Profile on Environmental and Social Considerations in Mongolia

March 2014

Japan International Cooperation Agency

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Table of Contents

List of Figures

List of Tables

Abbreviations and Acronyms

ADB	Asian Development Bank
Aimags	Province in Mongolia
AMHIB	Air Quality Monitoring and Health Impact Baseline
CBD	Convention on Biological Diversity
CDM	Clean Development Mechanism
CERD	Committee on the Elimination of Racial Discrimination
CHRD	Center for Human Rights and Development
CITES	The Convention on International Trade in Endangered Species of Wild Fauna and Flora
CNDS	Comprehensive National Development Strategy
CRP	Complaint Resolution Procedure
EGDA	Environmental and Green Development Agency for Municipality of Ulaanbaatar
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESC	Environmental and Social Considerations
FAO	Food and Agriculture Organization of the United Nations
GRM	Grievance Redress Mechanism
IBA	Important Bird Areas
ICC	International Coordinating Committee of National Institutions for the Promotion and Protection of Human Rights
IEE	Initial Environmental Examination
IUCN	International Union for Conservation of Nature
JCM	Joint Crediting Mechanism
JICA	Japan International Cooperation Agency
LGBT	lesbian, gay, bisexual, transgender
MAP21	The Mongolia Action Programme for the 21st Century
MCA	Millennium Challenge Account
MCUD	Ministry of Construction and Urban Development
MEGD	Ministry of Environment and Green Development
NAMA	Nationally Appropriate Mitigation Actions
NAPCC	The National Action Programme on Climate Change
NCHRM	National Commissions for Human Rights in Mongolia
PCBs	Polychlorinated byphenyls
POP	Persistent Organic Pollutants
Soums	District in Mongolia
UNCED	United Nations Conference on Environment and Development of Rio’s Conference
UNDP	United Nations Development Programme
UNESCO	United Nations Education, Science and Culture Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund

Executive Summary

Japan International Cooperation Agency (JICA) introduced new "JICA guidelines for environmental and social considerations" in 2010. These guidelines encourage project proponents to give appropriate considerations towards environmental and social impacts of JICA-supported projects. It also aims to ensure that JICA supports project proponents in order to help environmental and social considerations (ESC) and JICA examines ESC and keeps in accordance with these guidelines. The guidelines outline JICA's responsibilities and procedures of ESC.

In order to facilitate an appropriate ESC, JICA prepares a "country profile for environmental and social considerations". This profile serves as a source of information that will facilitate the implementation of appropriate measures for ESC of JICA-supported projects in the country of concern. As part of "Country Profiles", Country Profile for Environmental and Social Considerations of Mongolia is prepared through a literature review, a review of current and past projects, interviews with local experts, and the consultations with relevant agencies. This country profile provides: 1) basic information on the state of the environment in Mongolia, 2) legal and administrative frameworks with procedural details of ESC in Mongolia, and 3) Gap analysis between JICA's ESC and Mongolia's ESC with its other development partners.

The following highlights the summary of the environmental and social considerations in Mongolia.

1. Summary of Environmental Considerations

Mongolia is a landlocked country located in the Northern Hemisphere with temperate zones sharing borders with China and Russia. With a small population size of 2.8 million in its vast geographical territory of 1.5 million square kilometers, Mongolia is one of the most sparsely populated countries in the world (Section 1.1).

Mongolia is housing a large biodiversity of fauna and flora throughout its natural environment. With the lowest human population density of any other country on earth, and one of the highest proportions of land area classified as protected, Mongolia is a heaven where plants and animals can thrive (Section 1.1). However, approximately 225 species of plants and animals are under regional threat and should be addressed with great urgency (Section 2.3). A forest-poor country, Mongolia has forest-covered areas amounting only to 12,640,000 hectares, which represent about 8% of the total land area. The annual deforestation rate between 1990 and 2000 was about 0.67% and has increased to 0.74% between 2005 and 2010, showing that deforestation is continually on the rise in Mongolia (Section 2.5).

To protect this rich environment there are, in total, 74 protected areas that account for 16.5% of the total territory of Mongolia placed under the state protection in 2012. Ministry of Environment and Green Development has planned to extend the protected area to 30% of the national territory by 2015 (Section 2.4).

Mongolia's capital, Ulaanbaatar, is the second most air-polluted city in the world according to WHO standards. This is due mainly to high concentrations of particular matters called PM10 and PM2.5. These types of matter are extremely harmful to the populations' health, and in some cases (especially in poor peri-urban areas) they are the cause of mortality (Section 3.3). The Public Health Institute (PHI) conducted a study between 1993 and 2000 which concluded that drinking water in Mongolia contained an unacceptably high or low concentration of minerals and microelements causing illnesses in the digestive, cardiovascular, and genital organs (Section 3.4). Inspection of soil quality in local areas covering 21 Aimags, over 145 mills using mercury and sodium cyanide were found and confiscated. Not to mention the heavy metals from industrial operations, to some extent, were polluting the soil as well (Section 3.5). Municipal Solid Waste is domestic and industrial solid waste from materials produced during the process of consumption, production, and services including those of the unwanted waste variety. According to MEGD, in 2008 the annual municipal waste generated was 552.8 tons in weight (Section 3.6). Mongolia's outdoor noise pollution is linked with the increase of motor vehicles', both old and new, out on the roads today (Section 3.7). 98% of carbon dioxide emissions came from the energy sector in 2006, making it the largest emitter of carbon dioxide in Mongolia. The main contributor to methane emissions is in the agricultural sector with a record of 93% of all of Mongolia's methane emissions (Section 3.8).

The government of Mongolia announced a new green development strategy for their country in 2012. Currently, Mongolia's Parliament has revised its laws concerning the environment to further strengthen its environmental legislation and regulation, and to have better environmental approaches to regulate growing industrial activities, such as the mining sector (Section 2.1 and 2.2).

The Law on Environmental Impact Assessment was amended to strengthen the legislative framework in May 2012. This law regulates "relations concerning protection of the environment, prevention of ecological imbalance, the use of natural resources, assessment of the environmental impact, and decision-making on the start of a project". The law stipulates an impact assessment of the following: Screening of Environmental Impact Assessment, Detailed Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA), Environmental Management Plan (EMP), and public participation.

Although the revised Mongolian EIA law of 2012 have improved and became closer to the donors' guidelines, some gaps still exist among those regulations. Following major gaps exist

between JICA guidelines and Mongolian laws:

Initial Environmental Examination (IEE): Mongolian laws do not have Initial Environmental Examination (IEE). EIA law 2012 stipulates only Screening of EIA and the Detail EIA. Current practice of WB, ADB and JICA is undertaking IEE for the category B projects.

Categorization: Under the Mongolian regulations, projects are not categorized after screening of EIA. However, under the policies or guidelines of JICA, ADB and World Bank, projects are screened and categorized as A, B, C and FI. Donor supported project are categorized in the current practice. Terms of references are not specified in detail in Mongol.

Public consultation and information disclosure: Public consultation and information disclosure are not in detail in Mongolia. Under the JICA guidelines, project proponents consult with local stakeholders through public participation. Project proponents also disclose information well in advance when they have meetings with local stakeholders.

Project proponents should undertake an environmental assessment which fits in line with both governmental laws and JICA guidelines (Chapter 5).

2. Summary of Social Considerations

Mongolia guarantees equal rights to all citizens with the right to a healthy and safe environment guaranteed by the Constitution (1992). As the economy has expanded, social and living conditions have improved for most of the population. According to the World Bank data, 27.4% of the population is living below the poverty line (2012). While the country is performing well on gender equality in general, indications of gender disparities are still evident in some socioeconomic factors. As for child labor, 93.9 thousand children, aged between 5-17 years, have engaged in economic activities during 2011-2012. 0.3% of these children work in the mining sector, 81.7% work in the agricultural sector, 3% work in processing factories, and 11.8% work in trade and commerce respectively. Social changes, globalization, and rapid urbanization increasingly affect the cultural traditions on which Mongolian society is based. One of the serious challenges facing this country is achieving that balance between rapid economic growth and the preservation of its cultural heritage and identity (Chapter 4).

Despite the number of ethnic subgroups, the Mongols share a homogenous culture whose distinctions consist of subtle variations in dialect, history, and national costume. Most of these Mongol groups, except for the Kazakhs, traditionally followed shamanism or adopted Tibetan Buddhism. However, atheistic communism later diminished those practices. Mongolia's largest ethnic minority, the Kazakhs, speak a Turkic language, which is also the language of instruction in the local school system and the local government offices. The rights of its indigenous

population to live the traditional nomadic lifestyle and engage in nomadic livestock husbandry are habitually violated. Their fertile pastures and hay lands' best fresh water sources are lost to owners of mining licenses and concessions (Section 7.4 and 7.5).

Currently, this issue is regulated by several laws such as Constitution (1992), Education law (1995), Labor Law (1999), Anti-Discrimination Law (2001), Criminal Code (2002), and Culture Law (1995). The rights of indigenous peoples are guaranteed by the Constitution of Mongolia which states: "No person may be discriminated on the basis of ethnic origin, language, race, age, sex, social origin or status, property, occupation or post, religion, opinion, or education". However no laws or regulations specifically focused on indigenous peoples have been enacted at any level of government in Mongolia. Many aspects remain as gaps between JICA guidelines and Mongolian laws. JICA or project proponents can take necessary measures to consider the indigenous people in Mongolia as follows:

Screening: At the planning stage, JICA or project proponents shall screen the project, whether it has impacts on the indigenous people and categorize it in line with JICA guidelines.

Scoping and Terms of References: When the proposed project has potential impacts on the indigenous people, social assessment of the indigenous people shall be included as an item of environmental review or assessment keeping in line with JICA guidelines.

Indigenous Peoples Plan: Measures for the affected indigenous peoples shall be prepared as an indigenous peoples plan (IPP) and must be made public in compliance with the law of EIA in 2012. In preparing the indigenous peoples plan, consultations must be made with the affected indigenous peoples based on sufficient information made available to them in advance.

Consultation and Information Disclosure: When projects have adverse impacts on indigenous peoples, efforts must be made to obtain the consent of indigenous peoples in the process of free, prior, and informed consultation. Efforts must be made to obtain the consent of indigenous peoples in the process of free, prior, and informed consultation. When consultations are held, it is desirable for explanations to be given in a form, manner, and language that are understandable to the people concerned.

Currently, practices of JICA and other donors are in line with their respective guidelines. In order to bridge the gap between Mongolian Law and JICA guidelines, project proponents shall undertake the consideration of indigenous people keeping in line with both governmental laws and JICA guidelines.

The issues of land acquisition and involuntary resettlement are regulated by several laws, such as: land law (2002), law on allocation of land to Mongolian Citizens for Ownership (2003),

Civil Code of Mongolia (2002), and Constitution (1992). Currently, Mongolia tries to regulate this issue by a single law to streamline the legal framework. Law of land acquisition, with compensation, is based on inevitable public needs under the preparation and support of ADB.

The differences of guidelines and rules among WB, ADB, Mongolia, and JICA are compared. Many aspects remain as gaps between JICA guidelines and Mongolian laws.

Eligibility and entitlement: Non-titled occupants of land without ownership or possession license, including lessees of land and structures, are not eligible for compensation and rehabilitation entitlements in Mongolia. However, in the World Bank and ADB guideline, occupants without legal title are also under considerations.

Compensation: Compensation for affected land is based on a government compensation tariff, not market rates, although there is room for negotiation with individual affected persons. On the other hand, JICA guideline encourages providing compensations based on market prices.

Income and livelihood rehabilitation: Income and livelihood rehabilitation is not normally considered in Mongolia. JICA guidelines mentions that living standards and income opportunities and production levels of the project affected people should be improved or at least restored to their pre-project levels.

Resettlement plan: There is no requirement to prepare a resettlement plan in Mongolia. In JICA guideline, resettlement action plans must be prepared and made available to the public.

Grievance procedures: There are no project internal grievance procedures preceding dispute resolution in Mongolia. JICA guideline mentions that appropriate and accessible grievance mechanisms must be established for the affected people and their communities.

Public consultation and information disclosure: Public consultation and information disclosure are not ensured and detail. Under the JICA guideline, in preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance. When consultations are held, explanations must be given in a form, manner, and language that are understandable to the affected people. In addition, appropriate participation by affected people shall be encouraged in the planning, implementation and monitoring of resettlement action plans.

Currently, practices of JICA and other donors are in line with their respective guidelines. In order to bridge the gap between Mongolian Law and JICA guidelines, project proponents shall undertake land acquisition and involuntary resettlement keeping in line with both governmental laws and JICA guidelines.

Chapter 1 Country Overview

1.1 Overview

1.1.1 Map of Mongolia

Source: UNDP

Figure 1.1 Geographical Map

1.1.2 Location and Topography

Mongolia is located in the Northern Hemisphere temperate zone. Mongolia is a landlocked country located in northern Asia, sharing borders with China and Russia. With a small population size of 2.8 million, in a vast geographical territory of 1.5 million square kilometers, Mongolia is one of the most sparsely populated countries in the world.

Figure 1.2 Location of Mongolia

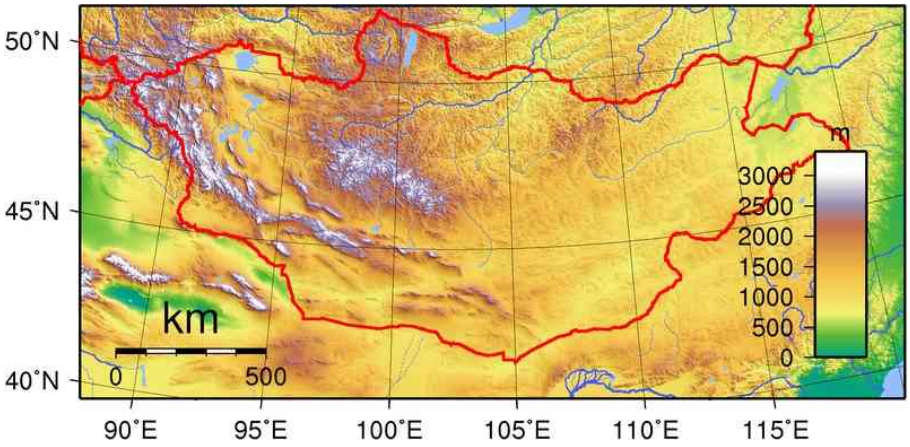


Figure 1.3 Topography of Mongolia

1.1.3 Climate

Situated at an average altitude of 1,500 m above the sea level separated from the oceans, surrounded by high mountain chains that are blocking the wet winds, Mongolia has an extreme continental climate. The winter continues long with cold temperature but summer is hot and not so long. Winter lasts from November to late April, Spring May through June. Summer continued from July through to September. The average summer temperature is +20c (+65F). Winter is -20c (-13F). The wind is 1.5-4.5m/s. The average rainfall is 200-220 mm. In Mongolia there are 250 sunny days a year, often with clear cloudless skies. Therefore Mongolia is known to the world as a country of "Blue Sky"

Table 1.1 Average Monthly Temperature and Precipitation in Ulaanbaatar

	1	2	3	4	5	6	7	8	9	10	11	12
Temperature (deg C)	-25	-30	-12	-2	+6	13	+17	+15	+7	0	-13	-22
Precipitation (mm)	0	0	3	6	12	30	75	55	24	7	5	3

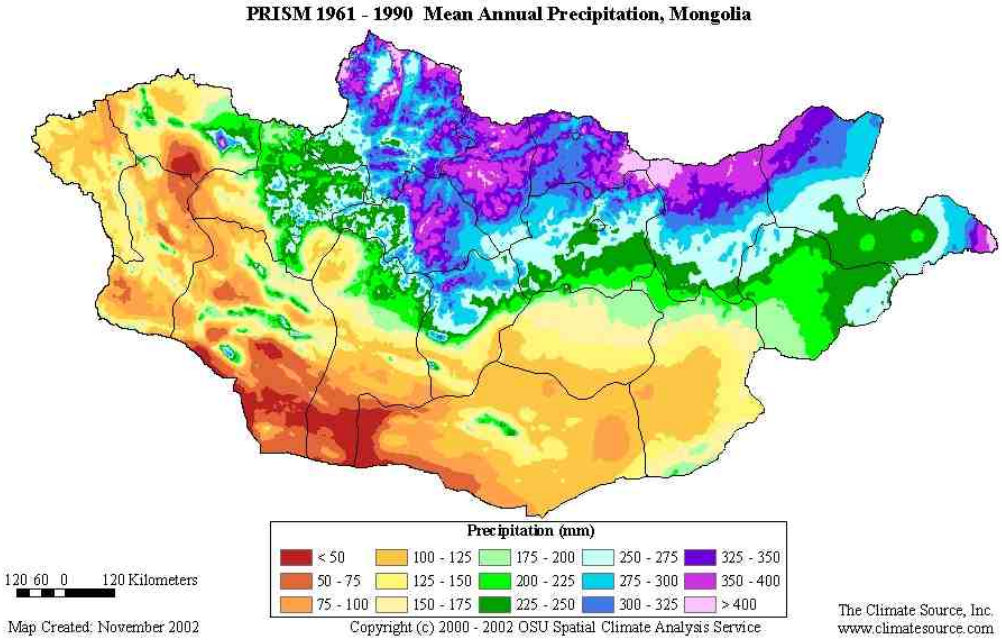


Figure 1.4 Mean Annual Precipitation of Mongolia

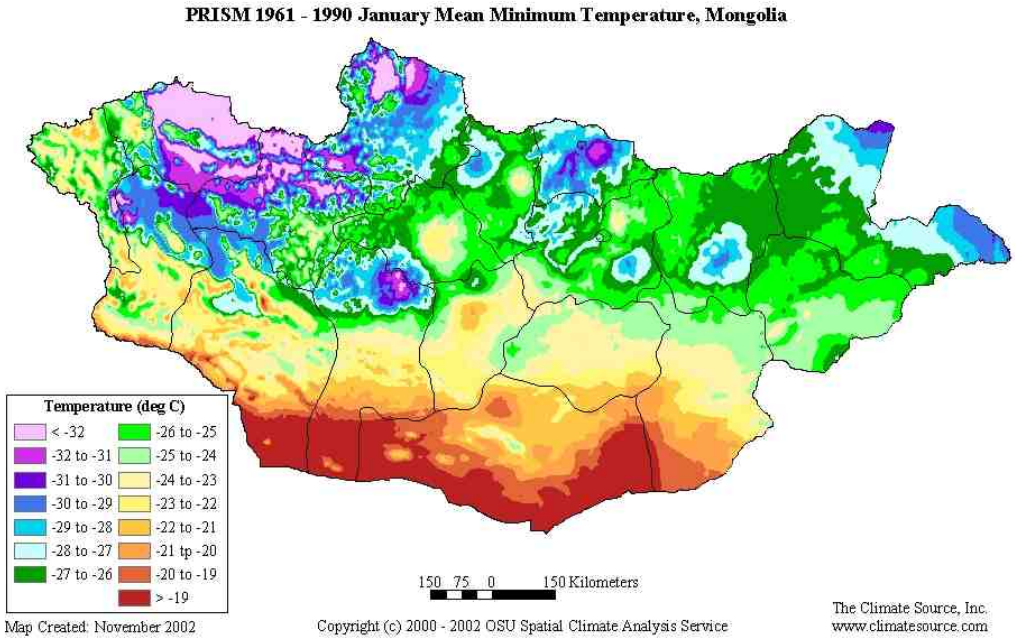
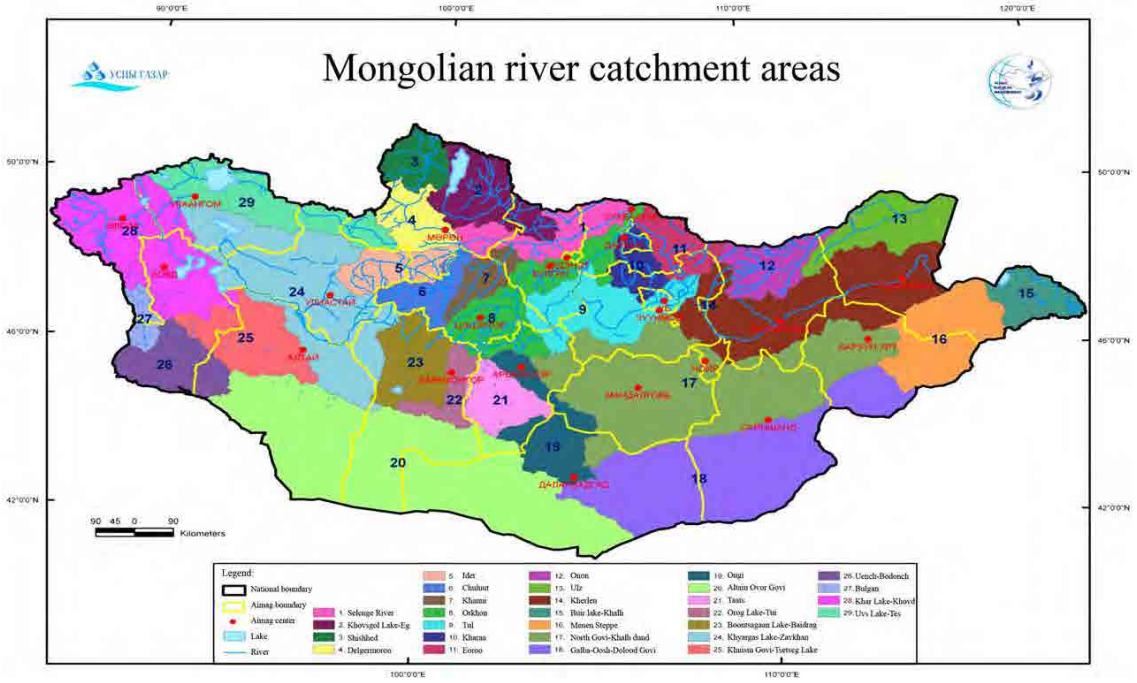


Figure 1.5 Temperature in Mongolia

1.1.4 River System

The rivers drain in three directions: north to the Arctic Ocean, east to the Pacific, or into the deserts and the depressions of Inner Asia. Rivers are most extensively developed in the north, and the country's major river system is that of the Selenge, which drains into Lake Baikal. Some minor tributaries of Siberia's Yenisei River also rise in the mountains of northwestern Mongolia. Rivers in northeastern Mongolia drain into the Pacific through the Argun and Amur (Heilong Jiang) rivers, while the few streams of southern and western Mongolia do not reach the sea but run into lakes or deserts.

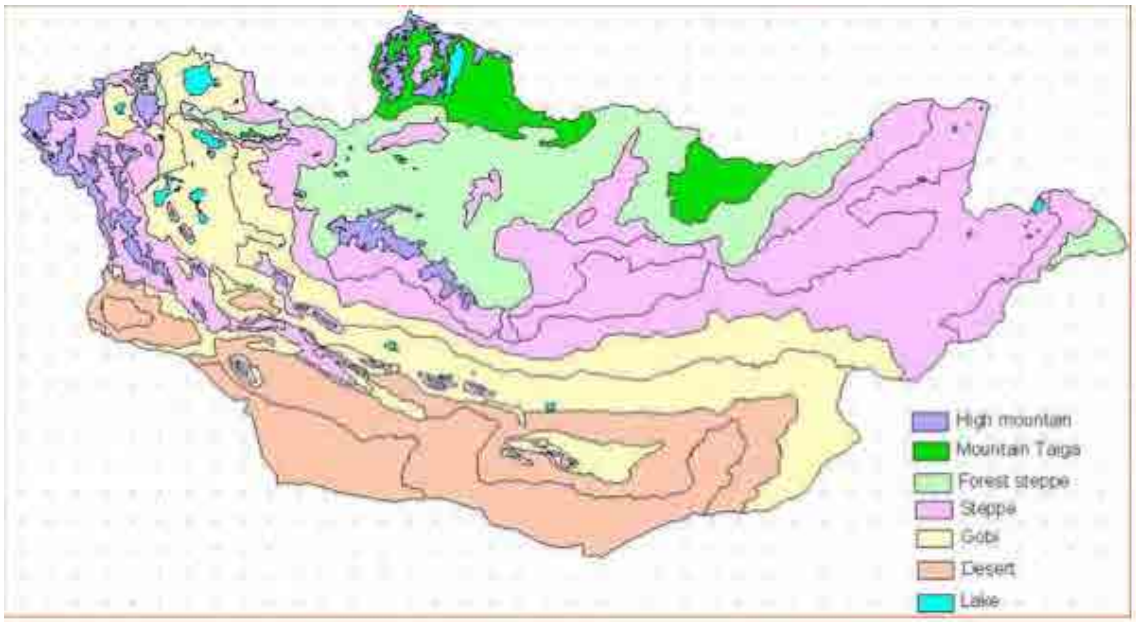


Source: Ministry of Environment and Green Development, Integrated Water Management National Assessment Report Volume II, 2012

Figure 1.6 River Catchment Area in Mongolia

1.1.5 Land Use

Mongolia is housing a large biodiversity of fauna and flora through its natural environment. Its natural environment can be divided into 4 major regions differing in natural and geographical features: Khangai and Khentii, Altain mountains, Dornod plains and Gobi regions. In addition, Mongolia can also be divided into six natural zones: high mountain zone, taiga (forest) zone, forest steppe zone, steppe zone, desert steppe zone (Gobi) and desert zone. With the lowest human population density of any country on earth, and with one of the highest proportions of land area classified as protected, Mongolia is a heaven where plants and animals can thrive.



Source: Ministry of Environment and Green Development, Integrated Water Management National Assessment Report Volume II, 2012

Figure 1.7 Natural Zone

High Mountain Zone

All Mongolia is "mountain", the country averaging 1.5 kilometers above the sea level. In Mongolian terms, 5% is at such high altitude as to endure extreme condition -the High Mountain Zone - winds, extreme cold, and very short growing season. The Zone is above the tree line, characterized by tundra, alpine- sedge meadows, upland swamps and lichen- covered screes and boulders. Plants include shrubby Ground Birch; occasion Mountain Pine, beautiful white Gentian and Mountain Saxifrage. Typical mammals are "Argali", Ibex, Snow leopard, Ermine, Snow Marten and Mountain Hare, birds include White Ptarmigan, Altai Snow cock, Eurasian Dottrel, Rock Pigeon and Red-Billed Chough.

Taiga (forest) Zone

Northern Mongolia includes the southern rim of Siberia's vast taiga forest, the largest forest on the planet Earth. The taiga is boreal coniferous forest, mainly Siberian Larch and in higher areas Siberian Pine. Other confers such as Siberian Spruce feature. The bark and forest floor is rich in moss and lichens. In Mongolia are relatively undisturbed.

Forest Steppe Zone

To the south, about 25% of Mongolia is a mix of forest and grassland, a transition zone between taiga forest and steppe , with northern slopes clothed in trees and southern slopes carpets of wild 'flower of open grassland'. This attractive landscape has a high biological diversity, home to Roe Deer, Elk, Wolf, Red Fox, and Tolai Hare, Siberian marmot.

Steppe Zone

Further south, the Steppe Zone is a 'sea grass' covering 20% of Mongolia, crucial for the livestock of the semi-nomadic herder families. These permanent pastures, undisturbed by ploughing or artificial chemical are rich carpets of sweet smelling herbs, flower and grasses. The steppe Zone is crucial for the semi-nomadic life with livestock such as horses, goats, cattle, yaks and camels.

Desert Steppe Zone (Gobi)

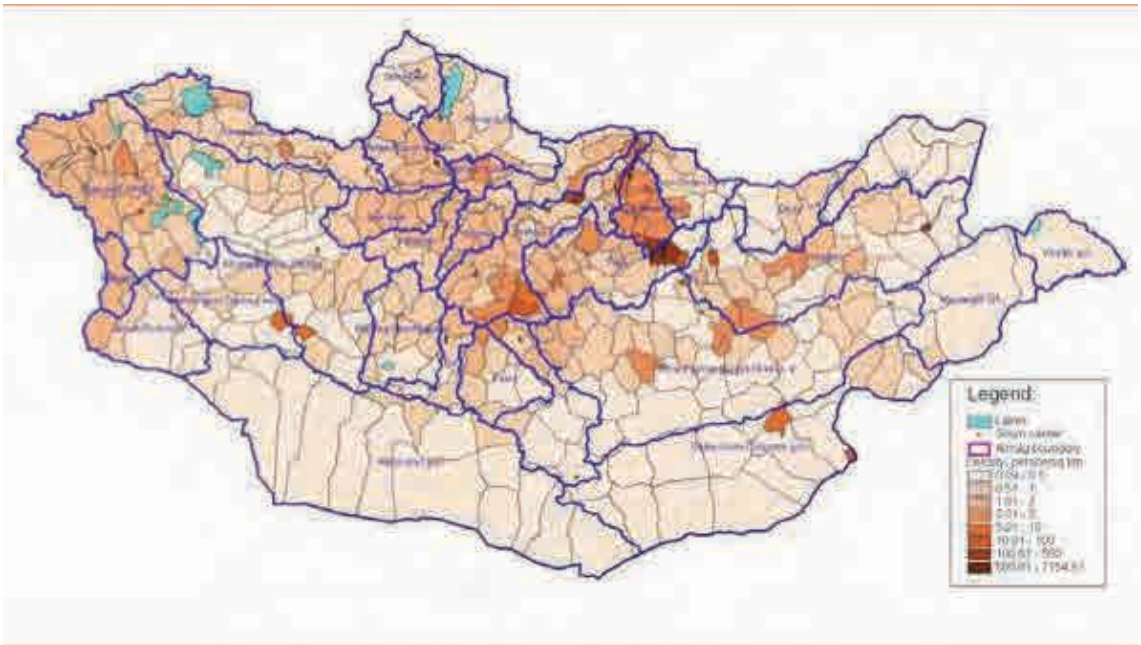
South again the lush green grasslands of the steppe give away to a transition, the Desert Steppe Zone on the north rim of the Gobi Desert. The transition zone covers 20% of Mongolia, a dry region of parched grasslands and salt pans, strong winds and dust storm. It has grasses and shrubs very different from those of the Steppe Zone many are unique to Central Asia . Desert Steppe Zone, Desert to South. In the skies, are Houbara Bustard, Cinerous Vulture and huge Lammergeyer. Grazing animals include herds of Wild Horse, Wild ass, Saiga Antelope and Black-Tailed Gazelle.

Desert Zone

To the south, lies the vast Gobi, a massive desert straddling the border of Mongolia and the Inner Mongolia region of China. One of the world's great deserts, much of the Gobi is a daunting place of bare Rocky Mountains, sand dunes, huge desert flats, relieved by well-watered oases. The climate is harsh, from 40degree centigrade in summer to -40degree centigrade in winter.

1.1.6 Demographics

The population of Mongolia was 2.8 million in 2012. The average rate of the annual population growth between 2010 and 2015 was 1.5%. Its population density was 1.8 people/km^2 (national average). Its Gross Domestic Product (GDP) was $10.3 billion.



Source: Ministry of Environment and Green Development, Integrated Water Management National Assessment Report Volume II, 2012

Figure 1.8 Population density of Mongolia

Mongolia is well known for its rich history and much of its culture is still rooted in nomadic or semi-pastoral traditions. However, over the past few decades, Mongolia has become increasingly urbanized, with 62.6% of the population now living in urban areas, mostly in the capital city of Ulaanbaatar.

Following its transition from socialism to a market-led economy and democracy in 1990; Mongolia has managed a comprehensive economic and political reform. Its economy, for the most part, relies on agriculture and livestock, and mining, with 40% of actively employed people engaged in agriculture and livestock. In recent years, Mongolia has experienced a rapid economic transition, which has been driven mainly by growth in the mining industry - accounting for 22.5% of GDP and 60% of total exports. The country attracts many international investors due to its wealth of natural resources and is one of the fastest growing economies in Asia, with an economic growth rate over 10% annually. With the expected launch of new large mining projects, GDP is likely to double by 2015.

1.2 Legal and Political Systems: Environmental and Social Considerations

1.2.1 Calendar and Time Zone

Time in Mongolia is officially represented by the Mongolian Standard Time (UTC+08:00). However the far western provinces of Khovd, Uvs and Bayan-Ölgii use UTC+07:00.

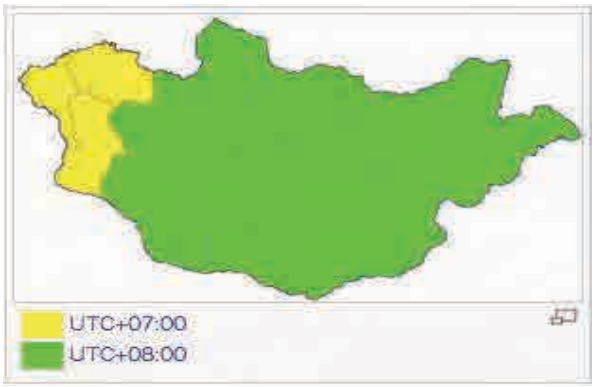


Figure 1.9 Time Zone in Mongolia

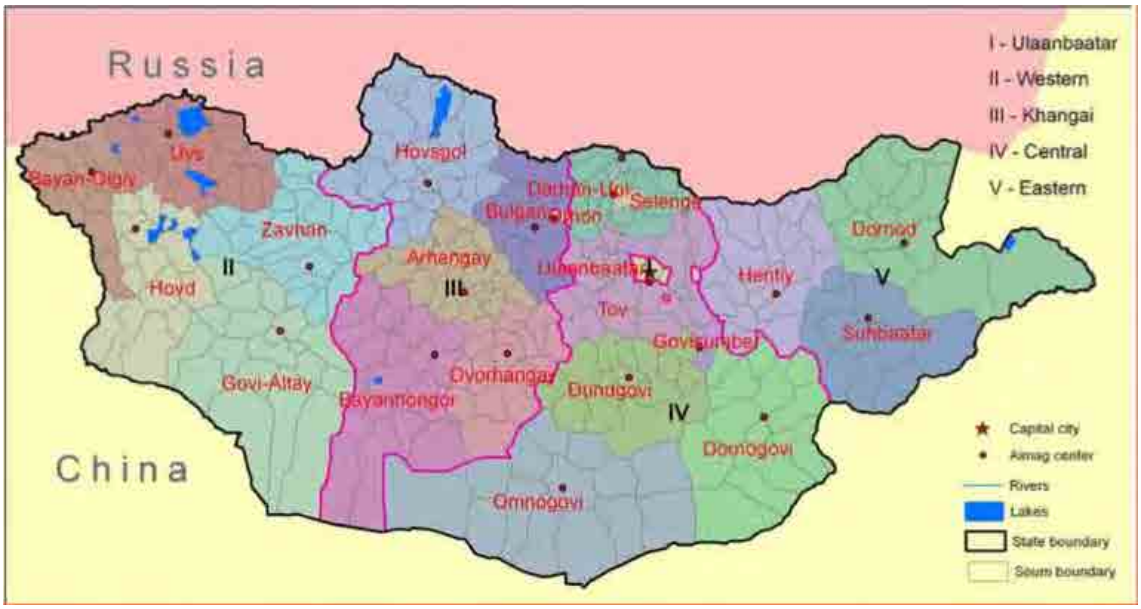
1.2.2 Administrative Divisions

Mongolia is administratively divided into 21 Aimags and one Capital city, Aimags into Soums, Soums into Baghs, the capital city into districts, and the districts into Khoroos. Area, population and other information are shown in the table below.

Table 1.2 Administrative Division

Region	Aimag and Capital	Soum and Districts	Bagh and Khoroo	Area ($1,000km^2$)	Population (1,000 person)	Population Density	Household (1,000HH)
West (5)	Bayan-Olgii	13	86	45.7	90.5	1.98	20.7
	Govi-Altai	18	83	141.4	53.7	0.4	15.2
	Zavkhan	24	114	82.5	64.6	0.8	19.9
	Uvs	19	92	69.6	73.8	1.1	19.8
	Khovd	17	91	76.1	78.3	1.0	20
Khangai (6)	Arkhangai	19	99	55.3	85.2	1.5	26.5
	Bayankhongor	20	103	116.0	77.8	0.7	23.7
	Bulgan	16	74	48.7	54.5	1.1	17.2
	Orkhon	2	22	0.8	92.8	110.5	24.9
	Ovorkhangai	19	105	62.9	102.1	1.6	32.1
	Khovsgol	23	125	100.6	117.6	1.2	35.5
Central (7)	Govisumber	3	10	5.5	14.3	2.6	4.6
	Darkhan-Uul	4	24	3.3	97.9	29.8	26.3
	Dornogovi	14	60	109.5	61.3	0.6	17.9
	Dundgovi	15	66	74.7	37.8	0.5	13.2
	Omnogovi	15	56	165.4	65.4	0.4	17.8
	Selenge	17	49	41.2	103.5	2.5	29.4
	Tov	27	97	74.0	86.8	1.2	26.8
East (3)	Dornod	14	63	123.6	71.3	0.6	21.9
	Sukhbaatar	13	66	82.3	52.6	0.6	16
	Khentii	17	83	80.3	67.5	0.8	21.8
Capital	Ulaanbaatar	9	132	4.7	1318.1	280.4	317.1
TOTAL	22	338	1,700	1,564	2,867.7	1.8	768.3

Source: National Statistical Office of Mongolia, Mongolian Statistical Yearbook 2012.



Source: Ministry of Environment and Green Development, Integrated Water Management National Assessment Report Volume II, 2012

Figure 1.10 Administrative Map

1.2.3 Development Plan

Since 1990s, Mongolia changed its socio-economic system towards a democratic free market economy. The Millennium Development Goals (MDGs) based Comprehensive National Development Strategy of Mongolia in 1998 states the intensification of global and regional economic development, and creation of more favorable foreign economic and trade environment.

In June 2012 the Democratic Party won the 2012 parliamentary elections and became the majority at the Parliament. The Democratic Party established a coalition government with Civil Will-Green Party, and Justice Coalition of new MPRP and Mongolian National Democratic Party due to Democratic Party having not enough seats at the parliament to establish a government on its own by law. The new government of Mongolia announced that green development concept is a new development strategy of the country[1]. In the government action program for the period of 2012-2016, Green Development Objectives are:

- To develop green development concept and legal framework and to implement demonstration projects/programs in key economic sectors,
- To launch several ambitious industrial programs and projects in railway, mining, roads, industry, building sectors nationwide.
- To provide incentive to environmentally friendly, clean technologies and green consumption,
- To create mechanism to link green development policies with loan policies of major banks

[1] http://www.oecd.org/greengrowth/

or financing institutions who provide loans to big mining as well as other big infrastructure projects, and

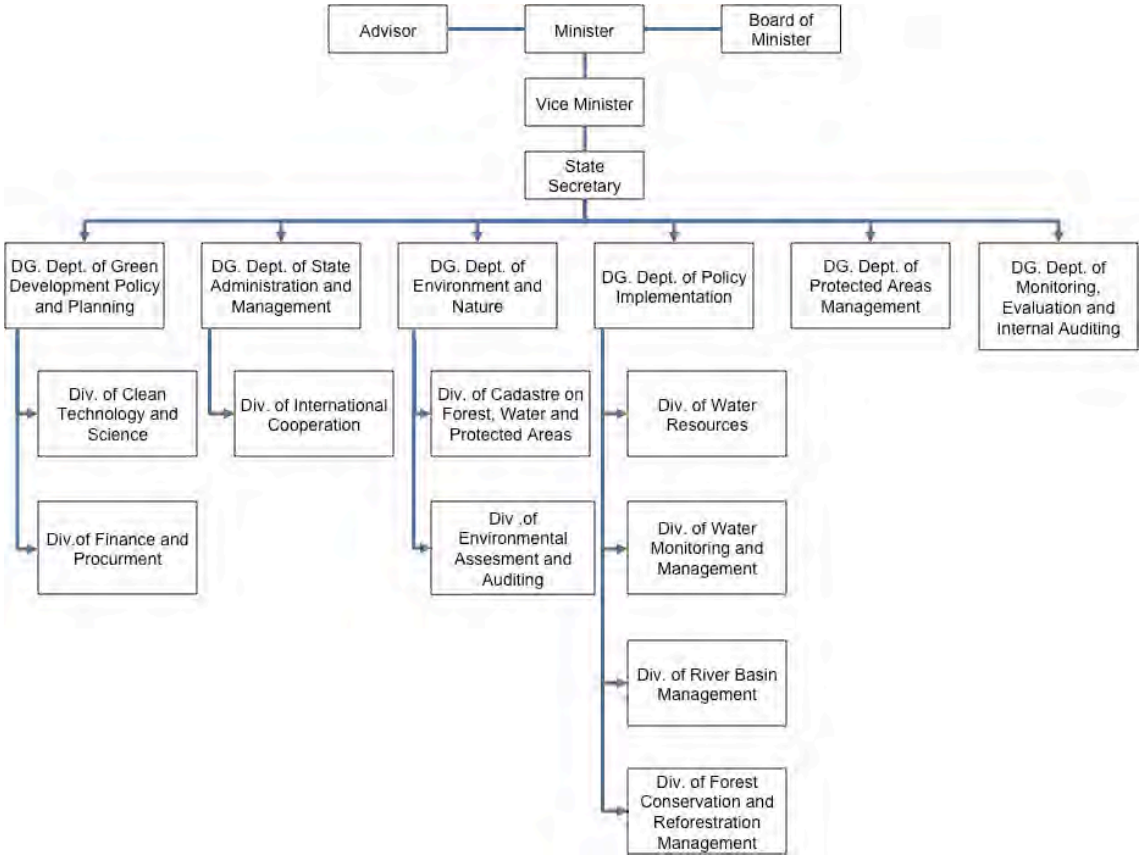
- To support introduction of environmentally friendly, best available techniques and technologies into mining activities and new development projects. To adopt principles of prohibiting mining activities which have severe environmental impacts and has negative net present values when environmental damage is taken into account.

1.2.4 Relevant Organizations

Mongolian government has following ministries.

- Ministry of Environment and Green Development (MEGD)
- Ministry of Foreign Affairs
- Ministry of Finance
- Ministry of Justice
- Ministry of Construction and Urban Development
- Ministry of Defense
- Ministry of Education and Science
- Ministry of Road and Transportation
- Ministry of Culture, Sports and Tourism
- Ministry of Mining
- Ministry of Labor
- Ministry of Population Development and Social Welfare
- Ministry of Economic Development
- Ministry of Energy
- Ministry of Health

Ministry of Environment and Green Development (MEGD), established in 2012, plays a pivotal role in the administration in environmental issues.



Source: Ministry of Environment and Green Development

Figure 1. 11 Organization Chart of Ministry of Environment and Green Development

Ministry of Construction and Urban Development responsible for infrastructure development is main organization handling land acquisition and resettlement of people. Ministry of Population Development and Social Welfare is main organization responsible for indigenous people.

The MEGD is the lead agency for environmental management in Mongolia, the state administrative organization in charge of nature and environment.

Local administrative bodies are also responsible for the environment. Department of Environment (DE) for Aimag (Province) is responsible for the environment. At the capital city level, it is the DE of Municipality of Ulaanbaatar that is vested with the responsibility of conducting EIA of projects proposed.

1.3 Overview and Contact detail of Relevant Organizations

The organizations relevant to the environment are as shown in the table below.

