

2. Geography and climate

The geography of Mongolia is varied with the Gobi Desert to the south and with cold and mountainous regions to the north and west. At 1,564,116 km² (603,909 sq mi), Mongolia is the world's 19th-largest country. It is significantly larger than the next-largest country, Peru. It mostly lies between latitudes 41° and 52°N (a small area is north of 52°), and longitudes 87° and 120°E. Much of Mongolia consists of steppes. The highest point in Mongolia is the Khuiten Peak in the Tavan bogd massif in the far west at 4,374 m (14,350 ft). The basin of the lake Uvs lake, shared with Tuva Republic in Russia, is a natural World Heritage Site. Most of the country is hot in the summer and extremely cold in the winter, with January averages dropping as low as -30 °C (-22 °F).

The country is also subject to occasional harsh climatic conditions known as Dzud. Ulan Bator has the lowest average temperature of any national capital in the world. Mongolia is high, cold, and windy. It has an extreme continental climate with long, cold winters and short summers, during which most of its annual precipitation falls. The country averages 257 cloudless days a year, and it is usually at the center of a region of high atmospheric pressure.

It experiences a continental climate, with hot summers (temperature up to 41°C) and cold winters (temperatures to -53°C). Diurnal temperature changes too can be very large. Rainfall is relatively low, varying from 5 cm in the southern desert region, to 40 cm in mountain areas. 80 to 96 % of precipitation falls in the warm period from April to October. In the south, significant rainfall begins in July.

About 40 % of the country is ~ 40 % hills (1000-1500m), and the remainder denotation plain. The landscape includes alpine, mountain taiga, forest steppe, steppe, Gobi, and desert regions. Rivers draining to the south and west terminate in inland lakes/salt lakes.

Crop growing season is short, 70 to 130 days; depending on location and altitude Unseasonable frosts can destroy up to 30 % of crops. Crops are mainly root crops, wheat, garden vegetables,(including greenhouse vegetables near Ulaanbaatar) and hay fodder. The main agricultural production is animal husbandry with herds of cattle, sheep, horses, camels, and goats. Wind speeds are often high, with dust and sand storms 40 days per year over a large part of the country, and in some regions over 100 days per year.

3. Natural and manmade disasters

A natural disaster is a natural phenomenon or phenomena occurred covering relatively large territories and leading to human casualties or substantial damages to property and causing thereby serious obstacles to smooth operation of the society. Identification of the natural disaster is not only depends upon its intensity but much more upon its socio-economic and ecological consequences. In this view of point, the issue of natural disaster shall be considered in association with the social economic situation at the level of a given country's development, the people's life styles, infrastructure development, etc. For example, the phenomenon of so called "Dzud" (severe winter conditions) when pastures are snow-drifted due to heavy snowfalls taken place in winter-spring seasons is referred to the category of natural disaster only under the conditions of our country with its transhumance cattle-breeding economy and would not be regarded as a natural disaster in any other countries with the settled type of civilization. A strong earthquake occurred in a desert place without human settlements is not disastrous for Mongolia whereas if it takes place in any other country with densely populated areas it would cause heavy losses and casualties which occurs rather frequently.

In Mongolia, there are occurred major and small disasters regularly as a result of Drought, Dzud, Severe Snow and Dust Storm, Flood, Forest and Steppe Fires, Earthquake, Desertification, Object Fires, Epidemic, Epizootic, Hazardous Vegetative Disease or spreading of Detrimental Rodents, Bird Flu, Traffic accidents as well as Explosives, and increased the number and frequency of disasters. These disasters cause huge number of damages to human life, their properties and environment and influence to the state social and economic sustainable development negatively.

Chart: 1 Natural and manmade disasters in Mongolia

Classification	Type	Disasters
Natural Disasters	Climatic hazardous phenomena	Snow storm
		Severe snowfall
		Dzud
		Dust storm
		Flood
		Steppe and forest fire
		Desertification
		Thunderstorm
	Geological threats	Earthquake
		Landslides
	Biological threats	Spread of detrimental rodents
		Human infectious diseases
		Livestock or animal infectious diseases
Manmade Disasters	Technological accidents	Industrial accidents
		Traffic accidents
		Leakage of chemical and radiological substances
		Explosion
		Building fire
	Social	Public disorder
		Terrorist attack

4. Disaster Management System

The National Emergency Management Agency as a disaster management focal point

The National Emergency Management Agency's main duties are to develop legislative environment on disaster protection, to provide strategic management, to evaluate disaster risk

and vulnerability, to implement activities on disaster prevention, disaster reduction, disaster preparedness in all levels, organizing search and rescue work, response, restore main infrastructures and rehabilitation, strengthening capacity of national disaster protection, cooperation with foreign countries and international organizations in disaster protection field, monitoring laws and legislations, and implementation policy on state reserve. And responsible for coordinating the activities of different stakeholders who involves in the disaster response including non-governmental or governmental organizations and private sectors, community groups and the international organizations.

