system and introduce advanced technique and technology;
- improve inspection of housing construction work and building materials used;
- introduce advanced technique and technology for housing construction;

Resource needs

It was estimated that 1,067.1 mil USD will be required to provide housing with the safe (improved) drinking water supply to 35% of total population of Mongolia in 2015. Building of housing with independent water source (protected wells, spring) for 4900 families at unit cost of 5000 USD in soums and rural settlements will require 24.5 mil USD.
ANNEX IV

National Sustainable Development Strategies of Mongolia and its assessment

The mainstreaming of the sustainable development strategy objectives in the Government Action Plan is shown, in terms of quantitative analysis, in Table 1.

Table 1. Integration the national sustainable development strategy in the Government Action Plan

<table>
<thead>
<tr>
<th>National Sustainable Development Strategy</th>
<th>Social sustainability</th>
<th>Environmental sustainability</th>
<th>Économie sustainability</th>
<th>Mean of implementation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives defined in the sustainable development strategy</td>
<td>17</td>
<td>13</td>
<td>15</td>
<td>14</td>
<td>59</td>
</tr>
<tr>
<td>Objectives integrated in the government action plan and that are being implemented</td>
<td>10</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>36</td>
</tr>
<tr>
<td>Objectives not being implemented</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>23</td>
</tr>
</tbody>
</table>

As shown in Table 1, 58.8 percent of social and human development objectives, 61.5 percent of environmental objectives, 60.0 percent of économie objectives and 64.3 percent of objectives relating to the means of implementation have been incorporated in the Government Action Plan. It can be considered that various programmes and projects are being implemented to achieve these objectives as they have been incorporated in the Government Action Plan. Fourteen objectives are not integrated in the Government Action Plan and ten objectives seem to be impractical to implement as they are broadly defined and contain ambiguous definitions.
Ministries and government implementing agencies are responsible for the policy development of their relevant sectors and the implementation of related government programmes. Table 3 summarizes the integration of sustainable development objectives into sectoral strategies and policies of relevant ministries and government implementing agencies. It is assumed that the objectives incorporated into concrete action plans of the ministries and government implementing agencies are being implemented.

Table 3. Integration of sustainable development objectives in sectoral policies and programmes

<table>
<thead>
<tr>
<th>Ministry/Government Agency</th>
<th>Social and human development</th>
<th>Economic development</th>
<th>Environmental sustainability</th>
<th>Means of implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Finance</td>
<td>8</td>
<td>15</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>Ministry of Food and Agriculture</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Ministry of Foreign Affairs</td>
<td>1</td>
<td>11</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Ministry of Health</td>
<td>3</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ministry of Industry and Trade</td>
<td>3</td>
<td>7</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Ministry of Justice and Home Affairs</td>
<td>10</td>
<td>1</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Ministry of Nature and the Environment</td>
<td>2</td>
<td>5</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Ministry of Road, Transportation and Tourism</td>
<td>9</td>
<td>3</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Ministry of Social Welfare and Labour</td>
<td>9</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Administration of Land Affairs, Geodesy and Cartography</td>
<td>3</td>
<td></td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Foreign Investment and Foreign Trade Agency (FIFTA)</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Ministry of Construction and Urban Development</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Ministry of Education, Culture and Sciences</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Ministry of Energy</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

*n.a. – information not available*
Table 4 summarize the integration of the national sustainable development objectives into development policies and action plans at the local level.

<table>
<thead>
<tr>
<th>National sustainable development objectives</th>
<th>Social sustainability, human development</th>
<th>Environmental sustainability</th>
<th>Economic sustainability</th>
<th>Means of implementation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives integrated in local development policies and that are being implemented</td>
<td>13</td>
<td>11</td>
<td>8</td>
<td>10</td>
<td>42</td>
</tr>
<tr>
<td>Objectives not being implemented of which not integrated in development policies</td>
<td>4</td>
<td>2</td>
<td>7</td>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td>Objectives not being implemented of which not integrated in development policies</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Objectives not being implemented of which not integrated in development policies</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Objectives not being implemented of which not integrated in development policies</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Objectives not being implemented of which not integrated in development policies</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>

Mainstreaming/Implementation: 76.5 | 84.6 | 53.3 | 71.4 | 71.2

Note: The numbers show the averages for Dundgobi, Zavchin and Uvurkhangai provinces and Khan-Ekeren soums.
### ANNEX V