Table 1.3 Organization Relevant to the Environment

Organization	Remarks	Contact
Ministry of Environment and Green Development (MEGD)	Environmental Assessment and Audit Division	Ms. Purevsuren Tumurtogoo, Officer, T:51 267 283, M:99 109 311; Government tbuilding II United Nations Street 5/2 Chingeltel district, Ulaanbaatar
		Mr. Tumenjarga, Senior Officer,
	Forest Division	Mr. Chufuuubaatar Ts, Officer, T:261726
		Ms. Enkhjargal D, Officer, , T:976-96 067 701
	Division of Water Monitoring and Management	Mr. Munkh-erdem Gombosuren, Director T:51-262 131
	Department of Environment and Natural Resources	Ms. Tseepil Avirmed, Officer, M: 88 110 922
	Division of Water	Ms. Usniibattsetseg, M:99 199 377
Ministry of Construction and Urban Development	In charge of public utilities	Ms. Batchimeg Renchinsuren, Senior Officer, Housing and Public Utility Policy Implementation and Coordination Dept. T:51 260 294
Ministry of Construction and Urban Development	In chage of urban development	Mr. Purevdorj Enkhmandakh, Senior Officer, Urban Development and Land Affairs Policy Dept. T: 11 329 116,
Mineral Resources Authority	Ministry issue the resource development certificate	Mr. Battulga Sosorb, Director of Mining Diivsion,T:11 310 041
		Mr.Tsegts, Senior officer, Mining and research division
National University of Mongolia	Developing EIA framework	Dr. Ishgaldan BYAMBAKHUU, Executive Director, Institute for Sustainable Development
	Working as consultants	Dr. Ochir Altansukh, Associate Professor, School of Earth Sciences, T:77 307 730, ext.6113
Asian Development Bank (ADB)	International organization	Ms. Ongonsar Purev, Environmental Specialist
World Bank	International organization.	Ulaanbaatar, +(976) 7007 8200 5th Floor, MCS Plaza Building, Seoul Street-4, Ulaanbaatar-210644
UNDP	International organization	UNDP Country Office UN House United Nations Street -14 Sukhbaatar District Ulaanbaatar - 14201, Mongolia Tel: 976-11-327585
UNDP Strengthening Protected Area Network Project.	UNDP project for protected areas	Ms. Oyuntulkhuur B., National Project Coordinator,
WCS MONGOLIA	International NGO active in Mongolia	201 San Business Center, Amar Street-29, Small Ring Road - 14200, Sukhbaatar district, 8th khoroo, Ulaanbaatar. PO Box 485, Post Office 38, Ulaanbaatar 15141, Mongolia, (+976) 11-32-37-19
WWF Mongolia	International NGO active in Mongolia	Amar Street-4, SBD-8 PO Box-115, PO-20A Ulaanbaatar 210620A Mongolia Tel: +976 11 311 659 Fax : +976 11 310 237 E-mail: info@wwf.mn
The Nature Conservacy	International NGO active in Mongolia	Sukhbaatar district, Amar str, Internom bldg, 2nd floor

		14201 Ulaanbaatar, Mongolia - See more at: http://www.nature.org/about-us/contact/worldwide-and-field-offices.xml#sthash.ffMY2DbR.dpuf; Email: eoidov@tnc.org
Mongolian Nature and Environment Consortium (MNEC), Mongolia	NGO assisting decision makers, scientists, public/community and the private sector in conducting studies, scientific research and practical activities. Alliance of 14 Mongolian nature and environment conservation research institutes, universities and NGOs.	1. Dr. M. Badarch, Director 2. Mr. B. Erdene-Ochir, Programme Coordinator Address: Sukhbaatar District, Erkhuu Street, XI Khoroolol, Building 10/G, Door 4 Postal address: Post office-20, Ulaanbaatar, Mongolia-210620 Tel: +976-11-354272 or +976-9919-9276 Fax: +976-11-354272 E-mail: mnec@magicnet.mn
Eco Trade	Consulting company for the environment	Mr. Enhtulga,

Chapter 2 Natural Environment

2.1 Overview

Mongolia, being a nation valuing wildlife and cherishing nature, it is only natural for this country to be part of international environmental conventions and to have a legislation supporting the protection of environment. Nowadays, Mongolia's Parliament has revised its laws concerning the environment to further strengthen its environmental legislation and regulation and to have a better environmental approach to regulate growing industrial activities such as the mining sector. Despite its recent economic growth, one can hope that Mongolia will manage through its renewed legislation to fully integrate the environmental perspective in its growth strategy.

2.2 Regulation and Policies

2.2.1 International Agreements

At the global level, Mongolia has ratified more than ten important international environmental agreements such as the "Convention on Biological Diversity in 1992", the "Convention to Combat Desertification in 1994". For further details of the status of the ratification and the application of those agreements, refer to table A-1 in the Appendix.

In addition, the Mongolian government has been developing bilateral cooperation on environmental protection with China since 1990, the Republic of Kyrgyzstan since 1993, with Russia since 1994.

2.2.2 Domestic Law

The 1991 Constitution establishes the right of Mongolian citizens to live in a safe and healthy environment and states that all land and natural resources of Mongolia are subject to state protection.

Following the United Nations Conference on Environment and Development of Rio's Conference (UNCED), Mongolia has adopted a large number of laws related to the protection of its natural environment and species. Those laws are all based on the Constitution of Mongolia and have been enacted and implemented in accordance with the Law on Governmental Administration.

Table 2.1 Primary Mongolian Environmental Law

		Documents	Year
General	General	The Constitution of Mongolia	1992
	Environmental Management	Law on Environmental Protection	1995
	Environmental Management	Decree on Environmental Audit	2013
	EIA	Law on Environmental Impact Assessment	2012
	EIA	Regulation of EIA	2012
Protected Area	Protected Area	Law on Special Protected Areas	1994
	Protected Area	Explanation of Law on Protected Area	
	Protected Area	Draft Law on Protected Area	
	Protected Area	Law on Buffer Zones	1997
Ecology	Forest	Law on Forests	2012
	Animal	Law on Hunting	2012
	Fauna & Flora	Law on regulation of export and import of endangered species of flora and fauna	2002
	Plant	Law on Natural Plants	1995
	Plant	Law on Natural Plant Use Fees	2012
	Plant	Law on Plant Protection	2006
	Soil	Law on Subsoil	1998
Water	Water	Law on Water	2012
Land	Land	Law of Land	2002
	Land	Law on Land Fees	1999
	Land	Law on Allocation of Land to Mongolian Citizens for Ownership	2002
	Land	Draft Law on Land Acquisition	
	Land	Law on Land Cadastre and Mapping	2000
	Land	Law on implementation of regulations related to Land Possession Law	2002
	Land	Law on Urban Development	2008
	Land	Law on Geodesy and Cartography	1997
Resources	Resources	Law on Minerals	2006
	Resources	Law on Underground Resources	1998
	Resources	Petroleum Law	1991
Pollution	Air	Law on Air	2012
	Air	Law on Air Pollution Fee	2010
	Sanitation	Law on Sanitation	2012
	Waste	Law on Solid Waste	2010
Others	Tourism	Law on Tourism	2000
	Finance	Law on Reinvestment of Natural Resource Use Fees for Conservation	2000

Source: Legalinfo, Ministry of Environment and Green Development

The protection of natural resources and their proper use fall under the Law on Environmental Protection, Law on Water, Law on Land, Law on Protected Areas, Law on Protection from Toxic Chemicals, Law on Air, Law on Ground Mineral Resources. New amendments have been made to the Law on Protected Areas. The Law on Assessment of Impacts on the Environment enforced in 1998 and amended in 2012 is making important contributions to the improvement of environmental conditions in this country.

According to Mongolian Laws, all biological resources must be re-examined and determined periodically. For instance, forest resources shall be surveyed every ten years; animal and plant

resources shall be surveyed annually. As of today, resources of about 100 plant species that exist in this country have been identified and preparations to define the animal resources are now under way. Ecological and economic assessments of forests and some animals have been conducted. Based on Mongolian law, animal and plant species are classified as threatened, endangered and abundant. As a result, 18 animal species and 133 plant species are under protection and they can be used only for the purpose of scientific research. There are some 18 animal species and 234 plant species considered to be limited resources and measures shall be taken to restore their populations.

Before the harvesting or culling of any species, all individuals, economic entities or organizations should have carried out an environmental impact assessment and have plans to restore these species at their own expense; those restored species can be registered as the private property of the individuals, economic entities or organizations which have restored them. Also, they shall enjoy the right to domesticate wild species if they have the intention of breeding or growing them, and their activities will not have a negative impact on the environment. Any individuals, economic entities or organizations that trap animal species for the purpose of re-introduction, eliminating populations from disease core areas or for research, shall be exempted from fees. The government uses these fees for breeding of animals and growing plant species. According to law, 70% of fees accumulated from the use of forests should be used for afforestation.

2.3 Wildlife Species

Mongolia is a country where the fauna and flora is rich. As for the plants, 3,000 registered plant species, whose 975 are used for traditional medicine, can be found in Mongolia. Most of the plants that can be observed are wild shrubs and bushes able to survive in harsh weather conditions. A large variety of flowers different in colors and shapes can be found, but since there is a small amount of precipitation in the area, the majority of the flowers are smaller. The most common plant that can be found in Mongolia is the Caryopteris used for making perfumes. They are small shrubs with white or blue flowers and can grow up to 4 meters.

Mongolia is also a heaven for animals for it has the lowest human population density of any other countries and the highest proportions of land area protected. As for fish species, 75 species are living in Mongolian rivers and lakes located in area such as the Khuvsgul National Park. 10 species are from the Enclosed Basin of Central Asia, 22 species from the Arctic basin and 43 species from the Pacific Ocean. 22 reptile species and 6 amphibian species can also be found. 450 bird species (331 migratory and 119 residents within Mongolia a year round) are also a part of Mongolia’s wide variety of wildlife.

Finally, the 134 mammal species include:

- 14 species feeding on insects;
- 12 species with wings;
- 4 species of rats;
- 3 species hares;
- 65 species of rodents;
- 22 species of carnivorous animals;
- 14 species of hoofed animals.

A lot of these mammals, such as Argali sheep and gray wolf, are living in the Gun-Galuut Nature Reserve. The Mongolian Altai-Sayan is also famous with its unique fauna and flora where most of the species are endemic to the region and endangered worldwide.

2.3.1 Endemic Species

In Mongolia about 150 endemic vascular and lower plants can be found mainly in the Khangai, Gobi-Altai and Mongolian Altai regions. Among those plants are the Stipa mongolorum, Adonis mongolica, Betula mongolica, Atraphaxis bracteata, Calligonum gobicum, Nanophyton mongolicum, Gymnocarpus przewalskii, Silene mongolica, Potaninia mongolica, Chesneya mongolica, Astragalus gobicus, Oxytropis ulzii-chutagii and Armisia gobica.

As for endemic species of mammals, based on the taxonomy used in Wilson and Reeder (2005), there are 2 species: the Mongolian Saiga (Saiga borealis) and the Mongolian Three–toed Jerboa (Stylodipus sungorus). The Gobi Brown Bear is sometimes considered an endemic subspecies.

The bird that breeds only in Mongolia is the Mongolian Accentor (Prunella koslowi) based on the taxonomy used in Dickinson (2003). It can be found in Govi Gurvan Saikkhan Mountain, Khokh Serkhiin Nuruu, Khoton-Khorgon Lakes and Tsengel Khairkhan Mountain.

Concerning the freshwater fish, according to FishBase2004, the Hövsgöl Grayling (Thymallus nigrescens) is endemic and 5 other species not included in this list can also be considered endemic.

Arthropods that can only be found in Mongolia include a butterfly Tongeia burte, a ground beetle Calosoma fischeri, the longhorned beetles Eodorcadion gorbunovi and Pachytella churkini, a leaf beetle Crosita kowalewskii, a soft-winged flower beetle Haplomalachius (or Microlimus) forticornis, a water scavenger beetle Helophorus mongoliensis, a straight-snouted weevilPerapion terminassianae, the katydids Zichya piechockii and Deracantha kaszabi, a stonefly Capnia khubsugulica, and a jumping spider Dendryphantes darchan

The copepod crustacean Eucyclops dumonti is also only known in Mongolia.

Table 2.2 Summary of endemic species in Mongolia

Family	Number	Species
Vascular plants	150	Oit details
Mammals	2	Saiga borealis
		Stylodipus sungorus
Birds	1	Prunella koslowi
Freshwater Fishes	6	Thymallus nigrescens
		Barbatula dgebuadzei
		Triplophysa arnoldii
		Microphysogobio anudarini
		Oreoleuciscus angusticephalus
		Oreoleuciscus dsapchynensys
Arthropods	12	Tongeia burte
		Calosoma fischeri
		Eodorcadion gorbunovi
		Pachytella churkini
		Crosita kowalewskii
		Haplomalachius forticornis
		Helophorus mongoliensis
		Perapion terminassianae
		Zichya piechockii
		Deracantha kaszabi
		Capnia khubsugulica
		Dendryphantes darchan
Crustacean	1	Eucyclops dumonti

Source: Living National Treasures

2.3.2 Endangered Species

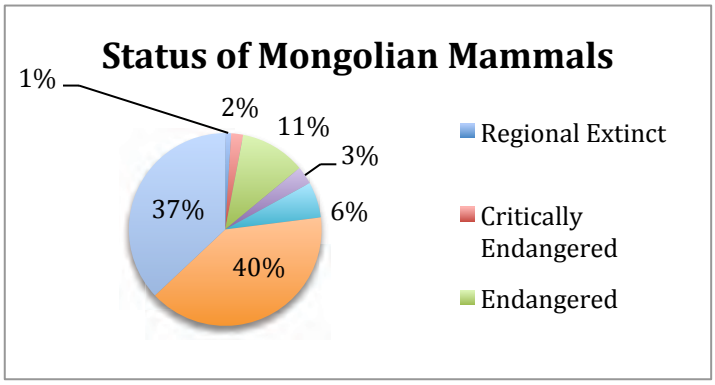
In Mongolia, 225 species are regionally threatened and must be treated with great care. The following graphs give details on the percentages of endangered species according to the IUCN (International Union for Conservation of Nature) red list categories and criteria at a regional level[1].

Table 2.3 Total of threatened species in Mongolia (included near threatened species)

Mammals	Birds	Reptiles and Amphibians	Fishes	Molluscs	Crustaceans	Insects	Plants	Total
29	36	11	14	4	2	19	110	225

Source: IUCN, the Zoological Society of London

[1] See the definition of the categories used in the Red List in table A-3 in the Appendix

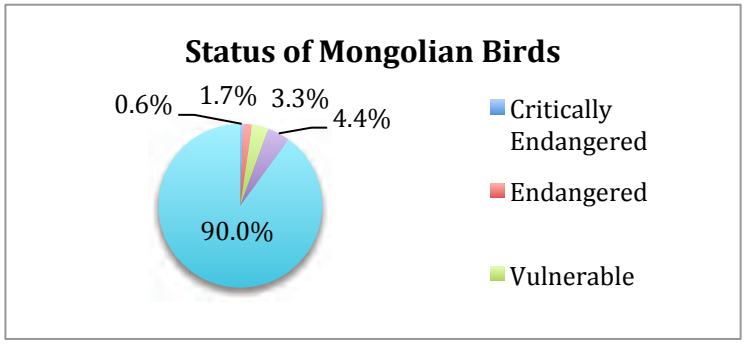


Source: IUCN, the Zoological Society of London

Figure 2.1 Status of Mongolian Mammals

2% out of 128 native Mongolian mammals are considered as critically endangered, 11% as endangered and 3 % as vulnerable, making a total of 16% of those mammals considered as regionally threatened. 6% of those mammals are near threatened. The only species considered as regionally extinct is the Asiatic wild dog (Cuon Alpinus).

The main threat for more than half of Mongolian endangered mammals, such as red deer and agali, is intentional mortality by hunting. Mongolian gazelle, musk deer, Siberian marmot and snow leopard are also hunted for their fur.

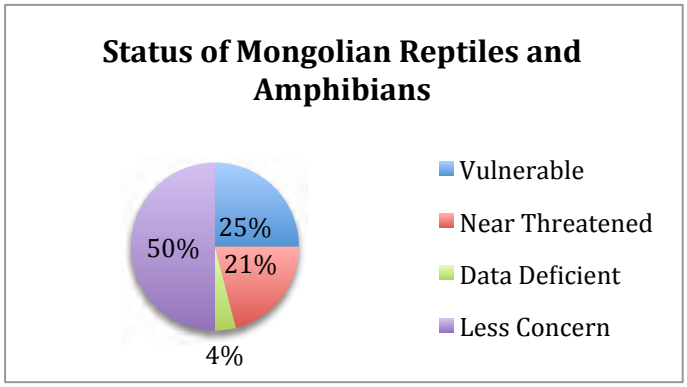


Source: IUCN, the Zoological Society of London

Figure 2.2 Status of Mongolian Birds

As for the 476 native bird species assessed in the IUCN Red List, 5.6% are categorised as being regionally threatened and 4.4% as near threatened. Furthermore, all species of crane and pheasant are under significant threat of regional extinction.

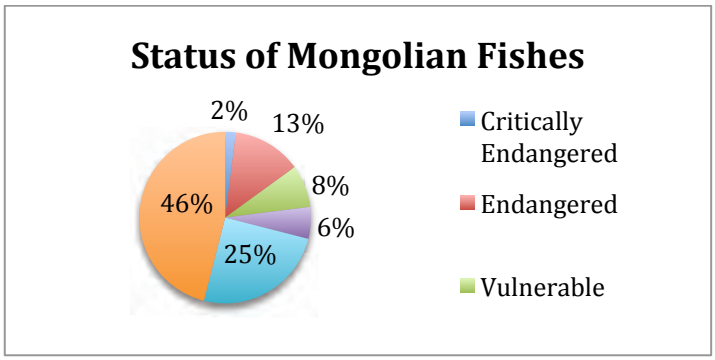
The primary threat to Mongolian birds is their habitat loss and degradation counting for 38.1% among categories of dominant threats. This is caused by mining, human settlement, tourism or recreation and fires.



Source: IUCN, the Zoological Society of London

Figure 2.3 Status of Mongolian Reptiles and Amphibians

24 native Mongolian reptiles and amphibians were assessed and 25% of them are considered as regionally threatened (in this case vulnerable). 21% of those species are considered near threatened. Among them, the majority of Mongolian amphibians are vulnerable. As for the reptiles, it's more than a quarter than them considered as vulnerable. They are both mainly threatened by habitat loss or degradation and pollution linked to resource extraction, domestic and agricultural waste.

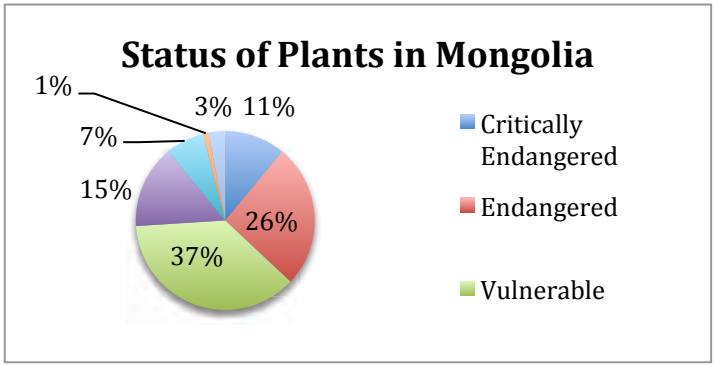


Source: IUCN, the Zoological Society of London

Figure 2.4 Status of Mongolian Fishes

While a quarter of Mongolian fish species are considered less concerned, almost another quarter (23%) are categorized as regionally threatened and are facing extinction. 6% are being seen as near threatened and close to qualifying threatened in the future.

They are threatened for most of them by intentional mortality by unregulated and illegal fishing and by habitat degradation caused by resource extraction (gold mining).



Source: IUCN, the Zoological Society of London

Figure 2.5 Status of Plans in Mongolia

74% of the 148 plants assessed by the IUCN are considered as regionally threatened. Among this percentage, 11% are critically endangered and are facing an extremely high risk of extinction in the wild. The primary threat to plant is habitat loss and degradation caused by livestock, mining, wood, industries and non-woody vegetation collection.

For further information on species categorized as regionally threatened and near threatened, refer to the table A-4 and A-5 in the Appendix. As for the threats touching those species, refer to table A-6 and figure A-1 and A-2 in the Appendix.

2.3.3 Internationally Protected Species

The two major international conventions to protect species that Mongolia is part of are the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Convention on Migratory Species of Wild Animals (CMS).

The CITES is an international agreement between governments to ensure that international trade in specimens of wild animals and plants does not threaten their survival.

Table 2.4 Total of Mongolian species in CITES Appendices

Appendix	Mammal	Bird	Reptile	Insect	Plant
I	9	12	0	0	0
II	8	52	2	1	9
III	3	0	0	0	0
Total	20	64	2	1	9

Source: CITES-listed species database, species

As for the CMS, it is an intergovernmental treaty, concluded under the aegis of the United Nations Environment Programme, concerned with the conservation of wildlife and habitats on a global scale. It aims to conserve terrestrial, aquatic and avian migratory species throughout their range.

Table 2.5 Total of Mongolian species in CMS Appendices

Appendix	Mammal	Bird
I	3	3
II	17	138
Total	20	141

Source: CMS-listed species database, species+

For a complete listing of species in Mongolia protected by the CITES and the CMS, refer to table A-7 and table A-8 the Appendix.

2.4 Important Ecosystems and Habitats

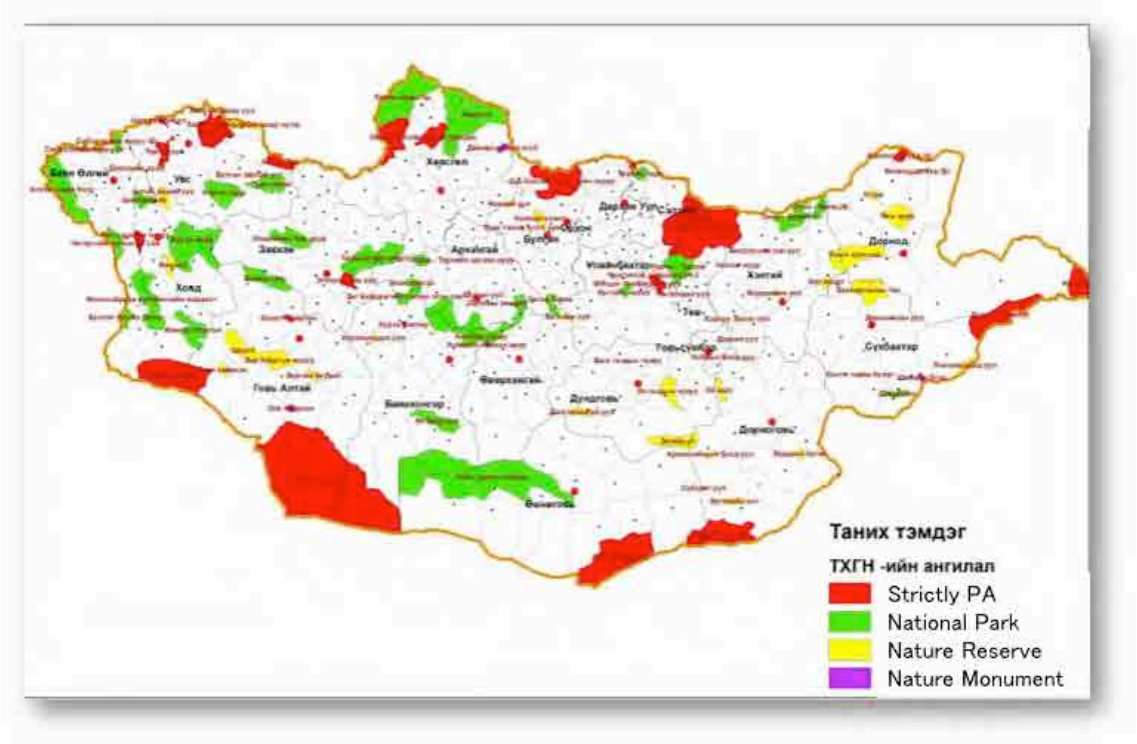
2.4.1 Protected Areas

In addition of the Ramsar sites that will be described in the next section, Mongolia's protected areas can be categorized into 4 types: a) Strict Protected Area, b) National Conservation Park, c) Nature Monument and d) Nature Reserve. Those sites can also be classified into IUCN protected area categories[2].

Law on Special Protected Areas in 1994 (amended in 1997, 2002, 2003, 2004, 2006, 2008) stipulates the Special Protected Areas. In 2012, there are in total 74 protected areas of four types that accounts for 16.5% of the total territory of Mongolia placed under the state protection. Ministry of Environment and Green Development has a plan to extend the protected area to 30% of the national territory by 2015.

Law on Buffer Zones in 1997 stipulates the Buffer Zones surrounding the Special Protected Areas. Buffer Zones shall consist of those areas established to minimize, eliminate and prevent actual and potential adverse impacts to Strictly Protected Areas and National Parks. Local governors in cooperation with Protected Area Administration and Council shall develop a Buffer Zone Management Plan and implement it. Organizations who conduct commercial logging, hunting, establishment of hunters' camps, exploration and mining of minerals, establish water reservoirs shall be subject to a detailed environmental impact assessment.

[2] Refer to the table A-7 in the Appendix for more precisions about IUCN protected area categories



Source: UNDP, Strengthening Protected Area Network Project

Figure 2.6 Special Protected Area

Table 2.6 List of Specially Protected Areas in Mongolia, March 2012

#	Protected areas	Size (hectares)	Type	Location of PAA	IUCN category	Year (s) designated	Decrees/Orders
A.Strictly Protected Areas							
1	Great Gobi "A" and "B"	5,560,412	SPA	Gobi-Altai aimag, Tsogt soum	Ib	1975	Parliament Decree # 26
2	Khukh Serkh	75,750	SPA	Bayan-Ulgii aimag, Deluun soum	Ib	1977	Parliament Decree # 26
3	Bogd Khan Mountain	41,349	SPA	Ulaanbaatar city	Ib	1957/1978/ 1995	Parliament Decree # 26
4	Khasagt Khairkhan	26,761	SPA	Gobi-Altai aimag, Tsogt soum	Ib	1965	Public Great Khural's Representative Order #17
5	Khan Khentii	1,233,514	SPA	Ulaanbaatar city, Institute of Meteorology and Hydrology	Ib	1992	Small Khural's Decree #11
6	Numrug	320,986	SPA	Dornod aimag, Kherlen soum	Ib	1992	Small Khural's Decree #11
7	Dornod Mongol	589,907	SPA	Dornod aimag, Choibalsan soum	Ib	1992	Small Khural's Decree #11
8	Mongol Daguur	108,154	SPA	Dornod aimag, Choibalsan soum	Ib	1992	Small Khural's Decree #11
9	Otgontenger Mountain	90,499	SPA	Zavkhan aimag, Uliastai soum	Ib	1992	Small Khural's Decree #11
10	Uvs Nuur (lake)	747,480	SPA	Uvs aimag, Ulaangom	Ib	1993/1995	Parliament Decree # 83 and 26
11	Small Gobi "A" and "B"	1,830,431	SPA	Southgobi aimag, Khanbogd soum	Ib	1996	Parliament Decree # 43
12	Khoridol Saridag	226,672	SPA	Khuvsgul aimag, Khatgal village	Ib	1997	Parliament Decree # 47
13	Ulaan Taiga	431,694	SPA	Khuvsgul aimag, Khatgal village	Ib	2011	National Park by 2003 Parliament Decree #30; SPA by 2011 Parliament Decree # 18
14	Altan Els	150,244	SPA	Uvs aimag, Ulaangom	Ib	1993/2008	
15	Zed Khantai	604,150	SPA	Bulgan aimag. Khutag-	Ib	2011	Parliament Decree # 18

	Buteelyn Nuruu			Undur			
	SPA Subtotal	**12,038,002**	**14**			**46.64%**	
				B.National Parks			
1	Khuvsgul	1,175,602	NP	Khuvsgul aimag, Khatgal village	II	1992	Small Khural's Decree #11
2	Khorgo Terkhyn Tsagaan Nuur (lake)	76,893	NP	Arkhangai aimag, Tsetserleg	II	1965/1995	SPA Public Great Khural's Representative Order #17; NP by Parliament Decree #26
3	Gobi Gurvan Saikhan	2,697,171	NP	Southgobi aimag, Dalanzadgad	II	1993/2000	Parliament Decree #83; extended in 2000
4	Gorkhi Terelj	291,767	NP	Ulaanbaatar city, Institute of Meteorology and Hydrology	II	1993	Parliament Decree #83
5	Altai Tavan Bogd	656,127	NP	Bayan-Ulgii aimag, Ulgii	II	1996	Parliament Decree #43
6	Khangai Nuruu	906,605	NP	Arkhangai aimag, Tsetserleg	II	1996	Parliament Decree #43
7	Khar Us Nuur (lake)	852,997	NP	Khovd aimag, Khovd	II	1997	Parliament Decree #47
8	Noyon Khangai	56,661	NP	Arkhangai aimag, Tsetserleg	II	1998	Parliament Decree #28
9	Khustai Nuruu	48,889	NP	Tuv aimag, Altanbulag soum, Khustain Nuruu	II	1993/1998	Nature Reserve by Parliament Decree # 83; NP by Parliament Decree #115
10	Tsambagarav	113,749	NP	Bayan-Ulgii aimag, Ulgii	II	2000	Parliament Decree #29
11	Siilemkhyn Nuruu	147,839	NP	Bayan-Ulgii aimag, Ulgii	II	2000	Parliament Decree #29
12	Khan Khukhii	221,598	NP	Uvs aimag, Ulaangom	II	2000	Parliament Decree #29
13	Khyargas Nuur (lake)	341,302	NP	Uvs aimag, Ulaangom	II	2001	Parliament Decree #29
14	Tarbagtai Nuruu	547,630	NP	Zavkhan aimag, Tosontsengel	II	2000	Parliament Decree #29
15	Onon Balj	400,467	NP	Khentii aimag, Dadal soum	II	2000	Parliament Decree #29
16	Tujyn Nars	70,805	NP	Selenge aimag, Sukhbaatar	II	2002	Parliament Decree #39
17	Myangan Ugalzat Nuruu	303,775	NP	Khovd aimag, Tsetsegt	II	2002	Parliament Decree #39
18	Bulgan Gol (river) - Ikh Ongog	92,221	NP		II	2011	SPA by Public Great Khural's Representative Order #17/NP by Parliament Decree #25
19	Khugnu Tarna	84,143	NP	Bulgan aimag, Rashaant soum	II	2003	Parliament Decree #30
20	Dariganga	64,548	NP	Sukhbaatar aimag, Dariganga soum	II	1993/2004	Ganga Nuur NM by 1993 Parliament Decree #83; NP by 2004 Parliament Decree #22
21	Munkh Khairkhan Uul (mountain)	506,097	NP	Khovd aimag, Munkhkhairkhan uul	II	2006	Parliament Decree #26
22	Orkhon Valley	92,718	NP	Uvurkhangai aimag, Kharkhorin soum	II	2006	Parliament Decree #26
23	Ikh Bogd Uul (mountain)	262,856	NP	Bayankhongor aimag, Bayankhongor	II	2008	Parliament Decree #5
24	Mongol Els	271,313	NP	Gobi-Altai aimag, Khukh Morit	II	2010	Parliament Decree #6
25	Ulaagchny Khar Nuur (lake)	259,403	NP		II	2010	Parliament Decree #6
26	Tengis Shishged River Basin	875,712	NP		II	2011	Parliament Decree #18
	NP subtotal	**11,418,886**	**26**			**44.24%**	
				C. Nature Monuments			
1	Bulgan Uul (mountain)	2,000	NM		III	1965/1995	Public Great Khural's Representative Order #17/Parliament Decree #26
2	Uran Togoo -Tulga Uul (mountain)	5,415	NM		III	1965/1995	Public Great Khural's Representative Order #17/Parliament Decree #26
3	Eej Khairkhan	23,096	NM	Gobi-Altai aimag, Tsogt soum	III	1992/1995	Small Khural Decree # 11/Parliament Decree #26
4	Khuisyn Naiman Nuur (lake)	11,149	NM	Uvurkhangai aimag, Kharkhorin soum	III	1992/1995	Small Khural Decree # 11/Parliament Decree #26
5	Suikhent Uul (mountain)	4,827	NM		III	1996	Parliament Decree #43

6	Shilyn Bogd	18,137	NM	Sukhbaatar aimag, Dariganga	III	2004	Parliament Decree #22
7	Khurgyn Khundy	6,104	NM	Sukhbaatar aimag, Dariganga	III	2004	Parliament Decree #22
8	Dayandeerkhyn Agui	31,277	NM	Khuvsgul aimag, Khatgal village	III	2006	Parliament Decree #26
9	Khuren Belchir	11,843	NM		III	2010	Parliament Decree #06
10	Baga Gazryn Chuluu	2,718	NM		III	2011	Parliament Decree #18
	NM subtotal	**116,567**	**10**			**0.45%**	
	D.Nature Reserves						
1	Nagalkhaan Uul (mountain)	1,861	NR	Ulaanbaatar city, Institute of Meteorology and Hydrology	III	1957/1995	Public Great Khural's Representative Order #31/Parliament Decree #26
2	Batkhaan Uul (mountain)	20,229	NR		III	1957/1995	Public Great Khural's Representative Order #31/Parliament Decree #26
3	Lkhachivandad uul (mountain)	58,663	NR		III	1964/1995	Public Great Khural's Representative Order #17/Parliament Decree #26
4	Ugtam	46,023	NR	Dornod aimag, Choibalsan	III	1993	Parliament Decree #83
5	Sharga Mankhan	396,438	NR		III	1993	Parliament Decree #83
6	Zagiin Us	273,571	NR		III	1996	Parliament Decree #43
7	Ikh Nart	66,592	NR		III	1996	Parliament Decree #43
8	Alag Khairkhan	36,723	NR	Gobi-Altai aimag, Bugat soum	III	1996	Parliament Decree #43
9	Burkhan Buudai	52,170	NR		III	1996	Parliament Decree #43
10	Ergelyn Zoo	59,840	NR		III	1996	Parliament Decree #43
11	Toson Khulstai	458,510	NR	Dornod aimag, Choibalsan	III	1998	Parliament Decree #28
12	Khar Yamaat	50,691	NR		III	1998	Parliament Decree #28
13	Yakhi Nuur (lake)	251,218	NR		III	1998	Parliament Decree #28
14	Develyn Aral	10,619	NR	Bayan-Ulgii aimag, Ulgii	III	2000	Parliament Decree #28
15	Khanjargalant	62,919	NR		III	2003	Parliament Decree #30
16	Namnan Uul (mountain)	29,684	NR		III	2003	Parliament Decree #30
17	Ikh Gazryn Chuluu	34,067	NR		III	2003	Parliament Decree #30
18	Tesyn Gol (river)	103,705	NR		III	2006	Parliament Decree #26
19	Altan Khukhii	90,735	NR		III	2010	Parliament Decree #6
20	Bogd Uul (mountain)	25,670	NR		III	2011	Parliament Decree #18
21	Burdene Bulag	36,159	NR		III	2011	Parliament Decree #18
22	Ongon Tavan Bulag	9,939	NR		III	2011	Parliament Decree #18
23	Delgerkhangai Uul (mountain)	58,324	NR		III	2011	Parliament Decree #18
24	Choiryn Bogd Uul (mountain)	5,265	NR		III	2011	Parliament Decree #18
	NR Subtotal	**2,239,616**	**24**			**8.68%**	
	PA total	**25,813,071**	**74**			**16.50%**	
	Total territory of Mongolia	**156,411,600**					

Source: UNDP, Strengthening Protected Area Network Project

2.4.2 Ramsar Sites

The Ramsar Convention, established in 1971 in the Iranian city of Ramsar, is the only environmental intergovernmental treaty dealing with a particular ecosystem that is to say wetlands. All over the planet, the convention allows for national and international cooperation for the conservation and wise use of wetlands and their resources. As of today, 168 countries are part of the Convention, allowing 2,168 sites to be worldly recognized and protecting a total area of 206,632,105 ha.

In response to the Article 2.1 of the Convention, Mongolia has designated suitable wetlands within its territory. The international community has recognized these wetlands to be of significant value not only for the country in which they are located, but also for the humanity.

In Mongolia, there are 11 wetlands recognised as important under the Ramsar Convention, amounting for a total of 1,439,530 ha of protected sites.

Table 2.7 Wetland of International importance in Mongolia

Site Name	Date of Designation	Region	Area (ha)	Coordinates
Mongol Daguur (Mongolian Dauria)	08/12/97	Dornod Province	210,000	49º42'N 115º06'E
Ogii Nuur	06/07/98	Arvayheer	2,510	47º46'N 102º46'E
Terhiyn Tsagaan Nuur	06/07/98	Arkhangai Province	6,110	48º10'N 099º43'E
Valley of Lakes (Boon Tsagaan Nuur, Taatsiin Tsagaan Nuur, Adgiin Tasgaan Nuur, Orog Nuur)	06/07/98	Bayan-Khongor Province	45,600	45º19'N 099º58'E
Ayrag Nuur	13/04/99	Hovd Province	45,000	48º53'N 093º25'E
Har Us Nuur National Park	13/04/99	Hovd Province	321,360	47º58'N 092º50'E
Lake Achit and its surrounding wetlands	22/03/04	Bayan-Ulgii, Uvs Provinces	73,730	49°40'N 090°35'E
Lake Buir and its surrounding wetlands	22/03/04	Dornod Province	104,000	47°48'N 117°40'E
Lake Ganga and its surrounding wetlands	22/03/04	Sukhbaatar Province	3,280	45°15'N 114°00'E
Lake Uvs and its surrounding wetlands	22/03/04	Uvs Province	585,000	50°20'N 092°45'E
Lakes in the Khurkh-Khuiten Valley	22/03/04	Khentii Province	42,940	48°18'N 110°34'E

Source: Ramsar Convention (2013)

In addition, two other sites in Mongolia are also classified as World Heritage: Uvs Nuur Basin (in 2003) and Orkhon Valley Culture Landscape (in 2004). And 6 other sites are classified as UNESCO-MAB Biosphere Reserve (some of them are in the same time classified in other protected areas): the Great Gobi National Park, Boghd Khan Uul, Uvs Nuur Basin, Hustai Nuruu, Dornod Mongol, Mongol Daguur.

2.4.3 Biodiversity Hotspots

A biodiversity hotspot is a biogeographic region with a significant reservoir of biodiversity, which is under threat from human activities. According to the UNEP, Mongolia's taiga region, which is the world's largest biome, is a biodiversity hotspot. Even though the Dukha herders have protected for centuries this region's unique biodiversity, they are now facing the threat of unregulated, small-scale artisanal mining, which doesn't stop to grow. As a result, deforestation, forest fires, chemical contamination and poisoning of water sources are occurring.

2.4.4 Important Bird Areas (IBA)

Bird Life International uses the global IBA criteria to classify the different bird sites as follows.

Table 2.8 Global IBA criteria

Criteria	Description
A1. Globally threatened species	The site is known or thought regularly to hold significant numbers of a globally threatened species, or other species of global conservation concern.
A2. Restricted-range species	The site is known or thought to hold a significant component of a group of species whose breeding distributions define an Endemic Bird Area (EBA) or Secondary Area (SA).
A3. Biome-restricted species	The site is known or thought to hold a significant component of the group of species whose distributions are largely or wholly confined to one biome.
A4. Congregations	A site may qualify on any one or more of the four criteria listed below: i). Site known or thought to hold, on a regular basis, ≥ 1% of a biogeographic population of a congregatory waterbird species. ii). Site known or thought to hold, on a regular basis, ≥ 1% of the global population of a congregatory seabird or terrestrial species. iii). Site known or thought to hold, on a regular basis, ≥ 20,000 waterbirds or ≥ 10,000 pairs of seabirds of one or more species. iv). Site known or thought to exceed thresholds set for migratory species at bottleneck sites.

Source: Birdlife International (2013)

Source: Birdlife International (date)

Figure 2.7 Important Bird Areas

Table 2.9 Total number of Important Bird Area in Mongolia

Total number of IBA	70	**Total IBA Area (ha)**	6,981,221
Number triggered by individual criteria			
Globally Threatened Species (A1)	69	Biome-restricted species (A3)	59
Restricted Range Species (A2)	4	Congregatory species (A4)	45
Number of AZE sites identified for birds	0		

Source: Birdlife International (2013)

Table 2.10 Important Bird Areas in Mongolia

Site Name	**Area (ha)**	**Criteria**
Borzon Gobi	399,467	A1, A3
Bulgan Tal	40,445	A1
Eej Khad	36,867	A1
Erdenesant Mountains	34,776	A1, A3, A4i
Galba Gobi	828,328	A1, A3
Gorkhi-Terelj National Park	293,937	A1, A3
Govi Gurvan Saikhan Mountain	544,794	A1, A2, A3
Ikh Bogd Mountain	86,440	A1, A3
Ikh Gazriin Chuluu	9,300	A1
Khan Khentii Strictly Protected Area	1,234,755	A1, A3
Khangain Nuruu National Park	897,840	A1, A3
Khar Yamaat Nature Reserve	51,404	A1
Khasagt Khairkhan Mountain	28,309	A1, A3
Khokh Serkhiin Nuruu	74,502	A1, A2, A3
Khongil	6,027	A1
Khustain Nuruu National Park	49,932	A1, A3
Maikhant Mountain	42,015	A1
Nomrog	378,097	A1, A3
Oigon Lake	20,189	A1, A4i
Selenge: Teel	18,568	A1, A3
Shaazan Lake	5,485	A1
Sharga Lake	2,118	A1, A4i
Taigam Lake	4,170	A1, A4i
Tarialan	31,630	A1, A4i
Tsengel Khairkhan Mountain	52,726	A1, A2, A3
Turgen Tsagaan, Zegst, Tuulaitiyn Burd Lakes	35,282	A1
Ugtam Nature Reserve	46,162	A1, A4i
Ulaagchinii Khar Lake	13,439	A1
Uvsiin Khar Lake	13,601	A1, A4i
Khoton-Khorgon Lakes	34,000	A1, A2, A3, A4i
Dayan Lake	20,800	A1, A3, A4i
Tolbo Lake	24,400	A1, A3, A4i
Achit Lake	73,700	A1, A3, A4i
Uureg Lake	44,800	A1, A4i
Uvs Lake	100,000	A1, A3, A4i, A4iii
Airag Lake	34,800	A1, A3, A4i, A4iii
Baga and Bayan Lakes	6,800	A3, A4i
Bulgan River	36,800	A1
Khar Us Lake	140,400	A1, A3, A4i
Khar Lake	25,200	A1, A4i
Jargalant Khairkhan Mountain	15,600	A1, A3
Zavkhan River: Ereen Lake	65,735	A1, A4i
Boon Tsagaan Lake	54,800	A1, A3, A4i
Orog Lake	28,000	A1, A4i
Santmargatsyn Bayan Lake	14,800	A1, A4i
Khomiin Tal	35,600	A1, A3, A4i
Otgontenger Mountain	95,500	A1, A3, A4i
Telmen Lake	51,600	A1, A3, A4i
Taatsiin Tsagaan Lake	15,600	A1, A4i
Ulziitiin Sangiin Dalai Lake	4,000	A1, A3, A4i

Erkhel Lake	2,400	A1, A3, A4i
Darkhad Depression	109,900	A1, A3, A4i
Khovsgol Lake	86,000	A1, A4i
Khovsgoliin Sangiin Dalai Lake	16,500	A1, A4i
Airkhan Lake	11,200	A1, A4i
Teshigiin Olon Lakes	12,800	A1, A4i
Dashinchilen Bayan Lake	50,200	A1, A4i
Terkhiin Tsagaan Lake	26,800	A1, A4i
Ogii Nuur	15,200	A1, A4i, A4iii
Selengiin Tsagaan Lake	18,000	A1, A4i
Delta of Orkhon and Selenge Rivers	26,800	A1, A4i
Valleys of Khurkh-Khuiten Rivers	42,900	A1, A4i
Onon-Balj	104,841	A1, A3, A4i
Mongol Daguur	65,000	A1, A3, A4i
Khukh Lake	13,200	A1, A3, A4i
Buir Lake	43,200	A1, A3, A4i, A4iii
Tashgain Tavan Lakes	31,200	A1, A3, A4i
Tsengeleg Lakes	25,000	A1, A3, A4i
Ganga Lakes	32,800	A1, A3, A4i
Ikh Nartiin Chuluu Nature Reserve	43,740	A1

Source: Bird Life International (2013)

2.5 Forests

Compared to some other countries, Mongolia is a forest-poor country. Its forest-covered area amounts only for 12,640,000 hectares according to the FAO, which represents about 8% of the total land area. In Mongolia, two broad types of forested area can be found: the northern coniferous forests of the forest steppe, boreal forest and mountain zones, and saxaul forests of southern desert and desert steppe. The Larix sibirica, Pinus sylvestris, Pinus cembra, Picea obovata are the main tree species.

Source: FAO

Figure 2.8 Forest Cover Map

Table 2.11 Extent of forest and other wooded land in Mongolia

FRA 205 categories	Area (1000 hectares)				
	1990	2000	2005	2010	2011
Forest	12,536	11,717	11,308	10,898	10,816
Total area of country	**156,412**	**156,412**	**156,412**	**156,412**	**156,412**

Source: FAOSTAT, FAO Statistics Division 2013

The annual deforestation rate between 1990 and 2000 was about 0.67% and increased to 0.74% between 2005 and 2010, showing that the deforestation keeps on continuing in Mongolia.

Table 2.12 Trends in extent of forest 1990-2010

Forest area (1,000 ha)				Annual change rate					
1990	2000	2005	2010	1990-2000		2000-2005		2005-2010	
				1,000 ha/yr	%	1,000 ha/yr	%	1,000 ha/yr	%
12,536	11,717	11,308	10,898	-82	-0.67	-82	-0.71	-82	-0.74

Source: FAO, Global Forest Resources Assessment 2010

About 47% of the total forest area is within protected areas and 4% is with management plan.

Table 2.13 Forest management and legal status 2010

Forest within protected areas		Forests with management plan	
Area (1,000 ha)	% of forest areas	Area (1,000 ha)	% of forest areas
5,152	47	400	4

Source: FAO, Global Forest Resources Assessment 2010

Table 2.14 Status of Forests in Mongolia (by type)

Primary forests		Other naturally regenerated forests			Planted forests		
Area (1,000 ha)	% of forest areas	Area (1,000 ha)	% of forest areas	% of which introduced species	Area (1,000 ha)	% of forest areas	% of which introduced species
5,152	47	5,601	51	-	145	1	-

Source: FAO, Global Forest Resources Assessment 2010

The State owns all forests and Land in Mongolia. The legal framework concerning the forestry sector has evolved since 1990.

Table 2.15 Forest ownership and management rights 2005 (%)

Ownership pattern	Public ownership	100%
	Private ownership	0%
	Other	0%
Holders of management rights of public forests	Public administration	97%
	Individuals	0%
	Business entities and institutions	1%
	Communities	2%
	Other	0%

Source: FAO, Global Forest Resources Assessment 2010

Chapter 3 Pollution and environmental issues

3.1 Overview

For centuries, Mongolia's natural wealth has supported nomadic cultures—and they, in turn, have sustained the region's natural environment. That relationship has been a fundamental tenet of Mongolian life, even into the 21st century. However, the policies of former Communist regimes promoting rapid urbanization and industrial growth had negative effects on the environment and it's only in the late 1980's that Mongolia authorities became aware of the environmental costs of such policies. Therefore, the Ministry of Environmental Protection was established in 1987 and the government started to tackle environmental issues.

Even if Mongolia is now considering the environmental aspects in its various policies, being a country rapidly growing economically, pollution and environmental issues are remaining. There are now limited natural freshwater resources in some areas; not only the burning of soft coal in power plants, but also the traditional coal and wood fired indoor stoves with the lack of enforcement of environmental laws severely polluted the air in Ulaanbaatar; deforestation, overgrazing, and the converting of virgin land to agricultural production increased soil erosion from wind and rain; desertification and mining activities had a deleterious effect on the environment.

3.2 Regulations and Policies

3.2.1 International Agreements

Mongolia, as showed in the following table, is part of various international conventions tackling pollution and environmental issues.

Table 3.1 Major international agreement signed by Mongolia's government

No	International agreements
1	United Nations Framework Convention on Climate Change (UNFCC, ratified in 1992)
2	Kyoto Protocol to the United Nations Framework Convention on Climate Change (Kyoto protocol, ratified in 1997)
3	Vienna Convention for the Protection of the Ozone Layer (ratified in 1985)
4	Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal protocol, ratified in 1987)
5	Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer (ratified in 1990)
6	Additional of 9th conference of Montreal Protocol on Substances that deplete the Ozone Layer (ratified in 1997)
7	The Beijing Amendment (1999) to the Montreal Protocol agreed by the Eleventh Meeting of the Parties (ratified in 1999)
8	The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (ratified in 1989)
9	Stockholm Convention on Persistent Organic Pollutants (ratified in 2002)

Source: UN 2013

For further details on the date of adoption and the date of entry in force of these agreements, refer to table A-1 in the Appendix.

3.2.2 Domestic Laws

One of Mongolian state environmental policy's principles is that economic development must be in harmony with the extraction and utilization of natural resource, and that air, water and soil pollution will be controlled.

The ideas of these documents are expressed in detail in the corpus of environmental laws, the national program on the preservation of biodiversity, the program to combat desertification and the program on protected areas and forest conservation, restoration and proper use. Law on Environmental Protection of 1995 stipulates a basic principle. This law regulates relations between the State, citizens, business entities and organizations in order to guarantee the human right to live in a healthy and safe environment, an ecologically balanced social and economic development, the protection of the environment for present and future generations, the proper use of natural resources and the restoration of available resources.

Under the National Development Strategy (which is Millennium Goals comprehensive based) of Mongolia, the government wants to implement a policy aiming to protect the environment by using a set of integrated social, economic and ecological measures. In particular, its efforts will be directed at protecting atmosphere, land, mineral wealth, water, forests, as well as fauna and flora. It will also focus on a proper utilization of mineral resources, reducing the effects of desertification, cutting the emission of hazardous chemicals and radioactive waste, and improving waste management.

In the area of environmental health[1], national policies, plans of action, strategies are as follows.

[1] According to the World Health Organization (WHO), environmental health is a complex of practical and theoretical activities aimed at detecting, assessing, controlling, investigating, and preventing environmental factors that are potentially adverse to health of present and future generations.

Table 3.2 Environmental health national policies, plans of action, strategies

National Policies, plans of action, strategies	Description
"Water Reform XXI" general strategy from 2004 up to 2025, approved by Government Decree No.54 of 2004	Aimed to define activities to be carried out by the Government of Mongolia in next 20 years with regard to the water and management of watersheds for the efficient use of the water reserve. The mission of this program is to increase the water reserve, serve the population with fresh water meeting sanitation requirements, and improves the water supply for intensified agriculture and mining and to create healthy and safe environment for human livelihood by implementing proper use of water without endangering the ecological balance.
National Program on Water (1999) and plan of action	This Program reflects overall related issues on water management activities including water resource, water quality, water uses and protection from deterioration and pollution of the water resources. The Program defined main objectives as implementation of multi-stage activities on preventing from negative impacts on health of population by improving of water supply and quality, creation a economic and legislative environment aimed at improvement of the level of proper use of water resources and wastewater treatment activities. The Program defines the basic strategic trends on water sector and has three phases of its implementation: 1. Phase I up to 2000, 2. Phase II 2001 - 2005, 3. Phase III 2006 - 2010). Within the program the Cabinet established the National Water Committee, which in charge of organization, egulation and monitoring on the program implementation. National Water Committee has local coordinating sub-committees in each aimag (22 administrative units).
"Waste Removal Plan Without Harming Environment" approved by Government decree No.256 in 2001	Plan of action on improvement of solid waste management.
Government decree No.135 in 2002	Regulation on removal and disposal of hazardous waste.

Source: Government of Mongolia

In order to protect water resources, prevent pollution and improve efficiency of wastewater treatment a draft law to introduce polluter pay principle is being developed.

The Health Inspection Department of the State Professional Inspection Agency (SPIA) is in charge of controlling and monitoring environmental health in Mongolia. This department controls water quality, soil pollution, chemical safety, consumer products and hygienic condition of water supply and sanitation utilities. In the same agency, working closely with the Health Inspection Department, there is also the Environmental Inspection Department responsible for the control of the implementation of environmental legislation. It controls urban air quality, water and natural resources.

In December 2005, Mongolia's government (through its resolution No.245) set its objective to develop and implement a National Environmental Health Program (NEHP) by 2015 and to enforce and improve the existing legislation related to environmental health.

3.3 Air Pollution

3.3.1 Current Situation

According to the Bertelsmann Stiftung, BTI 2014[2] - Mongolia Country Report, Mongolia's capital Ulaanbaatar is the second most air-polluted city in the world by WHO standards[3]. This is mainly due to the high concentration of particulate matter[4] PM10 and PM2.55, which are extremely harmful to the population health and in some case (especially in poor peri-urban area) are the cause of mortality. Ulaanbaatar, being also one of the coldest cities worldwide, burning coal and wood to a great extent for the heating of houses and cooking with the conventional stoves in the ger area[6] can be understood since it is a question of survival. However, this also leads to about 60% of the fine particulate matter concentration (PM2.5) in the city air. The growing number of motor vehicles and industrialization also participate in the polluted air. The level of polluted air exceed WHO standards 6-7 times, and concentrations of PM10 and PM2.5 are respectively 10 and 25 times greater than Mongolian air quality standard (AQS).

Table 3.3 Indicated range for annual average PM concentration in Ulaanbaatar, June 2008 – May 2009

Area	PM_{10} µg/m^3	$PM_{2.5}$ µg/m^3	Exceedance: Ratio to AQSs	
			Mongolian	WHO
Central city areas	150-250	75-150	3-6	7-15
Ger areas	350-700	200-350	7-14	17-35

Source: AMHIB data

For further information of Ulaanbaatar air pollution and Mongolia National AQS compared to WHO guideline values, refer to Table A-8 and A-9 in the Appendix.

In addition of Ulaanbaatar's high concentration of PM10 that has doubled between 2009 and 2010, a lot of cities like Bayankhongor or Tsetesrleg are exceeding WHO standards. The SO_2 concentration, which is also increasing in some cities, is also worrying.

[2] The Bertelsmann Stiftung's Transformation Index assesse the transformation toward democracy and a market economy as well as the quality of the political management in 129 countries.
[3] Top 100 Cities with the Worst Air Quality in the World (WHO, 2011), http://urbanemissions.blogspot.jp/2013/02/top-100-cities-with-worst-air-quality.html
[4] Fine particles of dust that are inhaled and cause health damage.
[5] Particles respectively under 10 and 2.5 micrograms per cubic meter
[6] Residential high-density suburbs with large plots on which *gers* (round, traditional felt tents) or wooden houses are constructed

Table 3.4 Annual Average Ambient PM_{10} and SO_2 levels in cities of Mongolia

Cities	PM_{10} (µg/m^3)		SO_2 (µg/m^3)	
	2009	2010	2009	2010
Bayankhongor	79	128	17	24
Darkhan	174	-	13	18
Dornod	-	-	4	5
Erdenet	45	-	3	3
Khobd	120	133	2	4
Mandalgobi	-	-	8	-
Murun	38	76	7	6
Sukhbaatar	39	-	3	3
Tsetesrleg	136	-	4	3
Uburkhangai	68	-	10	11
Ulaanbaatar	83	148	20	26
Ulaagom	-	-	4	4
Uliastai	-	-	2	-
Zabkhan	14	18	2	3

Source: Clean Air Asia CitiesAct

3.3.2 Relevant Laws and Organizations

Concerning the legal framework, the relevant laws and programs are as followed:

- Law on Environment Protection in 1995, which regulates relations between the State, citizens, business entities and Organizations in order to guarantee the human right to live in a healthy and safe environment, an ecologically balanced social and economic development, the protection of the environment for present and future generations, the proper use of natural resources and the restoration of available resources.
- Law on Air adopted in 1995 amended in 2012 which is the basic law for air quality management stipulating the actions related to the protection of ambient air, prevention from air pollution, and reduction and monitoring of emissions of air pollutants;
- Law on Environment Impact Assessment in 1998 revised in 2012, which regulates relations concerning protection of the environment, prevention of the ecological misbalance, the use of natural resources, assessment of the environmental impact and decision-making on the start of a project (refer to Chapter 5); and
- The Air Protection Program enacted in 1999, which covers environmental conservation, pollution control and prevention, conservation of natural heritage sites, operation of environmental funds, additional incentives to minimize pollution, and compensation for environmental damage.

Under the Ministry of Environment and Green Development (MEGD), the National Agency for Meteorology and Environmental Monitoring (NAMEM) is responsible for developing pollution inventories for Mongolia, for monitoring air pollution and implementing national air quality actions plans. Within the NAMEM, an Air Quality Department of the Capital City (AQDCC) was established in 2006 to better implement the Air Protection Program. It is in charge of

developing, implementing, and monitoring air quality management action plans. To have more information on the institutional framework of the AQMS, refer to the figure A-3 in the Appendix.

As for the public and non-governmental participation to solve this air pollution problem, several NGOs has emerged these last years and about 30 of them have formed the Union of Mongolian Environmental NGOs. The MEGD, which wanted to take into account public opinion in environmental decision-making, has established the Civil Society Committee. This Committee helps to coordinate public participation activities between government agencies and NGOs at the national and local levels. The MEGD has also put into place an Information Unit to disseminate environment-related information, to raise people's awareness on environmental issues and to educate them on environmental laws and regulations.

3.3.3 Approaches and Efforts

The World Bank in association with several Mongolian counterparts established the Air Quality Monitoring and Health Impact Baseline (AMHIB) study in 2008 with the objective to have a better understanding about the air quality situation in the Ger areas in Ulaanbaatar. This is a baseline study to identify the situation of air quality. The following activities were achieved:

- AMHIB monitored air pollution in ger areas systematically for the first time;
- AMHIB brought together different organizations that had monitoring equipment to carry out the baseline data collection. AMHIB's 8 monitoring stations came fromNational University of Mongolia (2), NAMHEM (5), Central Laboratory for Environmental Monitoring (1);
- AMHIB brought together air quality experts with public health experts to systematically study health impacts for the first time. Part of the AMHIB project is collecting data from hospitals in UB located close to the air pollution monitoring stations. These include 8 family and village hospitals, 7 district hospitals, 1 ambulatory facility, and 3 tertiary hospitals. Data on daily admissions connected to respiratory and cardiovascular diseases, based on diagnoses, has been collected to perform statistical analysis with variables connected to PM concentrations;
- AMHIB conducted an Ulaanbaatar-specific willingness-to-pay study which will help make more precise economic impacts evaluation. Few cities have this kind of data;
- AMHIB used a state-of-the-art dispersion model to forecast air pollution impacts from emission reductions from key pollution sources.

As a result of the air quality analysis, to reduce the overall PM concentrations, the study suggested to implement a plan combining short and medium term pollution abatement options, while implementing a long term plan (relocation of people into apartments) to reduce air pollution. Indeed, according to the study, the Mongolian Government should focus its effort on:

- Replacing the current stoves with clean certified stoves;
- Implementing additional clean electric heating options and landscape greening.

Based on the study findings, Ulaanbaatar Clean Air Project was launched (approved in April 2012). The components of the project are a) Ger area particulate matter mitigation, b) central Ulaanbaatar particulate matter mitigation, and c) public awareness raising program coordination and project management. As of December 2013, the implementation status are a) 8,206 out of the target 45,000 stoves are installed; and b) Power plant emissions control feasibility study, Housing policy study, and District heating preparatory study have been started.

ADB, between 2010 and 2012, at the request of the Mongolian Government, assisted the Mongolian Government through a policy and advisory technical assistance (TA) to develop a policy and mechanism to reduce air pollution in Ulaanbaatar. The TA's main objective was to help the government to introduce a program for the use of clean technology and alternative fuels for heating. As a result, the TA developed a mechanism to promote adoption of clean burning stoves, efficient stove-fuel combinations, stove emissions standards, protocols and a manual for stove testing, and techniques to promote stove production and distribution.

In 2012, the World Bank has approved Ulaanbaatar Clean Air Project, which should end in 2017. The TA introduced in the previous paragraph contributed to the processing of this project. The main objective of this project is to enable consumers in Ger areas to access heating appliances producing less particulate matter emissions and to further develop selected medium-term particulate matter abatement measures in Ulaanbaatar in coordination with development partners. This project's components are as follows:

- The Ger area particulate matter mitigation;
- The particulate matter mitigation in Central Ulaanbaatar;
- Public awareness raising on environmental issue.

As for the second component, the World Bank and its associated partners will strive to mitigate dust from lack of city greening and dust from power plant emissions and ash ponds. It will study the feasibility of a district heating and it will give a technical assistance to the Mongolian government to develop an affordable housing policy.

The Mongolian Government has been also actively taking part in international organizations' programs addressing the issue of air pollution. For example, it is participating in ADB and the United Nations Agencies' Prevention and Control of Dust and Sandstorms in Northeast Asia's program. It is also part of the Acid Deposition Monitoring Network in East Asia (EANET) to monitor acid rain.

JICA extends cooperation for the capacity development of air pollution control of Ulaanbaatar

City as shown in the table below.

Table 3.5 JICA's Cooperation in Air Quality Control

Project	Objectives	Duration	Implementing Organization
Capacity Development Project for Air Pollution Control in Ulaanbaatar City	Capacity for air pollution control in Ulaanbaatar City is strengthened, paying special attention to the human resource development of the Municipality of Ulaanbaatar (MOU) and other relevant agencies among other aspects of the capacity development.	2010/03～ 2013/03	The Air Quality Department of Ulaanbaatar City, etc.
Capacity Development Project for Air Pollution Control in Ulaanbaatar City Phase 2	Capacity for air pollution control in Ulaanbaatar City is strengthened, paying special attention to the development of human resource and coordinating mechanism of the AQDCC (Air Quality Department of the Capital City) and other relevant agencies among other aspects of the capacity development.	2013/12～ 2017/06	Air Quality Department of the Capital City

Source: JICA

3.4 Water Pollution

3.4.1 Current Situation

In 2008, according to Batsukh, Dorjsuren and Batsaikhan's first national report on water resources, use and conservation in Mongolia, the ground water quality in more than 100 soums does not meet the drinking quality standards[7]. The MOFA data has also indicated the high degree of hardness of water sources in a total of 110 soums out of 329, leading a risk of chronic diseases of the kidney. The Public Health Institute's (PHI) study between 1993 and 2000 concluded that drinking water in Mongolia was containing an unacceptable high or low concentration of minerals and microelements causing illnesses in the digestive and cardiovascular and genital organs.

In 2010, 82% of the Mongolian population had access to improved drinking water sources[8]. However, only 51% of the population had access to improved sanitation facilities[9]. According to the UNDP Water Governance Programme, even if there is some relevant progress toward improved water supply. Mongolia is not on track to meet the requirement of MDG 7[10], especially in the sanitation area. A survey of the Mongolian government, the Ministry of Health and WHO concluded that more than 75% soum[11] hospitals and schools do not have safe and adequate water and sanitation facilities. The survey also pointed out that only 10% of soum and town hospitals and schools were connected to a central water supply and sewage system.

[7] Refer to table A-13 in the Appendix for further information on water quality standards in Mongolia.
[8] Household connection, public standpipe, borehole, protected dug well, protected spring, rainwater collection.
[9] Connection to a public sewer, connection to a septic system, pour-flush latrine, simple pit latrine, ventilated improved pit latrine.
[10] The MDG 7 aims to: "halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation."
[11] Type of administrative district used in Mongolia

Table 3.6 Water information for Mongolia

Indicator	Indicator description	Value	Year
Total actual renewable water resources per capita	The maximum theoretical yearly amount of water actually available for a country at a given moment (TARWR) per capita. It takes into consideration the long-term average annual flow of rivers and recharge of aquifers generated from endogenous precipitation, the flow of bordering rivers and lakes, and the water inflow and outflow secured by treaties.	12,832 m^3/inhab/yr	2009
Percent of freshwater resources withdrawn	Total freshwater withdrawn in a given year, expressed in percentage of the total actual renewable water resources (TARWR). This parameter is an indication of the pressure on the renewable water resources.	1.47%	2005
Municipal water withdrawal as a percent of total withdrawal	Amount of water withdrawn by the municipal sector as a percent of all the water withdrawn by the three main water withdrawing sectors (agriculture, municipalities, industry). Municipal water withdrawal includes withdrawal of renewable freshwater resources as well as the possible over-abstraction of renewable groundwater or withdrawal of fossil groundwater and use of desalinated water or treated wastewater. It is usually computed as the total water withdrawn by the public distribution network, plus domestic self-abstraction. It can include that part of the industries, which is connected to the municipal network.	22.83%	2005
Industrial water withdrawal as a percent of total withdrawal	Amount of water withdrawn by the industrial sector as a percent of all the water withdrawn by the three main water withdrawing sectors (agriculture, municipalities, industry). Industrial water withdrawal includes withdrawal of renewable water resources as well as the possible over-abstraction of renewable groundwater or withdrawal of fossil groundwater and use of desalinated water or treated wastewater. This sector refers to self-supplied industries not connected to the public distribution network, including thermoelectric cooling, but not including hydropower.	31.77%	2005
Agricultural water withdrawal as a percent of total withdrawal	Amount of water withdrawn by the agricultural sector as a percent of all the water withdrawn by the three main water withdrawing sectors (agriculture, municipalities, industry). More specifically, agricultural water withdrawal is the annual quantity of water withdrawn for irrigation, livestock watering and aquaculture purposes. It includes withdrawal of renewable freshwater resources as well as the possible over-abstraction of renewable groundwater or withdrawal of fossil groundwater, direct re-use of return water and desalinated water.	44.41%	2005
Percent of population with access to improved water sources	The proportion of the population (total, urban and rural) with sustainable access to an "improved" water source. It is the percentage of the population who use any of the following types of water supply for drinking: piped water, public tap, borehole or pump, protected well, protected spring or rainwater. Improved water sources do not include vendor-provided water, bottled water, tanker trucks or unprotected wells and springs.	82%	2010
Percent of population with access to improved sanitation	Proportion of the urban and rural population with access to improved sanitation refers to the percentage of the population with access to facilities that hygienically separate human excreta from human, animal and insect contact.	51%	2010

Source: UN-Water, FAO-AQUASTAT, JMP (Joint Monitoring Programme)

Recent economic activities have increased water pollution levels and decreased in ground and surface water resources.

Table 3.7 Organic Water Pollutant (BOD) emissions

	Organic Water Pollutant (BOD) emissions (kg per day)	Organic Water Pollutant (BOD) emissions (kg per day per worker)
2003	8466.658	0.202809
2004	7945.398	0.201369
2005	7671.240	0.210130
2006	8018.736	0.209460
2007	8779.294	0.214973

Source World bank 2013, World Development indicators

Except for the textile industry, all Mongolian industries have seen an increase in water pollution these recent years. Especially the mining activities lead to mercury contamination in the water. Indeed, not only out-dated and irresponsible mining technologies applying extensively heavy metals (mercury, cyanide, etc.), but also chemicals from leather processing, agricultural practices (overgrazing by livestock changing run-off conditions, damaging river banks, increasing nutrient content from livestock manures) are sources of water pollution and cause irreversible damages to the freshwater of Mongolia.

Table3. 8 Water pollution in various industries (% of total BOD emissions)

Indicator Name	2003	2004	2005	2006	2007
Water pollution, chemical industry (% of total BOD emissions)	2.05045	1.89067	2.25704	2.92297	3.30321
Water pollution, clay and glass industry (% of total BOD emissions)	7.30352	7.81103	5.15503	10.17162	9.53011
Water pollution, food industry (% of total BOD emissions)	25.04851	24.79154	26.12578	26.17872	27.23867
Water pollution, metal industry (% of total BOD emissions)	1.87798	1.96923	2.22143	3.83982	3.69745
Water pollution, other industry (% of total BOD emissions)	3.61224	3.13506	3.24039	4.12194	4.11127
Water pollution, paper and pulp industry (% of total BOD emissions)	3.56193	3.19842	3.46226	4.39098	5.09317
Water pollution, textile industry (% of total BOD emissions)	52.76547	54.20077	54.76334	43.59637	41.62443
Water pollution, wood industry (% of total BOD emissions)	3.77991	3.00327	2.77473	4.77758	5.40170

Source: World bank 2013, World Development indicators

A study, undertook by UNICEF between 2003 and 2004, also asserted that arsenic was present in 10% of water samples taken from a sample of 1,023 wells in Gobi-Sumber, Dornod, Gobi-Altai and Dornogobi aimags.

3.4.2 Relevant Laws and Organizations

To regulate water, a wide range of legislation, enactments and standards was adopted, including:

- Law on Environment Protection in 1995;
- Law on Environment Assessment in 1998;
- The last version of the Law on Water adopted in 2004, providing the water policy of Mongolia and including not only the water regulations' relations, but also the legal relationships within the sector;
- The Law on Water Supply and Sewage in Cities and Settlements;
- The Mongolian Law on Water and Mineral Water Use fees to legalize water-pricing processes as per the market prices;
- The Law on Hygiene;
- The Standard on Industrial Wastewater Discharge into the Sewage System (1997);
- The Standard on Pit Latrines and Soak Pits (1980);
- The Standard on General Requirements for Selecting a Site for Wastewater Treatment Plants and Treatment Technologies MNS 4288-96-5;
- The Standard on Water Quality: Guidelines for Taking Water Samples and Samples from

Sludge in the Wastewater Treatment Plants MNS (ISO) 566-1300;

- The Standard on Water Quality, Wastewater and General Technical Requirements MNS 494300.

For a total account of the relevant laws, rules, guidelines and national standards in relation with water, refer to table A-10, A-11 and A-12 in the Appendix. Although there is a large legislation concerning water, it is not clear how far the law and rules are enforced.

At present, water in Mongolia is regulated by the organizations described in the following table. The basis of the current structure of Mongolia's water sector is based for the main part on the Law on Water.

Table 3.9 Current Institutional Structure on Water Sector

Name of Organization	Year Formed	Description of role related to water
Ministry of Nature and Environment	1995	Responsible for coordinating State wide water related issues.
Ministry of Road, Transportation, Construction and Urban Development (MRTCUD)	1996	Responsible for aimag[12] and capital city water supply, and wastewater disposal. Additional responsibilities for soum centres and provision of showers since 2000. Implementing Government's "Improvement of Sanitation Facility" program since 2006.
Ministry of Food, Agriculture and Light Industry (MFALI)	1996	Responsible for water for livestock, investment in pasture land water supply and irrigation for agricultural land.
National Water Committee (NWC)	1998	Established by the Government of Mongolia and formulated the "National Water Program". No legal status but created through a government order to coordinate sector policies and programs.
Department of Water Resources (Water Authority Agence)	2005	Based on the re-endorsed Law on Water, which authorized this agency to function as the authorized government agency on water, it is under the Ministry of Nature and Environment. It is responsible for water resource management.
Ministry of Environment and Green Development (MEGD)	2008	The Water section under the Agency for Water and Forest Resource within this Ministry is responsible for water conservation.
Ministry of Health (MoH)		Responsible for water quality and hygiene, ecological and environmental sanitation.

Source: Rural Water Supply and Sanitation in Mongolia, UNICEF, UNDP, Government of Mongolia

In addition of this structure, the Law on Water also allows local citizen's khurals (assembly) to hold discussion on the local government office and basin committee's proposals and programs on water conservation and use, restoration of water bodies, and prevention of floods and damages. This law also gives some functional responsibilities to local governments, which can only do little due to their fiscal situations.

Currently, there is no consolidated management structure for sustainable water management or coordination amongst the numerous institutions at central and local levels.

To have a better idea of the water administration system, please refer to 2009 revised structure in figure A-4 of the Appendix.

[12] Province

Finally, other external agencies such as UN, UNDP, UNICEF, WHO, ADB and the World Bank are also supporting Mongolia's various stakeholders concerning water issues.

3.4.3 Approaches and Efforts

Several approved programs related to improved water and sanitation have also been achieved in Mongolia such as:

- The National Water Programme (2000-2010);
- The Program on Sanitation Facilities (2006-2015);
- The Program on Urban Development and Public Utilities;
- The Program on Provision of safe drinking water to population of Mongolia (2008-2015).

Furthermore, a comprehensive action plan (2008-2012) by the Mongolian Government, based on the National Development Strategy of Mongolia, was also established. As for the water and sanitation objectives of this action plan, it is as follows:

- Increase supply and accessibility of safe drinking water in line with hygienic requirements, introducing modern technology and technical facilities; continue the installation of water softening equipment to improve the quality of potable water in soums and settled areas where water is hard and rich in minerals.
- Improve the infrastructure development in ger areas within urban areas.
- Formulate and start implementing a "Rural Development Programme":
  - To develop a unified policy on water.
  - Coordinate water resources in large river basins.
  - Construct the necessary water transfer infrastructure to deliver water where it is needed.

Apart from the Government's effort to improve the water and sanitation's condition, a collaborative effort, the United Nations Joint Program on Water and Sanitation Mongolia, was undertaken by UNDP, UNICEF, UNFPA, WHO to improve water and sanitation management and service provision in Mongolia. This Joint Program working directly with Mongolia Ministries and local governments, academic institutions and NGOs aimed to provide improved drinking water and sanitation facilities in targeted communities, schools and Soum hospitals between 2008 and 2011. Moreover the Joint Program had also for objectives to enhance the national water and sanitation sector's database, to improve the capacity of laboratories to test the quality of drinking water and wastewater treatment in rural areas, and to improve the regulatory framework for the water and sanitation sector.

To complement this Joint Program, UNDP also developed during the same period its Water and Sanitation project to:

- Strengthen the institutional structure and legal framework for water governance and

sanitation service.

- Improve the capacity of laboratories especially in rural areas.
- Increase the water and sanitation sector's knowledge, skills and improve practice among sector professionals.

3.5 Soil Pollution

3.5.1 Current Situation

The soil contamination is caused by reasons i) by the drainage and refinement which are generated in the factory using the tanning skin and chemical substance, ii) exhaust fume and oil of cars, iii) mining process and iv) pesticides and herbicides in agricultural process. Chemical pollutants of concern are insecticides, herbicides: heavy metals (lead, cadmium, arsenic, mercury, nickel and chromium dioxins/furans). By the inspection at local areas covering 21 aimags, the over 145 mills, using mercury and sodium cyanide were confiscated. Besides, heavy metals from industrial operations to some extent pollute the soil[13].

The first attempt to identify contaminated sites was made in 2004-2005. The preliminary POP (Persistent Organic Pollutants) inventory made at this time showed that sites contaminated with pesticides where numerous in rural areas and that there could also be a high probability of sites contaminated by PCBs[14]. According to POPs inventory in 2006, households and industrial sewage treatment is the major source of dioxins and furans releases into the Mongolian environment. It was estimated that sewage sludge accounts for approximately 86% of all dioxin/furans releases. Sewage treatment facilities in Mongolia use biological treatment, plus chlorine for sterilization. Sludge is usually disposed directly into the environment, or into holding ponds, and may contaminate the surrounding environment, including soil and water resources.

a) Soil pollution by pesticide use

In Mongolia, the use of obsolete pesticides that are no longer useful for the purpose they were intended for, empty contaminated pesticide containers have contaminated soils. According to the POPs inventory's result, there wasn't any special storage for POPs pesticides, which were generally stored in the storage of Veterinarian Service of the aimag and soum, livestock fences or in open area. The poor knowledge and education of the pesticide user is one of the reasons that led to soil contamination. Several inventory registrars have mentioned particular areas contaminated by pesticide such as pasture areas around Dund us and Ulaanburaa brigades, Khovd soum of Khovd aimag, or western Mongolia.

[13] Minister of Nature and Environment of Mongolian, National Chemicals Management Profile, MONGOLIA, Second Edition, June 2008.
[14] Polychlorinated byphenyls.

b) Soil pollution by heavy metals and industrial chemicals

The industrial development of Mongolia these recent years appear to be one reason to accumulation of pollutants in soil. Indeed, small and medium-sized enterprises producing powder, soaps, phosphoric fertilize, using chromium from tanneries (Chromium salts wax) and other chemical substances have appeared and are taking part in the soil pollution. Moreover the extraction of mineral deposits and the waste materials produced by it, is also participating in the soil pollution. For example, Boroo and Olon-Oboot gold hard rock deposits are extracted with sodium cyanide and other toxic materials. In copper molybdenum mining operations, large quantities of acid and other materials are also used.

A 2011 study[15] on soil pollution with heavy metals in industrial cities has evaluated the man-induced geochemical anomalies of heavy metals in Ulaanbaatar, the capital city with various industries, Erdenet, the big centre of mining, and Darkhan where ferrous metallurgy, dressing of leather, production of chemical compounds were concentrated. This study has determined the regional soil-geochemical background and its transformation in these three large industrial centers. As a result of this study, the accumulation of heavy metals in urban soils incoming from technogenic sources could be asserted and more precisely the following could be observed:

- In Ulaanbaatar city, due to various industries gushing out pollutants, multi-elemental geochemical anomaly of Ag3.0, Pb2.4, Sn2.1, Hg1.9, Zn1.7, W1.5 has been formed.
- The soil pollution in Dharkan is inherent in Cr5.0, Hg3.1, W30 because of its tanning industry, gold mining and heat-and-power engineering using brown coal.
- In Erdenet, the dump sludge of mining and processing enterprises enriched of Cu and Mo, as well as products of brown coals combustion with high content of Sn and Ge spreading by wind, make the soil accumulate Mo2.2, Cu1.8, Sn1.5, Ge1.5.

This study also calculated the average content of heavy metals in soils of various functional zones including traffic zone, ger zone, many-storeyed residential blocks, industrial and recreation zones. The highest level of pollutant accumulation in Ulaanbaatar soils has been observed near highways and within many-sotreyed residential quarters. In Darkhan could be observed the widest spectrum of pollutants (W15, Cr8.8, Gh1,9, Ge1,9, Mo1,9, Zr1,5) in the industrial zone. As for Erdenet, the most contrasting man-made anomaly has been found in the ger areas where Sn2,6, Ge2,4, Zn1,7, Cu1,6, Mo1,5 is accumulated.

[15] Kosheleva et.al, Soil Pollution with Heavy Metals in the Industrial Cities of Mongolia

Table 3.10 Average content of heavy metals in upper (0-10sm) horizon of soils in various functional zones of Ulaanbaatar, Darkhan and Erdenet and its maximum permissible concentrations (MPC)

Elements from different classes of ecological danger (hazard)													
Functional zone	**Number of samples**	**I**					**II**				**III**		
		Hg	**Zn**	**Pb**	**Ni**	**Co**	**Cr**	**Cu**	**Mo**	**W**	**Mn**	**V**	**Sn**
Ulaanbaatar													
Background	5	0.058	52.0	27.0	29.0	8.40	66.0	42.0	1.20	1.00	660	84.0	2.80
Recreational	5	0.080	42.0	19.4	23.0	6.80	60.0	36.0	1.14	3.00	520	78.0	2.40
Traffic	9	0.170	82.2	55.6	31.1	8.44	70.0	60.0	1.96	3.67	544	91.1	4.22
Industrial	23	0.120	60.4	69.1	27.0	7.39	54.4	47.4	1.65	3.17	478	71.7	4.14
Ger areas	23	0.081	59.6	35,2	24.8	7.57	60.4	42.8	1.29	1.35	509	79.1	3.00
Many-storeyed residential quarters	31	0.185	105	59.4	30.6	8.23	72.6	56.5	1.66	3.94	519	85.5	4.17
Darkhan													
Recreational	3	0.022	50.0	28.3	30.0	8.00	80.0	46.7	1.50	0.50	500	93.3	3.67
Traffic	3	0.083	56.7	40.0	23.3	5.67	80.0	40.0	1.93	3.67	400	80.0	3.00
Industrial	25	0.056	63.6	29.2	32.0	8.92	704	50.8	2.78	7.48	560	104	3.24
Ger areas	7	0.034	91.4	45.8	34.3	10.0	98.6	52.9	2.50	4.57	557	104	4.57
Many-storeyed residential quarters	7	0.058	75.7	34.3	27.1	7.43	98.6	47.1	1.24	4.29	500	100	3.29
Erdenet													
Recreational	6	0.080	65.0	22.5	34.2	11.0	81.7	243	9.03	1.67	850	107	2.17
Traffic	3	0.037	76.7	21.7	30.0	9.33	60.0	96.7	1.50	1.67	533	103	2.33
Industrial	18	0.101	62.2	24.7	35.0	11.9	113	450	13.6	0.89	822	98.3	2.33
Ger areas	10	0.071	109	30.5	39.0	13.1	88.0	381	13.2	0.50	760	111	5.60
Many-storeyed residential quarters	8	0.062	128	32.5	37.5	10.5	100	95.0	4.31	1.25	625	115	2.75
MPC, sandy soils		0.5	100	70	60	30	60		2	-	-	100	30
MPC, loamy soils		1.0	150	50	100	40	100		3	-	-	130	40
MPC, clay soils		2.0	300	100	150	50	150		5	-	-	150	50

Source: Dotjgotov et al., 2008

Furthermore, according to POPs inventory in 2006, the major source of dioxins and furans into the Mongolian environment is households and industrial sewage treatment. In Mongolia sewage treatment facilities use biological treatment, plus chlorine for sterilization. The sludge resulting of the treatment is usually disposed directly into the environment and may contaminate soil. Dioxin and furan contamination can be higher in urban areas such as Ulaanbaatar city.

The following tables show also the soil quality state in rural area.

Table 3.11 Cadmium (Cd), Plum bum (Pb), Zinc (Zn) content in the soil of the rural areas

City	Cd Content (mg/kg)	Pb Content (mg/kg)	Zc Content (mg/kg)
Arkhangai	—	12.1~20.7	0~150.63
Bayan-Ulgii	—	15.2~25.2	23.94~119.70
Bulgan	0~1.0	7.5~19.1	53.58~152.0
Bayankhongor	0~0.1	12.2~20.3	63.99~175.94
Darkhan	0~1.0	12.8~73.0	27.41~415.35
Dornod	0~2.0	16.8~20.7	58.37~134.90
Dornogobi	0~1.8	13~22.2	21.1~109.44
Dundgobi	—	12.6~33.1	45.37~86.18
Golbi-Altai	0~2.2	12~24.5	56.09~468.16
Khentii	—	9.1~22.3	3.57~173.96
Khuvsgul	0~1.8	9.1~19.0	97.81~342.82
Orkhon	—	11.3~20.2	84.13~249.13
Selenge	—	11.5~69.7	36.01~155.42
Sukhbaatar	0~2.8	11.7~16.6	53.58~152.0
Tuv	—	15.9~19.9	92.72~172.22
Umnugobi	0~1.5	14.9~21.9	132.32~281.28
Uvurkhangai	0~0.4	28.1~56.0	56.32~188.40
Zavkhan	—	11.5~34.3	50.11~270.1
Average content	**0.09~1.1**	**12.4~39.78**	

Source: The Government of Mongolia Ministry of Environment and Green Development, Report on the Natural and Environmental Situations of Mongolia 2011-2012

As for the PCB contamination, the soil analyses, taken from the area where Erdenet Mining Corporation is leaking waste oils to the road, show a high level of PCB contamination (more than 50 ppm). Besides, 20 m^3 of soils in Erdenet-Bulgan energy transmission network, 2 m^3 in Darkhan branch of Central regions energy transmission Network Company are contaminated by transformer fluids.

For a complete list of banned chemicals in Mongolia, refer to the Appendix.

3.5.2 Relevant Laws and Organizations

Due to various agricultural and industrial sector activities, soil pollution is occurring. There is not a specific law dealing directly with the soil pollution issue, but rather a set of laws, with one part coping with this problem. The relevant laws, when tackling the soil contamination issue, include:

- The Law on environmental protection in 2002;
- The Law on environmental assessment in 1998;
- The Law on Land in 2003, regulating the ownership, use, and protection of state-owned land;
- The Law on Underground Land;
- The Law on Soil Preservation and Desertification;
- The Law on subsoil in 1998;
- The Law on Toxic and Hazardous Chemicals in 2006;
- The Mineral Law amended in 2009, regulating relations between mining minerals sectors activities and environment and socio-economic sectors.

It's not only the central Government, but also local authorities, which are obliged to carry out legal monitoring and to ensure the enforcement of the Mineral Law, the Law on Environmental protection, the Law on Environmental Assessment, the Law on Land and the Law on Underground Land. The following entities are monitoring and controlling the law implementation:

- The State Specialized Inspection Agency and specialized inspectors in aimags and soums;
- Sector ministries and directly appointed authorities and officials;
- Joint monitoring of aimag and local administration.

The civil society, consisting of representatives of professional organizations, associations and private entities, also ensure monitoring of proper implementation of mining laws and other regulations.

Ministry of Environment and Green Development, the Ministry of Food, Agriculture, and Light Industry and the Ministry of Health are coordinating the management of agricultural chemicals in the country. By establishing a list of permitted chemicals and its use volumes every year, these Ministries are controlling chemicals widely used in agriculture such as pesticides for plant protection, chemical fertilizers for agricultural use. According to the Law on Toxic and Hazardous Chemicals, the SSIA is responsible for the enforcement and the monitoring of this law provisions. Moreover the Government of Mongolia had taken actions to prohibit use of mercury and sodium cyanide on gold extraction in mining. The MEGD in collaboration with the National Emergency Management Agency (NEMA) and SSIA has organized decontamination of chemical spills and pollution during 2008-2009.

For further information on existing legal instruments addressing the management of chemicals that can be harmful to the environment (air, water, soil), refer to the table A-14 and A-15 in the Appendix.

3.6 Solid Waste

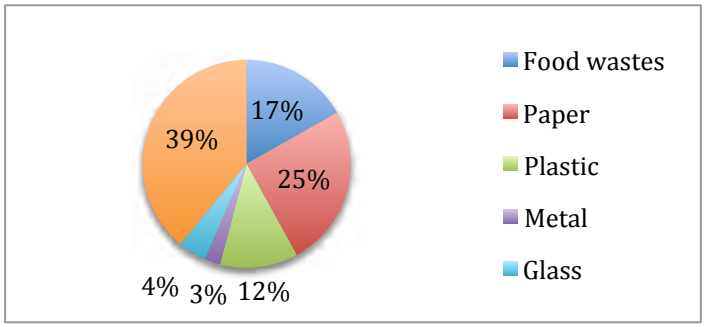
3.6.1 Current Situation

The chapter 21.3 of Agenda 21 (United Nation Conference on Environment and Development, Rio de Janeiro, June 14, 1992) has defined solid wastes being "all domestic refuse and non-hazardous wastes such as commercial and institutional wastes, street sweeping, and construction debris ".

a) Municipal Solid wastes

As for Mongolia, Municipal Solid Waste is domestic and industrial solid waste from materials

produced during the process of consumption, production and services, including unwanted waste, according to its definition given in the 2010 UNEP Municipal waste management report. According to the MEGD in 2008, the annual municipal waste generated was 552.8 tons by weight.



Note : others consists of bone, ash, tin, cloth and other materials,
Source data for GDP: World Economic Outlook Database, October 2008

Figure 3.1 Type of Municipal Waste Composition in Mongolia

Since 2000, Ulaanbaatar Governor's Office has been expanding its foreign relationship by signing city to city friendship treaties along with governmental cooperation level. The most influential partner and the biggest investor on the waste management field is now Japan. With its rich experience and highly developed system Japan is very welcomed to Mongolia implementing projects that intended to research, evaluate the situation and develop methodologies of proper management for Mongolia through JICA.

JICA development Study for "Solid Waste Management Plan for Ulaanbaatar City in Mongolia (2004-2007) formulated Master Plan targeted to 2020. Japanese Government also decided to give a grant aid worth of 10 million USD due to build new disposal site in Ulaanbaatar those are Development of Narangiin Enger Disposal Site (NEDS) and Narangiin Enger Recycling Complex. JICA also extended the technical cooperation "Strengthening the Capacity for Solid Waste Management in Ulaanbaatar City" for 2009 - 2012.

b) Focus on Ulaanbaatar municipal solid waste

Waste of 464.4 thousand/m^3 is being transported and disposed in a year on in average. The General Maintenance Company is transporting and disposing 71.4% of the total waste.

Table 3.12 Amount of waste in Ulaanbaatar city /average in a year/

No.	Source of waste	m^3	Ton
1	From house regions	144,009	86,406
2	From apartments	152,051	45,615
3	From cleaning of streets and squares	15,442	6,117
4	From industries and economies	75,977	30,391
5	Others	64,610	25,844
	Total	**452,090**	**194,433**

Source: Department of Furnishing, Manufacturing, and Service, Governor's Office, Khan-Uul District, Ulaanbaatar, 2001

Table 3.13 Structure of solid waste in Ulaanbaatar

Form of wastes	Amount /by percent/
Paper	25.20
Waste of synthetic bag and hard paper boxes	9.19
Synthetic material	2.90
Rubber	0.30
Cotton material	2.50
Glass	4.41
Cans	5.54
Aluminum	0.40
Copper	0.25
Metal	2.46
Leather and fur	0.60
Wood and wooden furniture	1.51
Plant	2.64
Vegetable	2.61
Bones	4.48
Ashes	21.38
Power of coal	3.67
Soil, stones	7.96
Others	1.98
Total	**100.0**

Source: Department of Furnishing, Manufacturing, and Service, Governor's Office, Khan-Uul District, Ulaanbaatar, 2001

Table 3.14 Amount of solid waste in Ulaanbaatar

Year	1996	1997	1998	1999	2000	2001
The total amount of waste for the city (thousand m^3)	550	580	600	650	700	770
The amount of waste for the city is increasing by 5-10 percent year to year.						