**OTHER ENABLING ACTIVITIES IN ENVIRONMENTAL SECTOR**

<table>
<thead>
<tr>
<th>Programmes</th>
<th>Objectives</th>
<th>Contents</th>
<th>Programme phases</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>National Action Plan on Biodiversity Conservation</strong></td>
<td>Overall goal is to remedy expected dangers to the biodiversity and to rehabilitate deteriorated areas. This Action Plan consists set of goals with respective actions and offering areas, which have to be involved into SPA network. In result of programme actions natural plants, wildlife and ecological systems shall be incorporated into SPA network and shall encourage goal of expanding SPAs up to 30% of total territory.</td>
<td>1. Objective, principles and features 2. Policy directions on special protected area 3. Programme activities 4. Budget for programme 5. Implementation phases 6. Outputs</td>
<td>1998-2005 2005-2015 2015-</td>
</tr>
<tr>
<td><strong>National Programme on Special Protected Areas</strong></td>
<td>To expand SPA’s by considering country specific features and global standard. 1. to harmonize socio-economic policy with regional development strategies and other programs and plans at national level. 2. To encourage involvement from citizens, business entities and NGOs. 3. Be feasible. To assume and respect for geographically specific features and climate condition and traditional livelihood options.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| National programme on Conservation of Saker Falcon | The mission lies on preventing previously from scarcity of saker falcons’ resources, eliminating its reasons, renewing management works concerning with keeping normal growth of heads & numbers and identifying the governmental polices to be followed for it.  
1. To develop legal environment and create economic basis in conservation for breeding and sustainable use of Saker Falcon.  
2. To create information data for protection of its heredity and identify the resources and quantity to use with scientific basis and ecology and biological research.  
3. To improve the involvement of local people in conservation Saker Falcon.  
4. To create network to improve natural population with breeding.  
5. To carry out projects to conserve and growth of Saker Falcon. | 1. Objective and goals  
2. Actions  
3. Programme phase, administration and management  
4. Budget  
5. Outputs |
| National Action Programme on Snow Leopard | The main goal is to protect habitat of Snow Leopard and improve management for conservation of growing, to create economic and legal environment.  
1. To develop legal environment for Snow Leopard conservation.  
2. To qualify the research and monitoring activities and to comprehend information data.  
6.3. To identify ways to improve conservation;  
6.4. To raise public awareness of Snow Leopard conservation. | 1. Programme objective and goals  
2. Measures  
3. Programme management and monitoring  
4. Budget and outputs |
| Climate Change | | Programme will be implemented for 2005-2010 |
| National Action Plan on Climate Change | To mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases. In the framework of this plan, State should take some mitigation measures in some areas. |  |
| Action Programme on Air Protection | The purpose of the Program is to carry out policies and activities on protection of air from any kind of pollution and to create a condition for keeping the air clean in line with the objective to create a condition for humans to live in a healthy and safe environment.  
1. To create legal environment in regulation of air protection and adequate management system. | 1. Programme objective, goals and duration  
2. Principles  
3. Actions  
4. Programme administration, coordination and budget  
5. Cooperation  
6. Measures  
7. Outputs  
8. Workplan /including |
| National Action Programme to Protect Ozone Layer | The programme was developed for Montreal Protocol implementation. Main goal is focusing on step by step decrease consumption in ozone depletion substances and further fully restrict and displace it. | 1. Programme objective and phases 2. Programme administration and coordination 3. Actions 4. Budget 5. Programme monitoring and outputs | 2005 – 2030; |
| Desertification | To mitigate negative impacts to the desertification, arisen out from climate change and human inadequate activities and to identify the way to adaptation, and to impede desertification process with step by step activities in consistency of socio-economic development policy. 1. To develop legal environment and create economic basis for combating desertification and to implement policy on pasture and proper use of natural resources | 1. Requirements for development of the programme 2. Objective, goals and duration 3. Principles 4. Actions 5. Programme administration, management and budget 6. Measures and cooperation 7. Outputs and reporting | For the period of 2003-2007; To assess current situation of desertification and to improve legal and management environment of combating desertification and to develop policy |
in areas, specifically affected in serious desertification.
2. To conduct assessment on impacts to the Mongolia’s socio-economic development from desertification and to identify causes and dispersion, to comprehend research work and improve its methodology and effectiveness.
3. To introduce traditional technology in combating desertification and to expand rehabilitation deteriorated environment.
4. To expand involvement of citizens and business entities into combating desertification and raise awareness.