Source Department of Furnishing, Manufacturing, and Service, Governor's Office, Khan-Uul District, Ulaanbaatar, 2001

Table 3.15 Amount of transported waste by general maintenance company in Ulaanbaatar

/as last 6 years/ Year	1996	1997	1998	1999	2000	2001
(thousand /m^3)						
Transported waste	436.5	477	539.4	377	492	541.3
Apartment	125.2	161	113.9	133.7	134	147.1
House region	130.6	125	165.1	11.9	112	123.1
Offices	139.2	145	133.6	161.6	162	177.8
Road and square	41.5	46.2	40.2	52	52	57.2

Source: Department of Furnishing, Manufacturing, and Service, Governor's Office, Khan-Uul District, Ulaanbaatar, 2001

c) Healthcare solid waste management

Since mismanagement of waste generated in the healthcare sector can have important impacts on the health of medical workers, patients, visitors, the community and the surrounding environment, healthcare waste management is a major issue. Between 2005 and 2007, the Ministry of Health, together with the Ulaanbaatar city mayor office and with the support of WHO, organized the first survey on solid household waste structure. This survey pointed out that 90% of the healthcare facilities burned medical waste in small scale, low temperature incinerators without air filter. Moreover, Mongolia having one of the highest rates of prevalence of hepatitis B and C shows the high risk of transmission via infected needle, syringes. Indeed,

research date of 2009-2010 asserted that 28.2% and 20.3% of medical workers respectively have hepatitis B and hepatitis C, pointing out the need for improving the healthcare waste management.

A GAVI16-supported survey of 220 soums concluded the following:

- 11.6% of soum hospitals do not practice segregation of wastes,
- 53.4% burn wastes in low-temperature stoves or drums,
- 10.7% practice open burning on site,
- And only 7% considered possible to spend their local budget for improving healthcare waste management.

The Mongolian government allocated in 2008 240,000 USD to provide needed equipment, such as autoclave, incinerator for anatomical waste, water purifier, waste trolley, waste bin and autoclavable bags. Working under public private partnership with Element LLC, the Ministry of Health has leased the equipment. Due to the opening of the centralized treatment facility in January 2010 in Ulaanbaatar by the Minister of Health's Order 73 from 2010 the on site incineration of the waste banned for all health care facilities in Ulaanbaatar city and all waste started to be collected and disposed at the new Naran enger landfill which is supported by Japanese Grant Aid.

Element LLC had collected and disposed 589 ton of hazardous health care waste from 13 hospitals under Ministry of Health, 34 hospitals under City Health Department, 9 state hospitals, 106 primary health care centers, 630 private hospitals, totally from 792 hospitals in 2011.

The Mongolian government also allocated a budget of 90,000 USD to provide the same equipment of Ulaanbaatar in Darkhan and Edernet in 2009.

With the support of WHO, a pilot project in Tuv province on improvement of primary health care facilities waste management and sharp waste management has been successfully implemented since 2009. It allows selecting equipment for primary health care facilities, determining waste generation amount, structure, and defining the appropriate solution for sharp waste management.

In order to improve the health care waste management, 28 soum hospitals of 9 provinces with WHO support, 35 soums from 10 provinces with MCA Mongolia support, 90 soums and 5 province hospitals with ADB support was provided with needed equipment. As for now, 33% of province hospitals and 41% of soum hospitals had shifted to non-incineration technology.

[16] Global Alliance for Vaccines and Immunization

3.6.2 Relevant Laws and Organizations

a) General regulation

At the international level, Mongolia is part of:

- The Basel Convention on the Control of Trans-boundary Movement of Hazardous Wastes" since 1996;
- The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade since 2001;
- The Stockholm Convention on Persistent Organic Pollutant since 2004.

At the national level, the main law to regulate municipal waste in Mongolia is the Law on Household and Industrial solid waste adopted in 2003. This law aims to improve the management of household and industrial solid waste, to create a economic mechanism for reuse and reduction waste, and to manage solid waste to keep environmental balance. Not only the rights and obligations of stakeholders on waste collection, segregation, treatment and disposal procedure, but also database, economic regulations and control regulation are reflecting in this law.

The provisions to implement this law are as follows:

- Rule on classification, collection, temporary storage, transportation, treatment of hazardous wastes (2002);
- Rule on hazardous waste certification (2006), which gives a regulation and procedures on disposal and landfill of hazardous waste of business entities, and requirements on waste containers and waste disposal sites;
- Methods of waste payment evaluation and norm setting (2006);
- Hazardous waste classification and rate through the joint order No. 324/318/336 of the Ministries for environment, health, education, culture, and science (2006);
- Regulation on labelling hazardous waste (2006);
- Regulation on national reporting and inventory of hazardous waste (2009);

The Law on Environment protection, the Law on Prohibition and Export of hazardous waste (2000), and the Law on Payment of Package and Case Imported Goods are also relevant.

In 2008, a national comprehensive policy based on MDG, concepts of Mongolian regional development and a government action plan (2008-2012) on waste management were developed. These legal documents' objectives are:

- To strengthen legal environment on waste management,
- To introduce a polluter-payment system,
- To introduce payment charge for waste on packet of import products,
- To implement comprehensive actions to sort, recycle, reuse and dispose safely wastes.

The Ministry of Environment and Green Development agrees with the policy to import facility for solid waste indemnification, recycle and reuse. According to the Law on household and industrial solid waste, local governors have also the right to organize a service fund for solid waste to support the collection, transportation, disposal and reduction of solid waste.

JICA has been providing waste management capacity building support in order to ensure the implementation of the "Law on Household and Industrial Waste" and to increase participation and competition among private sector in waste disposal and collection activities.

b) Healthcare waste regulation

As for healthcare waste management, the Ministry of Health is working with the WHO to improve the situation. In 2009, the order 293 of the Ministry of Health has approved the National Strategy on improvement of the Healthcare Waste Management and the Plan of Action for 2009-2013. This order was made to move toward environmentally friendly, non-incinerating technology. Consequently, the orders to implement the National Strategy were approved and included:

- The Ministry of Health's order 73 to open a centralized treatment facility;
- The joint order of the Ministry of Health and the Director General of the National Emergency Management 07/27 from January 2011 banned procurement of mercury containing thermometers, sphygmomanometers, dental amalgams, making Mongolia become one of the few country banning mercury in the health sector. It has also endorsed:
  - The Regulation on safety operations with mercury-containing health care equipment;
  - The Regulation on response action during mercury spilling breakage of equipment in health care organizations.
- The Ministry of Health's order 158 has approved in 2011 in accordance with WHO and UN policies:
  - The guideline on healthcare waste classification, segregation, collection, storage, transportation, disinfection, disposal;
  - The registration form of the health care hazardous waste;
  - The guideline on the transportation of healthcare waste.
- The Ministry of Health's order 179 in 2011 approved:
  - The guideline for the aimag healthcare waste storage facility to improve waste management in provinces;
  - The guideline for the soum, inter-soum healthcare waste storage facility;
  - The guideline for placenta pit;
  - The list of the needed equipment for improvement of healthcare waste management in aimag, soum, inter-soum hospital;
  - The technical specification of the equipments need for improvement of healthcare waste management in aimag, soum, inter-soum hospital.

3.7 Noise and Vibration

3.7.1 Current Situation

There is not a lot of statistical data directly related to noise pollution in Mongolia. However, according to WHO, excessive noise seriously harms human health and interferes with people's daily activities at school, at work, at home and during leisure time. Machines, transportation system, motor vehicles, train and aircraft are the source of most outdoor noise worldwide. Building activities, some industrial workplaces, and indoor machines are the cause of indoor noises. Considering these sources, one can suppose that one of the causes of Mongolia's outdoor noise is linked with the increase of motor vehicles' number and the increase of vehicles, which are already aged.

Table 3.16 Number of vehicles by type and used year

	2007	2008	2009	2010
By type				
Passenger automobile	110,150	127,538	153,900	172,583
Truck	33,076	41,138	47,291	61,841
Bus	13,038	15,780	16,136	16,366
Vehicle for special purposes	5,125	6,003	6,735	3,696
By used year				
Up to 3 years	10,620	14,028	14,950	8,585
4-6 years	20,481	18,567	24,897	54,283*
7-10 years	49,101	43,832	72,855	191,618**
11 and over	81,787	114,032	111,366	-
Total	**161,989**	**190,459**	**224,068**	**254,486**

Note: Classification of used year was changed.*4-9 years**10 and over year
Source Mongolian Yearbook 2010

As for occupational noise, a 2007 study was realized by the Department of preventive Medicine in the mining sector on 33 workplace sites, which were evaluated on occupational health standards. It was observed that the noise level and the vibration level were respectively 5.5-110 db and 1.7-19.1 times higher than the occupational exposure limits. In the Erdenet copper and molybdenum mining company, the National Centre for Health Development observed in 2000 that the level of noise in a digger's inside cabin was higher by 10-35 db.

As for registered occupational diseases, the main resource of these statistics is the occupational health disease registries of the National Center of Working Conditions and Occupational Diseases. According to this Center, for a total of 8883 cases registered between 1974 and 2009, 184 or 3% were noise induced hearing loss. People who were at risk of hearing loss due to noise were diesel machinery and sewing machine operators and turbine engine drivers.

3.7.2 Relevant Laws and Organizations

The legislation directly related to noise and vibration pollution in Mongolia is poor. The

Environmental Protection Law and the Law on Sanitation refer in one article to noise nuisance. According to the article 20 of the Environmental Protection Law on environmental carrying capacity, the contents of hazardous substances to be discharged into the environment and the extent of adverse environmental impacts should, among other, be determined by the permissible maximum levels for noise, sound, vibrations, electric and magnetic pulses and other adverse environmental impacts. According to the article 10 of the Law on Sanitation, safety regulations for the organizations, economic entities, and individuals that work with radioactive and toxic chemicals, ionizing and non-ionizing rays, physical factors (noise, oscillations, vibrations, electro-magnetic fields, radio waves, ultrasound etc.) and micro-organism cultures shall be established and their implementation ensured by the state administrative central body in charge of those matters. Other indirect laws and acts include:

- The labour law modified in 1999 and 2003,
- The occupational safety and health law of 2008,
- The Act 155 on occupational safety and health, and industrial environment of 1998.

Furthermore, the following standards related to noise and vibrations are adopted in Mongolia.

Table 3.17 Mongolian Standards related to noise and vibration

Standards No.	Year	Description
Permissible ambient noise level		
MNS 4585	2007	To set the maximum allowable noise limit in db(A).
Occupational safety and health Standards		
MNS 4994	2000	Workplace vibration normal ranges and general safety requirement. It shows workplace vibration classification, health requirement and its measuring method and measuring requirement.
MNS 5002		
MNS 4995	2000	General requirement for vibration measurement. It demonstrates requirement of workplace vibration measurement.
MNS 5003		General requirement of workplace vibration normal range and safety.
Transport		
MNS 17.5.1.21	1992	Transport noise standard and its methodology of measurement.

Source: Oyu Tolgoi Project - ESIA, 2012, National Occupational Health, 2009.
Profile of Mongolia

According to the Mongolian National standard MNS 4585:2007 (Air quality/Technical general requirements), the maximum environmental noise exposure for the public is set at 60 decibels measured on the A scale (dB(A)) during daytime and 45 dB(A) during the night. As for vibration standards, there are no existing Mongolian environmental quality standards for ground-borne vibration or blasting overpressure.

The table below provides the international standards for ambient noise in comparison with Mongolian Standards.

Table 3.18 Mongolian and International Standards for permissible ambient noise level

	Maximum allowable noise limit (hourly measurement), 1hr LA_{eq} in dB(A)	
Standard	**Day** (07:00-22:00)	**Night** (22:00-07:00)
IFC Guideline: Industrial/Commercial	70	70
IFC Guideline: Residential/Institutional/Educational	55	45
MNS 4585:2007	60	45

Source: Oyu Tolgoi Project - ESIA, 2012

3.7.3 Approaches and Efforts

Until 2002, occupational health inspectors in Mongolia lacking essential tools and equipment, WHO and the Korean Occupational Health Agency donated essential portable and advanced equipment. Therefore, they received in six districts and three industries of Ulaanbaatar equipment able to measure noise. In 2008, the state budget provided occupational health control inspectors in 21 provinces and nine districts with noise measuring equipment.

Moreover, to achieve the goals of the Bangkok 2020 declaration, concerning the goal No.14 related to the promotion of the health impacts from transport emissions and noise, the Ministry of Roads and Transportation has some difficulties to extend the number of busses and trolleybuses used for public transportations in cities. There is also a lack of capacity building in transport sector development and environmentally friendly transport sector planning.

As for the goal No.15 related to the establishment of a country-specific, progressive, health-based, cost-effective, and enforceable air quality and noise standard, the concerned ministries will take the following action in 2013:

- To develop a State policy on auto transport;
- To renew regulation on Auto transport inventory;
- And to improve law regulation on environment and health sector impacts from auto transport.

3.8 Climate Change

3.8.1 Current Situation

a) Greenhouse gas emissions

As shown in the following table, the largest emitter of carbon dioxide is the energy sector, where 98% of carbon dioxide emissions came from in 2006. The main contributor to the total methane emissions is the agricultural sector with 93% of the total methane emissions.

Table 3.19 Main greenhouse gases (GHG) by sectors

(giga gram)

GHG source and sink	CO_2 emissions	CO_2 removals	CH_4	N_2O	HFC_8	CO_2-eq
1990						
Energy	12071.00	0.00	18.38	0.23		12528.28
Industrial processes	313.47		0	0	0.0104	327
Agriculture			274.38	6.23		7693
LUchF	1887.39	0		0		1887
Waste			4.59	0		96
Total	14271.86	0	297.35	6.46	0.0104	22532
2000						
Energy	8561.00	0.00	11.99	0.19		8871.69
Industrial processes	79.38		0	0	0.15	274
Agriculture			296.96	1.65		6748
LUchF		1760.06		0		-1760
Waste			5.71	0		120
Total	8640.38	1760.06	314.66	1.84	0.15	14254
2006						
Energy	9831.00	0.00	15.39	0.19		10213.09
Industrial processes	125.15		0.00	0.00	0.588	889.55
Agriculture			288.94	1.27		6461.44
LUchF		2082.56		0.00		-2082.58
Waste			6.55	0.00		137.55
Total	9956.15	2082.56	310.88	1.46	0.588	15619

Note: CO2-eq: CO2 equivalent; LUchF: Land use change and forestry
Source: MARCC, 2009

The total emissions in Mongolia are comparatively low. However the per capita rate of GHG emissions is relatively high compared to other developing countries. It is certainly due to Mongolia's cold continental climate, the use of fossil fuel for energy and the low efficiency of fuel and energy.

Table 3.20 Per capita GHG emissions in CO_2-eq

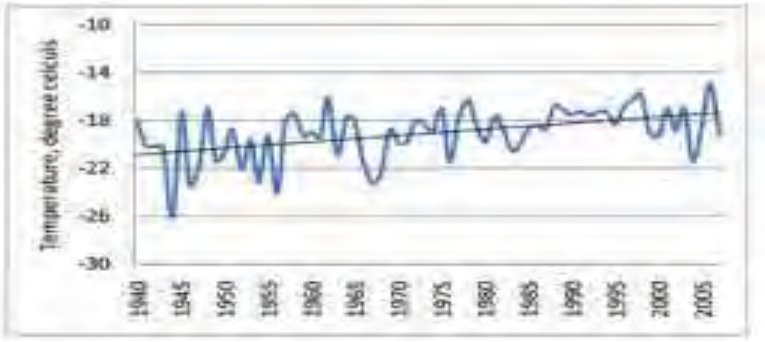
	1990	1995	2000	2001	2002	2003	2004	2005	2006
GHG emissions in CO_2-eq.Gg	14850	14850	14254	13754	13936	13159	13747	14511	15619
Population, 1000 persons	2103	2249	2407	2446	2475	2504	2533	2562	2595
Per capita GHG emissions, ton/person	7.06	6.60	5.92	5.63	5.63	5.26	5.43	5.66	6.02

Note: CO2-eq.Gg: CO2 equivalent Giga gram
Source: MARCC, 2009

b) Climate change

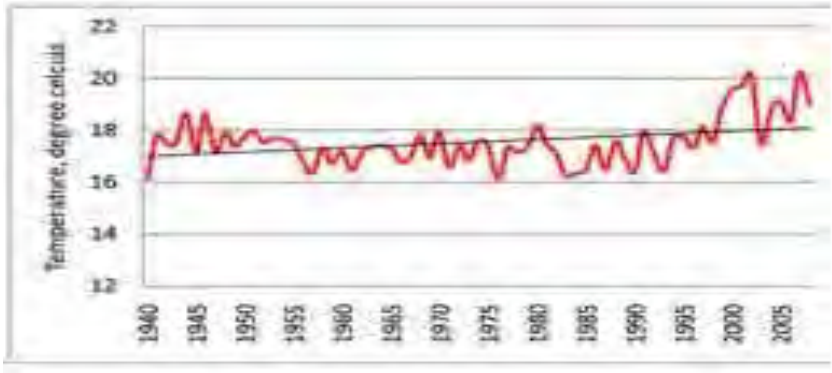
Mongolia is relatively sensitive to climate change. Various studies have already observed certain impacts of climate changes for the last 40 years, impacts causing high damage not only to the livestock sector, but also to the ecology and socio-economic sectors.

Concerning the air temperature change, according to the records of 48 meteorological stations of Mongolia, the annual average temperature of Mongolia increased by 2.14° during the last 70 years. The annual average winter temperature decreased during 1990 and 2006, even though it increased on other period of time (1940-2006, 1961-2006, 1981-2006). The average summer temperature has been increasing noticeably since 1940.



Source: MARCC 2009

Figure 3.2 Average Winter Temperature during 1940-2005 in Mongolia



Source: MARCC 2009

Figure 3.3 Average Summer Temperature during 1940-2005 in Mongolia

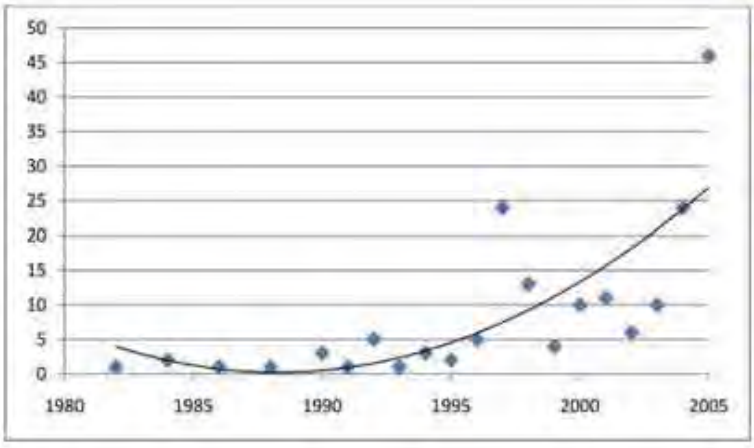
Concerning the precipitation amount change, winter precipitation has increased, while warm season precipitation has slightly decreased during the period 1940-2006. Precipitation in Altai mountain region, Altai Gobi and Mongolian eastern part has increased since 1961, while it has decreased in all other regions by 0.1-2.0 mm. The Mongolian central region has had the most precipitation decrease.

Table 3.21 Coefficient Results of Linear Equation of Total Precipitation of different seasons

	Equation of Linear Trend a-Coefficient			
	1940-2006	1961-2006	1981-2006	1990-2006
Spring	-0.032	-0.027	0.416*	0.554*
Summer	-0.127	-0.475*	-1.433	-5.288**
Fall	-0.059	-0.087*	-0.485*	-0.712*
Winter	0.009	0.025	0.106*	0.129
Year	-0.206	-0.564*	-1.416	-5.572**
Warm Season	-0.250	-0.617*	-1.523	-5.518**

Note: *90% reliable, **99% reliable.
Source: MARCC 2009

Increasing amount of thunderstorms during the vegetation period is also one of the indications in precipitation change. According to Arvaikheer weather station, there has been 18% increase of thunderstorms betwee 1979-1996. Besides thunderstorms, natural disaster (floods hail, etc.) has significantly increased for the past 20 years.



Source: MARCC 2009

Figure 3.4 Natural Disasters in Mongolia related with atmospheric convection

Climate Extreme Indices Change

With the data available for 23 weather stations during the period 1961-2007, the change in the climate extreme indices could be observed. Among the 27 indices of temperature and precipitation recommended by the Expert Team on Climate Change Detection, Monitoring and Indices (ETCCDMI), 12 indices fitting Mongolia situation could be analysed. The result can be seen in the following tables, the first table being the indices' explanation table.

Table 3.22 Climate Extreme Indices in Mongolia during 1961-2007

Abbreviation	Name	Description	Unit
Fd-5	Cold day	Year Tn (lowest temperature of the day) <0°C	day
Su26	Hot day	Year Tx (highest temperature of the day) >26°C	day
Gsl	Vegetation growing period	Average temperature in the first half of the year Tmean>5°C and average temperature in the second half of the year, at least 6 days Tmean<5°C	day
Tn10p	Cool night	Tn<10% of the day	day
Tx10p	Cool day	Tx<10% of the day	day
Tn90p	Warm night	Tn>90% of the day	day
Tx90p	Warm day	Tx>90% of the day	day
wsdi	Indicator of hot days	Tx>90% of the day, at least 6 days	day
csdi	Indicator of cold days	Tn<10% of the day, at least 6 days	day
R95p	High precipitation	Annual total precipitation RR>95th more than supply	mm
R99p	Very high precipitation	Annual total precipitation RR>95th more than supply	mm
prcptot	Total amount of precipitation	Total amount of precipitation of days with precipitation	mm

Source: MARCC 2009

Table 3.23 Change Trend of Climate Extreme Indices during 1961-2007

Index	Western region	Central region	Eastern region	Gobi region
Fd-5	-14 (-5…-22)	-22 (-12…-32)	-13 (-4…-19)	-14 (-12…-17)
Su26	16 (7…26)	25 (17…30)	20 (6…29)	20 (6…29)
Gsl	14 (9…23)	19 (9…25)	9 (6…16)	14 (7…19)
Tn10p	-10 (-5…-15)	-10 (-4…-14)	-8 (1…-16)	-9 (-6…-13)
Tx10p	-6 (-2…-11)	-6 (-4…-8)	-3 (-2…-3)	-5 (-3…-7)
Tn90p	10 (7…18)	14 (9…17)	10 (5…10)	11 (9…12)
Tx90p	8 (4…12)	9 (7…12)	7 (7…9)	7 (5…10)
wsdi	12 (3…23)	13 (10…17)	12 (8…14)	8 (6…12)
csdi	-11 (-4…-25)	-7 (-1…-14)	-8 (0…-18)	-7 (-5…-10)
R95p	3 (-35…19)	-23 (-37…8)	-25 (-1…-39)	-21 (-3…-45)
R99p	1 (-17…13)	-4 (-22…22)	-2 (-7…40)	-7 (-27…3)
prcptot	5 (-35…48)	-49 (-10…-71)	-55 (-18…-86)	-44 (-14…-70)

Source: MARCC 2009

Due to global warming, the number of hot days (su26) increased by 16-25 days, number of cold days (fd-5) decreased by 13-14 days, and vegetation growing period (gsl) increased by 14-19 days. Night temperature, which is higher (Tx90) and lower (Tn10p) than 90% and 10% provision, is more intense than day temperature.

Impacts related to climate change

Mongolian ecosystems have been altered as a result of climate change. A comparison of the land surface between 1992 (satellite data collected by Mongolian National Research Center) and 2002 (satellite data collected by the National Remote Sensing Center) has revealed a significant change: desert area has increased and forest area has decreased. Furthermore in 2006, an evaluation of the land surface using MODIS satellite data (which has a better resolution) was made and could be used to compare with past data. As a result, due to the higher satellite resolution, it could be observed that the water area increased. During the period 1992-2002, areas without grass increased by 46% and in 2006 this barren area almost tripled, while the forest area decreased by more than 26%. Moreover, The study conducted by using of land and satellite monitoring in the Institute of Geoecology also concluded that the 78,2% of territory of Mongolia has been affected by middle and high rate desertification (see figure A-5 in the Appendix).

In Mongolia the permafrost is located above the 43° N Latitude and 63% of the total territory has permafrost soil, which is deep underground soil at a constant temperature below the freezing point of water 0°C for two of more years. In the northern part of Mongolia, there is an increase in the total area of permafrost soil. Over the last 30 years, in Khentii and Khangai mountains and in the Khuvsgul mountains, there has been respectively an increase by 0.1-0.6 cm and 0.6-1.6 cm in the active soil layer of these permafrost regions. The eastern part of Mongolia during the last 90 years has also seen a decrease by 10-20 cm of the seasonal permafrost level in the active soil layer. Permafrost phenomenon, such as thermocrast, solifluction, thermoerosion, have also been occurring the last 50 years. The thermocrast process advances approximately 5-10 centimetres per year. The annual speed of solifluction is approximately 2 cm.

The snow cover plays also an important role in Mongolia, as it provides insulation to protect the deep soil that remains frozen, acts as water source for herdsmen, wild and domestic animals during the winter, and nourishes the rivers and streams in the spring. This snow cover is decreasing in the northern mountainous region of Mongolia, while it is increasing in the eastern and southern steppe and the Gobi desert.

Concerning water resources, the 2007 water inventory reveals that:

- 852 rivers and streams out of a total of 5,128 have dried up;
- 2,277 springs out of a total of 9,306 have dried up;
- 1,181 lakes and ponds out of a total of 3,747 have dried up;
- And 60 springs out of a total of 429 have dried up.

Changes in the river basin areas affect the water resources. According to P. Batimaa, the river discharge and water level has changed noticeably. Changes are also occurring with respect to the formation of ice on rivers and lakes, including the timing of the ice cover's formation and deterioration and the thickness of the ice.

The phenomenon of dust and sand storm, where dust particles in the atmosphere are heated by the solar radiation causing additional heating (Voeikov phenomenon), impacts the animal husbandry and also is a factor of the pasturing destruction. Geographical dispersion studies of annual average amount show that dust storm occurrences took place for less than 5 days a year in Khangai, Khovsgol and Khentii mountainous areas; in the desert areas, 30-37 days; and in the Great Lake Depression,10-17 days. Altain farther Gobi, Red lake of Umnugobi and Zamiin Uud areas are identified as high frequency zones for dust storm occurrences.

Finally, if we consider economic sectors, it can be said that climate change impacts negatively animal husbandry and leads to reduce livestock productivity. For example, due to climate change, for the last 20 years, sheep, goat and cattle hair cutting times have been shifted ahead by about a week. Furthermore, in the arable farming and agriculture sector, during the last 20 years, the harvesting rate decreased due to various reasons. Among those reasons can be point out repeated droughts.

3.8.2 Approaches and Efforts

General regulation, organizations and various programmes

On the international level, as part of the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol, Mongolia's involvement in the international climate change initiatives is through the Clean Development Mechanism (CDM). The Ministry of Environment and Green Development is the designated national authority responsible for authorizing and approving participation in CDM projects. The following table list the CDM

projects that Mongolia was part of.

Table 3.24 List of Mongolia CDM projects

Registered	Project title	Host Parties	Other Parties	Reductions*
28/07/2006	A retrofit programme for decentralised heating stations in Mongolia.	Mongolia		11,904
16/03/2007	Taishir Hydropower Project in Mongolia	Mongolia	Japan	29,600
23/03/2007	Durgun Hydropower Project in Mongolia	Mongolia	Japan	30,400

Note: * Estimated emission reductions in metric tonnes of CO2 equivalent per annum (as stated by the project participants)
Source: UNFCCC, 2013

On the national level, currently to prevent further impacts related to climate change, the following legislation and policies are in force:

- The Law on Environmental Protection (1995, 2007),
- The Revised Law on Air (1995,2010),
- The Law on Disaster Prevention (2003),
- The Renewable Energy Law (2007),
- National Security Priorities,
- The Mongolia Action Programme for the 21st Century (MAP21),
- The National Plan to Combat Desertification,
- The National Biodiversity Plan,
- The Action Programme to protect Air,
- The Action Programme to protect Ozone Layer.
- The MDG-based Comprehensive National Development Strategy of Mongolia (2008),
- The National Action Programme on Climate Change (NAPCC) (2000,2011).

To coordinate national activities and measures aimed to adapt to climate change and to abate greenhouse gases emissions, the interdisciplinary and inter-sectoral National Climate Committee (NCC), led by the Ministry of Environment and Green Development, was established. It is comprised of high-level officials of the main departments of all related ministries and agencies. The Climate Change Office (CCO), under the supervision of the Chairman of the NCC, is also planned to be established. This office will carry out day-to-day activities related to implementations of responsibilities and commitments under the UNFCCC and the Kyoto Protocol and will integrate climate change related problems in various sectors.

The main organizations for climate change measures are not only the Ministry of Environment and Green Development (MEGD), but also the Ministry of Mineral Resources and Energy (MMRE), the Ministry of Food, Agriculture and Light Industry (MFALI), and the Ministry of Foreign Affairs and Trade. The Hydrology and Environment Monitoring, under the MEGD, is the operational organization for climate monitoring and research. The MMRE, along with other relevant ministries and agencies, is responsible for the implementation of greenhouse gases'

mitigation measures, improving the energy sector, and for proper operation and maintenance of the station and the distribution network. The MFALI is in charge of implementing measures and projects to abate greenhouse gases emissions from the industrial sector, and for measures to adapt to climate change in arable farming, animal husbandry, water resources and others.

a) The MDG-based Comprehensive National Development Strategy of Mongolia

In the MDG-based Comprehensive National Development Strategy of Mongolia, which formulated key social, economic and environmental targets to achieve the MDGs, one of the six strategically priority areas of the country's development is directly tackling climate change issues. This priority area aims to "create a sustainable environment for development by promoting capacities and measures on adaptation to climate change, halting imbalances in the country's ecosystems and protecting them". In the Strategic objective 6 titled "Promote capacity to adapt to climate change and desertification, to reduce their negative impacts" of this priority area, the climate change adaptation activities and measures were identified. These are:

- Undertake a science-based assessment of climate change effects and define their prospects, and implement a policy in line with the concept of sustainable development.
- Assess areas affected or are at the risk of being affected by drought and erosion due to environmental degradation and climate change, define their prospects, and enhance the capacity to adapt to the peculiarities of those areas.
- Choose and cultivate those sorts of grain, potato and vegetables, fodder plants which are sturdy and capable to adapt to environmental and climate change, develop new sorts, and introduce advanced methods and technology in crop-farming.
- Develop and implement a policy with regard to regulating the population and structure of livestock in accordance with pastures' capacity.
- Develop in combination both nomadic and intensive animal husbandries capable to adapt to environmental an climate change, which would be more productive and with good biological capability.

b) The National Action Programme on Climate Change (NAPCC)

The NAPCC was approved by the State Great Khural (the Parliament) in January 2011, followed in November 2011 by the Cabinet of the Government's approval of its implementation plan for the first period (2011-2016). In general, the NAPCC aims to ensure:

- Ecological balances by setting a legal environment, an institutional management system that will tackle the climate change issues;
- The development of socio-economic sector adapted to climate change;
- The reduction of vulnerabilities and risks and the guarantee of environmental sustainability;
- The mitigation of greenhouse gases emission, the promotion of economic effectiveness and efficiencies by establishing a low carbon economy (introduction of environmentally friendly technologies);

- The implementation of green development goals;
- To enhance the national climate observation network;
- And to conduct public awareness campaigns and support citizen and community participation in actions against climate change.

The first implementation period should see a strengthening of national mitigation and adaptation capacities, an establishment of legal, structural and management systems and an improvement of the community and the public participation. Following the first phase, a second phase (2017-2021), which will focus on implementing climate change adaptation measures and starting up greenhouse gas mitigation actions, should begin.

NAPCC includes Adaptation and Mitigation strategies and measures for key socio-economic sectors of the country, as mentioned below.

Adaptation strategy

Mongolia, also having specific concerns (melting of permafrost impacting agriculture, water resources, animal husbandry, etc.) due to is geographical and climatic conditions will use some adaptation strategies to tackle these issues in the framework of the NAPCC. To implement the adaptation measures in agriculture and water resource sectors, the following main aspects will be the main focus:

- Education and awareness campaigns between the decision makers, agriculture people and public;
- Technology and information transfer to farmers and herdsmen;
- Research and technology to ensure the agricultural development that could successfully deal with various environmental problems in the 21st century;
- Management measures by coordinating information of research inventory and monitoring.

Measures on Greenhouse Gases Emissions Mitigation

To mitigate greenhouse gases, Mongolia has been developing and vigorously promoting various policies. As for the energy sector, which is the main source of greenhouse gases emissions, on the supply's side, Mongolia's government wants to:

- Increase renewable options,
- Improve coal quality,
- Improve CHP plants' efficiency,
- Improve household stoves and furnaces,
- Improve efficiency of heating boilers,
- Increase use of electricity for local heating in cities,
- Reduce internal fuel consumption of electric and heat power generations,
- Increase efficiency of energy transfer and distribution,
- Supply renewable energy generators to soum centers.

For those who are using energy, the government wants to improve the energy efficiency, to increase hydrogen and hybrid fuel use in vehicles, to encourage low fuel consumption cars, and to expand the use and production system of wind, solar and other renewable energy. Furthermore it will develop a network of trolleybuses for public transportation, expand the liquid gas distribution network and limit the usage of incandescent light bulbs.

The main Policy Guidelines & Programs in energy sector related to greenhouse gases Mitigation policies are:

- The Renewable Energy Law" approved in 2007
- The Coal Program
- The Mongolia Integrated Power System (MIPS)
- The Mongolia Sustainable Energy Sector Development Strategy Plan (2002-2010)
- The Mongolia National Renewable Energy Program approved in June 2005
- The Liquefied petroleum gas (LPG) Program

From the new technology and research point of view, it wants to introduce and disseminate improved technology for coal processing and clean fuel processing in local areas. It is looking for technology to convert Ulaanbaatar Power Plant-3 and Darkhan Power Plant into high efficiency electric power plant. Researches concerning geothermal power technologies and the use of methane gas from underground mining will be conducted and technologies for dry (lower emission) cement production will be developed. Solid waste power plants will be built and the research on nuclear power generators will be expanded.

As for measures concerning the non-energy sectors, in the transportation sector, there will be an electrification of railways and the promotion of the use of more fuel-efficient vehicles. In the agriculture sector, the productivity of each type of animal, especially cattle, will be increased to limit the increase of the total number of livestock. In the forestry sector, forest management will be improved; emissions from deforestation and forest degradation will be reduced; forest carbon stocks will be enhanced. In the waste sector, landfill gas will be used for power generation.

c) The Copenhagen accord and Cancun agreements

Following the decision of the COP15 and COP16/UNFCCC17, the Copenhagen Accord and Cancun Agreements were signed. Following these agreements, Non-Annex I parties that Mongolia is part of will implement Nationally Appropriate Mitigation Actions (NAMA), including those submitted to the UNFCCC secretariat. Therefore, Mongolia submitted the list of NAMAs to the Climate Change Secretariat. These NAMAs are consistent with sustainable development goals and are supported and enabled by technology and capacity-building.

In 2010, Mongolia submitted the country's intended NAMAs to the United Nations Framework

[17] United Nations Framework Convention on Climate Change

Convention on Climate Change (UNFCCC) Secretariat. This included a NAMA for agriculture, including animal husbandry that aims to limit the increase of the total number of livestock by increasing the productivity of each type of animal, especially cattle. The Asian Development Bank (ADB) assisted the Government of Mongolia to elaborate a NAMA concept for sustainable management of the livestock and grassland sectors based on the National Livestock Program (NLP).

d) Some other projects

Two similar projects in the field of climate change recently occurred during in Mongolia. The first project, developed and implemented by the ADB, PRC and Mongolia's government between 2010-2012 aimed to strengthen carbon financing for regional grassland in Northeast Asia. The second one, with the objective to link herders to carbon markets by developing methods and approaches for grassland carbon finance in Mongolia, was developed by the SDC during 2011-2012.

Recently, the Ministry of Health implemented with the support of WHO a project on Climate Change and Human Health, where a national adaptation strategy of the health sector was initiated.

e) Japanese Cooperation

The Japanese government supports developing countries in their efforts to mitigate the effects of climate change, through several initiatives such as 1) capacity building for NAMAs, and 2) introduction of the Joint Crediting Mechanism (JCM).

In the case of NAMAs, 4 host countries (Cambodia, Lao PDR, Mongolia, and Vietnam) and the Ministry of the Environment, Japan (MOEJ), have decided to cooperate on capacity building and joint studies for the introduction of NAMAs in a MRV manner through the Overseas Environmental Cooperation Center, Japan (OECC) since FY2012.

Japan has held consultations for the JCM with developing countries since 2011. Japan signed the bilateral document for the JCM with Mongolia in January 2013.

JCM concept is 1) facilitating diffusion of leading low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions, and contributing to sustainable development of developing countries; 2) appropriately evaluating contributions to GHG emission reductions or removals from Japan in a quantitative manner, by applying measurement, reporting and verification (MRV) methodologies, and use them to achieve Japan's emission reduction target; and 3) contributing to the ultimate objective of the UNFCCC by facilitating global actions for GHG emission reductions or removals, complementing the CDM.

Chapter 4 Social Environment

4.1 Overview

As the economy has expanded, social and living conditions have improved for most of the population. According to World Bank data, 27.4% of the population lives below the poverty line (2012)[1]. Human development is high among the Governments development priorities, especially education, health and social protection. Mongolia's Human Development Index (HDI) has improved significantly since 1995, and it is now categorized as a medium-human development country.

Despite the strong economic growth that Mongolia has experienced in recent years, as a landlocked nation with a small, dispersed population, subject to severe weather conditions and an increasingly degraded natural environment, the country faces significant development challenges.

Social and economic inequality poses a considerable risk to long-term growth and stability. The benefits of the country's economic growth have not been evenly distributed, resulting in increasing disparities in wealth in the society and imbalances in development and extensive rural to urban migration. Four out of every ten persons live below the poverty line.

Public services are heavily concentrated in Ulaanbaatar, the only major city, and in a handful of small cities, provincial centers and emerging mining towns. The lack of adequate water and sanitation provisions in rural and peri-urban areas poses threats to human health and security. Nationally, only 45% of the population has access to safe water and 28% to adequate sanitation.

In urban areas, residents are increasingly suffering from environmental distress, with Ulaanbaatar having one of the world's highest levels of air pollution. In 2010, the World Bank indicated that CO2 emissions per metric ton per capita were 4.2 in Mongolia, significantly higher than the average of 1.6 in other middle-income countries. Air pollution is particularly severe during the winter months when residents of the peri-urban ger districts use coal for heating and cooking. Concentrations of certain types of particulate matter (PM10) regularly exceed WHO recommended maximum levels, giving rise to respiratory tract and cardiovascular problems, especially among young children. Overriding these issues are concerns about the sustainability and environmental impact of the mining industry, as well as issues of transparency, accountability and fair distribution of the new wealth generated by the mining industry.

[1] http://data.worldbank.org/country/mongolia

In the context of citizens participation and good governance, in spite of significant progress in democratic consolidation since 1990, the country still has to address issues related to low levels of citizen participation in politics, the excessive role of money in electoral campaigns and the perceived high level of corruption. There is also an apparent need to improve transparency and accountability and to improve the capacity of government institutions to better enforce the rule of law.

The Mongolian Government has made a strong commitment and continuous efforts to achieve the Millennium Development Goals (MDGs), embedding these in development benchmarks for the country in 2025, and as the framework for the MDG-based Comprehensive National Development Strategy (CNDS). While the Third National MDG Progress Report (2009) indicates that two thirds of the MDGs are likely to be achieved by 2015, it recognizes that four are unlikely to be met by this time:

- Eradicating poverty and hunger;
- Promoting gender equality;
- Ensuring environmental sustainability; and
- Enhancing democratic governance and human rights. (This is an additional goal adopted by the Mongolian government in the national context)

The reality of this situation on the ground calls for the sustained engagement of the UN, as well as partner organizations, in assisting the Government of Mongolia in reaching its development goals.

4.2 Regulations and Policies

Right to a healthy and safe environment, and to be protected against environmental pollution and ecological imbalance is guaranteed in the Article 162 of the Constitution of Mongolia[3]. The International Covenant on Economic, Social and Cultural Rights also provides for the improvement of all aspects of environmental and industrial hygiene (12.2.b) Moreover, Article 19 of the Constitution of Mongolia provides that “The State shall be responsible to the citizens for the creation of economic, social, legal and other guarantees for ensuring human rights and freedoms, for the prevention of violation of human rights and freedoms and to restoration of infringed rights.”

It means that the state shall create conditions for its citizens to live in a healthy and safe environment and to ensure that this right is not violated, set up accountability regulations and make available effective remedy, provide access to information to the public, involve them in decision making, disseminate human rights knowledge and awareness.

[2] http://www.mn-nhrc.org/eng/28/29/

[3] http://www.asiapacificforum.net/members/full-members/mongolia/downloads/annual-reports/2013

The Law on Citizenship, passed by the Parliament in 1995, regulates Mongolian citizenship, acquisition, restoration, cessation and loss of citizenship. It has been amended three times since its enactment. Between 2001-2011, 34,532 people ceased to be citizens of Mongolia, 713 people restored their Mongolian citizenship, and 121 foreign people acquired Mongolian citizenship.

The Law on Social Welfare was revised in 2012 and is now in effect. The basic concept of the social welfare system, which is designated for vulnerable groups, remains the same in the revised law and amendments were only made to criteria and conditions under the social welfare coverage.

The Parliament passed the revised Law on Social Welfare, Law on Social Protection for Elders and amendment of Law on Social Protection for People with Disabilities in January 2012. In relation to implementing these laws, six resolutions of the Government, 14 resolutions of the Minister of Social Protection and Labor and the Minister of Population Development and Social Protection, three joint-resolutions of the Minister of Social Protection and Labor and Ministers of other relevant Ministries, and three resolutions of the Director of General Office for Social Welfare Services, which covers a total of 24 rules and regulations, were respectively adopted.

In 2013, the Government of Mongolia took actions to strengthen legal aid centers. For example, the Ministry of Justice organized qualification examination for legal professionals. Those who passed the examination were awarded permits to practice law. Similar qualification examinations were organized among lawyers in the regions. As a result, 81 lawyers were awarded permits for advocacy in 2012. Financial support by UNDP was provided to 37 legal aid centers located in central, provinces, and districts.

As part of the campaign “Legal aid centers” carried out by the Ministry, staff of 37 legal aid centers working in the Kharkhorin soum of Uvurkhangai province, Tariat soum of Arkhangai province, and Tosontsengel and Uliastai soum of Zavkhan province, gave legal advice to 250 people free of charge and conducted awareness raising activities with local people.

4.3 Relevant Organizations for Protection of Basic Human Rights

The National Commission for Human Rights in Mongolia (NCHRM) established under the State Great Khural (Parliament) covers the adoption of the law of the National Human Rights Commission of Mongolia. NCHRM is an institution mandated with the promotion and protection of human rights and freedoms.

The Committee on the Elimination of Racial Discrimination (CERD), body of independent

experts monitoring implementation of the Convention on the Elimination of All Forms of Racial Discrimination by its State parties, is also watching Mongolia's actions since Mongolia is part of the Convention.

The Centre for Human Rights and Development's (CHRD) mission is to contribute to the protection and promotion of human rights in Mongolia through legislative and policy advocacy legal assistance, public awareness and capacity building of disadvantaged people.

Ministry of Population Development and Social Welfare is in charge of the social welfare and poverty issues.

4.4 Protection of Rights for Socially Vulnerable

4.4.1 Poverty

In spite of rapid economic growth in recent years, more than a quarter of the people (27.4% in 2012) remain below the national poverty lines. It is imperative for Mongolia to diversify its economy and create alternative employment sources, especially for the youth. The overall unemployment rate is around 10% but nearly one in four youth (15-24 years) are unemployed. A key limitation is the low skill base of the youth[4].

Women are active in most areas of the economy and society, however, gender-based disparities persist in terms of poverty, vulnerability, economic opportunities, and political decision making. The 2010 Universal Periodic Review (UPR) expressed concerns about poverty, erosion of public services and persistence of gender stereotypes. There are also capacity constraints across many government institutions impeding the ability to deliver development results.

The National Statistical Office of Mongolia (NSO) has been conducting the Household Income and Expenditure Survey (HIES) since 1966. It merged the HIES and the Living Standards Measurement Survey (LSMS) in July, 2007 under the title of Household Socio-Economic Survey (HSES), and has been conducting this HSES survey since then.

The HSES selects a total of 11,232 households in Mongolia on a sampling basis annually, collects and studies indicators with respect to age, race, education, employment of household members as well as indicators related to household income and consumption expenditure. According to their data, recently the poverty rate is decreasing.

[4] http://www.undp.org/content/mongolia/en/home/countryinfo/

Table 4.1 Poverty Rate

Poverty indicators for the years of 2010, 2011, 2012

	2010	2011	2012
2010 as a base year			
Poverty line, in tugrug	92 220	99 891	118 668
Poverty coverage, %			
National average	**38.7**	**33.7**	**27.4**
Urban	33.1	28.6	23.2
Rural	49.0	43.4	35.5
Region			
Western	52.6	40.3	32.5
Highlands	52.0	49.1	38.6
Central	29.8	28.2	28.1
Eastern	42.4	40.1	33.3
By location			
Ulaanbaatar	31.0	25.7	19.8
Aimag centers	37.4	34.4	30.4
Soum centers	39.5	35.9	27.5
Countryside	56.1	47.4	39.8

Source: Household Socio-Economic Survey (HSES)

However, the United Nations Special Rapporteur on extreme poverty and human rights, Magdalena Sepúlveda, warned that the Mongolian economy has continued to show impressive double-digit growth despite the global economic and financial crisis, yet the poorest of the poor are not enjoying the benefits of such growth[5]. While some parts of the country are being transformed, poverty remains very high and is becoming entrenched not only in rural areas but also in urban centers as the income gap widens and inequality increases. The fact that poverty levels remain high and there are increasing inequalities is a clear demonstration that the benefits of economic growth have not trickled down to the poor.

The rights expert expressed concern about the challenges faced by the groups most vulnerable and severely affected by poverty and social exclusion in Mongolia, such as women, children and youth, persons with disabilities, older persons, internal migrants, herders and nomadic communities, ethnic minorities, LGBT, persons living with HIV/AIDS and stateless persons.

The Special Rapporteur urged the Mongolian Government to devise and adopt a poverty reduction strategy based on human rights that includes time-bound benchmarks, effective implementation plans, monitoring and accountability mechanisms to ensure authorities comply with their mandates. She also mentions that Mongolia must foresee the necessary budgetary implications and ensure sustainability in the long term and implement the strategy with strong cross-sectorial coordination through the leadership of a designated ministry. The Government must immediately address the critical needs and pressing problems of the poorest and most

[5] http://www.un-mongolia.mn/new/?p=319

marginalized in Mongolian society as a matter of priority. The poorest sectors of society must be assured that their rights will be protected, adequate resources will be provided and that they will be able to access basic services.

4.4.2 Indigenous Peoples and Ethnic Minority Group

There are over 30 ethnic groups in Mongolia. Boadly, Mongolia consists of two major ethinic groups: the Mongols and Kazakhs. The Mongols, speaking Mongol language, account for 94% of the population. Of these, the Khalkha ethnic group comprises nearly 82% of the country's population. Other ethnic groups in the Mongols are Dorvod, Bayad, Buryat, Zakhchin, Dariganga, Uriankhai, and Darkhad. Despite the number of ethnic subgroups, Mongolia's population is ethnically quite homogenous; about 90 percent of the populace speaks one of several dialects of the Mongol language. Most of the Mongol groups traditionally followed shamanism or adopted Tibetan Buddhism.

The Kazakhs is the other major ethnic group. They are the minority group. Most of them are Muslim and rely primarily on the Kazakh (Turkic) language. Of these, Kazakh is the largest ethnic in this group and the second largest ethnic group in the nation making up 4% of the national population. Kazakh ethnic group resides in western Mongolia, mostly concentrated in Bayan-Olgiy.

All groups speak mutually comprehensible Mongolian dialects except for the Kazakh. Despite this, Kazakh livelihoods are not significantly different from those of other ethnic groups. Khalkh Mongolian is the official national language and the language of instruction in schools except in those areas with high numbers of Kazakh speakers. Language or tribal differences have not become significant political or social issues in Mongolia.

However, the other minority, Tuvinian-speaking Dukha (Tsaatan) - one of Mongolia’s smallest minorities, have gathered the international attention these years. They are indigenous reindeer herders (amounted for 200 persons) who are surviving in the Sayan Mountains around Lake Hovsgol in northern Mongolia. The Dukha is reported by UNHCR and UNESCO that they faced widespread societal discrimination and their language was seriously threatened[6].

Chapter 7 provides further details about this matter.

4.4.3 Gender

While the country is performing well on gender equality in general, gender disparities are

[6] Minority Rights Group International. 2013. State of the World’sMinorities and Indigenous Peoples 2013.

evident in some socioeconomic indicators in Mongolia[7]. The participation of girls in formal and higher education is higher than boys. While women make up 48 % of the economically active population, men dominate political positions and technical fields. With 11 women elected to the 76-seat Parliament, women constitute 14.5% (2013) of the Parliament, as opposed to 24.9% in 1990. In the Government, three out of 18 ministers are women. Violence against women and girls is increasingly recognized as a major socio-economic problem. Rural women often lack access to basic social services and quality healthcare, which leads to higher maternal and infant mortality rates than their urban counterparts.

In the Constitution of Mongolia[8], Article 10.1 provides "Mongolia shall adhere to the universally recognized norms and principles of international law and pursues a peaceful foreign policy," Article 10.2 "Mongolia shall fulfill in good faith its obligations under international treaties to which it is a Party," and Article 10.3 "The international treaties to which Mongolia is a Party shall become effective as domestic legislation upon the entry into force of the laws on their ratification or accession." Mongolia is currently a party to 40 international human rights treaties and conventions and fulfills its obligations under these treaties and conventions. To that end, Mongolia is required to include the provisions of international treaties and conventions in its constitution and other relevant laws and enforce them. In terms of the rights of women, Mongolia has acceded to the following treaties and conventions.

- Convention on the Elimination of All Forms of Discrimination Against Women (1979)
- Convention on the Political Rights of Women (1952)
- Convention on Consent to Marriage, Minimum Age for Marriage (1962)
- ILO Equal Remuneration Convention ILO Convention No. 100 (1951)
- ILO Maternity Protection Convention No. 103 (1952)
- ILO Convention Concerning Discrimination in Respect of Employment and Occupation No. 111 (1958)
- ILO Convention Concerning Nightwork No. 171 (1990)

Parliament passed the Law on Promotion of Gender Equality in 2011[9]. The Law is crucial, creating a legal environment where gender equality in political, legal, economic, social, cultural, and family relations is safeguarded, and ensuring the human rights and implementation of Millennium Development Goals.

The Government of Mongolia adopted the Mid-term strategy and Action Plan for the implementing the Law on Promotion of Gender Equality through resolution No.34, issued on 26 January 2013. The Action Plan strengthens the national mechanism for the implementation of the Law, building the capacity of local and regional bodies, applying the concept of gender

[7] http://unesdoc.unesco.org/images/0022/002212/221215E.pdf

[8] http://www2.ohchr.org/english/bodies/cedaw/docs/ngos/NHRC_of_Mongolia_cedaw42.pdf

[9] http://www.asiapacificforum.net/members/full-members/mongolia/downloads/annual-reports/2013

equality at all policy and action levels, ensuring diverse participation of civil society, media, and private sectors in monitoring the implementation of the Law, ensuring the sustainability of human and financial resources.

According to police statistics, 284 women in 2010, 420 women in 2011 and 534 women in 2012 respectively, reported that they were victims of domestic violence. This crime is hidden in society. Its victims do not often submit reports to the police, even though domestic violence occurs at all levels of society.

Victims of domestic violence seek assistance from the National Center against Violence ('NCAV') and seek refuge in the Protection House when their life and health are at a great risk. The number of victims who approach the protection house is increasing each year. As of 2012, 64.2% of the clients were children. Today there is only one protection house which is run by NCAV. There are only one or two NGOs that provide services including psychological counseling to victims of domestic violence at the protection house. In other words, government is not providing these vital services.

The number of victims of domestic violence who seek assistance from a hospital or all-in-one service window is increasing every month. In addition, the number of crimes committed by victims of domestic violence against their abusers is not decreasing. While the number of crimes related to the domestic violence is increasing, the implementation of the Law against Domestic Violence remains inefficient.

The main factor responsible for the poor implementation of the Law is the lack of a comprehensive legal environment. The Law was passed without a number of necessary regulations and relevant amendments have not been made to other laws yet. For instance, after the enforcement of the Law against Domestic Violence, the court issued 41 resolutions regarding the protection and safety of victims. Unfortunately no resolutions have been implemented so far.

Mongolia has ratified the UN Convention against Transnational Organized Crime Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children and Parliament has subsequently passed the Law on Combating Trafficking in Persons on 19 January 2012, which aims to identify the causes of human trafficking, and to protect the victims. In relation to the enactment of the Law on Combating Trafficking in Persons, eight laws were amended and the mandate of the police and intelligence agency were broadened to deal with these crimes under the Law on Criminal Procedure and the Law on the Prevention of Crimes. In addition, sentences and accountability for the crime of trafficking persons were increased under the Law. According to the new law, the financial penalty has been removed and an extenuating circumstances and aggravation now provides a sentence of 3-15 years imprisonment and the

seizure/confiscation of the properties of the convicted is also stipulated.
The National Action Plan against trafficking and the sexual exploitation of women and children is being implemented by the Government of Mongolia in 3 phases (1st phase from 2006-2008, 2nd phase from 2008-2011 and 3rd phase 2011-2014).

As of 2012, about 20 organizations are working in the field of combating the trafficking of persons. Two organizations provide victims with protection shelter houses, five organizations provide legal advice, four organizations provide psychological advice, and about ten organizations provide training and rehabilitation services.

However, there is a need to implement the UN treaty bodies' recommendations through strengthening domestic laws on the protection of victims and witnesses, taking necessary steps and providing financial resources for establishing more protection houses for victims, providing compensation for victims, and victims rehabilitation services.

4.4.4 Children

The implementation of the rights of the child requires special attention by the State, as children are incapable of protecting their own rights and require special care and protection, particularly, legal protection. Mongolia has legislated basic standards on the rights of the child in compliance with core international human rights treaties and international legal norms[10].

"The Right to Education. The State shall provide basic general education free of charge. Citizens may establish and operate private schools if these meet the requirements of the State" (Clause 7 of Article 16 of the Constitution of Mongolia)

"The State shall be responsible to the citizens for the creation of economic, social, legal and other guarantees for ensuring human rights and freedoms, to fight against violations of human rights and freedoms and to restore infringed rights" (Clause 1 of Article 19 of the Constitution of Mongolia)

"Special measures for the protection and assistance should be taken on behalf of all children and young persons without any discrimination for reasons of parentage or other conditions. Children and young persons should be protected from economic and social exploitation. Their employment in work harmful to their mental or physical health or dangerous to their life or likely to hamper their normal development should be punishable by law. States should also set age limits below which the paid employment of child labour should be prohibited and punishable by law" (Clause 3 of Article 10 of International Covenant on Economic, Social, and Cultural Rights)

[10] http://www.asiapacificforum.net/members/full-members/mongolia/downloads/annual-reports/2013

While the Government of Mongolia has taken a number of important measures to protect and develop the rights of children, there are many violations of the rights of children in connection with the current economic and social situation in Mongolia, including unemployment and poverty[11].

In 2012, the Commission, with the support of the UNDP and UNICEF, the UN Children's agency, and in cooperation with "All for Education", the Mongolian National Civil Society Coalition, the National Centre for the Rights of Children, and the Mongolian Association of School Social Workers, conducted an inquiry and monitored the implementation of the rights of children studying in religious schools, including temples and monasteries, to education, a healthy and safe environment, social development, participation, and protection.

In addition, the Commission also organized an inquiry into six general education schools with special curriculums in Ulaanvaatar for the purpose of assessing whether the rights of children studying were being upheld in compliance with the Constitution, Convention on the Rights of Child, Convention on the Rights of People with Disabilities, and other legislation. Furthermore, the Commission also considered human rights issues related to the safety of child jockeys.

The Government of Mongolia has been implementing the National Program of Action for the Development and Protection of Children from 2002-2010, and the Strategy Plan for Strengthening the Protection of Children from 2011-2016. As of 2011-2012 curriculum year, 12,025 pupils were educated within the education recovery program. 1 545 out of 12025 pupils graduated 11th grade and were certified with secondary education. In addition, 9000 people including 120 children studying in Buddhist temples and 78 children living in isolated baghs involved in the literacy recovery program for elementary, intermediate, and advanced level education. 1.2 billion Tugrug has been allocated in the budget for the 2013 curriculum year towards the education recovery program.

The number of school drop outs is gradually decreasing; dropping from 706 between 2009-2010, to 543 between 2010-2011, and to 502 between 2011-2012.

One of the negative social phenomena arising out of the rapid economic transition of Mongolia is the issue of child labor. Child labor, specifically, the worst forms of child labor, negatively affecting their health and physical and mental development, is due to poverty, unemployment, and unequal access to social services, internal displacement, business interests in cheap labor, and the misconception of parents about child labor.

According to research carried out by the National Statistical Committee, 93.9 thousand children aged between 5-17 years have engaged in economic activities during 2011-2012. 0.3% of these

[11] http://www.asiapacificforum.net/members/full-members/mongolia/downloads/annual-reports/2013

children work in the mining sector, 81.7% work in the agricultural sector, 3% work in processing factories, and 11.8% work in trade and commerce respectively.

The Government of Mongolia has adopted the national program on eliminating the worst forms of child labor by resolution No. 303 in 2011 in order to implement the objectives set out at the international level. These objectives are to improve the legal environment to prohibit and eliminate the worst forms of child labor and to increase children's access to education and health care services. The national program for 2012-2016 has commenced its 2nd implementation phase.

Within the structure of the new cabinet, the National Authority for Children has been restructured in 2013 under the portfolio of the Ministry of Population Development and Social Protection. This change has advanced the issue of child labor, by addressing it in a comprehensive way within the framework of the population development policy.

In recent years, Mongolia's economic growth has increasing mainly due to mining and processing factories. In relation to the economic growth in these industries, the informal sector is also expanding, and as a result, there are about 70 thousand people including children engaged informally in the mining industry. Therefore, these industries must pay particular attention to the rights of children who are taking part in these kinds of activities.

4.4.5 Persons with Disabilities

In 2009, Parliament passed the law with regards to the ratification of the Convention on the Rights of People with Disabilities. In its initial report (2011), the Government of Mongolia included a number of information such as new home service to people with disabilities and medical rehabilitation training for relevant medical professionals since 2008 in order to improve quality of health care to the people with disabilities12.

It is commendable that trainings for professionals are being conducted within the framework of the rehabilitation program for people with disabilities with support from the community. However, it is essential that monitoring and oversight mechanisms for hospitals for people with disabilities are established.

According to the Ministry of Health's information on protecting the rights of people with mental illness, the following changes were made to the Law on Mental Health which was passed on 3 January 2013 by the plenary session of the Parliament:

- adequate financial resources were allocated for the improvement of equipment and tools necessary for mental and social rehabilitation care;

[12] http://www.asiapacificforum.net/members/full-members/mongolia/downloads/annual-reports/2013

- a specific service was created in relation to social welfare and education; and
- centers supporting the social needs of people with mental illness and “Care Houses” with caretakers for people with mental illness without housing were established in provinces and districts.

In addition, the following protections were defined more clearly in the revision:

- consent procedure to have a medical treatment;
- refusal to receive any medical treatments or to undertake a medical test
- lodging complaints to relevant bodies regarding health care services;
- rights and responsibilities of legal representatives or legal guardians; and
- confidentiality of information on treatment and diagnosis of the persons with mental illness.

Mongolia has adopted the following laws, regulations, and programs for the purpose of protecting the mental health of the population at the national level:

- Law on Health (2011);
- Law on Mental Health (2000);
- “Code of conduct for mental health care services” adopted by the resolution No.210 of Minister of Health in 2010; and
- the 2nd national program on mental health was adopted by the Government (2010-2019) and is being implemented in phases. However, there is still a need to ensure the human rights of people with mental illness on treatment procedures.

The work plan for the program envisages establishing care facility for mentally-ill patients with no guardians The main responsible body for implementing the program was the Ministry of Social Protection and Labor in cooperation with the Ministry of Health, National Center for Mental Health, and World Health Organizations from 2011-2012.

As a follow-up to the program, under the Ministry of Social Protection and Labor, a co-working group was established involving representatives from Ministry of Health, National Human Rights Commission, National Center for Mental Health, General Authority for Children, and Department of Labor and Welfare to establish care houses designed for those people with mental illness who have no legal guardians and for those orphaned children with serious disabilities. However, there has been no action taken under the Program.

It is commendable a number of regulations under the Law on Mental Health were revised to provide protections for the rights of people with mental illness; however, it is a vital that care houses are established in provinces and districts as soon as possible.

4.4.6 Sexual Minorities

In Mongolia, there are a few nongovernment organizations that work solely on the rights of LGBT persons such as the "LGBT Centre," and the "Youth Health Centre," which works on the prevention of AIDS/ HIV/STIs and health, the "Together Centre," and the "Support Centre." In addition, there also other human rights organizations such as the "MONFEMNET" National Network, "All for Education" Mongolian National Civil Society Coalition, "Open Society Forum," "Human Rights and Development Centre," "National Centre against Violence," "Amnesty International Mongolia," and "Globe International" that are working on the rights of the LGBT persons[13.]

The current situation of LGBT people in Mongolia requires the state policy to implement the rights of the LGBT persons, by changing stereotypes held by Mongolians towards LGBT people due to strong traditions, customs, and social psychology that cause people to consciously or unconsciously discriminate against LGBT people.

Due to the repeated requests and recommendations of UN agencies and international and domestic nongovernment organizations, the Commission, with financial support from the UNDP Project "Strengthening national human rights oversight capacity in Mongolia," conducted the survey the "Implementation of the rights of sexual minorities" in cooperation with the LGBT Centre in 2012. In recent years the Commission, on protection and promotion of the rights and freedoms of these persons, has carried out a number of activities including assisting with the registration of the "LGBT Centre" with the National Registration Office, documenting violations of the rights of LGBT persons, and carrying out promotional and educational activities with the support of Asia Pacific Forum of national human rights institutions ('APF') with police and officers of law enforcement agencies on the rights of LGBT persons.

By resolution 17/19 of 14 July 2011, the UN Human Rights Council ordered the High Commissioner for Human Rights to document the laws and practices leading to discrimination in member states. Research indicates that international human rights law is effective Just a proposal: stopping the practice of violence based on sexual orientation and gender identity, and assists with reporting such incidents. In this regard, in December 2011, Ms. Navi Pillay, High Commissioner for Human Rights submitted her report on discrimination and violations of human rights of LGBT persons for the first time in history of the UN.

In Mongolia, "All for Education" Mongolian National Civil Society Coalition and the LGBT Centre cooperatively conducted the case studies "How the rights of children and youth of sexual

[13] http://www.asiapacificforum.net/members/full-members/mongolia/downloads/annual-reports/2013

minorities to education are ensured" in 2010. Additionally, the John Hopkins University, jointly with the Joint United Nations Program on HIV/ AIDS (UNAIDS), conducted a survey on the vulnerability of males who have sexual contact with males, to HIV, access of medical care, and other related human rights issues.

The Commission also carried out a survey aimed at determining the causes and factors of discrimination against LGBT persons and current public awareness and stereotypes on LGBT persons.

The survey involved the total 138 persons from Ulaanbaatar, Darkhan soum of Darkhan-Uul province, and Bayan-Undur soum of Orkhon province, including 78 civil servants (criminal case registrars, investigators, teachers, physicians, and social workers), and 60 LGBT persons. 76.7 percent of LGBT persons were from Ulaanbaatar, 20 percent were from the countryside, and 3.4 percent were living abroad. Reporting sexual orientation and gender identities of persons, males made up 50 percent, females 31.7 percent, trans females 11.7 percent, and trans males 6.7 percent. 28.3 percent of LGBT persons were between 18-23 years, 26.7 percent of persons were between 24-29 years of age, 26.7 percent LGBT persons were between 30-35 years of age, and 18.3 percent of LGBT persons were above the age of 36. As for sexual orientation 35 percent of them indentifies as gays (including transgays of 1.7 percent), 25 percent as lesbians (including trans lesbians of 3.3 percent), 35 percent as bisexual, and 5 percent as heterosexual. In terms of higher education, 65 percent of LGBT persons had completed higher education, 26.7 percent of LGBT persons only had completed their secondary education, and only 5 percent of LGBT persons have only completed primary education and vocational education.

In March 2011 the UN Human Rights Committee recommended the Government of Mongolia, "Take urgent steps to address the issue of discrimination against LGBT persons." However, the Government has not undertaken sufficient action to implement this recommendation and there remains significant social, family and community resistance to recognizing the rights and identity of LGBT persons. As such LGBT persons are still subject to discrimination in Mongolia.

4.5 Protection of Rights of Workers

Before the transition to the market oriented economy, during the 1921-1990, the history of Mongolia has witnessed the development of a Socialist system based on labor and pay-as-you-go scheme, the main principle of which was a Marxist – left wing theory.[14]

[14] http://webcache.googleusercontent.com/search?q=cache:m23tjN6YMicJ:www.ilo.org/gimi/gess/RessourceDownload.action%3Bjsessionid%3D5622a4371685213a176e76a6d44f5b6148cb42cebea03b2cd8f7851e0214188a.e3aTbhuLbNmSe34MchaRah8Saxn0%3Fressource.ressourceId%3D35112+&cd=2&hl=en&ct=clnk&gl=es

During that period Mongolian government has upheld the social protection policy where necessary support for obtaining general education, profession, health protection and support during loss of working capacity, old age, maternity, disability is provided by the government free of charge. Unfortunately, this kind of socialist system has weakened individual responsibility in the society and has led the general public to rely too much on the government eventually straining the already unbalanced economy.

The dawn of 1990 brought a radical transition and decentralization of the stagnating social protection system. Mongolia took a step towards a market oriented economy where the old social protection policy was inept in terms of mechanism, component and financial resource.

In this phase, a brand new, independent social protection scheme was introduced as result of approval and enforcement of social insurance and social welfare package laws which interrelated with the theories and principles of a market oriented economy. Particularities of reforms of this period include an innovative way of protecting and providing the regular life conditions for workers in times of hardship such as old age, sickness, injuries and accidents by a joint fund consisting of their own and employer's participation through a pay-as-you-go scheme.

The long-term research and surveys had been conducted from 1990-1994 in order to reform the old laws of social insurance. After that the following laws were adopted and complied by Mongolian Parliament since 1 January 1995.

- Law on Social Insurance
- Law on Pensions & Benefits Provided by the Fund of Social Insurance
- Health Insurance Law
- Law on Benefits Provided by the Fund of Social Insurance Against Employment Injury & Occupational Disease
- Law on Unemployment Benefit Provided by the Fund of Social Insurance
- Law on Individual Pension Insurance Contribution Accounts
- Law on Social Insurance Fund Budget
- Law on Pensions and Benefits for Service men

Now working people can protect themselves from risk by being covered in pension insurance, benefits insurance, unemployment insurance, health insurance and insurance against employment injury and occupational diseases.

The social insurance is a socio-economic measure to provide pensions, benefits or payments prescribed in the legislation to the insured person in contingencies of retirement, disability,

sickness and unemployment, as well as his/or her dependents in case of the insured person's death, having established a Social Insurance Fund through contributions payable by individuals, State institutions, business units and organizations according to the applicable procedures.
There are five of Social Insurances, herein:

- Pension insurance
- Benefits insurance
- Health insurance
- Insurance against employment injury and occupational diseases
- Unemployment insurance

The Social Insurance General Office Is fully responsible for income collection of 5 funds. But now it is not in charge of some activities related to the unemployment insurance fund. Its responsibilities are to collect contribution income of unemployment insurance, to control contribution payment and to fund consumption.

World economic crisis from 2008 has had an adverse effect on some economic fields of Mongolia especially on construction and trading. Due to the failure and breakdown caused by this crisis there was much staff reduction.

Mongolian government conducted the following short-term measures (till 1 January 2011) in order not to reduce the income of unemployed people.
1. The term of the right to get unemployment benefits was changed from the last 9 months till 6 months when contribution was paid non-stop.
2. The beneficiary who got unemployment benefits before had the new right of unemployment benefits when he paid during 6 months. This term was deducted till 3 months.
3. Unemployment insurance was accounted by 126 days not by 76 days.

But the concession mentioned above was carried out during the short term and cancelled on 1 January 2011.

4.6 Cultural Heritage

4.6.1 Relevant Regulations and Government Agencies

The multilateral environmental agreements (MEAs) to which Mongolia is a Party that contain specific obligations related to protected areas are the Convention on Biological Diversity (CBD), Ramsar Convention on Wetlands of International Importance (Ramsar) and World Heritage Convention (WHC). Mongolia has listed 11 Ramsar sites and two World Heritage sites, one of which – the Uvs Nuur Basin – is a transboundary site on the border between Mongolia and the

Russian Federation[15].

Article 10.3 of the Constitution of Mongolia provides that MEA obligations become effective as domestic legislation on the entry into force of the laws on their ratification or accession. The WHC has been in force for Mongolia since 1990; the CBD since 1993; and Ramsar since 1998. This means that the provisions of those MEAs currently operate as national law, equivalent to the Law on Special Protected Areas and the Law on Buffer Zones.

Technically, this means that the laws governing protected areas do not have to specifically incorporate the provisions of Ramsar and World Heritage, because constitutionally they are already considered part of national law. In practice, this means that there is a double obligation to ensure that the provisions of the Law on Special Protected Areas and the Law on Buffer Zones are harmonized with the provisions of the MEAs that are in force for Mongolia as international commitments and as national law. It also means that in amending the Law on Special Protected Areas and the Law on Buffer Zones it is necessary to verify that all proposed amendments, as well as the original text, are consistent with the MEA obligations.

Table 4.2 illustrates how provisions of the laws (Convention on Biological Diversity, Ramsar, World Heritage Convention, Law on Special Protected Area and Law on Bufer Zone) correlate with obligations under the MEAs. Some items are consistent with the MBA obligations all of them, but most of them are not.

Table 4.2 MEA Obligations in the Law on Special Protected Areas

	Convention on Biological Diversity (CBD)*	Ramsar*	World Heritage Convention (WHC)*	Law on Special Protected Areas	Law on Buffer Zones
Definitions	Article 2	Article 1	Article 1		
Establish a system of protected areas	Article 8(a)				
Establish nature reserves/heritage sites		Article 4.1	Article 3	Article 3	
Develop guidelines for the selection, establishment and management of protected areas	Article 8(b)	Article 2	Article 5(a)	Articles 25 and 26 generally	Articles 4, 5, 6, 8-10
Regulate or manage biological resources within or outside protected areas/wise use/protect and conserve	Article 8(c)	Article 6	Articles 4 and 5	Entire law	Entire law
Promote the protection of ecosystems and natural habitats	Article 8(d)	Article 6	Articles 4 and 5	Entire law	
Promote sustainable development in areas adjacent to protected areas	Article 8(e)			Article 4	Entire law
Rehabilitate and restore degraded ecosystems	Article 8(f)			Articles 10, 15	
Prevent introduction of, control or eradicate alien	Article 8(h)				

[15] http://cmsdata.iucn.org/downloads/070625_mongolia_pa___bz_laws_report_final_with_cover.pdf

	Convention on Biological Diversity (CBD)*	Ramsar*	World Heritage Convention (WHC)*	Law on Special Protected Areas	Law on Buffer Zones
species that threaten ecosystems					
Regulate or manage processes and activities which significantly adversely impact biological diversity	Article 8(l)			Articles 9-12, 15-18, 21, 24	Articles 8-10
List sites		Article 2	Article 3		
Research and training	Article 12	Article 4.3, 4.5	Article 5	Articles 9, 10, 15	
Public education and awareness	Article 13		Article 27	Articles 6, 30.9, amendment to Article 27.8	Articles 6.4.5, 7.4.4
Access to and transfer of technology	Article 16				
Exchange of information	Article 17	Article 4.3			
Technical and scientific cooperation	Article 18	Article 5	Articles 6 and 7		

*All provisions of these multilateral environmental agreements are incorporated by the Constitution into Mongolia's domestic law.

Source: IUCN, Mongolian Law on Special Protected Areas and Law on Buffer Zones Review, comments and recommendations

4.6.2 Major Cultural Heritage

Three properties are listed on the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage List in Mongolia as of December 2013, of which two are cultural heritage sites and one is natural heritage site (Table 4.4.1).

Table 4.3 World Heritage Sites in Mongolia

Site	Properties	Registered Year
1. Orkhon Valley Cultural Landscape	Cultural Heritage	2004
2. Petroglyphic Complexes of the Mongolian Altai	Cultural Heritage	2011
3. Uvs Nuur Basin	Natural Heritage	2003

Source: UNESCO (2013)

Source: UNESCO 2014

Figure 4.1 World Heritage Site

Cultural Heritage[16]

1. Orkhon Valley Cultural Landscape (2004)

The 121,967-ha Orkhon Valley Cultural Landscape encompasses an extensive area of pastureland on both banks of the Orkhon River and includes numerous archaeological remains dating back to the 6th century. The site also includes Kharkhorum, the 13th- and 14th-century capital of Chingis (Genghis) Khan's vast Empire. Collectively the remains in the site reflect the symbiotic links between nomadic, pastoral societies and their administrative and religious centres, and the importance of the Orkhon valley in the history of central Asia. The grassland is still grazed by Mongolian nomadic pastoralists.

2. Petroglyphic Complexes of the Mongolian Altai (2011)

The numerous rock carvings and funerary monuments found in these three sites illustrate the development of culture in Mongolia over a period of 12,000 years. The earliest images reflect a time (11,000 - 6,000 BC) when the area was partly forested and the valley provided a habitat for hunters of large game. Later images show the transition to herding as the dominant way of life. The most recent images show the transition to a horse-dependent nomadic lifestyle during the early 1st millennium BC, the Scythian period and the later Turkic period (7th and 8th centuries AD). The carvings contribute valuably to our understanding of pre-historic communities in northern Asia.

Natural heritage

3. Uvs Nuur Basin (2003)

The Uvs Nuur Basin (1,068,853 ha), is the northernmost of the enclosed basins of Central Asia.

[16] http://whc.unesco.org/en/statesparties/mn

It takes its name from Uvs Nuur Lake, a large, shallow and very saline lake, important for migrating birds, waterfowl and seabirds. The site is made up of twelve protected areas representing the major biomes of eastern Eurasia. The steppe ecosystem supports a rich diversity of birds and the desert is home to a number of rare gerbil, jerboas and the marbled polecat. The mountains are an important refuge for the globally endangered snow leopard, mountain sheep (argali) and the Asiatic ibex.

There are other properties that have been submitted to the Tentative List of UNESCO World Heritage as follows:

- Tsagaan salaa rock painting (1996)
- Khoit tsenkher cave rock painting (1996)
- Mongolia Sacred Mountains: Bogd Khan, Burkhan Khaldun, - Otgon Tenger (1996)
- Gobi Gurvansaikhan Desert Fossil (1996)
- Great Gobi Desert (1996)
- Amarbayasgalant monastery and sacred cultural landscape (1996)
- The Upper Tsagaan Gol Complex (2009)
- Sacred Binder Mountain and its associated cultural heritage sites (2012)
- Baldan Bereeven Monastry and its sacred surroudings (2012)
- Mongolian Daurian Landscape (2012)

4.6.3 Issues Related to the Protection of Cultural Heritage

According UNESCO Country Development Programming Document (UCPD) for Mongolia 2012-201617, there are some challenges for cultural heritages in Mongolia.

Social changes, globalization and rapid urbanization are increasingly affecting the cultural traditions on which Mongolian society is based. One of the serious challenges facing the country is therefore to achieve a balance between rapid economic growth and the preservation of its cultural heritage and identity.

The cultural infrastructure and environment, including regulations, are still rigidly controlled by the central authorities and are not well adapted to the current context.

Effective protection of cultural heritage is limited by weak coordination between major international and national stakeholders, and the absence of public awareness about the significance of cultural heritage for national identity. A case in point is the increase in crimes relating to its rich cultural heritage, including theft, smuggling, looting and illegal sale of artifacts.

[17] http://unesdoc.unesco.org/images/0022/002212/221215E.pdf

Acknowledging these challenges, Mongolia has ratified five out of the seven key UNESCO Conventions in the field of culture, thereby demonstrating its commitment towards the promotion of cultural diversity, the preservation and promotion of tangible and intangible heritage, and the fight against the illicit trafficking of moveable heritage.
The strong commitment of the Mongolian Government to preserve its culture is reflected in its decision to create a new Ministry for Culture, Sports and Tourism in 2012.

The establishment of this Ministry has significantly raised the profile of the culture sector within Mongolia and provides further opportunities for UNESCO to engage in strengthening culture-based human, economic and social development in Mongolia.

Recognizing that culture is an integral part of a balanced human and social development agenda, the Mongolian authorities initiated the development of a comprehensive Master Plan for Culture and Arts to restructure the culture sector and define a road map for cultural development.

In order to ensure the sustainability of its cultural development, Mongolia aims to promote the development of creative and cultural industries based on the wealth of its cultural traditions. Given the success of past initiatives in Mongolia and in the region, combined with UNESCOs expertise in cultural heritage preservation, UNESCO is in a strong position to support government initiatives in this direction.

4.7 Gap Analysis Between the Existing Domestic Regulations, the JICA Guidelines for Environmental and Social Considerations, and the World Bank Safeguard

The differences of guidelines and rules among WB, ADB, Mongolia and JICA are compared. For the social considerations, the rights of any people are guaranteed by the Constitution of Mongolia which states: “No person may be discriminated on the basis of ethnic origin, language, race, age, sex social origin or status, property, occupation or post, religion, opinion, or education”.

However no laws or regulations specifically focused on indigenous peoples have been enacted at any level of government in Mongolia. Many aspects are remained as gaps between JICA guidelines and Mongolian laws. JICA or project proponents take necessary measures to consider the indigenous people in Mongolia as follows.

Screening

At the planning stage, JICA or project proponents shall screen the project whether it has the impacts on vulnerable social groups such as the poor, gender, children’s rights, cultural heritage, local conflicts of interest, and working conditions in line with JICA guidelines.

Scoping and Terms of References

When the proposed project is categorized as A or B in which the project has potential impacts on the indigenous people, social assessment shall be included as item of environmental review or assessment in line with JICA guidelines.

Consultation and Information Disclosure

Project proponents consult with local stakeholders through public participation. Project proponents also disclose information well in advance when they have meetings with local stakeholders.

Chapter 7 provides details about the consideration of indigenous people.

Chapter 5 Environmental Assessment

5.1 Legal Framework

The Law on Environmental Impact Assessment, passed in January 1998 and last amended in May 2012, regulates "relations concerning protection of the environment, prevention of ecological imbalance, the use of natural resources, assessment of the environmental impact and decision-making on the start of a project". This law sets out the general requirements and procedures for project screening and conduct of environmental assessment and review. Order No. A-2, dated 4 January 2010, of the Ministry of Environment and Green Development (MEGD) approved the Procedural Guidance for Environmental Impact Assessment, which provides:

1. Guidelines on EIA document requirements and screening;
2. Methodologies for impacts and risk assessment, cumulative impact assessment (CIA) and environmental health impact assessment;
3. Background information on strategic environmental assessment (SEA);
4. Other additional information about mitigation measures and significant features of different types of project; and
5. Templates for the environmental protection plan and environmental monitoring plan for inclusion in the detailed environmental impact assessment reports.

5.2 Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA)

5.2.1 Projects Subject to the IEE/EIA

The impact assessment shall consists of: 1) Screening of Environmental Impact Assessment, and 2) Detailed Environmental Impact Assessment (EIA). The screening of EIA shall be made before implementation of projects or allowing utilization permit of land for household purpose, use and search of mineral resources and use of natural environment. EIA shall be conducted for projects intending to make use of natural resources in the construction, renovation or expansion of new or existing industries, services or structures or in other forms, and such assessments shall involve an advance determination and evaluation of the expected environmental impacts of the project.

The classification of projects subject to screening of EIA is as follows:

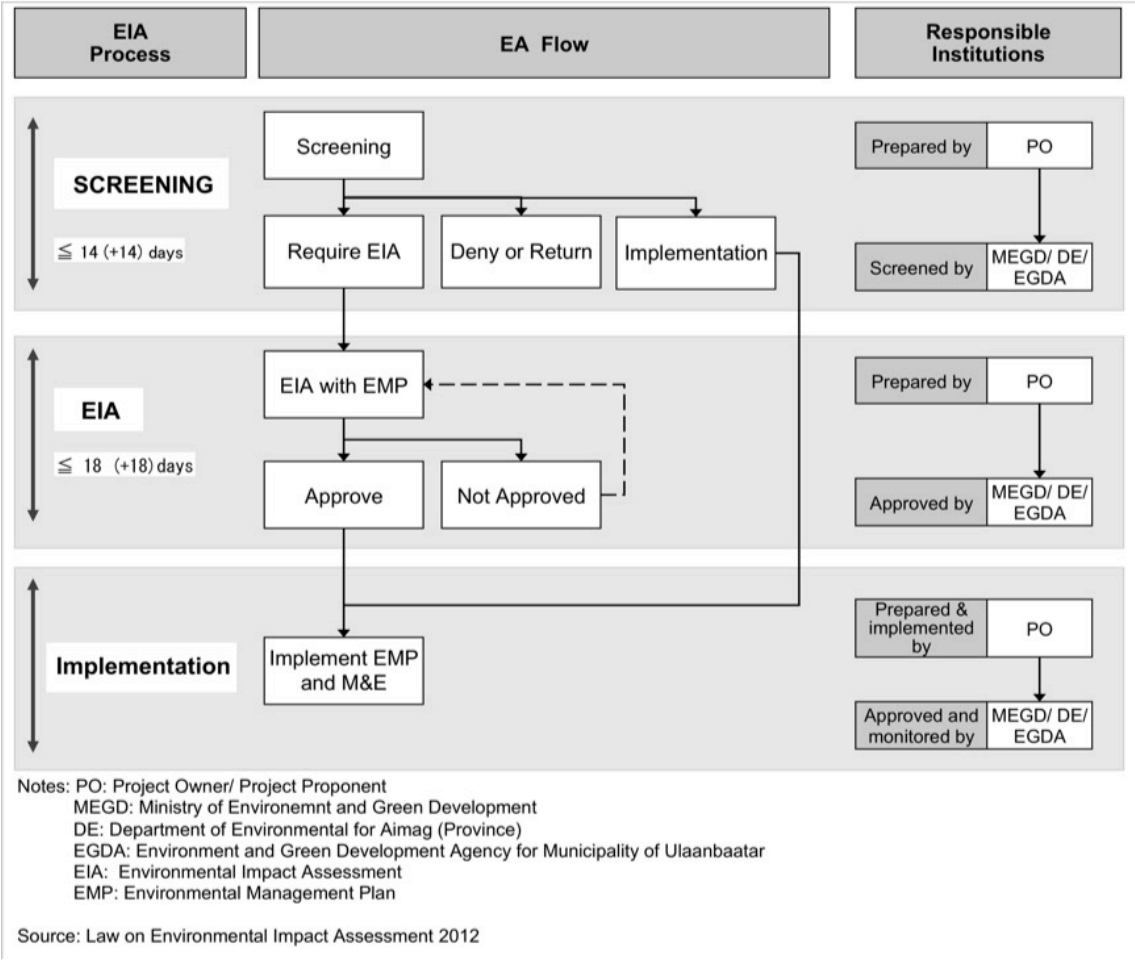
1. Mining project
2. Heavy industrial project

3. Light and food industry
4. Agricultural project
5. Infrastructure development project
6. Project of service
7. Other project such as Urbanization, Project must implement for defense and civil protection, Water supply project, Purification facility, Refuse dump
8. Project of biological species
9. Business related with trans mutative living organism
10. Project of chemical toxicant, radio activation substance and hazardous waste
11. Operation on special protected area

5.2.2 Procedures and Relevant Organizations

Procedure

Procedure of EIA is shown in the figure below.



Notes: PO: Project Owner/ Project Proponent
MEGD: Ministry of Environemnt and Green Development
DE: Department of Environmental for Aimag (Province)
EGDA: Environment and Green Development Agency for Municipality of Ulaanbaatar
EIA: Environmental Impact Assessment
EMP: Environmental Management Plan

Source: Law on Environmental Impact Assessment 2012

Figure 5.1 Mongolian EIA Approvals Process

Screening

The project proponent shall submit the environmental conditions of the territory related to the projects and technical and economic planning documents for screening by the appropriate authority.

Ministry of Environment and Green Development (MEGD) or Department of Environment (DE) for Aimag (Province) or Environmental and Green Development Agency for Municipality of Ulaanbaatar (EGDA) shall make screening and conclusion within 14 working days (can be extended when extension becomes necessary). Conclusion can be classified as follows:

1. The project is rejected on grounds of non-conformity with the relevant legislation, or adverse impact of the equipment and technology on the environment, or absence of the project in the land management,
2. The project shall be implemented with concrete term or conditions without making EIA, and
3. The project which does not fall into 1 nor 2 above shall require EIA.

EIA

The project which does not fall into 1 nor 2 above requires the detail EIA. The terms of references shall have been defined. Detail EIA shall be conducted by the local economic entity which obtains the license. The Detailed EIA shall include the following items:

1. Environmental baseline data and indices;
2. Analysis of the extent, distribution and reducing possible adverse impacts and consequences;
3. Recommended measures to mitigate and eliminate potential; adverse impacts;
4. Recommendation to use alternative technology and possible methodology for reducing possible adverse impact;
5. Risks assessment;
6. Protection measures;
7. Environmental management plan including environmental protection (mitigation) plan and environmental monitoring program;
8. Opinions and comments of local citizens in the project area; and
9. If applicable, other issues regarding cultural heritage in the project area and special nature of the project.

The licensed economic entity that conducted the detailed EIA shall submit the report of the detailed EIA to MEGD/ DE/ EGDA that conducted the screening. The economic entity shall obtain its license to conduct the detailed EIAs. The expert of MEGD/ DE/ EGDA who receives the report of the detailed EIA shall do the assessment within 18 working days (can be extended up to 18 days at once). MEGD/ DE/ EGDA shall decide problem of the project implementation,

conclusion, and suggestion by the public. MEGD/ DE/ EGDA shall organize the work on introducing it to the public.

Relevant Institutions

The MEGD is the lead agency for environmental management in Mongolia, the state administrative organization in charge of nature and environment.

Depending on the type of project, scale of a project, or population size of project location, project screening and approval of EIA is done by either the MEGD or the concerned local administrative body through its Department of Environment (DE) for Aimags/ Municipality of Ulaanbaatar (MOB). The table below provides the project thresholds for EIA by the MEGD and local administrative bodies.

Table 5.1 Classification of Project to Conduct Screening of EIA

	Implementer	
Classification of project	**MEGD**	**Aimag or MOU**
1. Mining project	- All mining operation	Others
2. Heavy industrial project	- Concentration of mineral resource - Process - Chemical industry - By product coke industry - Others	Others
3. Light and food industry	Largest nationalization industry	Others
4. Agricultural project	- water pond - watering system - activity to bring virgin lands under cultivation	Others
5. Infrastructure development project	- Electric station with capacity up to 1mBt - Electric line with capacity up to 35kb heating line - Water electric station - Railway - Airport - Interstate or long distance road - Interstate communication - warehouse of oil production	Others
6. Project of service	- hotel, vacation or sanatorium and others with capacity up to 50 bed-days	Others
7. Other project	- Urbanization - Project must implement for defense and civil protection - Water supply project - Purification facility - Refuse dump	Others
8. Project of biological species	- largest fishing farm - activity to use and domicile fauna and vegetable	Others
9. Business related with trans mutative living organism	- Get trans mutative living organism - Do business - Growing - Import - Merchandise trans bordering	Others
10. Project of chemical toxicant, radio activation substance and hazardous waste	Operate, use, storage, transport and elimination activity of chemical toxicant, radio activated substance and hazardous waste	Others
11. Operation on special protected area	Operation within border menu of national special protected area	Others

Source: Law on Environmental Impact Assessment 2012

5.2.3 Public Participation

The Aarhus Convention is a Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, adopted by the United Nations Economic Commission for Europe (UNECE), which has been in force for 10 years. On 5 July 2011, the Meeting of the Parties to the Convention adopted a decision encouraging the accession by States outside the UNECE region and a simplified procedure for doing so, thus encouraging the propagation of the important and unique protections offered by this international environmental rights treaty on a fully global scale.