<table>
<thead>
<tr>
<th>Programmes and Actions</th>
<th>Description</th>
</tr>
</thead>
</table>
| Water National Programme on Water | The objective of the program is focused on the supplement of the qualified and sufficient water, the restoration of water stock, aims to ensure sustainable economic and social development of the country by the efficient use and protection of water resources.  
1. Programme objectives and goals  
2. Duration  
3. Implementation area |
| 1\textsuperscript{st} stage – to 2000  
2\textsuperscript{nd} stage - 2001-2005  
3d stage - 2006-2010 |
| Cross-Cutting and miscellaneous | |
| “Green Wall” Programme | 1. Forestation and plantation  
2. Great involvement from every citizen, and business entity and NGO. |
| 1. Objectives  
2. Principles  
3. Activities  
4. Programme administration and budget  
5. Implementation and cooperation  
6. Outputs and reporting |
| 1\textsuperscript{st} phase - 2005-2015  
2\textsuperscript{nd} phase - 2015-2025  
3d phase - 2025-2035 |
| State policy on Ecology | 1. Proper use of natural resources  
2. Harmonization of traditional and modern technology |
| 1. Principles and basis of ecological balance  
2. Policy of technique and technology  
3. Environmental Policy  
4. Economic and Social Policy and Regulation  
5. Implementation Phases |
| 1997-2000 – to create basic environment of sustainable development  
2001-2010- the implementation phase of sustainable development strategies.  
Main priority is to harmonize environmental and economic policy implementation issues.  
2010-2020 – the state policy in ecological orientation. |
| National Programme on Ecological Public Awareness | Creation of new mechanism to improve ecological public awareness in implementation of State educational system goals.  
To develop new ecological education programme and create administration and management system based on State policy on ecology and interest of the population. |
| 1. Objective  
2. Programme duration  
3. Principles  
4. Budget and cooperation  
5. Monitoring  
6. outputs |
| 1\textsuperscript{st} stage is 1998-2005 |
| National Programme | To improve the disaster management |
| 1. Objectives, duration and |
| 1\textsuperscript{st} stage -1999-2000 |
| National Programme on Disaster Mitigation | system and to mitigate damages to economy and ecology and to decrease vulnerability and to create state priorities in prevention from disaster | principles  
2. State policy on disaster mitigation  
3. Programme administration  
4. Actions  
5. Monitoring, budget and outputs | 2nd stage -2001-2005  
3d stage -2006-2015 |
| National Programme on Waste Mitigation | 1. To develop legal environment and its regulation in waste management including recycling, collection, transportation, separation and processing, utilization and displace it.  
2. Adequate installation of dumping sites.  
3. To introduce mechanism to encourage involvement from local governors and citizens, business entities in waste management.  
4. To renew the technology in collection and transportation.  
5. Demolition of dumping sites which are give negative impacts in the environment and rehabilitate environment  
6. To take measure in dangerous wastes such as medical, industry and chemical wastes.  
7. To introduce technology in reusing the wastes and its process. | 1. Programme objective, goals and duration  
2. Basic principles  
3. Programme implementation area  
4. Local government responsibilities  
5. Responsibilities of business entities, organizations, citizens and NGOs  
6. Implementation measures  
7. Budget for programme  
8. Cooperation  
9. Outputs | Programme duration is 1999-2010 |
| National Programme on Forest | The purpose of the Program is to strengthen the capacity of forest protection, its proper use and regeneration in line with the requirements of ecological balance and sustainable development, and to determine objectives of the policy to be pursued by the government on environment and forestry and directions of activities to implement these objectives.  
1. To protect from human negative impacts to the forest resource, forest insects, diseases and forest fire and to introduce advanced technology for forest resource conservation.  
2. To encourage business entities which has advanced technology in forest resource use  
3. To intensify planatation and forestation in deforestated area such as is impacted from forest fire, and desease.  
4. To develop forest management  
5. Human and technical capacity building in forest sector. | 1.Programme objective and goals  
2. Phases  
3. Actions  
4. Outputs  
5. Budget  
6. Programme administration  
7. Workplan  
8. National Committee on Implementation of Forest Programme  
9. National Committee Rule | 1st phase- up to 2005  
2nd phase – 2006-2010  
3d phase - 2011-2015 |
| National Programme to Support Environmental Management and Quality Assurance | 1. To improve quality assurance in environmental management system and information data and network  
2. To introduce environment friendly technology and develop clean industry. | 1. Programme objective and significance  
2. Goals  
3. Actions  
4. Programme duration, | 1st stage : 2002-2006  
2nd stage : 2007-2011  
3d stage: 2012-2016 |
| National Programme on Environmental Information | 1. Programme objective, goals and principles  
2. Policy on environmental information  
3. Programme administration and management  
4. Monitoring, budget, outputs and cooperation  
5. Outputs and measurement | 1st stage; 1999-2000  
2nd and final stage 2001-2005 |
|-------------------------------------------------|--------------------------------------------------------------------------------------|
| National Programme on Environmental Legal Reform | To improve legal environment and its regulation in harmonization of socio-economic sustainable development.  
1. To improve legal environment for nature and environment conservation.  
2. To develop foundation for legal reform  
3. To improve country involvement in multilateral environmental regulation | 1. Programme objective and duration  
2. Principles for implementation  
3. Actions for goals  
2nd stage –2001-2004 |