The Mongolian Government sent a letter to the UNECE during the Meeting of the Parties in July 2011, stating its interest in acceding to the Convention. Mongolia intends to be the first non-UNECE country to accede. Mongolian law already aligns with Aarhus requirements, nevertheless this letter of intent is an important commitment by Mongolia that demonstrates its willingness to ensure public participation in decision making on protection of the environment and of human rights.

MEGD shall inform the information for population via its website on the project included in the development plan or program of strategic assessment and EIA. For operation to conduct strategic assessment on development program, plan or policy to pursue along the national and regional planning implementation shall take suggestion from the population. The time to deliver suggestion for strategic assessment shall be not up to 30 working days and take and suggestion. The legal entity conducting detailed EIA shall take official suggestion from population or local administration.

5.2.4 Participation of Experts, NGOs and Other Third Parties

EIA law 2012 stipulates that project proponents hire the expertize who check whether EIA are undertaken correctly. Project proponents also provide necessary information to the expertize.

5.2.5 Information Disclosure

In accordance with the Law on Environmental Impact Assessment, MEGD shall have an obligation to disclose information on EIA for the public. In addition, according to the law on Environmental Protection, MEGD is responsible to maintain State Environmental Information Database (EID) where all summary of conducted EIA should be placed for public access.

5.3 Environmental Management Plan (EMP)

The project proponents shall develop EMP for the purpose of environment protection of the

project areas, satisfying the implementation of strategic environmental assessment, reducing/ eliminating and preventing negative impact defined by the detailed EIA, monitoring and detecting possible negative impacts. Environmental management plan shall be counterpart of detailed EIA. The organization which conducted the assessment shall allow permit to implement project and approve environmental management plan of project. The State Administrative Central Organization shall approve rule and methodology of rehabilitation and develop environmental management plan and the authorized organization shall approve rehabilitation standard an according to relevant legislation separately.

The environmental management plan shall consist of environmental protection plan and environmental monitoring program. Environmental protection plan shall include required cost, implementation period of correlate protection, reducing and eliminating measurement of negative impact defined by environmental impact assessment. Environmental monitoring program shall define required cost, implementing methodology, report the result, monitoring and do analysis of changes affecting environmental gravity due to project activity.

5.4 Strategic Environmental Assessment

Strategic environmental assessment (SEA) is stipulated in law on EIA 2012. Sectorial ministry who formulates policies, programs and plans shall make a strategic environmental assessment (SEA) during formulation of documents and shall submit the assessment report with projects to MEGD. SEA report shall be discussed by professional commission; and MEGD shall submit the SEA report with a conclusion to the government. Sectorial ministry shall notice information on SEA conclusion to the public in its website.

5.5 Monitoring

The project proponent shall conduct monitoring as part of Environmental Management Plan (EMP). The state administrative organization or governor at all level shall monitor the implementation of EMP.

5.6 Major Issues and Challenges in the Current System

The new law on EIA 2012 stipulates the framework of EIA. However, the implementation of EIA is still weak because of weak human and institutional capacities, weak enforcement mechanisms.

The EIA may be a new policy tool in Mongolia, but the ministry lacks proper knowledge and expertise about it and is understaffed. The government has reduced the ministry budget and staff numbers, due to its policies of decentralisation, reducing bureaucracy, and for strengthening

capacities. Therefore, a few government officers cannot comprehensively review and assess EIAs given the limited time frame and excessive workloads.

The number of EIA companies has grown rapidly in response to the dramatic increases in mining, infrastructure, construction and tourism sectors that require EIAs. While EIAs have been a new business area for environmental and technical experts by EIA companies, their lack of expert knowledge and skills about EIAs has resulted in poor quality EIAs, and conflicts of interest.

Public participation is lacking in an EIA because legislation fails to formalize public involvement. Therefore, public participation is left to the discretion of the proponent and the government authority, in spite of the law saying that the ministry should consider public opinion when reaching a final decision.

5.7 Gap Analysis Between the Present Domestic Regulations, the JICA Guidelines for Environmental and Social Considerations, and the World Safeguard Policy

The differences of guidelines and rules among WB, ADB, Mongolia and JICA are compared. Although revised Mongolian EIA law 2012 improved and become closer to donors' guidelines, some gaps exist among those regulations.

Following major gaps exist between JICA guidelines and Mongolian laws.

Initial Environmental Examination (IEE)

Mongolian laws do not have Initial Environmental Examination (IEE). EIA law 2012 stipulates only Screening of EIA and the Detail EIA. Current practice of WB, ADB and JICA is undertaking IEE for the category B projects.

Categorization

Under the Mongolian regulations, projects are not categorized after screening of EIA. However, under the policies or guidelines of JICA, ADB and World Bank, projects are screened and categorized as A, B, C and FI. Donor supported project are categorized in the current practice. Terms of references are not specified in detail in Mongol.

Public consultation and information disclosure

Public consultation and information disclosure are not in detail in Mongolia. Under the JICA guidelines, project proponents consult with local stakeholders through public participation. Project proponents also disclose information well in advance when they have meetings with local stakeholders.

Project proponents shall undertake environmental assessment in line with both governmental laws and JICA guidelines.

Chapter 6 Land Acquisition and Involuntary Resettlement

6.1 Legal Framework

Land Tenure

In Mongolia, any land other than that given into ownership to citizens of Mongolia shall be the property of the government, as stipulated in Land Law 2002. Land, excluding pastureland, land for common tenure and land for special government use, may be given into ownership to citizens of Mongolia only. The following types of land, regardless of ownership, shall be used for common purpose under government regulation: pasturelands, water points in pasturelands, wells and salt licks; public tenure lands in cities, villages and other urban settlements; land under roads and networks; lands with forest resources; and lands with water resources.

The Land Law specifies three kinds of private land tenure: (i) ownership, which may be granted only to citizens of Mongolia; (ii) possession, granted under license, to Mongolian citizens, economic entities and organizations, for terms of 15 to 60 years, extendable up to 40 years at a time; and (iii) use, granted under contract or lease to foreign countries and legal entities.

Land Acquisition and Resettlement

Mongolia does not yet have specific laws regulating the acquisition of land. As such, land acquisition and resettlement issues are regulated by the specific provisions of key Mongolian laws that regulate access to ownership or possession of land. These laws are Land Law (2002), Law on Allocation of Land to Mongolian Citizens for Ownership (Law on Land Allocation, 2003), Civil Code of Mongolia (2002) as well as Constitution (1992).

In Mongolia the State can "take back land" for state special needs. Currently, it is regulated by the Land Law and Land Allocation law.

- The Land Law governs expropriation of land allocated for possession or use. Article 42 of the Land Law specifies that the relevant State Administrative Central Organization of land issues may, following an agreement with the land possessor on withdrawing his/her land, with or without replacement, and with full or partial compensation for state special needs, submit a proposal to the Government (42.1).
- The Land Allocation Law contains provisions respecting expropriation of land given in private ownership. Article 32 of the Law on Land Allocation stipulates that land owned by citizens may be replaced or taken back with compensation based on special need of the state including among others 'to build roads, lines and networks and other objects of national scale' (32.1.3).

With regard to infrastructure development, land acquisition and resettlement issues are regulated

only for construction of national scale infrastructure. Land acquisition and resettlement associated with other infrastructure development will be achieved through agreements with affected landowners or possessors in accordance with the Civil Code.

Both laws provide for compensation to a certain extent. The provisions of the Civil Code of Mongolia provide a legal framework for land acquisition and resettlement.

Table 6.1 Legal framework relevant to land acquisition and resettlement

Law	Description
Constitution of Mongolia, 1992	The Constitution of Mongolia guarantees the citizen of Mongolia the privilege to enjoy the rights for having private property, safe and peaceful living accommodation and to receive material and financial assistance. Article 6.4 of the Constitution is the source of the state's power to expropriate land owned or possessed privately. The grounds for involuntary acquisition are special public need. Article 16.3 obligates the State to make due compensation and payment in the case of taking private property for public need. Land may also be confiscated (i.e. without compensation) if it is used in a manner adverse to the health of the population, the interests of environmental protection or national security.
Civil Code, 2002	The provisions of the Civil Code of 2002 provide a legal framework for land acquisition which place land acquisition for local scale infrastructure facilities unequivocally in the context of negotiated land acquisition and resettlement, as this implies that the state and affected persons engage with each other contractually as equal and autonomous legal persons and participants in a civil legal relationship (Article 1). Article 1 stipulates that state and affected persons engaged with each other contractually as equal and autonomous legal bodies in civil legal relationship. Citizens and organizations, as well as Aimags, the capital city, Soums and districts are able to enter into civil legal relations with regard to objects of material and non-materials wealth and their acquisition and possession (Articles 6, 7 and 8). Chapter 10 defines property and assets including land and other immovable property. Chapter 11 describes the possession by legal acquisition and Chapter 12 for property ownership by individuals and other legal entities. Article 101 provides general terms for the possession, use and disposal of property (further elaborated in Articles 109 to 112), but refers to the subsequently enacted Land Law and Land Allocation Law with regard to land ownership and possession. A number of special provisions pertaining to common property ownership (Article 108), common property of family members (Articles 126 and 128) and easements (servitude) (Article 151) may be relevant to specific cases in the Project. Central to a negotiated agreement on transfer of land are the stipulations on contract in Chapter 15.
Land Law, 2002	Any land other than that given into ownership by citizens of Mongolia shall be the property of the government. Land, excluding pastureland, land for common tenure land and land for special government use, may be given into ownership to citizens of Mongolia only. The Land Law contemplates three kinds of private land tenure: 1) Ownership, which may be granted only to citizens of Mongolia; 2) Possession, granted under license, to Mongolian citizens, economic entities and organizations, for terms of 15 to 60 years, extendable up to 40 years at a time; 3) Use, granted under contract or lease to foreign countries and legal entities. Article 16.1 lists special needs for which land in private possession can be acquired by the state: • Land under special government protection; • Border strip lands; • Land for ensuring national defence and security;

	• Land for foreign diplomatic missions and consulates, as well as resident offices of international organizations; • Free zone area; • Land for scientific and technological tests, experiments and sites for regular environmental and climatic observation; • Aimag level reserve rangelands. The ministry in charge of land issues must notify affected persons and undertake negotiations. If the negotiation is amicably completed, the government issues a decision on land acquisition and the governor of the appropriate level concludes an agreement with the affected person. The affected person must vacate the land within 90 days of the agreement date, except that this may only be required between 15 May and 15 September. If there is no agreement or if a dispute arises, it may be referred to the court. Under Article 43, possessors are entitled to replacement land and compensation for land under possession, reflective of the current market price of buildings and other constructions plus all expenses related to relocation. There is no clear provision in the Land Law concerning Land Acquisition and Resettlement (LAR) over land that is in use, except the obligation of the land office to provide prior notice. The Law is silent on negotiation and compensation, except to say that the provision on compensation for possessors is not applicable to them. There is possible protection for users of land under the principles of the Civil Code, which may entitle them to compensation for immovable assets built in accordance with the contract and with the proper permission. Although the Land Allocation Law and Land Law require that land be compensated at market value, this is not the case in practice. Rather, the practice is to value land for compensation purposes on rates set by the government. Private land is valued at MNT 13,200 per square meter, based on Cabinet Resolution No. 103 of 2003. In case of valuation of buildings, depreciated replacement cost is calculated in accordance with International Valuation Standards, under Cabinet Decree No. 111 of 2006. There is no regulation governing the calculation of other damages. General principles of the Civil Code should apply.
Law on Allocation of Land to Mongolian Citizens for Ownership, 2003 (Law on Land Allocation)	Article 32.1 of the Land Privatization Law states that special needs for which private land can be acquired are: • Ensuring national defence and security; • Creating a permanent surveillance field for scientific and technological tests or experiments and environmental or forecast observation; • Building national roads, engineering lines, buildings and constructions. The State must notify owners and enter into negotiations with owners at least one year prior to a decision to expropriate, attempting to agree on: • Value of the land and immovable property located on it; • Transportation costs regarding resettlement or relocation; • Investment made by the owner on the land; • Location, size, characteristics and quality of replacement land that is provided by state; • Conditions and deadline for vacating the land; • The amount of compensation, payment procedures and date. If an agreement is reached, the owner must vacate within one year of the agreement date. If there is no agreement, the dispute will be referred to the court. Under Article 33, district governors may establish servitudes over private land for the purposes of access through the land, installing survey markers, drainage or other land management measures. No compensation need be paid for such access. If the land becomes difficult or impossible to use because of the servitude, the owner has the right to demand that the authority purchase the land or compensate for damages. Article 37 of the Land Privatization Law outlines the principles applicable to compensation that landowners are entitled to upon expropriation: • Replacement land must be not worse in character and quality than the owner's land; • Land and immovable property will be compensated at their value;

	• Improvements made to the land will be compensated; • Losses incurred by the owner due to the taking of the land and relocation must be compensated; • No compensation is paid for immovable property built or improvements made after the notice given at the start of the process.

Source: Land Law, Law of Land Allocation, Civil Code, and Constitution.

Mongolia does not yet have specific laws regulating the acquisition of land. Recent economic developments have evolved many cases of land acquisition and resettlement in urban areas. According to officials from the Ministry of Construction and Urban Development (MCUD), current legislative acts do not fully address or regulate land acquisition and resettlement procedures. In particular, the valuation of land to be acquired and properties is unclear.

The Government of Mongolia has been reformulating its legal and procedural systems for Land Acquisition and Resettlement. MCUD is developing the following laws to improve the legal framework for land acquisition and resettlement.

- New Law on Urban Re-planning and Development (at the preparation stage): This law will propose provisions on Resettlement Action Plan. The law will also specify different steps for land acquisition and resettlement. The Law will define various stakeholders' roles in land acquisition.

- Land Acquisition Law (at the preparation stage): With the support of ADB, a Land Acquisition Law is being drafted, which will introduce eminent domain to all public projects at both national and local levels. Under the new law, the land acquisition process will begin with preliminary land acquisition study by land office along with project feasibility study. The approval of land acquisition study will be made following the approval of project feasibility study, which will be followed by approval of project and land acquisition budget.

6.2 Procedures and Relevant Organizations

Land acquisition Procedure by an individual

Private land ownership rights are established for residential land and, according to the Mongolian Administration of Land Affairs, Construction, Geodesy and Cartography, the majority of urban households in the country now own their residential plots, but the extent of these rights has not been tested by time or courts. Acquiring a fully marketable title requires that a plot first be privatized, and then registered. The land registration process in Mongolia reportedly requires five steps, an average of 11 days, and costs approximately 2% of the overall value of the property. In practice, however, the process suffers from confusion, inefficiency, and corruption.

Current Practice of Land Acquisition and Resettlement

For the projects at national scale projects, they will use of eminent domain in accordance with the Land Law and Land Allocation Law. Under the process, the State retains the right of eminent domain and the process must follow two steps: (1) agreements are negotiated with affected persons on compensation and related issues; and (2) if mutual agreement cannot be reached resolution of compensation and other entitlements is decided by the courts.

For those local level projects, they need to follow the process of negotiation for local sales. Here, negotiation is the main basis for the transaction between the State and the affected person. The two parties engage contractually as equal and autonomous legal entities and participate legally in the civil transaction. If mutual agreement cannot be reached, the State does not have the right to forced eviction or use of demand notices.

The local practice of land acquisition and resettlement among district or soum and khoroo or bagh level land administration officers, sanctioned by the Directors of the Capital City or Aimag Property Relations Departments, does to some extent reflect the legal framework of the Civil Law based on contracts between autonomous legal persons, but also contains certain elements of involuntary land acquisition and resettlement. After identification of the required properties, affected persons are sent official notifications or "demand letters" by the Property Relations Department, often repeatedly, if no positive response to the government's claim to land is forthcoming. Thereafter, negotiations about the terms of compensation take place with titled affected persons (owners and possessors) and eventually a written agreement is reached. The land administration officers generally follow Cabinet Resolution 103 of 13 April 2003, which determines land valuation tariffs. Once at least 50 percent of the agreed compensation is paid, the land is acquired; when structures have been moved or land is vacated so construction works can commence, the remaining compensation is paid.

Table 6.2 Steps for land registration

No.	Procedure	Time to complete	Associated costs
1	**Obtain a non-encumbrance certificate from the Immovable Property Registration Office** The seller obtains, before signing the contract, the mortgage-free certification from the Immovable Property Registration Office. Administrative fees of General Authority for State Registration is determined by the Government Resolution No. 237 dated September 15, 2010. According to the Government Resolution providing "detailed reference" relating to immovable property the fees are as follows: MNT 5, 000 to obtain a non-encumbrance certificate within 3 days, expedited service MNT 10, 000 (to obtain a non-encumbrance certificate within 1 day or 8 business hours). *Agency:* Immovable Property Registration Office	1 day	MNT 5, 000 (regular) obtained in 3 days, MNT 10,000(expedited) obtained in 1 day or 8 business hours
2	**Notarization of the contract of purchase**	1 day	Notary fees according to the following schedule

	The contract must be certified by the notary public who is authorized to operate in the district in which the immovable property is situated. The contract is prepared by the parties. The authorized representatives of the parties must be present at the notary office. In Mongolia, a legal entity cannot own land, only real estate. Thus calculation shall be made only for the building. As to the land ownership the purchaser after the transfer of the title of the immovable property, shall make an application to the Land department of the relevant district to transfer the Land use right to the purchaser's name. The documentation shall include: • Non-encumbrance certificate (obtained in Procedure 1) • Immovable property registration certificate (already in possession of seller) • ID card number and registration number of citizen or name, address and state registration number of legal entity who is certifying documents. • Permission of citizen, legal entity and authorized organization if required by law • Copy of contract • Copy of power of attorney, if required • All documents shall be in original or notarized--Notary Law of February 10, 2011 established that the ID cards and the permission of citizen, legal entity and authorized organization do not need to be notarized any longer. The originals can be shown and the officer or related agencies will only keep a copy. Agency: Notaries		**Value of contract (in MNT)**	Notary fees (in MNT)
			1,000,001 to 10,000,000	10,000
			10,000,001 to 25,000,000	25,000
			25,000,001 to 100,000,000	50,000
			100,000,001 to 300,000,000	100,000
			300,000,001 to 500,000,000	200,000
			500,000,001 or above	300,000
3	**Payment of Income or Transfer Tax at a commercial bank** Pursuant to Article 21.6 of the Corporate Income Tax Law, the seller shall withhold the tax imposed on income from the sale of immovable property and transfer the withholding to the Budget (relevant local tax authority) within 10 business days upon the sale of the property. However, in practice, this tax has to be paid and a receipt acknowledging the payment of income tax has to be submitted to the Immovable Property Rights Registration Office for the Procedure 4. Agency: Commercial Bank	Less than a day (online procedure)	2% of property value	
4	**Submit application to the Immovable Property Registration Agency** Parties submit relevant materials to the Immovable Property Registration Agency. At the desk, the officer will check all documents and if satisfied will receive the application; if not he will note the missing documents and reject the application. The certificate of ownership will be issued within 7 days after the Registration Agency analyses all the documentation presented, if the normal procedure is followed but in 1 day if the urgent procedure is chosen. The documentation shall include: • A request for registration (fill an application form) • Original immovable property registration certificate. • A notarized copy of the contract (obtained in Procedure 2) • Notarized permission of a citizen, legal entity and authorized organization if required by law • The original tax paid slip for income taxes paid at the district tax office • Receipt of acknowledgement for the tax payment for immovable property sale as discussed in the Procedure 3. Agency: Immovable Property Registration Office	1 day	Standard service fee MNT 20,000, rush delivery fee MNT 40,000	
5	**Transfer of the land use right** Ownership of the land belongs to the state. It is prohibited to possess	7 days	MNT 70,000 fee for new certificate	

	land without valid land certificate. Land use certificates can only be issued to the Citizens of Mongolia and legal entities established and organized under the laws of Mongolia. Land authorities of relevant districts of Ulaanbaatar deal with land management including issurance, renewal and transfer of land use right certificate within their districts. The documentation shall include: • A request for registration from both parties. • Copy of the immovable property registration certificate. • A notarized copy of the contract (obtained in Procedure 2) • Notarized permission of a citizen, legal entity and authorized organization if required by law • The original tax paid slip for income taxes paid at the district tax office • Receipt acknowledging the payment of income tax Agency: Land Department		

Source: The World Bank, doingbusiness.org, 2013

Foreign investment

Since its adoption in 1993, the Foreign Investment Law has been the key piece of legislation providing the main regulatory framework for FDI (Foreign Direct Investment) in Mongolia. Under the Foreign Investment Law, the Government set up a two-step registration process for the establishment of foreign-invested entities. A foreign investor needed to register with the state administrative body in charge of matters related to foreign investment (presently, the Foreign Investment Registration and Regulation Department of the Ministry of Economic Development, or "FIRRD") and thereafter register its business entity with the Legal Entity Registration Office ("LERO"). The two-step process required relatively few supporting documents and considerably less time than other jurisdictions competing with Mongolia for capital.

In 2012, the enactment of the Law of on the Regulation of Foreign Investment in Business Entities Operating in Sectors of Strategic Importance considerably altered the investment landscape by expanding the discretionary approval authority of the Government or Parliament for private and state-owned foreign investment in strategically important sectors, namely minerals, banking and finance, and media and telecommunications. Furthermore, changes in the equity structure of strategically important foreign-invested business entities also could trigger mandatory discretionary approval procedures.

In 2013, the Mongolian government submitted a Draft Investment Law which, if adopted, will replace the 1993 Foreign Investment Law. Under the Draft Investment Law, foreign investors may establish a presence to do business in Mongolia through a foreign-invested business entity or a representative office. No other form of corporate vehicle such as a branch is currently provided for. It is also unclear whether foreign individuals or foreign limited liability partnerships may establish a presence in Mongolia through a foreign-invested partnership. Although a reference is made to "business entity" which may include any corporate forms for profit-making activities, in practice a limited liability company is the most common vehicle

used to establish a presence in Mongolia.

The Draft Investment Law expressly provides that foreign or domestic investors may make an investment on the basis registration of a legal entity in accordance with the Law of Mongolia on Companies, enacted on October 6th 2011, the Legal Entities State Registration Law and other relevant laws and regulations. This is identical to the process under the Foreign Investment Law where foreign entities need to be registered with FIRRD and LERO, save that the two-stage process has become a one-step registration. However, a foreign state-owned legal entity (FSOE) may only make an investment upon obtaining approval as specified in the Draft Investment Law.

Accordingly, investment made by private foreign or domestic investors will no longer be subject to general approval requirements, other than registration to the extent required, and licensing or other requirements under sector-specific legislation.

Relevant organizations

Under the Ministry of Construction and Urban Development (MCUD), the Administration of Land Affairs, Construction, Geodesy, and Cartography (ALACGaC) was established in 2003. MCUD is responsible for the infrastructure development project. It is responsible for land management, geodesy and cartography. ALAGaC has been given the mandate to consolidate the functions of:

- National land geodesy and cartography,
- National land administration and management,
- And the immovable property registry.

The General Authority on State Registration (GASR), which is separated from MCUD, manages property registration.

The smallest administrative levels (bag, soum and aimag) have roles in both land management and implementation of legislation. Since 1995, soum and aimag-level governments have struggled to fulfil their role regarding land administration, management, and ensuring the security of land rights. A central Land Management Agency was established in 1997 and made provisions for representatives at national, provincial, and district levels. Their roles were to supervise and support the implementation of legislation and regulation of land use. However, some soum and aimag authorities have limited capacity and are insufficiently prepared to implement regulations and enforce elements of the land laws.

6.3 Grievance Redress Mechanism, Information Disclosure, and Monitoring

6.3.1 Grievance Redress Mechanism (GRM)

In accordance with the Mongolian laws, disputes related to ownership, possession, and use of immovable properties, which are located in the territory of Mongolia are referred to the special jurisdiction of Mongolian courts.

The Mongolian National Arbitration Court was established with one arbitrator in 1960. Later in 1991, the jurisdiction of the Arbitration Court was expanded to consider all commercial disputes, regardless of the nationality of the disputants. In 2003, a new Arbitration Law was adopted, expanding the Mongolian National Arbitrations Court's sphere of activities to include resolution of domestic and foreign business disputes through arbitration and mediation and also to promote training and research in arbitration. Parties who conclude arbitration agreements impliedly choose to have their disputes resolved solely by arbitration. In order to respect the parties' arbitration agreement, the court will not participate in arbitration proceedings arising from matters covered in the parties' contract. Also, the courts are completely barred from being involved in certain types of disputes, which are under the exclusive domain of arbitration under Mongolian law.

Other type of GRM: MCA-Mongolia [1]Complaint Resolution Procedure

An informal Complaint Resolution Procedure (CRP) has been established by MCA-Mongolia (Millennium Challenge Account – Mongolia) in order to reduce the risk of adverse impact and complaints. This procedure aims to assist involved parties in resolving complaints that may arise from implementation of MCA-Mongolia PRP (Property Rights Project), PURP (Peri-Urban Rangeland), and Road Project activities. The CRP is intended to support traditional local-level mechanisms for complaint resolution and legal administrative approaches to complaint resolution at all levels. Specifically, if negotiations between individual parties fail to resolve the complaint, the matter is to be presented to the MCA-Mongolia CRC for consideration. If the matter is not resolved to the satisfaction of the concerned parties at the level of the CRP, it is the party's responsibility to seek redress from the relevant administrative officials for action.

The CRP will operate as follows:

1. Whenever there is a Complaint, the PIU field representative or a local official informs the CRM, who will register the grievance in the Complaint Resolution Registry. Complaints may be communicated directly to MCA-Mongolia by a complainant. If subsequently the

[1] MCA-Mongolia is the entity established by the Government of Mongolia to implement the $285 million grant program funded by Millennium Challenge Corporation (MCC).

CRM is informed that the Complaint is resolved by the conflicting parties, the CRM will close the case in the registry, and will enter all pertinent information, including the outcome, its rationale, and a statement regarding its compliance with the MCA-Mongolia Program and PIU Guidelines.

2. If the Complaint is not resolved at the level of the conflicting parties, the CRM will consult with the PIU (Project Implementation Unit) representative who is the closest in contact with the local administrative officers. The CRM, in consultation with the PIU representative and relevant local administrative officials, and with the support of the CRT, will provide whatever assistance or guidance is warranted in the specific instance, including a Facilitated Mediation Process (FMP) as described in Section 9, if the parties agree to this process. If the Complaint cannot be resolved through FMP, the matter may be brought by the parties to the attention of the various administration authorities including khoroo, bagh soum, aimag, etc.
3. If the matter remains unresolved administratively, the complainants may choose to take their issue to the Mongolian judicial system for redress. The CRM will attempt to identify the final outcome of the Complaint and enter this outcome into the Complaint Registry.

6.3.2 Information Disclosure

There are no specific provisions for public consultation and information disclosure, except that land acquisition is typically based on amicable and contractual transactions. However, Mongolian law already aligns with Aarhus requirements, nevertheless this letter of intent is an important commitment by Mongolia that demonstrates its willingness to ensure public participation in decision making on protection of the environment and of human rights (See Chapter 5).

6.3.3 Monitoring

The monitoring is under the responsibility of local governments and Citizen's Assemblies. They monitor the enforcement of land legislation and enforcement of their decisions related to land issues.

6.4 Major Issues and Challenges in the Current System

One of the major issues is the absence of the comprehensive legal framework governing the land acquisition and involuntary resettlement for the public purpose. Currently, this issue is regulated by several laws such as land law (2002), law on allocation of land to Mongolian Citizens for Ownership (2003), Civil Code of Mongolia (2002) and Constitution (1992). Government of Mongolia tries to regulate this issue by a single law. Law of land acquisition with compensation based on inevitable public need is under the preparation with support of

ADB.

With the absence of the legal framework, the followings are the issues to be addressed:

- Valuation of land to be acquired and properties is unclear.
- Governing law related to the land acquisition depends on the type and size of the projects.

6.5 Gap Analysis Between the Present Domestic Regulations, the JICA Guidelines for Environmental and Social Considerations, and the World Bank Safeguard Policy

The differences of guidelines and rules among WB, ADB, Mongolia and JICA are compared. Many aspects are remained as gaps between JICA guidelines and Mongolian laws as follows.

Eligibility and entitlement

Non-titled occupants of land without ownership or possession license, including lessees of land and structures, are not eligible for compensation and rehabilitation entitlements in Mongolia. However, in the World Bank and ADB guideline, occupants without legal title are also under considerations.

Compensation

Compensation for affected land is based on a government compensation tariff, not market rates, although there is room for negotiation with individual affected persons. On the other hand, JICA guideline encourages providing compensations based on market prices.

Income and livelihood rehabilitation

Income and livelihood rehabilitation is not normally considered in Mongolia. JICA guidelines mentions that living standards and income opportunities and production levels of the project affected people should be improved or at least restored to their pre-project levels.

Resettlement plan

There is no requirement to prepare a resettlement plan in Mongolia. In JICA guideline, resettlement action plans must be prepared and made available to the public.

Grievance procedures

There are no project internal grievance procedures preceding dispute resolution in Mongolia. JICA guideline mentions that appropriate and accessible grievance mechanisms must be established for the affected people and their communities.

Public consultation and information disclosure

Public consultation and information disclosure are not ensured and detail. Under the JICA

guideline, in preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance. When consultations are held, explanations must be given in a form, manner, and language that are understandable to the affected people. In addition, appropriate participation by affected people shall be encouraged in the planning, implementation and monitoring of resettlement action plans.

Current practice of JICA and other donors are in line with their respective guidelines. In order to bridge the gap between Mongolian Law and JICA guidelines, project proponents shall undertake land acquisition and involuntary resettlement in line with both governmental laws and JICA guidelines.

Chapter 7 Indigenous People and Ethnic Minority Groups

7.1 Social and Economic Situation

7.1.1 Indigenous Peoples and Ethnic Minority Groups

There are over 30 ethnic groups in Mongolia. Boadly, Mongolia consists of two major ethinic groups: the Mongols and Kazakhs. The Mongols, speaking Mongol language, account for 94% of the population. Of these, the Khalkha ethnic group comprises nearly 82% of the country's population. Other ethnic groups in the Mongols are Dorvod, Bayad, Buryat, Zakhchin, Dariganga, Uriankhai, and Darkhad. Despite the number of ethnic subgroups, Mongolia's population is ethnically quite homogenous; about 90 percent of the populace speaks one of several dialects of the Mongol language. Most of the Mongol groups traditionally followed shamanism or adopted Tibetan Buddhism.

The Kazakhs is the other major ethnic group. They are the minority group. Most of them are Muslim and rely primarily on the Kazakh (Turkic) language. Of these, Kazakh is the largest ethnic in this group and the second largest ethnic group in the nation making up 4% of the national population. Kazakh ethnic group resides in western Mongolia: mostly concentrated in Bayan-Olgiy.

Source: http://www.macalester.edu/academics/geography/mongolia/mongolian_kazakhs.html

Figure 7.1 Distribution of the Kazakh Population

The language of Kazakh, Turkic language, is also the language of instruction in the local school

system and is used in local government offices in the western provinces. The Kazakhs arrived into the Mongol territory in 1860s, mainly from Xinjiang region of China. Since then there has been a peaceful co-existence between Mongols and Kazakhs in Mongolia until late 1980s when deterioration in ethnic relations began to be noticed. In the early 1990s there began a process of migration of Mongolian Kazakhs to Kazakhstan. But after 1994 it came to a sudden halt only to witness the beginning of a re-migration back to Mongolia.

All groups speak mutually comprehensible Mongolian dialects except for the Kazakh. Despite this, Kazakh livelihoods are not significantly different from those of other ethnic groups. Khalkh Mongolian is the official national language and the language of instruction in schools except in those areas with high numbers of Kazakh speakers. Language or tribal differences have not become significant political or social issues in Mongolia.

However, the other minority, Tuvinian-speaking Dukha (Tsaatan) - one of Mongolia's smallest minorities, have gathered the international attention these years. They are indigenous reindeer herders (amounted for 200 persons) who are surviving in the Sayan Mountains around Lake Hovsgol in northern Mongolia. The Dukha is reported by UNHCR and UNESCO that they faced widespread societal discrimination and their language was seriously threatened[1].

Table 7.1 Major Ethnic Groups in Mongolia

	Ethnic group	Number of people	Linguistic group	Share in the country's population
1	Khalkh	2,168,141	Mongolic	81.9%
2	Kazakh	101,526	Turkic	3.8%
3	Dorvod	72,403	Mongolic	2.7%
4	Bayad	56,573	Mongolic	2.1%
5	Buryat-Bouriates	45,087	Mongolic	1.7%
6	Zakhchin	32,845	Mongolic	1.2%
7	Dariganga	27,412	Mongolic	1.0%
8	Uriankhai	26,654	Mongolic	1.0%
9	Darkhad	21,558	Mongolic	0.8%
10	Uuld	15,520	Mongolic	0.6%
11	Khotgoid	15,460	Mongolic	0.6%
12	Torguud	14,176	Mongolic	0.5%
13	Khoton	11,304	Mongolic	0.4%
14	Myangad	6,592	Mongolic	0.2%
15	Tuva	5,169	Turkic	0.2%
16	Barga	2,989	Mongolic	0.1%
17	Uzemchin	2,577	Mongolic	0.1%

Source: UN Statistics Division, 2012

7.2 Legal Framework

Mongolia has increasingly moved towards strengthening its human rights credentials after it started to move away from its highly centralized Marxist past in 1990 and became in 1996 a

[1] Minority Rights Group International. 2013. State of the World'sMinorities and Indigenous Peoples 2013.

full-fledged democracy with the first elections of a non-Communist government. The country began adopting in 1999 various legislative provisions prohibiting different types of discrimination in its labour laws and went on from 2000 to 2002.

On the international level, Mongolia is part of the following conventions relevant to indigenous people and ethnic minorities' rights:

- The International Convention on the Prevention and Punishment of the Crime of Genocide (1948),
- The International Convention on the Elimination of All Forms of Racial Discrimination (1965),
- The International Covenant on Civil and Political Rights (1966),
- The International Covenant on Economic, Social and Cultural Rights (1966),
- The Convention on the Elimination of All Forms of Discrimination against Women (1979),
- The Convention on the Rights of the Child (1989),
- The ILO 111 Discrimination (Employment and Occupation) Convention (1958),
- The ICC Rome Statute of the International Criminal Court (1998),
- The International Convention against Discrimination in Education (1960).

On the national level, the following laws and codes containing provisions for indigenous people and ethnic minorities includes:

- The Constitution (1992) states: "No person may be discriminated [against] on the basis of ethnic origin, language, race, age, sex social origin or status, property, occupation or post, religion, opinion, or education";
- The Basic Principles of Education and Education Law (1995) are that Mongolian educational policy is based on the principles of the global standards, human rights and the accessibility of everyone to education;
- The Labour Law, prohibiting discrimination in labour relations on the basis of nationality, race, sex, social origin or status, wealth, religion or ideology (1999);
- The Law on Advertisement, prohibiting advertisements in the media unfavourably comparing religions, professions, sexes, ages, social status, languages and ethnic groups, or promoting racial discrimination and discord (2001);
- The new amended Criminal Code providing for three types of offences of racial discrimination and acts of genocide (2002); and
- National Human Rights Action Plan 2003 contain some provision related to national minorities.

According to the clause 1 of the Article 19 of the 1992 Constitution, "the State shall be responsible to the citizens for the creation of economic, social, legal and other guarantees for ensuring human rights and freedoms, for the prevention of violations of human rights and freedoms and for the restoration of infringed right". In the chapter 2 of Article 14, the

Constitution also guarantees the rights of indigenous people by stating that: ”no person may be discriminated against on the basis of ethnic origin, language, age, sex, social origin, or status”. Despite this statement, there are no legal impediments to the participation of minorities in government and politics.

The Constitution also recognizes “the right of national minorities of other tongues to use their native languages in education and communication and in the pursuit of cultural, artistic and scientific activities”. The 1995 Basic Principles of Education and Education Law state that citizens “shall be provided with conditions to learn in his or her native language”. However, there is in fact no implementation mechanism or process in place to ensure that these rights are recognized and exercised in practice. There is no clear government policy on mother tongue and bilingual education for minorities. This is due to the tendency of viewing the country only as containing ethnic Mongolian and to not fully acknowledge the presence of minority. This tendency led the Mongolian government until recently to not include in its report to various human rights bodies any mention or statistic on the existence or treatment of minorities in its border.

Not only the law, but also some action plans adopted by the Parliamentary resolution and action plans adopted by the Government decree such as the National Human Rights Action Plan 2003 contain some provision related to national minorities. Generally, these provisions grant the right to national minorities to have instruction in their mother tongue and right to inherit and bequeath their culture and custom.

The Universal Periodic Review (UPR) recommended the Mongolian government to provide adequate minority protection for indigenous and tribal groups (recommendation N0.84.113) and to ensure a participatory and inclusive process with civil society in the implementation of the universal periodic review recommendations, including organizations representing minorities (recommendation No.84.35). The UN Human Rights Committee also recommended that the State should further promote the access of the Kazakh people to education in their own language.

In its 2011 status report, the National Human Rights Commission of Mongolia included the following recommendations to the State to ensure the rights of national minorities namely the Tuva and Kazakh people:

- To develop and implement policies addressing their social issues immediately;
- To establish external monitoring and evaluation on the implementation of programs and projects managed by the state with involvement of representatives of national minority groups;
- To ensure the implementation of the right to health; implement reducing poverty project programs;

- To undertake an accurate study of their civil registration;
- And to introduce and implement changes to policies providing education to national minority children and ensuring the implementation of the right to communicate, read and obtain information in one's native language.

7.3 Procedures and Relevant Organizations

The UNDP and the Government of Mongolia have collaborated on several initiatives reforming the administration of the country in the 1990s. For example, they have worked together on the Programme for Governance and Economic Transition and the Management Development Programme. Though not sanctioned in legislation, the decentralization of public administration under these programmes has apparently led to a greater use of minority languages by local authorities, which now have more autonomy and responsibilities.

In 2001, the National Commission for Human Rights in Mongolia (NCHRM) was also established under the State Great Khural (Parliament) following the adoption of the law of the National Human Rights Commission of Mongolia. According to this law, the NCHRM is an institution mandated with the promotion and protection of human rights and freedoms, provided for in the Constitution of Mongolia, Mongolian laws and international treaties to which Mongolia is a party. The International Coordinating Committee of National Institutions for the Promotion and Protection of Human Rights (ICC) has granted the NCHRM with an "A" status. This commission is composed of 3 full-time commissioners. The NHCRM strategic plan is currently under development.

The Committee on the Elimination of Racial Discrimination (CERD), body of independent experts monitoring implementation of the Convention on the Elimination of All Forms of Racial Discrimination by its State parties, is also watching Mongolia's actions since Mongolia is part of the Convention.

The Centre for Human Rights and Development's (CHRD) mission is to contribute to the protection and promotion of human rights in Mongolia through legislative and policy advocacy legal assistance, public awareness and capacity building of disadvantaged people,

7.4 Affirmative Actions

From the point of view of education, some actions were taken for the Kazakh minority. Following the Basic Principles of Education and Education Law, the Ministry of Education, Culture, and Science has begun to translate textbooks for Kazakh children since 2008 in line with the 12-year secondary school system. Moreover, within the framework of the Curriculum content of Kazakh schools project, the Governor's Office of Bayan-Ulgii aimag undertook and

analysed a survey on the curriculum content of Kazakh schools and introduced a project proposal to the Ministry of Education, Culture and Science.

For the Darkhad minority, in 2005, following the publication of a study on the indigenous Tsaatan minority by the National Human Rights Commission of Mongolia, the Mongolian government adopted a 'Tuva Language Study Programme' aimed at supporting the efforts to preserve their cultural heritage. Furthermore, the Mongolian Government is currently implementing the program "Invigorating Reindeer Farms and Improving the Livelihood of Tsaatan people".

To give access to information to ethnic minorities, the UN Education, Science and Culture Organization (UNESCO) is working with the government to establish public television and radio channels in minority languages and community radio projects in minority populated areas of four provinces. It is also working with the WHO to improve health and sanitation in areas populated by ethnic minorities.

Following a severe cold weather in 2010, the UN Population Fund (UNFPA) has provided mobile health care in remote areas to thousands of Mongolian herders, who witnessed the destruction of their livelihoods.

7.5 Major Issues and Challenges in the Current System

Issues caused by Language

Though native-born members of ethnic minorities enjoy citizenship rights and associated protections afforded them under the law, Mongolia's socio-political and legal context does not effectively ensure the preservation of ways of life and the overall well-being of ethnic minorities. They lack adequate protection against human rights injustices and remain culturally, linguistically, economically, and politically marginalised, and disadvantaged as compared with their ethnic majority counterparts in Mongolia.

Currently, minority groups are not sufficiently represented in local self-governing and administrative bodies. Therefore, public policy fails to effectively understand and respond to the interests of ethnic minorities, and falls short of protecting their human rights and freedoms.

In addition, with respect to the justice sector, there are breaches to the right to a fair trial that the Government should address. In criminal procedure, this is essentially due to insufficient access to laws and legislations in national minority languages. For example, concerning the Kazakh minority, although hearings, trials and formal criminal interrogations are conducted in Kazakh, the presentation of formal court documents is translated in Mongolian. Without proper documents in their own language, it is hard for them to defend their rights.

On the education side, even if some textbooks were translated for the Kazakh minority, it is still not enough. Indeed, there are not enough minority-language educators and there is a shortage of minority-language textbooks and resources. Most of all non-Mongolian speaking minorities cannot achieve good result at schools because of the absence of an effective minority-centered education policy. This leads to the illiteracy of a lot of people coming from ethnic minorities. For example, it has been observed that 70% of the Kazakhs are largely illiterate.

The ethnic minorities are also not informed well enough since there are no print periodicals or regular media broadcast in minority languages. Access to news and information, being really poor, has a direct correlation with limited participation in policymaking and governance. The Bayan-Ulgii province has only one radiobroadcasting channel with a limited reach of only 150 km that is broadcasting urgent information in Kazakh only one hour a day.

Normadic

The rights of indigenous population to live the traditional nomadic lifestyle and engage in nomadic livestock husbandry are severely violated, as their fertile pasture and hay lands, best fresh water source sites are lost to owners of mining licenses and concessions. This is due the fact that ethnic minorities' land access and ownership rights are not adequately protected, which infringes upon their "right to own property, alone, as well as in association with others," as stated in Article 17 in the Universal Declaration of Human Rights (UDHR). For example, the Dukha reindeer herders are feeling the impact of the mining activities since they have had to abandon pastures due to deforestation and chemical contamination causing by mines. The National Human Rights Commission of Mongolia in its October 2010 report highlighted this negative impact on the environment, the health of local people, and nomadic culture and traditions.

Mongolia is not a signatory to the International Labour Organization's Convention 169 (ILO 169), which recognises the status of "Indigenous and Tribal Peoples." As such, ethnic minorities who fully qualify under international guidelines as Indigenous or Tribal groups are provided no special rights or protections. This is particularly applicable to the Dukha reindeer herding minority, whose subsistence reliance on hunted wild game for food is threatened by aggressive hunting laws that make no concessions for subsistence use of natural resources by minority groups. Since 2010, Dukhas' traditional hunting methods are banned, affecting their nutritional diet.

Risk of Stateless

Finally, Mongolia's ethnic minorities risk statelessness. Documented cases of Kazakh individuals becoming stateless as a result of moving between Mongolia and Kazakhstan in the early 1990s indicate inadequate protection of Article 13 (1) and (2) of the UDHR, which state,

respectively, that: “Everyone has the right to freedom of movement and residence within the borders of each state; Everyone has the right to leave any country, including his own, and to return to his country”, and Article 15 (1), which states: “Everyone has the right to a nationality.”

7.6 Gap Analysis Between the Present Domestic Regulations, the JICA Guidelines for Environmental and Social Considerations, and the World Bank Safeguard Policy

The differences of guidelines and rules among WB, ADB, Mongolia and JICA are compared. The rights of indigenous peoples are guaranteed by the Constitution of Mongolia which states: “No person may be discriminated on the basis of ethnic origin, language, race, age, sex social origin or status, property, occupation or post, religion, opinion, or education”. However no laws or regulations specifically focused on indigenous peoples have been enacted at any level of government in Mongolia. Many aspects are remained as gaps between JICA guidelines and Mongolian laws. JICA or project proponents take necessary measures to consider the indigenous people in Mongolia as follows.

Screening

At the planning stage, JICA or project proponents shall screen the project whether it has the impacts on the indigenous people in line with JICA guidelines.

Scoping and Terms of References

When the proposed project is categorized as A or B in which the project has potential impacts on the indigenous people, social assessment of the indigenous people shall be included as item of environmental review or assessment in line with JICA guidelines.

Indigenous Peoples Plan

Measures for the affected indigenous peoples shall be prepared as an indigenous peoples plan (IPP) and must be made public in compliance with the law of EIA in 2012. In preparing the indigenous peoples plan, consultations must be made with the affected indigenous peoples based on sufficient information made available to them in advance.

Consultation and Information Disclosure

When the projects may have adverse impacts on indigenous peoples, efforts must be made to obtain the consent of indigenous peoples in a process of free, prior, and informed consultation. Efforts must be made to obtain the consent of indigenous peoples in a process of free, prior, and informed consultation. When consultations are held, it is desirable that explanations be given in a form, manner, and language that are understandable to the people concerned.

Chapter 8 Environmental and Social Considerations in Other Donors' Projects

8.1 World Bank

Safeguard Policies

The World Bank's environmental and social safeguard policies are a cornerstone of its support to sustainable poverty reduction. The objective of these policies is to prevent and mitigate undue harm to people and their environment in the development process. These policies provide guidelines for bank and borrower staffs in the identification, preparation, and implementation of programs and projects.

The effectiveness and development impact of projects and programs supported by the Bank has substantially increased as a result of attention to these policies.

Safeguard policies have often provided a platform for the participation of stakeholders in project design, and have been an important instrument for building ownership among local populations.

World Bank has developed comprehensive safeguard policies ranging from poverty reduction to environmental and social issues. The World Bank Operational Manual contains the operational policies (OPs), bank procedures (BPs), and interim instructions to staff (OpMemos) on the conduct of Bank operations. Out of these policy documents, operational policies of environmental and social safeguard are as follows:

Environmental and Social Safeguard Policies

- OP 4.01 Environmental Assessment
- OP 4.11 Physical Cultural Resources

Involuntary Resettlement Safeguard Policy

- OP 4.12 Involuntary Resettlement

Indigenous Peoples Safeguard Policy

- OP 4.10 Indigenous Peoples

Environmental Assessment as well as physical cultural resources is undertaken in the same framework of Environmental Assessment, as shown in the table below.

Table 8.1 Major STEP/ Aspect of Environmental Assessment

STEP/ ASPECT	CONTENTS
Environmental Screening	To determine the appropriate extent and type of EA and categorize into A, B, C, FI
EA Instruments	EIA, Regional or Sectoral EA, Strategic Environmental and Social Assessment (SESA), Environmental Audit, Hazard or Risk Assessment, Environmental Management Plan (EMP), and Environmental and Social Management Framework (ESMF)
Institutional Capacity	When borrower has inadequate legal or technical capacity to carry out key EA functions, components to strengthen capacity are included
Public consultation	For category A and B projects, the borrower consults project-affected groups and loan NGO about the project's environmental aspects and takes their views into account.
Disclosure	For meaningful consultations on all Category A and B projects, the borrower provides relevant material in a timely manner prior to consultation,
Implementation	The borrower reports on 1) compliance with measures agreed on the basis of the findings and results of the EA, 2) status of migratory measures, and 3) findings of monitoring programs.

Source: World Bank

World Bank undertakes environmental screening of each proposed project to determine the appropriate extent and type of EA. The Bank classifies the proposed project into one of four categories, depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impact.

Table 8.2 Categorization

Category	Type and Environmental Assessment
A	Likely to have significant adverse environmental impacts. **EIA** required
B	Potential adverse impacts are less adverse than those of category A projects. Examine the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance.
C	Likely to have minimal / no adverse impacts. No further action required.
FI	Involves the investment of WB funds to, or through, a financial intermediary.

Source: World Bank

Depending on the project, a range of instruments can be used to satisfy the Bank's EA requirement. These are environmental impact assessment (EIA), regional or sectoral EA, strategic environmental and social assessment (SESA), environmental audit, hazard or risk assessment, environmental management plan (EMP) and environmental and social assessment (ESMF). EA applies one or more of these instruments, or elements of them, as appropriate.

Framework of safeguarding Involuntary Resettlement is as shown in the table below.

Table 8.3 Safeguard of Involuntary Resettlement

ASPECT	CONTENTS
Eligibility for Benefits	Criteria for eligibility
Resettlement Planning	Early screening, scoping of key issues, the choice of resettlement instrument and the information required to prepare the resettlement component.
Implementation and Monitoring	Consistent with resettlement instruments
Resettlement Instruments	Resettlement Plan
	Resettlement Policy Framework
	Process Framework
Assistance to the Borrower	Assistance to assess and strengthen resettlement policies, strategies, legal frameworks and specific plans; Financing of TA to strengthen the capacities of agencies; Financing of TA for developing resettlement policies, strategies, and specific plans and for implementation, monitoring and evaluation; Financing of the investment costs of resettlement.

Source: World Bank

Framework of safeguarding Indigenous People is as shown in the table below.

Table 8.4 Safeguarding Indigenous People

STEP	CONTENTS
Identification	
Project Preparation	Screening
	Social Assessment
	Indigenous Peoples Plan/ Planning Framework
	Disclosure
Social Consideration	Lands and Related Natural Resources
	Commercial Development of Natural and Cultural Resources
	Physical Relocation of Indigenous People
Indigenous Peoples and Development	Strengthen local legislation, Make the development process more inclusive of IP, Support the development priorities of IP, Address the gender and intergenerational issues, Prepare participatory profiles of IP, Strengthen the capacity of IP's communities, Strengthen the capacity of gov't agencies, Protect indigenous knowledge.

Source: World Bank

WB projects implemented in Mongolia are as shown table below.

Table 8.5 World Bank Projects in Mongolia

Name	Apprai sal	Objectives	Components	Finance in total (m USD)	Safeguard Applied
Ulaanbaatar Clean Air Project	3-Apr-2012	The development objective (PDO) is to enable consumers in ger areas to access heating appliances producing less particulate matter emissions and to further develop selected medium-term particulate matter abatement measures in Ulaanbaatar in coordination with development partners.	Component Name A. Ger Area Particulate Matter Mitigation B. Central Ulaanbaatar Particulate Matter Migration C. Public Awareness Raising, Program Coordination and Project Management	21.89	Environmental Assessment OP/BP 4.01 Category "B" 1) Positive impact on the environment in general; and 2) Management of scrap metals from the old replaced stoves, and domestic stove fabrication facilities
Community-led Infrastructure Development for the Urban Poor in Ulaanbaatar Phase 2	6-Dec-2010	The development objective is to assist some 10,000 households of the most vulnerable among the urban poor in ger areas of Ulaanbaatar where the majority of low-income households live with very limited basic services, to generate additional income by scaling up community-led infrastructure development activities piloted under a JSDF grant.	Component 1 - Community-led infrastructure development component Component 2 - Health improvement component Component 3 - Community safety component Component 4 - Youth and adult component Component 5 - Training, monitoring, and management component.	2.77	Environmental Assessment OP/BP 4.01 Involuntary Resettlement (OP/BP 4.12) Category "B" 1) The project will have some disturbance during construction. 2) The proposed activities under project do not involve any LAR except for the two km road rehabilitation.
MN-Mining Infrastructure Investment Support Project	10-May-2011	The development objectives of the MINIS are to facilitate investments in infrastructure to support mining and downstream processing activities, regardless of funding source, and to build local capacity to prepare and transact infrastructure projects.	Component 1: Support for Infrastructure Investments (US$19.69 million); · Component 2: Capacity Building and Knowledge Transfer (US$1.45 million); · Component 3: Strengthening Groundwater Management (US$3.23 million); · Component 4: Project Management (US$0.63 million).	25.00	Environmental Assessment OP/BP 4.01 Category "A" MIDP will provide financing to conduct prefeasibility studies to assess technical Options and determine economic and financial implications of proposed projects, which is designed to pave the way for investments in the mining sector.

Note: LAR: Land acquisition and resettlement
Source: World Bank

8.2 Asian Development Bank

ADB prepares Safeguard Policy Statement (SPS) in June 2009 and its Operational Manual Bank Policies (BP) in October 2013. The objectives of ADB's safeguards are to 1) avoid adverse impacts of projects on the environmental and affected people, where possible; 2) minimize, mitigate and/or compensate for adverse project impacts on the environment and affected people

when avoidance is impossible; and 3) help borrowers/clients to strengthen their safeguard systems and develop the capacity to manage environmental and social risks. ADB's SPS sets out the policy objectives, scope and triggers, and principles for three key safeguard areas: 1) Environmental Safeguards, 2) Involuntary Resettlement Safeguards, and 3) Indigenous Peoples Safeguards.

The processes of safeguard are in whole cycle of the project. The process is as shown figure below.

Figure 8.1 SPS Process in Project Cycle

Project Screening and Categorization

Among the SPS process, project is screened and categorized. Project screening and

categorization are undertaken to 1) determine the significance of potential impacts or risks that a project might present with respect to the environment, involuntary resettlement, and Indigenous Peoples; 2) identify the level of assessment and institutional resources required to address safeguard issues; and 3) determine the information disclosure and consultation requirements.

Projects are tentatively classified during the initial screening of anticipated impacts and risks. The classification and action needed is as shown in the table below.

Table 8.6 ADB SPS Classification and Action Required

	Environment	Involuntary Resettlement	Indigenous Peoples
Category A	Likely to have significant adverse environmental impacts. **EIA** and **EMP** required	Likely to have significant adverse involuntary resettlement impacts (If 200 or more persons will experience major impacts) **Resettlement Plan** with **assessment of social impacts** required	Likely to have significant adverse impacts on indigenous people. **Indigenous Peoples Plan (IPP)** with **assessment of social impacts** required.
Category B	Potential adverse impacts are less adverse than those of category A projects. **IEE** and **EMP** required.	Includes involuntary resettlement impacts that are not deemed significant. **Resettlement Plan** with **assessment of social impacts** required	Limited impacts on indigenous peoples. **Indigenous Peoples Plan (IPP)** with **assessment of social impacts** required.
Category C	Likely to have minimal / no adverse impacts. EIA or IEE not required.	No involuntary resettlement impacts. No further action required.	Not expected to have impacts on indigenous people. No further action required.
Category FI	Involves the investment of ADB funds to, or through, a financial intermediary.	Involves the investment of ADB funds to, or through, a financial intermediary.	Involves the investment of ADB funds to, or through, a financial intermediary.

Source: ADB, Operational Manual Bank Policies (BP) in October 2013

ADB projects implemented in Mongolia are as shown table below.

Table 8.7 ADB Projects

Name	Appraisal	Objectives	Components	Finance in total (m USD)	Safeguard Applied
Preparation of Regulations and Capacity Development Plan for Involuntary Resettlement	12-Nov-2012	Improved legislation and procedures land expropriation and resettlement	Draft LE Law is finalized and its impacts and costs justified Relevant regulations finalized 3 to 5-year capacity development plan finalized Awareness raised in support of draft LE Law	0.20	NA- to be decided Technical Assistance to develop regulation does not have impact.
Ulaanbaatar Urban Planning Improvement	1-Oct-2013	The objective of the TA will be to strengthen Ulaanbaatar' s development strategies and plans by building capacity and mechanisms of Municipality of Ulaanbaatar (MUB) in urban planning based on international standards.	Enhancement of technical skills of MPACC and UPADI staff or urban planning and development of master and local plans Strengthening of urban planning function with a more participatory process, and efficient organizational arrangement Establishment of shared urban database Upgrade of planning software	0.15	NA- to be decided Technical Assistance to develop capacities does not have impact.
Urban Transport Development Investment Program	8-Nov-2012	Efficient, safe, and affordable urban transport services developed in Ulaanbaatar	1. Infrastructure for BRT installation developed 2. Sustainable, affordable, and efficient BRT system established and operational 3. Intelligent Transport System (ITS): bus management, bus information, and smart-ticketing systems 4. Improved traffic and pedestrian safety 5.Improved public transport and traffic management, policies, and institutional capacity	78.00	Environment Category “B” The principal impacts identified during screening mainly relate to the construction phase. (i) traffic congestion; (ii) noise and dust; (iii) possible impact on trees along the; and (iv) occupational and community health and safety issues. Involuntary Resettlement “Category” B Road improvements have LAR: 34 HH affected. Indigenous Peoples Category “C" None

Note: LAR: Land acquisition and resettlement
Source: Asian Development Bank

ADB's Safeguard Policy Statement stipulates safeguard requirements of environment for the green house gas emissions as follows: *"The borrower/client will promote the reduction of project-related anthropogenic greenhouse gas emissions in a manner appropriate to the nature and scale of project operations and impacts. During the development or operation of projects*

that are expected to or currently produce significant quantities of greenhouse gases, the borrower/client will quantify direct emissions from the facilities within the physical project boundary and indirect emissions associated with the off-site production of power used by the project. The borrower/client will conduct quantification and monitoring of greenhouse gas emissions annually in accordance with internationally recognized methodologies. In addition, the borrower/client will evaluate technically and financially feasible and cost-effective options to reduce or offset project-related greenhouse gas emissions during project design and operation, and pursue appropriate options."

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Appendix

Table A-1 International Agreement

International Agreement	Date of Adoption (MM/DD/YY)	Date Entry into/force in Mongolia (MM/DD/YY)
Convention on biological diversity	6/5/1992	9/24/1993
United Nations Framework Convention on Climate Change	5/9/1992	9/24/1993
Convention on International Trade in Endangered Species of Wild Fauna and Flora	3/3/1973	5/4/1995
Vienna Convention for the Protection of the Ozone Layer	3/22/1985	3/7/1996
Montreal Protocol on Substances that Deplete the Ozone Layer	9/16/1987	3/7/1996
Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer	6/29/1990	3/7/1996
United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification	1994	1996
Ramsar Convention on Wetlands of International Importance especially waterfowl habitat	1971	1997
The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal	3/22/1989	4/15/1997
Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations	1998	1998
Kyoto Protocol to the United Nations Framework Convention on Climate Change	12/11/1997	10/25/1999
International Convention on the Regulation of Whaling	12/02/1946	2000
Cartagena Protocol on Biosafety to the Convention on Biological Diversity	1/29/2000	7/22/2003
Additional of 9th conference of Montreal Protocol on Substances that deplete the Ozone Layer	9/17/1997	10/18/2007
The Beijing amemdment (1999) to the Montreal Protocol agreed by the Eleventh Meeting of the Parties	11/29-12/3/1999	10/18/2007
Convention on Migratory Species of Wild Animals		
Stockholm Convention on Persistent Organic Pollutants	17/5/2002	30/4/2004

Table A-2 Environmental Law

1.Laws pursuant to a framework of consensus	
Name and date	**Short Description**
The Mongolian Law on Land, effective since 1 April 1995	It regulates the possession and use of land (an other issues) by citizens, economic entities, and organizations.
The Mongolian Law on Special Protected Areas, effective since 1 April 1995	It regulates the use and procurement of land for special protection.

2. The General Law on Environmental Protection	
Name and date	**Short Description**
The Mongolian Law on Environmental Protection, effective since 5 June 1995	It regulates interrelations between the state, citizens, economic entities, and organizations in order to guarantee the basic human right to live in a healthy and safe environment.
The Mongolian Law on Underground Resources, effective since 29 November 1988	It regulates the exploration and protection of underground resources for present and future generations.
The Mongolian Law on Mineral Resources, effective since 1 January 1995	It addresses issues of exploration and mining of all types of mineral resources.
The Mongolian Law on Water, effective since 5 June 1995	It regulates the protection, proper use, and restoration of water.
The Mongolian Law on Natural Plants, effective since 5 June 1995	It regulates the protection, proper use, and restoration of natural (wild) plants other than forests and cultivated plants.
The Mongolian Law on Plant Protection, effective since 5 June 1995	
The Mongolia Law on Forests, effective since 5 June 1995	It regulates the protection, the possession, and sustainable use and reproduction of the forest in Mongolia.
The Mongolian Law on Hunting, effective since 5 June 1995	It regulates the protection and proper use of mammals, birds, and fish of hunting significance.
The Mongolian Law on Air, effective since 5 June 1995	It regulates the protection and proper use of the atmosphere in relation to the human right to live in a healthy and safe environment, and to provide environmental balance for the sake of present and future generations.
The Mongolian Law on Protection from Toxic Chemicals, effective since 5 June 1995	It regulates the production, export and import, storage, trade, transport, use, and disposal of toxic chemicals.
The Mongolian Law on Environmental Impact Assessment, effective since 22 January 1998	It regulates relations concerning protection of the environment, prevention of the ecological misbalance, the use of natural resources, assessment of the environmental impact and decision-making on the start of a project.
The Mongolian Law on Household and Industrial Waste	

3. Natural resource-use fees	
Name and date	**Short description**
The Mongolian Law on Water and Mineral Water Use Fees, effective since 1 July 1995	It regulates the fee requirements for the use of water and mineral water by citizens, economic entities, and organizations, and includes rules on incorporating these fees into the state budget.
The Mongolian Law on Fees for Harvest of Forest Timber and Fuelwood, effective since 1 July 1995	It regulates the fee requirements for the harvest of forests for timber and fuel by citizens, economic entities, and organizations, and the incorporation of these fees into the state budget.
The Mongolian Law on Hunting Reserve Use Payments, effective since 1 July 1995	It regulates the fee requirements for the use of hunting reserves by citizens, economic entities, and organizations. And they detail the authorization fees for hunting and trapping animals, birds, and fish, and incorporation of these payments and fees into the state budget.
The Mongolian Law on Hunting and Trapping Authorization Fees, effective since 1 July 1995	
The Mongolian Law on Natural Plant Use Fees, effective since 1 July 1995	It regulates the fee requirements for the use of natural plants by citizens, economic entities, and organizations, and incorporation of these fees into the state budget.
The Mongolian Law on Land Fees, effective since 24 April 1997	

4. Law related to natural disaster matters	
Name	**Date**
The Mongolian Law of Forest and Grassland Fire Protection, effective since 28 May 1996	

A-3 Definition of some of the categories used in the IUCN Red List

Extinct (EX)	A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed Extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.
Extinct in the Wild (EW)	A taxon is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalised population (or populations) well outside the past range. A taxon is presumed Extinct in the Wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.
Regionally Extinct (RE)	A taxon is Regionally Extinct when there is no reasonable doubt that the last individual potentially capable of reproduction within the region has died or disappeared from the region: in the case of a former visiting taxon, individuals no longer visit the region. It is not possible to set general rules for a time period before a species is classified as RE. This will depend on how much effort has been devoted to searches for the species.
Critically Endangered (CR)	A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered, and it is therefore considered to be facing an extremely high risk of extinction in the wild.
Endangered (EN)	A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered and it is therefore considered to be facing a very high risk of extinction in the wild.
Vulnerable (VU)	A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable and it is therefore considered to be facing a high risk of extinction in the wild.
Near Threatened (NT)	A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.
Least Concerned (LC)	A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.
Data Deficient (DD)	A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate. It is important to make positive use of whatever data are available. In many cases great care should be exercised in choosing between DD and a threatened status. If the range of a taxon is suspected to be relatively circumscribed, and a considerable period of time has elapsed since the last record of the taxon, threatened status may well be justified.
Not Applicable (NA)	Taxon deemed ineligible for assessment at a regional level.

Table A-4 IUCN Red List of Mongolia (Animal)

No.	Scientific Name	English Name
Mammal species		
Critically Endangered (CR)		
1	*Ursus arctos gobiensis*	Gobi bear
2	*Equus ferus przewalskii*	Przewalski's horse
3	*Cervus elaphus*	Red deer
Endangered (EN)		
1	*Marmota sibirica*	Siberian marmot
2	*Spermophilus alashanicus*	Alashan ground squirrel
3	*Castor fiber*	Eurasian beaver
4	*Allactaga elater*	Small five-toed jerboa
5	*Stylodipus sungorus*	Mongolian three-toed jerboa
6	*Meriones tamariscinus*	Tamarisk jird
7	*Uncia uncia*	Snow leopard
8	*Equus hemionus*	Asiatic wild ass
9	*Camelus bactrianus ferus*	Bactrian camel
10	*Ovis ammon*	Argali
11	*Procapra gutturosa*	Mongolian gazelle
12	*Saiga tatarica*	Saiga antelope
13	*Moschus moschiferus*	Siberian musk deer
14	*Alces alces*	Elk
Vulnerable (VU)		
1	*Euchoreutes naso*	Long-eared jerboa
2	*Martes zibellina*	Sable
3	*Gazella subgutturosa*	Goitered gazelle
4	*Rangifer tarandus*	Reindeer
Near threatened (NT)		
1	*Sciurus vulgaris*	Eurasian red squirrel
2	*Lynx lynx*	Eurasian lynx
3	*Otocolobus manul*	Pallas's cat
4	*Canis lupus*	Grey wolf
5	*Vulpes corsac*	Corsac fox
6	*Vulpes vulpes*	Red fox
7	*Sus scrofa*	Wild boar
8	*Capra sibirica*	Siberian ibex
Bird Species		
Critically Endangered (CR)		
1	*Pelecanus crispus*	Dalmatian Pelican
2	*Grus leucogeranus*	Siberian Crane
Endangered (EN)		
1	*Oxyura leucocephala*	White-headed Duck
2	*Larus relictus*	Relict Gull
3	*Aquila clanga*	Greater Spotted Eagle
4	*Haliaeetus leucoryphus*	Palla's Fish-eagle
5	*Circaetus gallicus*	Short-toed Snake-eagle
6	*Paradoxornis heudei*	Reed Parrotbill
Vulnerable (VU)		
1	*Anser erythropus*	Lesser White-fronted Goose
2	*Anas Formosa*	Baikal Teal
3	*Aythya nyroca*	Ferruginous Duck
4	*Gypaetus barbatus*	Lammergeier
5	*Aquila heliaca*	Eastern Imperial Eagle
6	*Falco cherrug*	Saker Falcon
7	*Grus vipio*	White-naped Crane
8	*Grus monacha*	Hooded Crane
9	*Limnodromus semipalmatus*	Asian Dowitcher
10	*Otis tarda*	Great Bustard
11	*Chlamydotis undulate*	Houbara Bustard
12	*Podoces hendersoni*	Mongolian Ground-jay
Near threatened (NT)		
1	*Botaurus stellaris*	Great Bittern

2	*Ixobrychus minutus*	Little Bittern
3	*Ardea purpurea*	Purple Heron
4	*Anser albifrons*	Greater White-fronted Goose
5	*Anser cygnoides*	Swan Goose
6	*Cygnus olor*	Mute Swan
7	*Anas falcata*	Falcated Duck
8	*Haliaeetus albicilla*	White-tailed Eagle
9	*Tetraogallus altaicus*	Altai-Snowcock
10	*Phasianus colchicus*	Common Pheasant
11	*Grus grus*	Common Crane
12	*Anthus trivialis*	Tree Pipit
13	*Saxicola insignis*	White-throated Bushchat
14	*Passer ammodendri*	Saxaul Sparrow
15	*Emberiza aureola*	Yellow-breasted Bunting
16	*Emberzia yessoensis*	Ochre-rumped Bunting
Reptile and Amphibian Species		
Vulnerable (VU)		
1	*Salamandrella keyserlingii*	Siberian salamander
2	*Bufo pewzowi*	Pewzow's toad
3	*Hyla japonica*	Japanese tree frog
4	*Rana chensinensi*	Asiatic grass frog
5	*Cyrtopodion elongates*	Yangihissar gecko
6	*Vipera berus*	Northern viper
Fish Species		
Critically Endangered (CR)		
1	*Acipenser baerii*	Siberian sturgeon
Endangered (EN)		
1	*Barbatula dgebuadzei*	Gobi loach
2	*Leuciscus dzungaricus*	Dzungarian dace
3	*Coregonus pidschian*	Pidschian
4	*Thymallus grubei*	Amur grayling
5	*Thymallus nigrescens*	Hövsgöl grayling
6	*Hucho taimen*	Taimen
Vulnerable (VU)		
1	*Oreoleuciscus angusticephalus*	Lake osman
2	*Oreoleuciscus humilis*	Small osman
3	*Thymallus brevirostris*	Mongolian grayling
4	*Brachymystax lenok*	Lenok
Near threatened (NT)		
1	*Acheilognathus asmussi*	Amur spiny bitterling
2	*Leuciscus idus*	Ide
3	*Thymallus arcticus*	Arctic grayling

Source ICUN

Table A-5 IUCN Red List of Mongolia (Plant)

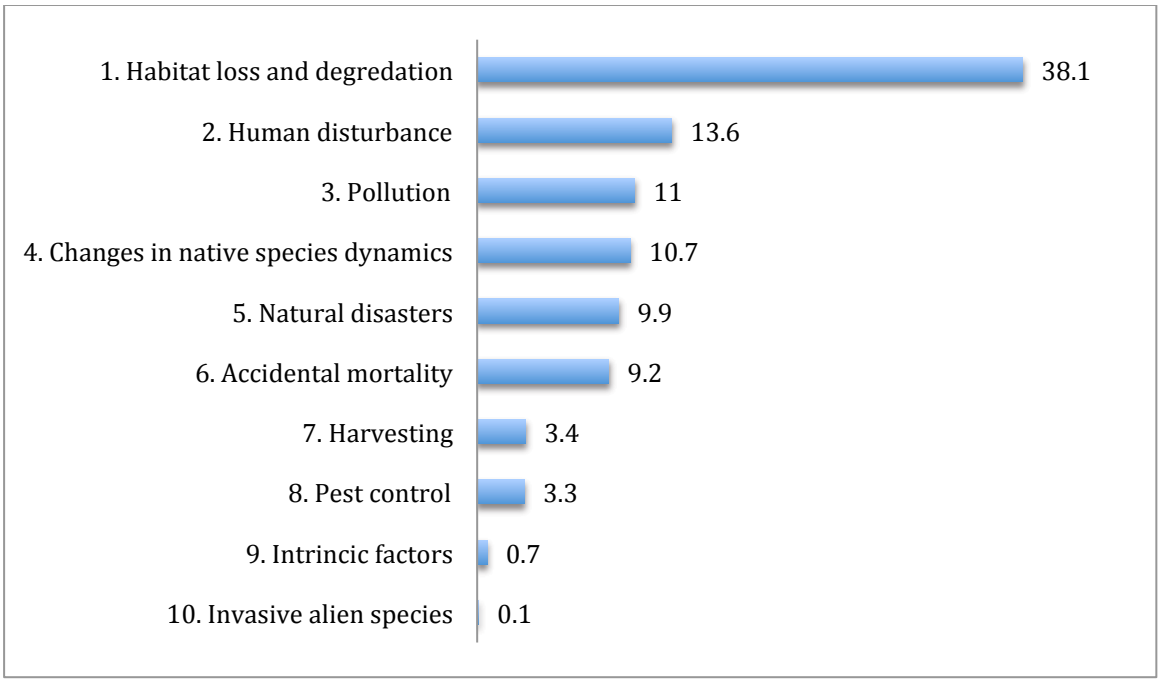
No.	Scientific Name	No.	Scientific Name
		Vulnerable (VU)	
Critically Endangered (CR)		1	*Acorus calamus*
1	Allium macrostemon	2	*Allium altaicum*
2	Allium obliquum	3	*Anabasis aphylla*
3	Androsace longifolia	4	*Anabasis eriopoda*
4	Brachanthemum mongolorum	5	*Artemisia lithophila*
5	Calypso bulbosa	6	*Artemisia tomentella*
6	Dactylorhiza fuchsii	7	*Astragalus dshinensis*
7	Elaeagnus moorcroftii	8	*Caragana brachypoda*
8	Lancea tibetica	9	*Caragana gobica*
9	Mitella nuda	10	*Carex parva*
10	Neottia camtschatea	11	*Caryopteris mongolica*
11	Neottianthe cucullata	12	*Clematis glauca*
12	Oxycoccus microcarpus	13	*Comastoma pulmonaria*
13	Platanthera bifolia	14	*Corallorhiza trifida*
14	Rheum uninerve	15	*Cypripedium calceolus*
15	Saussurea dorogostaiskii	16	*Cypripedium macranthon*
16	Viburnum mongolicum	17	*Ephedra equisetina*
Endangered (EN)		18	*Epipogium aphyllum*
1	*Abies sibirica*	19	*Festuca komarovii*
2	*Aconitum kusnezoffii*	20	*Gagea hiensis*
3	*Adonis mongolica*	21	*Gueldenstaedtia monophylla*
4	*Ammopiptanthus mongolicus*	22	*Gymnocarpos przewalskii*
5	*Amygdalus mongolica*	23	*Halimodendron halodendron*
6	*Arnica iljinii*	24	*Hedysarum sangilense*
7	*Caragana tibetica*	26	*Iljinia regelii*
8	*Cardamine parviflora*	27	*Jurinea mongolica*
9	*Chrysanthemum sinuatum*	28	*Kobresia robusta*
10	*Cistanche deserticola*	29	*Krylovia eremophila*
11	*Codonopsis clematidea*	30	*Maianthemum dilatatum*
12	*Convallaria keiskei*	31	*Oxytropis fragilifolia*
13	*Dictamnus dasycarpus*	32	*Paeonia anomala*
14	*Diphasiastrum alpinum*	33	*Paris verticillata*
15	*Diphasiastrum complanatum*	34	*Pedicularis altaica*
16	*Drosera anglica*	35	*Peganum harmala*
17	*Drosera rotundifolia*	36	*Polygonatum humile*
18	*Dryopteris dilatata*	37	*Populus euphratica*
19	*Ferula ferulaeoides*	38	*Rhamnus parvifolia*
20	*Gentiana algida*	39	*Rhaponticum carthamoides*
21	*Glycyrrhiza squamulosa*	40	*Rhodiola rosea*
22	*Hyalea pulchella*	41	*Rhododendron adamsii*
23	*Incarvillea potaninii*	42	*Rhododendron aureum*
24	*Juniperus pseudosabina*	43	*Rosa kokanica*
26	*Juniperus sabina*	44	*Sambucus williamsii*
27	*Lycopodium clavatum*	45	*Sanguisorba alpina*
28	*Nuphar pumila*	46	*Solidago dahurica*
29	*Nymphaea candida*	47	*Sorbaria sorbifolia*
30	*Nymphaea tetragona*	48	*Swertia banzragczii*
31	*Olgaea lomonosowii*	49	*Tofieldia coccinea*
32	*Oxytropis mongolica*	50	*Tugarinovia mongolica*
33	*Paeonia lactiflora*	51	*Tulipa uniflora*
34	*Pinus pumila*	52	*Vaccinium myrtillus*
35	*Saussurea involucrata*	53	*Valeriana saichanensis*
36	*Saxifraga hirculus*	54	*Viburnum sargentii*
37	*Sophora flavescens*	55	*Vicia tsydenii*
38	*Spongiocarpella grubovii*	56	*Viola brachyceras*

Table A-6 Direct threats facing threatened Mongolian mammal, reptile and amphibian, fish species

Category of threat	Species	Habitat degradation	Habitat fragmentation	Habitat loss	Pollution	Disease	Parasites	Predation	Hybridisation	Competitors	Intentional mortality	Accidental mortality	Climate change	Other	Not known
Mammal species															
CR	Gobi bear														
	Przewalski's horse														
	Red deer														
EN	Siberian marmot														
	Alashan ground squirrel														
	Eurasian beaver														
	Small five-toed jerboa														
	Mongolian three-toed jerboa														
	Tamarisk jird														
	Snow leopard														
	Asiatic wild ass														
	Bactrian camel														
	Argali														
	Mongolian gazelle														
	Saiga antelope														
	Siberian musk deer														
	Elk														
VU	Long-eared jerboa														
	Sable														
	Goitered gazelle														
	Reindeer														
Reptile and amphibian species															
VU	Siberian salamander														
	Pewzow's toad														
	Japanese tree frog														
	Asiatic grass frog														
	Yangihissar gecko														
	Northern viper														
Fish species															
CR	Siberian sturgeon														
EN	Gobi loach														
	Dzungarian dace														
	Pidschian														
	Amur grayling														
	Hövsgöl grayling														
	Taimen														
VU	Lake osman														
	Small osman														
	Mongolian grayling														
	Lenok														

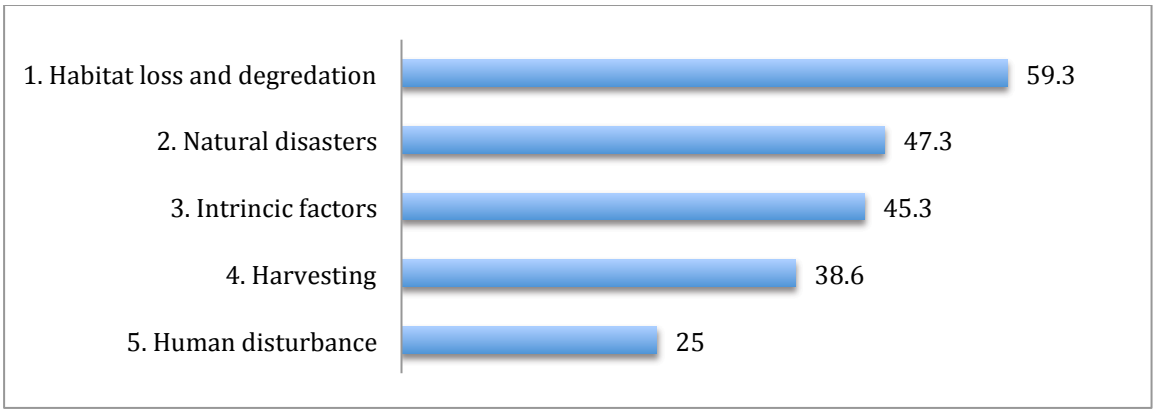
Threats identified by participants at the Mongolian Biodiversity Databank Workshop. Primary threat represented in black, secondary threat in mid grey, and tertiary threat in light grey.

Figure A-1 Comparison of dominant threats to the bird of Mongolia



Source IUCN Red List categories of dominant threats

Figure A-2 Comparison of dominant threats to the plants of Mongolia



Source IUCN Red List categories of dominant threats

Table A-7 IUCN Protected Area Categories

Category	Definition by management objectives
Category Ia: Strict nature reserve	Strictly protected areas set aside to protect biodiversity and also possibly geological or landform features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of conservation values. Such protected areas may serve as indispensable reference areas for scientific research and monitoring.
Category Ib: Wilderness area	Protected areas are usually large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.
Category II: National park	Protected areas are large natural or near-natural areas, set aside to protect large-scale ecological processes along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.
Category III: Natural monument or feature	Protected areas are set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.
Category IV: Habitat/species management area	Protected areas aim to protect particular species or habitats, and management reflects this priority. Many category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.
Category V: Protected landscape/ seascape	A protected area where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value, and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.
Category VI: Protected area with sustainable use of natural resources	Protected areas that conserve ecosystems and habitats, together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition, where a proportion is under sustainable natural resource management and where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area.

Source: Dudley, 2008, pp. 13–23.

Table A-8 Ulaanbaatar air pollution burden at a glance, 2008/09

Air pollution	Emissions (Tons/year)	Source	PM_{10}	$PM_{2.5}$	Spatial distribution
		Ger households	19,731	15,785	Throughout Ger areas
		HOBs	1,077	646	Dispersed over UB surroundings
		CHPs	18,589	7,436	3 point sources to the west of UB centre
		Vehicle exhaust	1,161	1,161	Mainly throughout the central city areas
		Dust from paved roads	9,954	771	Mainly throughout the central city areas
		Dust from unpaved roads	4,812	722	Mainly throughout the Ger areas
	Concentration ($\mu g/m^3$)	Central city areas	150-250	75-150	Ger areas show much higher concentration levels
		Ger areas	350-700	200-350	
	Exposure ($\mu g/m^3$)	Population weighted average	427	260	Ger households are exposed to higher levels of air pollution

Source AMHIB data

Table A-9 Mongolia National Air Quality Standards vs. WHO Guideline Values (2005)

Parameter	Averaging time	Mongolia $\mu g/m^3$	WHO $\mu g/m^3$
TSP	24 hours	150	
PM_{10}	1 year	50	20
	24 hours	100	50
$PM_{2.5}$	1 year	25	10
	24 hours	50	25
SO_2	1 year	-	-
	24 hours	30	20
	20 minutes	-	500
NO_2	1 year	-	40
	24 hours	40	-
	1 hour	-	200
CO	8 hours	-	-
	1 hour	-	-
	15 minutes	-	-
O_3	8 hours	-	100
	1 hour	120	
Pb	1 year		0.5

Notes: TSP: total suspended particulates; PM_{10}: particulate matter with diameter less than 10 µm, $PM_{2.5}$: particulate matter with diameter less than 2.5 µm.
Sources: WHO (2005); AMHIB; Mongolian Agency for Standardization and Metrology (1998)

Figure A-3 Institutional Framework of AQMU

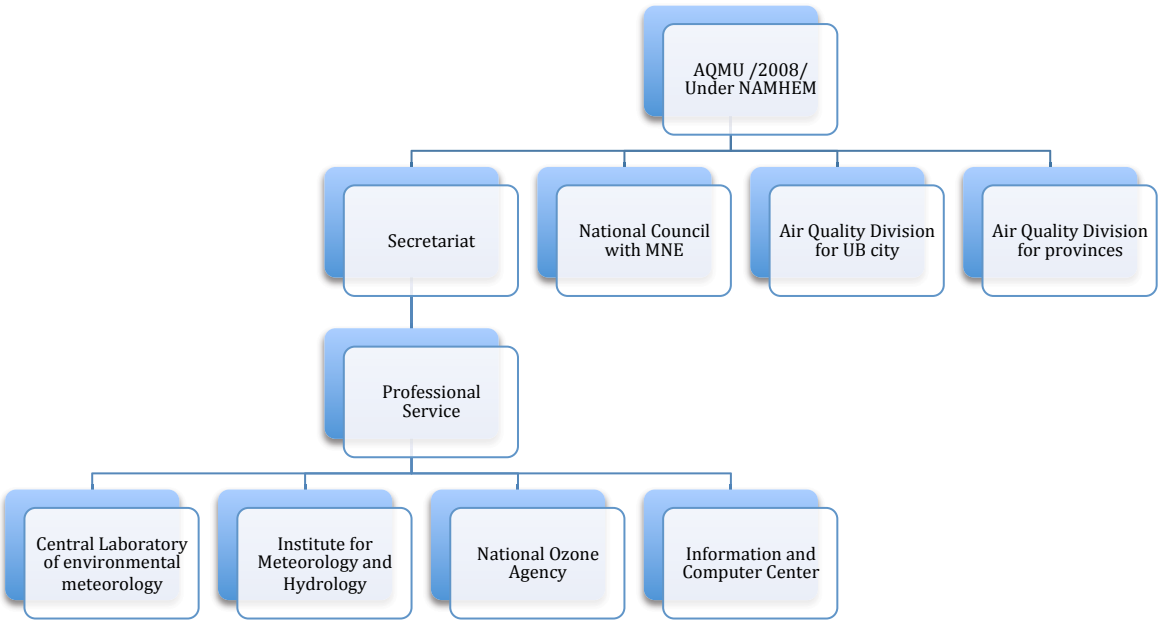


Table A-10 Relevant Laws related to Water in Mongolia

No.	Law	Date of adoption and amendments
1	Law on Natural Environmental Protection	1995, 1998, 2002, 2003 and 2005
2	Law on Water	1995, 2004
3	Law on Fee/Payment for Using water and mineral water resource	1995, 2004
4	Law on Monitoring Water, Weather and Environment	1997, 2003
5	Law on Sanitation and Hygiene	1998
6	Law on Sharing of Financial Resources earned from royalty of natural resource exploitation, to be spent towards the protection of the environment and restoration of the natural resources	2000
7	Law on Urban and Settlement Areas' Water Supply and Sanitation	2002, 2005
8	Law on Mineral Water	2003
9	Law on Water Transportation	2003, 2005

Source UNICEF, UNDP Mongolia, Government of Mongolia

Table A-11 Rules and Guidelines related to Water in Mongolia

Approved organization	Year	No.	Legal Acts
State Committee for Environmental Control	1992	6	Rules for getting compensation resulting from damage due to water pollution.
Ministry of Nature and Environment/appendix 1/	1992	153	Norms of industrial water use.
		A/50/A53	Rules for protection of water resources for domestic water use.
State Committee for Environmental Control/appendix 1/	1992	168/171	Rules of creating zones to protect small rivers, streams, pool and lakes in Mongolia.
Order of Ministry of Nature and Environment/appendix 21/	1995	153	Provisional norm of water use in service sector.
Minister's order_Ministry of Nature and Environment	1995	152	Design of making contract for using land along a river.
		124	Rules for protection of drinking water resources and building new sites for waste water disposal.
Joint order of Minister of Nature and Environment and Minister of Health	1995	169/171	Rules on construction material for domestic waste water treatment facilities and tankers.
		167/335 a/171	Order on hygiene and protection zone for drinking water source.
Minister's order of Nature and Environment	1996	124	Rules on registering and reporting on water resources pollution, category of pollution, regeneration and restoration of water resources.
Joint order of Minister of Nature and Environment and Minister of Health/appendix 21/	1997	143/A352	Rules related to water resources protection from pollution.
Joint order of Minister of Nature and Environment and Minister of Health/appendix 3/	1997	143/A352	Norm and requirements of water quality and provision of drinking water.
Joint order of Minister of Nature and Environment and Minister of Health	1997	a/11/05/a/18	Allowed limits of industrial waste water composition before letting effluents into the Central Waste-water treatment systems.
Order of Ministry of Nature and Environment		127	Rules for registering and reporting about poisonous waste water.
Joint order of Minister of Nature and Environment and Minister of Health	1998	104/A/234	Rules for mineral water use and protection.
Government order	1998	95	Rules for encouraging citizen and entities to introduce environmental friendly technology.
Order of Ministry of Nature and Environment	2000	21	Rules for mineral water use and protection in Special protected areas.
Government order	2005	7	To determine the water use fee.
Order of Ministry of Nature and Environment	2006	180	Rules for making water database and national water cadastral.
		180	Rules of water registration.
		180	Obligations and duties of professional organizations.
		180	Design of certificate for water use.
		187	Rules of River Basin Board.
Government order	2007	256	Rules for water resource management during drought, desertification and dryness ranking.

Source UNICEF, UNDP Mongolia, Government of Mongolia

Table A-12 National Standards on Water

Year	No.	Standard Name
1978	MNS2573	Surface water – To determine concentration of phenol compound/
	MNS2570	To determine freshness of water.
1979	MSN0017-1-1-14	Surface water – Types of water use.
	MNS4423	Drinking water – To determine the amount of dry waste.
	MSN0017-1-1-10	Water use and protection – methods.
1980	MSN0017-1-5-15	Surface water – To determine fat content.
1982	MNS3342	Surface water – To protect ground water from pollution.
1983	MNS3597	Surface water – To protect ground and surface water.
	MNS3532	Surface water – To determine the concentration of lead.
1986	MNS3935	Drinking water – Requirements for the water analysis.
	MNS3936	Drinking and industrial water – To analyse.
	MNS3900	Drinking water – To determine the flavour, odour, colour and freshness.
1988	MNS4047	Surface water – Water quality analysis.
1992	MNS0900	Drinking water – Water analysis and control
	MNS0899	Drinking water – Total concentration of nitrate compound.
1995	MNS4288	Requirements for waste water treatment plant and technology.
	MNS4288	Basic requirements on location of Waste Water Treatment Plant and treatment technology and capacity.
1996	MNS4345	Industrial water – To prepare water sample for chemical analysis.
	MNS4341	Industrial water – To determine concentration of manganese.
	MNS4348	Industrial water – To determine concentration of copper.
	MNS4431	Industrial water – The approach for preparing water for chemical analysis.
	MNS43445	Industrial water – The approach for preparing water for chemical analysis.
1997	MNS4420	Drinking water – To determine mercury concentration by the atom absorption approach.
	MNS4431	Drinking water – To determine concentration on nitrate compound.
	MNS 4430	Drinking water – To determine concentration of iron.
	MNS4426	Drinking water – To determine concentration of phenol compound.
1998	MNS4586	Water – Environmental quality.
1999	MNS (ISO) 4889	Drinking water – To determine the electroconductive characteristics of water.
	MNS (ISO) 4867	Water quality – Taking a sample. The approach of storing and transporting the sample.
2000	MNS4943	Water quality – Waste water standard.
2001	MNS (ISO) 11923	Water quality – To determine the amount of solid substances in water by filtering.
	MNS (ISO) 5667-10	Water quality – Taking samples of waste water.
	MNS (ISO) 5667-2	Water quality – Taking samples.
	MNS (ISO) 5667-2	Water quality – Taking samples from natural and artificial lake.
	MNS (ISO) 5667-2	Water quality – Taking a sample of drinking water from artificial lake.
	MNS5032	Water quality – To determine the concentration of heavy metal by X-ray and fluorescence analysis.
	MNS (ISO) 11083	Water quality – To determine chromium concentration by spectrometry with 1.5 disphenylcarbazide.
2002	MNS (ISO) 5667-1	Water quality – To install the program of taking sample.
2003	MNS4236	Water supply – Requirements on Central Waste Water Plant and Water Supply.

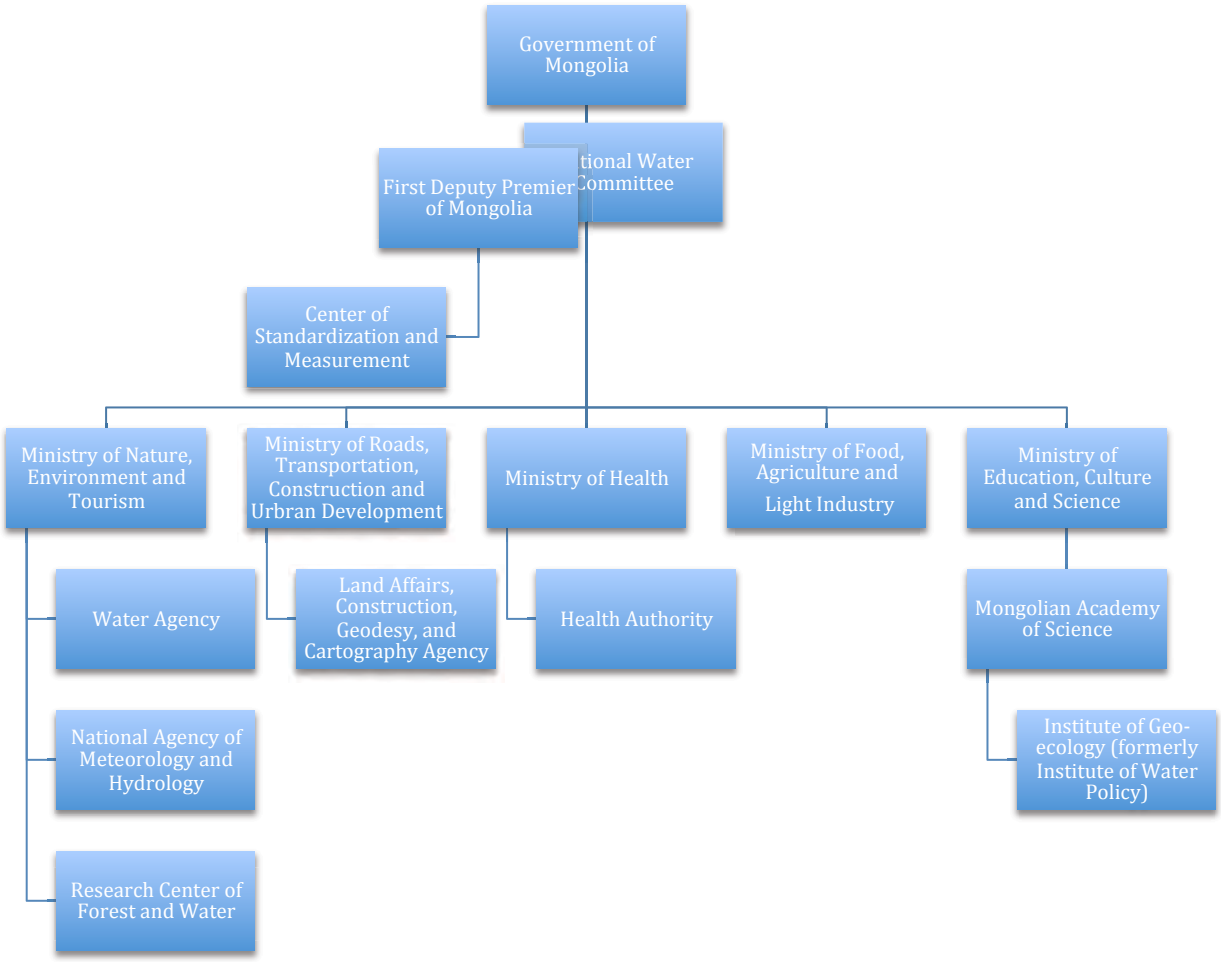
Source UNICEF, UNDP Mongolia, Government of Mongolia

Table A-13 Water Quality Standards for Major Indicators of Mongolia

Item	Standard
pH	6.5 – 8.5
O_2	6.4 mg/l or above
BOD	3 mg/l
COD	10 mg/l
NH_4-N	0.5 mg/l
NO_2-N	0.02 mg/l
NO_3-N	9.0 mg/l
PO_4-P	0.1 mg/l
Cr	0.05 mg/l
Hexavalent chromium	0.01 mg/l

Source MNS4586-1998

Figure A-4 Water Administration System, Revised structure 2009



Source Government of Mongolia, UNDP 2009

Table A-14 References to Existing Legal Instruments Which Address the Management of Chemicals

Legal Instrument	Responsible Ministries or Bodies	Chemical Use Categories Covered	Objective(s) of Legislation	Relevant Articles/ Provision
Mongolian Law on Environmental Protection /1995, amended in 2007 /	Parliament	Overall chemicals categories, have impacts toxic and hazardous to the environment	Define a national policy in protection of nature and environment, proper use and restoration of its natural resources; Adopt through submission to the Government the National Program for Environmental Protection and Ecological Safety; Approve and monitor the implementation of environmental legislation;	Article 13
	Government	Overall chemicals categories, have impacts toxic and hazardous to the environment	Upon consultation with and approval by the Central State Administrative Organization and Aimag or Capital City Governors, prohibit any economic and other activities of citizens, economic entities and/or organizations which has an adverse effect on human health and the environment irrespective of the form of their ownership; Organize ecological education and training programs. Coordinate and organize any efforts with respect to setting controls on customs, imports and exports of wildlife and plant species and other natural products	Article 14
	MNE	Overall chemicals categories, have impacts toxic and hazardous to the environment	Organize the implementation of the national policy and legislation on protection of nature and environment, proper use and restoration of its natural resources, and assurance of ecological balance; Carry out intersectorial and interregional coordination on conservation and restoration of nature and environment, develop and adopt through authorized organizations or in collaboration with other State Central Administrative Organizations the standards of environmental capacity and organize its implementation;	Article 15
	Citizen's Represantitive Khurals and Governors	Overall chemicals categories, have impacts toxic and hazardous to the environment	In cities, villages and other settlements, and resorts and rest houses, establish borders of special areas to protect from and control the pollution of rivers, lakes, ponds, springs and other bodies of water and meet sanitary requirements; Control and monitor any activities of local economic entities and/or organizations with respect to protection of nature and environment, restoration and use of natural resources, take measures to alleviate and mitigate any adverse affects upon the environment. If necessary, the Governor shall also prohibit any activities of an economic entity and/or organization in the event of such adverse effects or inform authorized organizations for their consideration. Issue permits to citizens, economic entities and/or organizations to use natural resources within the local area Control and monitor the implementation of hygienic and sanitary requirements in local area, designate garbage and waste disposal points for the area.	Article 16, 17, 18

	Agency			
	Inspectors in charge of Environment, Health, and Emergency	Toxic and hazradous chemicals	Control in disposal of toxic and hazardous chemicals.	Article 14
	Health inspector	Toxic and hazradous chemicals	Review occupational safety rule of economic entity, using toxic and hazardous chemicals.	Article 13
Law on Household and Industry Waste /2003/	Parliament	Chemicals in the industrial and household waste	Define state policy on the waste.	Article 6
	Government	Chemicals in the industrial and household waste and hazardous chemicals into the waste	Approve guidelines in definition of fee and norm and normative of waste. Approve regulation on involving into passport system of hazardous waste. Define safety requirement to collect, transport, landfill of hazardous waste. Approve list of industries, which produce special categorized wastes in large volume.	Article 7 Article 11 Article 16
	MNE	Chemicals in the industrial and household waste	Organize implementation of state policy on waste. Approve state registration and reporting regulation of waste and conduct regular registration. Approve regulation on building and type of disposal site and requirement on operational procedure of citizen and business entity, who will perform landfill of waste.	Article 8
	Citizen's Representative Khural of Aimag and City , Governors	Chemicals in the industrial and household waste	Approve local waste norm and normative and local waste programme. Organize implementation of state policy on waste in the respective area. To define disposal site in the city. Duureg Governors are responsible to define temporary dumping site in the district. To choose business entities to perform landfill pursuant to the law and other regulations. Organise waste treatment campaign and take measure in violation of the law from citizen and economic entity. All governors are responsible to conduct registration of the waste at the respective area and inform to the MNE.	Article 9
	MNE MoH Ministry of Education,	Hazardous chemicals in the waste	Approve classification and ranking of hazardous waste, depending on adverse impacts to the human health and environment.	Article 16

		air By-product chemicals ODSs By product chemicals	hazardous impacts caused by citizens, economic entities, and/or organizations.	
	Health and Environment inspectors	Chemicals in the air By-product chemicals ODSs By product chemicals	In event of the discharge of air polluting substances by a stationary source of an economic entity or organization where the hazardous physical impacts prove to be greater than the established limits and the circumstances become dangerous to human health and the environment, state health and environment inspectors may limit or suspend the activities of the responsible economic entity or organization.	Article 10
	Air Quility Service under MNE	Chemicals in the air By-product chemicals ODSs By product chemicals	To determine air quality, measure and test, as well as compile relevant data. To determine the permissible volume of air polluting substances discharged and the hazardous physical impacts caused by stationary sources of production and service owned and operated by citizens, economic entities and/or organizations . To conduct national registration and listing of sources of greenhouse gases and solvents in accordance with procedures adopted by MNE To take urgent actions to determine the reasons for the critical increase of air polluting substances and hazardous physical impacts and to eliminate the damage.	Article 4, Article 7 Article 16
	Governor	Chemicals in the air By-product chemicals ODSs By product chemicals	To issue permit economic entities and/or organizations which manufacture using stationary sources of production which discharge air polluting substances into the air and cause hazardous physical impacts based on assessment done by Professional Service Citizens. To take urgent actions to determine the reasons for the critical increase of air polluting substances and hazardous physical impacts and to eliminate the damage. To protect the air from pollution, may limit or prohibit the driving of vehicles of certain kinds on territories of resorts, sanitariums, tourist camps, city streets and residential areas. If it is determined that discharge of greenhouse gases has increased during a certain year, a local governor and authorities of a local area and management of an economic entity or an organization are required to take measures to reduce discharge of greenhouse gases.	Article 8 Article 10
	City governor	Chemicals in the air By-product chemicals ODSs By product chemicals	To approve construction of a building for industrial or service purposes which has a potential of extremely hazardous impacts on the air on the basis of the recommendation of the local Citizen Representative Khurals of a respective level and the assessment of a professional organization.	Article 11
	Health and	Chemicals in the	To limit or suspend the activities of the responsible economic entity or organization in event	Article 10,

Environmental Impact Assessment		chemicals	Monitoring Programme and regulation on rehabilitation To issue whether or not to implement a project based on the expert's conclusion on the Detailed Environmental Impact Assessment Report. To make a decision on authorizing an economic entity to conduct Detailed Environmental Impact Assessments for period of two years based on the conclusion of the Commission	Article 7
Law on Health /1998/	Parliament	Chemicals, have adverse impacts to the human health Bio-additives	Determine state policy on health	Article 6
	Government	Chemicals, have adverse impacts to the human health Bio-additives	Organise implementation of state policy on health Approve Programme on Public Health, and issue financial support and control implementation.	Article7
	MoH	Chemicals, have adverse impacts to the human health Bio-additives	Enforce the law and approve regulation on health and standard, norm and normatives on health service and production, To provide by professional guidance to the state central and local administrations, To provide by information about health issue to the public. To make assessment and monitoring on State Health Programme and projects. To issue special permission to the economic entities, who request to import, produce and supply household and sanitary insecticides.	Article 8 Article 44
	Local Citizen's Representitive Khurals	Chemicals, have adverse impacts to the human health Bio-additives	To develop and approve local health programme.	Article 9
	Governors	Chemicals, have adverse impacts to the human health Bio-additives	Enforce the law at the local level and allocate human and financial resources for local health issue.Take immidiate measure when occuring natural disaster and incidents and quarantine.	Article 10
Law on Drug /1998/	National Council of drug	Drugs and bio-preparation,	To develop proposal and recommendations on issues of the National Drug Policy and submit them to the relevant State Central Administrative Body; To develop proposals for amending the list of es-sential drugs; To make conclusions and recommendations on production and import of the drugs; To make professional recommendations on altering the list of and controlling the usage of narcotics and psychotropic drugs; To make conclusions on national standards of the drugs and provisions of the pharmacopeias; To approve making pharmacological, pharmaceutical and clinical analyses on new drugs,	Article 5

	MFA	Chemicals in food	To inform the public on quantity and types of livestock and strategic food to imported or exported that year considering food safety and supply. To establish requirements, procedures and quantities for technology of food production and service, as well as for hygiene and sanitation of raw materials of animal and plant origin. To implement policies on improving nutritiousness of food, increasing food production, introducing traditional and advanced technologies.	Article 6
	MoH	Chemicals in food	To approve universal norms, instructions and requirements on hygiene, sanitation and safety of food production and production of its equipment. To establish norms of permissible sanitary levels for pesticides, medicines, fertilizers, radioactive substances, heavy metals, other chemical substances, micro organisms, food additives and other mixtures used in agriculture and food production, and to introduce such norms to the National standards. To establish appropriate norms for microelements required in food enrichment	Article 6
	Citizen's Represantative Khurals and Governors	Chemicals in food	To approve and monitor implementation of policies and programs on ensuring food safety of the population of their respective territories. To develop policies and programs on ensuring food safety of the population of their respective territories, and submit them to Citizens' Representatives Khurals of the particular instance. To inform each year the Citizens' Representatives Khurals of the particular instance on the implementation of policies and programs on ensuring food safety of the population of their respective territories, on real performance regarding the consumption of the population and relay related issues to appropriate authorities. To prohibit upon the State inspector's report production and services having pollution effects on the environment around food production and service entities. To organise work on providing the population with drinking water, exercise control over use and protection of drinking water sources, reservoirs, water distribution network and equipment, and other facilities.	Article 7
	Veterinary and plant quarantine authority and its laboratory	Chemicals in food	Examine animal- or plant- originated foodstuff, and certify its quality Micro organisms, chemical substances, medicine, fertilisers, radioactive substances, pesticides to be used in production and service of food must be examined and given a conclusion by the appropriate and competent sanitary, epidemiological, veterinary and animal- or plant quarantine authorities.	Article 9
	SPIA	Chemicals in food	To establish the food security indicators, and to issue permissions for food crossing the State border. To provide aimag, capital city and border control agencies with professional and methodological guidance, organize training for food producers and service providers.	Article 12

			population in cooperation with related governmental administration bodies.	
	Water Authority	Chemicals in water	Develop standard and technical requirements to treat waste water from industries and services which use chemicals. Conduct monitoring and assessment on water resources and handle water resource registration and cadastre. To provide by information related on water and its issue to the public. To develop technical requirements to recycle waste water from industry.	Article 12
Law on Control on Explosives and Exploding equipment	Ministry of Trade and Industry	Industrial	To issue license on importation, exportation and production of explosives and exploding equipment To handle database covering items, volume on explosives and exploding equipment, stored, imported, exported, produced, used, sold and disposed in Mongolia. To develop safety standard on storage and transportation of explosives and exploding equipment	Article 6 Article 17 Article18
	Government	Industrial	Approve border to pass and transport and border to be banned to pass explosives and exploding equipment Approve safety requirement of new type of explosives in Mongolia.	Article 6
	NEMA	Industrial	To issue in giving in hand of confiscated explosives to the professional organisation to dispose.	Article 9
	State Police Office	Industrial	Control on transportation of explosives. Issue permission of vehicles to transport explosives.	Article 10
	Governor of the City and Aimag	Industrial	To define location to produce and store explosives.	Article 14
	State Professional Inspection Agency	Industrial	To dispose explosives, loss of quality reqirements and date of use, on the basis of cunclusion by professional organisation. To monitor and control law enforcement.	Article 14
	State Customs Agency	Industrial	To inform explosives, passed border to the Police Office and send report to the MIC every month.	Article 17
	MNE		Shall conduct EIA on project to produce explosives.	
Law on Cropping	Government	Agricultural	Organize implementation of State Policy on Cropping and enforcement of the law. Approve Programme on Development of Cropping.	Article 4
	MFA	Agricultural	Develop State Policy on Development of Cropping. To be maintained rule of rehabilitation crop land and improving its fertility.	Article 5
	MNE	Chemicals in water	Organise implementation of the Prpgramme to supply water with sanitary requirements to the	Article 11

	City			
	Governors of Aimag and City	Chemicals in subsoil	Organise implementation of the law and decision made by Representative Khural and conduct inspection of utilization and protection. To halt any illegal activities to use subsoil and construction.	Article 7
	Governors of Soum and Duureg	Chemicals in subsoil	To issue land claim to use natural resources in the subsoil. To issue subsoil for purpose of landfill toxic chemicals and storing gas and oil, and building for waste water treatment.	Article 8
Law on Land /2002/	Parliament		To determine the state general policy on land; To take land for the purposes land under state special protection; border strip lands; land allocated for ensuring national defense and security, land allocated to foreign resident diplomatic representatives, consuls, and resident representatives of international organizations; free-zone land.	Article 17
	Government		To implement the State general policy on land and organize and ensure the implementation of legislation on land; To establish procedures for writing records and reports on State Unified Land Territory and on certifying State land characteristics and quality.	Article 18
	Ministry of Construction and Urban Development		To organize the implementation land legislation and Government decision on land relation; To permit and suspend business activities in land management, land cadastre and to define procedure and instruction in the business activity. To put state control on land characteristics and quality, to give conclusion on Land management plan of Aimag and city, and control its implementation. To guide development of state policy on land cadastre. To submit to the Government in definition of land into classification of State Unified Land Territory, and removal land from the classification.	Article 19
	MNE		To submit to the Governement in taking into Special Need land classification of State protected area and its removal from the classification and in determining of strip of this land. To define level and rank of land degradation and type of desertification and develop procedure and guideines in protection and rehabilitation.	
	Citizen's Represantitive Khural and Governors		To conduct control over the implementation of legislation on land as well as their own decisions and, where necessary, discuss the Governor's report on the issues. Upon submission by the Governor, discuss and approve the annual program on land possession, use, and protection in the territory, To organize and ensure the implementation of legislation on land in their territory. To conduct control over whether land possessors and users are using and protecting land and its resources efficiently, rationally and in accordance with laws and contract in their territory. To submit	Article 20

	Represantitive Khurals of Aimag, City and Soum, Duureg	environment	improvement and to control on expenditure.	
	Governors	Chemicals in the environment	Organize implementation on the law in the recpective territorial area, to issue and enforce regulation related on sanitary requirements. To control use of cemetery, sewage and public service place, and on drinking water resources, rivers, ponds, water supply system and dumping site. If necessary, to define protectional zone and its rule.	Article 15 Article 16
Law on Rays protection and its safety	Nuclear Energy Commission under Ministry of Education, Culture and Science	Radioactive chemicals	Develop state policy on using nuclear energy, rays protection and its safety and submit to the related State administrative body. Implement in collecting, storing, transportation and landfill of radioactive waste and conduct radio active assessment and inspection in cooperation with professional agency on the consumer used products and drinking water and make conclusion whether or not have negative impacts. Issue special license to the citizen and economic entity to prospect, explore and mining, process and extract, and to import, export, transport and perform landfill and rehabilitation of radioactive minerals.	Article 6
	Governor of Aimag and City	Radioactive chemicals	Enforce the law and related standard and norm as well as any decision issued by Commission. To organize training in rays protection and its safety in the respective territorial area.	Article 10
Law on Control on Narcotic and Psychotropic substances	Government	Narcotic, psychotropic chemicals	Approve borders to pass narcotic, psychotropic chemicals. Approve regulation on store and disposing of narcotic, psychotropic chemicals and equipment to produce.	Article 6
	MoH	Narcotic, psychotropic chemicals	To issue special license to produce and trade of narcotic, psychotropic chemicals. To control registration, allocation, production, expenditure, store, trade, and use of narcotic, psychotropic chemicals.	Article 8 Article 14
	MNE	Narcotic, psychotropic chemicals	To control on gathering raw materials of narcotic, psychotropic chemicals	Article 14
	Customs Agency	Narcotic, psychotropic chemicals	To border control on to pass of narcotic, psychotropic chemicals	Article 14
	Police Office	Narcotic,	To halt illegal network of narcotic, psychotropic chemicals and inspect violation and crime,	Article 14
	Citizen's	Chemicals in the	Enforce the law and review Governor's report. Approve financial allocation for sanitary	Article 7

		psychotropic chemicals	take preventive measure

Table A-15 Other Legislative Acts Which Address the Management of Chemicals

	Legal Instrument Äb0Äi0	*Issued authority*	*Chemical Use Categories Covered*	*Objective(s) of Legislation Äb0Äi0*	*Enforcement ranking*	*Comments Äb0Äi0*
LA1	The ordination on permission in producing, importing, trading and using of hazardous chemicals 1998/.	ordination 86/A120 Minister of Nature and Environment and Minister of Agriculture and Food,	Toxic and hazardous chemicals	Procedure in permission to produce,, import, sell and use of toxic and hazardous chemicals	1	
LA2	Regulation on storing, transporting and disposing of toxic and hazardous chemicals /2007/	Ministerial Order #151/126/52 Minister of Nature and Environment Minister of Health Minister in charge of emergency issues	Toxic and hazardous waste	To implement basic requirement in store, transportation , usage and disposal of toxic and hazardous chemicals	1	It requires a lot of public awareness activities.
LA3	Regulation on making risk assessment of toxic and hazardous chemicals	Ministerial Order Minister of Nature and Environment	Toxic and Hazardous Chemicals	To regulate who,when, how to make assessment oftoxic and hazardous chemicals	3	Related standards are needed

LA4	Regulation on registering and testing pesticides in Mongolia / 1999/.	Ministerial Order **#86A164 Äb0** Minister of Nature and Environment, Minister of Industry and Agriculture, Minister of Health	Pesticides		3	outdated
LA5	Borders to pass toxic and hazardous chemicals /2006/	Government Resolution #296	Toxic and hazardous chemicals	To approve borders to pass toxic and hazardous chemicals 7 borders were approved	1	
LA6	List of banned and severely restricted chemicals to use in Mongolia /2007/	Government Resolution #95	Toxic and hazardous chemicals	To approve list of banned and severely restricted chemicals to use in Mongolia 83 kind of chemicals banned and 28 kind of severely restri cted	1	
LA7	List of permissi ble pesticides for agricultural and plant protection need in 2008 /2008/	Ministerial Order #70/38/60 Minister of Nature and Environment and Minister of Health and Minister of Food and Agriculture	Industrial Consumer need agricultural	To approve list of pesticides for plant protection and annual admissible volume. To approve list of pesticides for veterinary and annual admissible volume. To approve list of substances for househ old sanitary purpose and admissible volume.	1	
LA8	To ban mercury usage in mining activities /2008/	Ministerial Order Minister of Nature and Environment	Mercury	To ban mercury usage in mining and quarrying	1	
LA9	Resolution on classification, collecting, packaging, handling, transportation, securing and disposal of hazardous waste /2002/	Government Resolution #135	Hazardous chemicals in waste	To define classification of hazardous waste depending on its feature -as chemical, infectious, radioactive. To regulate procedure of hazardous waste to collect, transport, package, handle and secure.	1	

LA10	Regulation on involving to passport system of hazardous waste /2006/	Government Resolution #268	Toxic and hazardous substances in the waste	The hazardous waste passport is going to reveal information and data on dangers and risk from source and prevent from toxic waste harm. Economic entity which generates and deals with hazardous waste shall have hazardous waste passport.	1	
LA11	Instruction on collecting, store, transportation and disposal of waste from health organisation /2002/	Ministerial Order Minister of Nature and environment and Minister of Health	Toxic and hazardous chemicals in waste generated from health organisations	To give definition what is the waste generated from health organisation and classification of the waste. To define instruction on collecting, store, transportation and disposal ways of the waste.	1	
LA12	Technological instruction in collecting, keeping transportation and disposal of chemical waste in environment friendly way. Regulation on importation, transportation and usage of products containing toxic and hazardous chemicals /2003/	Ministerial order # 126/171 Minister of Nature and Environment and Minister of Health	Waste containing toxic and hazardous chemicals	To regulate creation of disposal site and land. To define disposal ways depending on waste feature. To approve list of products containing toxic and hazardous chemicals	2	Cause of financial capacity special building for disposal has not yet established.
LA13	Instruction on keeping record and reporting ofstore and disposing of the hazardous waste	Ministerial order #127, 2007 Minister of Nature and Environment	Hazardous chemicals discharged by waste	To make record on hazardous waste dumped by citizen and economic entities. To approve an instruction form to make record.	3	Who will control and how, is unclear. Lack of enforcement measure and lack of compliance with the related laws.
LA14	Procedure on making custom registration /2004/	Order by Director of Customs Agency #59	Chemicals	All kind of chemical substances to import, shall be made custom registration upon conclusion of Customs Central Laboratory.	1	

LA15	Procedure on controlling of production, utilization and importation of chemicals /2003/	Minister in charge of State Professional Inspection #337	Industrial chemicals	Environmental inspector shall put control on production, utilization, and importation of chemicals. Health inspector shall define impacts to the air, soil, water and human environment due to utilization of chemicals from business entities and put control on precautionary measure. Labor inspector shall control on whether or not conforming of the labor condition and technical safety requirement of business entities which are using and producing and storing of chemicals to the related standard	**1 Äb0**	Main procedure in state inspection.
LA16	To ban usage of Plastic sacks and Bags in UB city	Decree General Manager of Municipality	pesticide	To halt usage of plastic bags and sacks in service sector	**3 Äb0**	Lack of non-regulatory mechanism, not so good enforced
LA17	Approval of classification on toxic chemicals, amendments into classfication of extremely toxic chemicals /2002/	# 63/89	Toxic chemicals	List of chemicals in category of toxic characteristics shall be approved by Annex 1, list of chemicals in category of impacts to the human and animal body shall be approved by Annex 2. Chemicals under control of Roterdam and Stockholm Conventions shall be at Annex 3, 4 and that chemicals shall be belonged into category of extremely toxic category in Annex	2	Classification is different stated in the Law on Toxic and Hazardous chemicals. Need to be renewed.

Table A-15 Overview of Legal Instruments to Manage Chemicals by Use Category

Category of Chemical	Import	production	storage	transport	Distribution/ marketing	Use/handling	disposal
Pesticides Agricultural	LTHC LTI HS	LTHC LS	LTHC LSAI	LTHC LTIHS	LTHC LS	LTHC LTI	LTHC LHI
Household	LC	AI			AI	HS	W
Public	LL	LL			LL	LSA	LSA
Fertilizers	LT HC LC LL	LT HC LSA	LTH C LSA	LTHC	LT HC LS	LTH C LSA	LTHC LHI W LSA
Industrial Chemicals (used in manufacturing, processing	LTHC L C L L	LTHC LSAI	LTHC LSAI	LTHC	LTHC LL LS AI	LTHC LS AI LL	LHIW LSAI
Petroleum products	LTI HS L C L	LTHC LS AI LL LP	LTHC LS AI LP P	LTHC LPP	LTHC LP P LS AI	LTHC LP P LS AI	LTHC LHIW
Consumer chemicals	LT HC LSA I LF L	LT HC LSA I LF L	LTH C LSA I LF L	LTH C LSA I LF LH	LT HC LS AI LF	LTH C LSA I LF LH	LTH C LHI W LSA
Chemical wastes	LT HC LHI W	LT HC LHI W	LTH C LHI W	LTH C LHI W	LT HC LHI W	LTH C LHI W	LTH C LHI W

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LTHC-Law on Toxic and Hazardous Chemicals
LHIW - Law on Hazardous and Industrial Waste
LTIHS – Law on Transportation and Import Hazardous Sustances
LC- Law on Customs
LL- Law on Licensing
LSAI- Law on State Audit and Inspection
LPP- Law on Petroleum Production
LH- Law on Health
LF- Law on Food

Table A-16 Banned Chemicals in Mongolia

Nam e of Chemcal	CAS No.	conditions
Aldrin, 1,2,3,4,10,10-hexachloro - 1,4,4à,5,8,8à-hex ahydro- 1.4-endo,exo -5.8- dimethnonaphtalene (C12H8Cl6)	309-00 -2	Pesticide
Dustable powder formulations containing a combination of: -Benomyl •7% -Carbofuran •10%	17804- 35-2 1563-66-2 137-26 -8	Very toxic pesticide
Binapacryl; 2-(1 -Methylpropyl)-4,6- dinitrophenyl 3- methyl-2 - butenoate; 2-(1 -Methylpropyl)-4,6- dinitrophenyl 3,3- dimethylacryla te; Dinoseb methacrylate	485-31 -4	Pesticide
Methyl Bromide (CH3Br)	2903-30-10	To speed- up vegetable maturity
Iåðtachlor; 1,4,5,6,7,8,8- heptachloro -Çà,4,7,7à- tetrahydro- 4,7- methanoindene (C10H5Cl7)	76-44 -8	Pesticide
Hexachlorobe nzene; HCB (C6CI6)	118-74 -1	Fungicide, substances for rubber, explosives
Hexachlorocyclohexane (Mixed isomers); 1,2,3,4,5,6- hexachlorocyclohexane,	608-73 -1	Pesticide
Dichlorohexafluoro- propane; CFC-216 (C3F6CI2)	2903-45-29	Refrigerator
Chloroheptafluoro- propane; C F	2903-45-29	Refrigerator
Dalapon; 2,2-Dichloropropanoic acid; alpha,alpha-dichloro- propionic acid (CH3CCl2COOH)	75-99 -0	Pesticide
Tris (2,3-dibromopropyl) phosphate;	126-72 -7	For producing rubber, paint, paper and

2,3-Dibromo -1-propanol phosphate; TDBPP; (C9H15Br6O4P)		pipe
Dieldrin, 1,2,3,4,10,10- hexachloro –6,7- epoxy- dimetanonaphthalene (C12H8Cl6O)	60-57 -1	Pesticide
DDT, 1,1,1-Trichloro-2,2-bis(p -chlorophenyl)ethane; (C14H9Cl5)	50-29 -3	Pesticide
Ethylene dibromide; EDB or 1,2 –dibromoethane	106-93 -4	Pesticide
Dinitro -ortho- cresol (D NOC) and its salts 4,6-Dinitro-ortho- cresol 2-Methyl-4,6 -dinitrophenol DNOC 2,4-Dinitro-ortho- cresol C7H6N2O5 / CH3C6H2OH(NO2)2	 534-52 -1 2980-64-5 5787-96-2 2312-76-7	Pesticide
Dinoseb; 2-(sec -butyl)-4,6 -dinitrophenol or 2-(1 -methylpropyl) -4,6- dinitrophenol; C10H12N2O5	88-85 -7	Pesticide
Bromochlorodifluoro Methan e; Halon -	2903-46-10	Refrigerator
Hexachlorodifluoro-propane; CFC- 212;	2903-45-29	Refrigerator
Dichlorodifluoromethane; CFC- 12*; (CF2CI2)	2903-42-00	Refrigerator
Tetrachlorodifluoroethane, CFC-112; (C2F2 CI4)	2903-45-21	Refrigerator
Ñàðtafol(cis isomer); Di folitan; N-(1,1,2,2-Tetrachloroethyl-thio)cyclohex-4 -ene - 1,2- dicarboximide; 3a,4,7,7a-T etrahydro- N-(1,1,2,2-tetrachloroetha- nesulphenyl)phthali mide;	2425-06-1	Fungicide
Lindane; Cyclohexane; 1,2,3,4,5,6-hexachloro- gamma - isomer; (C6- H6-Cl6)	58-89 -9	Pesticide
Maleic hydrazide 1,2-dihydro- 3,6- pyridazinedione;	123-33 -1	To improve vegetable maturity
Methamidophos (Soluble liquid formulations of the substance that exceed 600 g active ingredient/l) (C2H8NO2PS)	10265- 92-6	Very toxic pesticide

1.1.1- trichloroethane; methyl chloroform;	2903-19-10	For dry cleaning and clean technical facility
Methyl -parathion (emulsifiable concentrates (EC) at above 19.5%, active ingredient and dusts at above 1.5% active ingredient)	298-00 -0	Very toxic pesticide
Mirex; 1,1a,2,2,3,3a,4,5,5,5a,5b,6-Do decachloro- octahydro - 1,3,4- metheno-1H -cyclobuta[cd] pentalene; (C10Cl12)	2385-85-5	Pesticide, to producing plastic, rubber, paint, paper and fire resistance of electrical equipment.
Monocrotophos; Dimethyl (E) -1-m ethyl -2- (methylcarbamoyl) vinyl phosphate; Phosphoric acid, dimethyl 1-methyl -3- (methylamino) -3- oxo-1 -propenyl ester (E)-; (C7H14NO5P) / ((CH3O)2PO -OC(CH3)= CHCO- NHCH3)	6923-22-4	Very toxic pesticide
Nitrofen; 2,4-Dichloro -4'-nitrodiphenyl ether; 2,4- Dichlorophenyl- 4'-nitrophenyl ether; 2,4-Dichloro- 1-(4- nitrophenoxy)benzene	1836-75-5	Herbicide
Ethyl parathion 0, 0-Diethyl 0 -(p -nitrophenyl) phosphorothioate or 0,0-Diethyl 0-(p-nitrophenyl) thiophosphate (C2H5O)2P(S)OC6H4NO2	56-38 -2	Very toxic pesticide
Trichloropentafluoropropane 1,1,1-trichloro -2,2,3,3,3-pentafluoro-propane C3Cl3F5 or CFC 215	28109- 69-5	Refrigerator
Monochloropentafluoro - ethane; CFC- 115*;	76-15 -3	Refrigerator
Pentachlorophenol and its salts and esters	87-68 -5*	Pesticide
Polychlorinated terphenyls (PCT)	61788- 33-8	To producing pesticide
Pentacholorophenol (C6HCl5O)	87-86 -5	Pesticide
Tetrametyl lead ((CH3)4Pb)	75-74 -1	To produce petroleum with lead
Dibromotetrafluoroethane; Halon- 2402; (C2F4Br2)	2903-46-30	Refrige rator
1.1.2.2-Dichlorotetrafluoro ethan e; CFC-	2903-44-10	Refrigerator
Tetrachlorotetrafluoropro pane; CFC-214; (C3F3CI4)	2903-45-29	Refrigerator

Tetraetyl lead; ((C2H5)4 Pb)	78-00 -2	to make petroleum with lead and fungicide with organic mer cury
Òîõàôhånå or Chlorinated camphene Polychlorinated bornans and camphenes; (C10H10Cl8)	8001-35-2	Insecticide
Bromotrifluoromethane; Halon- 1301; (CF3Br)	2903-46-20	Refrigerator
Pentachlorotrifluoro propa ne; CFC-	2903-45-29	Refrigerato r
Chlorotrifluoromet hane; CFC-13 (CF3CI)	2903-45-11	Refrigerator
1.1.2-Trichlorotrifluoro ethane ; CFC-	2903-43-00	To clean electrical equipment and metal.
Ugilec 121; 1,1'-methylenebis-dichloro monomethyl derive benzene; Monomethyldichlorodiphenylmet	81161- 70-8	Not biodegradable chemicals. Not found data about use.
2- fluoroacetamide (C2H4FNO)	640-19 -7	Pesticide
Phosphamidon (Soluble liquid formulations of the substance that exceed 1000 g active ingredient/l)	13171- 21-6 ((E) & (Z) mixed isomers); 23783- 98-4 (Z) -isomer; 297-99 -4	Very toxic pesticide
Pentachlorofluoroet hane; CFC-111; (C2FCI5)	2903-45-20	Refrigerator
Heptachlorofluoro- propane; CFC-211; (C3FCI7)	2903-45-29	Refrigerator
Trichlorofluoro meth ane , CFC-11*	2903-41-00	To load refrigerator
Chlorobenzilate (C16H14Cl2O3)	510-15 -6	Pesticide
Ñhlordane or Chlordane, alpha & gamma isomers (C10H6Cl8)	57-74 -9	Pesticide
Chlordimeform; N'-(4-Cloro-o -tolil) -N,N - dimetilformamidina) (C10H13ClN2)	6164-98-3	Pesticide
Cyhexatin; Tricyclohex yltin hydroxide;	13121- 70-5	Pesticide

(Tricyclohex yltin Hydroxide); Plictran (C18H34OS		
Endrin; 2,7:3, 6-Dimethanonaphth[2,3 -b]oxirene, 3,4,5,6,9,9- hexachloro -1a,2,2a,3, 6,6a,7,7a- octahydro- (C12H8Cl6O)	72-20 -8	Pesticide
1,2-Epoxyethane; Oxirane; Dimethylene oxide;	75-21 -8	In chemical industry, in preserving agricultural products
O- Alkyl (C10 , inc. cycloalkyl) alkyl (Me, Et, n-Pror i- Pr)-phosphonofluoridates Sarin: O- Isopropyl methylphosphonofluori - date Soman: O-Pinacolyl methylphosphonofluoridat	 107-44 -8 96-64 -0	In making chemical weapon
O- Alkyl (C10 , inc. cycloalkyl) N,N- dialkil (Me, Et, n- Pror i-Pr)- phosphoramidocyanidates Tabun :O-Ethyl N,N- dimethyl phosphoramid o- cyanidate	77-81 -6	In making chemical weapon
O- Alkyl (H or C10 , incl, cycloalkyl) S-2 -dialky (Me, Et, n-Pr or i-Pr)- aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonothiolates and corresponding alkylated or protonated salts ¯X: O - Ethyl S-2-diiso propylaminoethyl methyl phosphonothiolate	50782- 69-9	In making chemical weapon
Sulfur mustards:2 - Chloroethylchloro-methyl-sulfide Mustard gas: Bis (2-Chloroethyl) sulfide; Bis(2-Chloroethylthio) methane; Sesquimustard: 1,2- bis(2-Chloroethylthio) ethane; 1,3- Bis (2-Chloro- ethylthio)-n -propane; 1,4- Bis (2-Chloro- ethylthio)-n -butane; 1,5- Bis (2-Chloro- ethylthio)-n -pentane;	2625-76-5 505-60 -2 63869- 13-6 3563-36-8 63905- 10-2 142868 -93-7 142868 -94-8 63918- 90-1	In making chemical weapon

O-Mustard: Bis (2-Chloro -ethylthiomethyl) ether	63918- 89-8	
Lewisite1: 2-Chlorovinyl-dichloroarsine; Lewisite2: Bis (2-Chlorovinyl) chloroarsine ;	541-25 -3 40334- 69-8 40334- 70-1	In making chemical weapon
Nitrogen mustards: HN1: Bis (2-Chloroethyl) ethylamine; HN2: Bis (2- Chloroethyl)methylamine;	 538-07 -8 51-75 -2 555-77 -1	In making chemical weapon
Saxitoxin	35523- 89-8	In making chemical weapon
Ricin	9009-86-3	In making chemical weapon
Alkyl (Me, Et, n-Pr or i-Pr) phosphonyldifluorides; DF:	 676-99 -3	In making chemical weapon
O- Alkyl (H or C10 , incl, cycloalkyl) O -2 -dialkyl (Me, Et, n-Pr or i-Pr)- aminoethyl alkyl (Me, Et, n-Pr or i-Pr)phosphonites and corresponding alkylated or protonated salts QL: O- Ethyl O- 2 diisopropylaminoethyl	57856- 11-8	In making chemical weapon
Chorosarin: O -Isopropyl methylphosphonochlori -date	1445-76-7	In making chemical weapon
Chlorosoman: O -Pinacolyl methylphosphonochlori - Date	 7040-57-5	In making chemical weapon
Amiton: O,ODiethyl S/2- (diethylamino)ethylphosphonorothiolate and corresponding alkylated or	 78-53 -5	In making chemical weapon
PEIB: 1,1,3,3,3-Penta - fluoro- 2- (trifluoromethyl)-1 - propene	382-21 -8	In making chemical weapon
BZ: 3-Quinuuclidinyl benzilate (*)	6581-06-2	In making chemical weapon
Methylphosphonyl dichloride; Dimethyl methyl- phosphonate; Exemption: Fonofos: O- Ethyl S-phenyl ethyl- phosphonorhiolothionate	676-97 -1 756-79 -6 944-22 -9	In making chemical weapon
N,N- Dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidic dihalides		In making chemical weapon
Dialkyl (Me, Et, n-Pr or i-Pr)N,N -dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidates		In making chemical weapon
Arsenic trichloride	7784-34-1	In making chemical weapon
2,2-Diphenyl –2 -hydroxyacetic acid	76-93 -7	In making chemical weapon
Quinuclidin-3 -ol	1619-34-7	In making chemical weapon
N,N- Dialkyl (Me, Et, n-Pr or i-Pr)aminoethyl-2 - chlorides and corresponding protonated salts		In making chemical weapon
N,N- Dialkyl (Me, Et, n-Pr or i-Pr)aminoethyl-2 -ols and corresponding protonated salts Exemption: N,N- Dimethylaminoethanol and corresponding protonated salts N,N- Diethylaminoethanol and corresponding protonated	 108-01 -0	In making chemical weapon

salts	**100-37 -8**	
N,N- Dialkyl (Me, Et, n-Pr or i-Pr)aminoethane- 2-thiols		**In making chemical weapon**
Thiodiglycol: Bis: (2-hydroxyethyl)sulfide	**111-48 -8**	**In making chemical weapon**
Pinacolyl alcohol: 3,3-Dimethylbutan- 2-ol	**464-07 -3**	**In chemical weapon**

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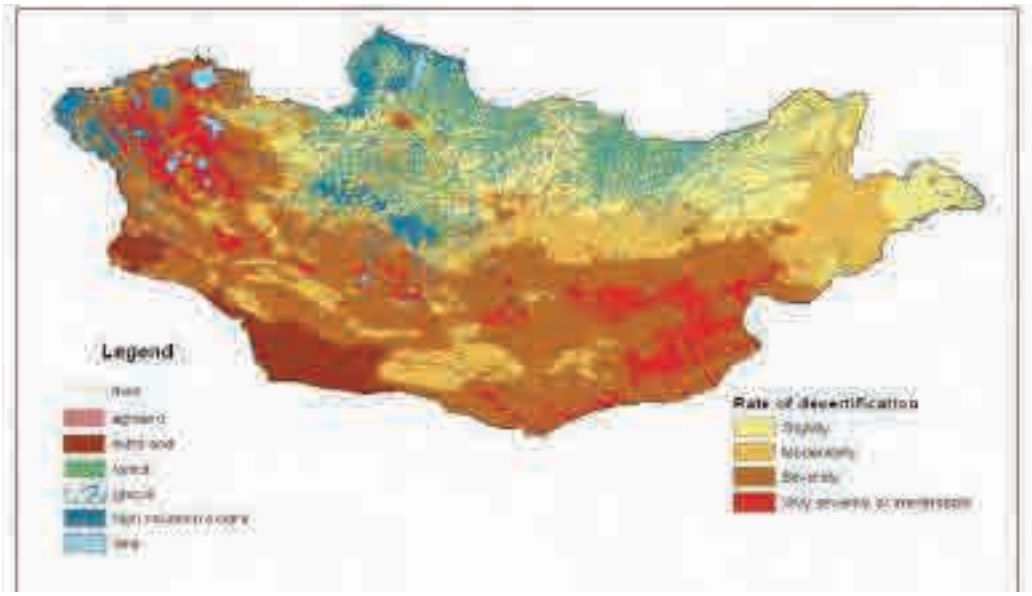
Figure A-5 Dispersion of Desertification in Mongolia



Source A.Khaulenbek, 2007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