The capacity of National Emergency Management Service:

Emergency management department and divisions -22

- Fire brigade –41
- Rescue sub-unit -10
- State reserve branches -32
- Research Institute of Emergency Management organization -1
- Rescue Specialized Unit –1
- Supply and Procurement Unit -1

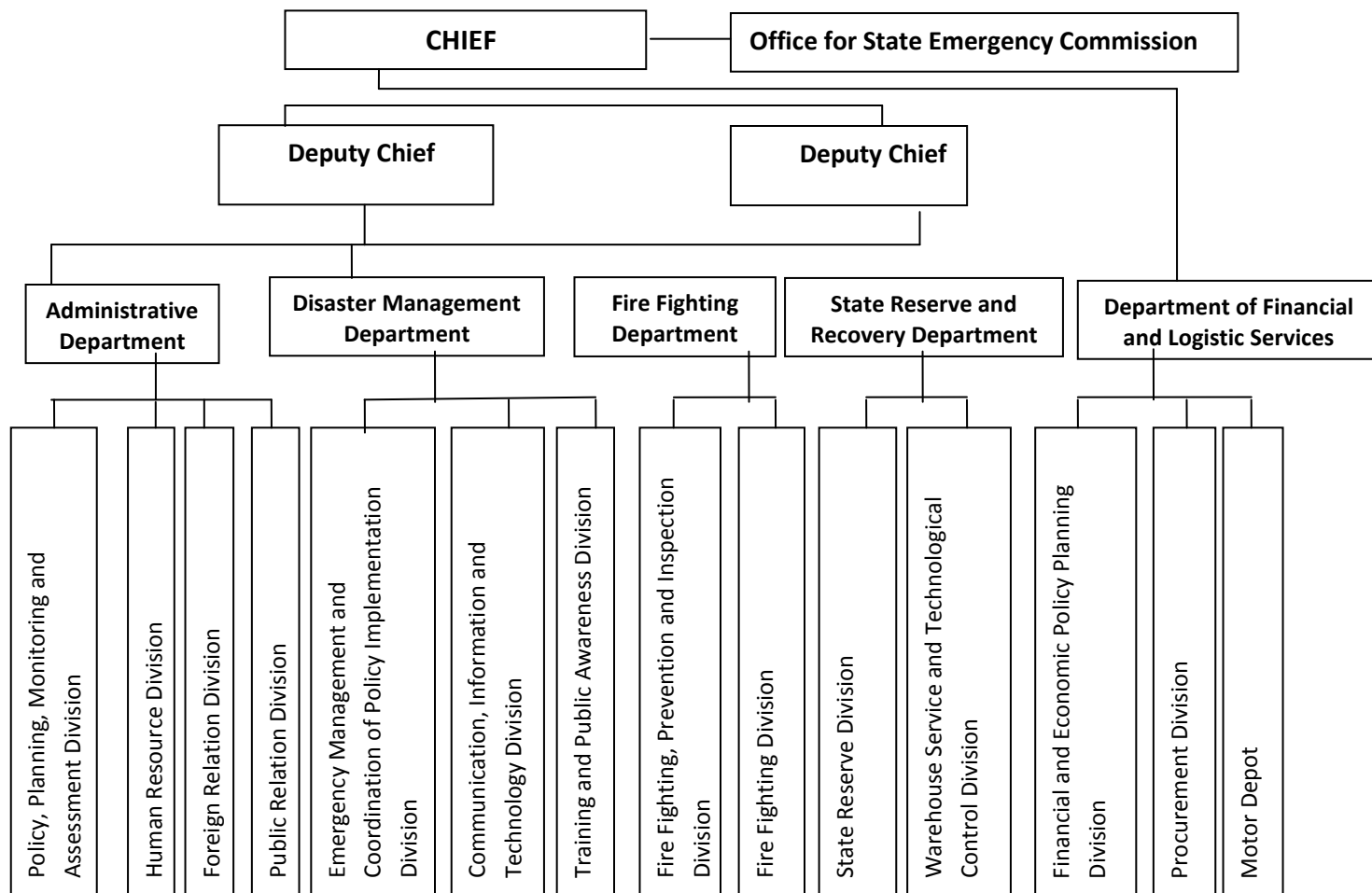
The State Disaster Protection Service –11 (group –37, state serviceman -3068)

- Local Disaster Protection Service in 21 territorial unit –198 (serviceman -594)
- Part time professional team –1981 (servants 44866)

Total number of servants:

- Full time –3148
- Part time -48528

Chart: 2 Organizational Structure of National Emergency Management Agency of Mongolia





5. Implementation of Hyogo framework for action

Mongolia recognizes and approves the Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disaster, adopted by the World Conference on Disaster Reduction which was held from 18 to 22 January 2005 in Kobe, Hyogo, Japan and focuses its activities to reduce disaster risk at the national level.

The National Emergency Management Agency of Mongolia has been organizing the following activities in the field of disaster risk reduction connecting with the above mentioned disaster situation and disaster response changes in the international arena.

1. The Parliament of Mongolia adopted the Law on Disaster Protection in 2004, and following the Law there are established the National Emergency Management Agency of Mongolia, merged the State Board for Civil Defence, Fire Fighting Department and State Reserve Agency. According to the Law on Disaster Protection, NEMA is responsible for the implementation of the State disaster protection policy and legislation, as well as for the professional organization of nationwide activities. The Member of the Government of Mongolia directs the disaster protection activities at the state level. Basically, disaster protection legal environment and implementation structure of disaster management were completed.

2. National Emergency Management Agency of Mongolia developed National Platform for Strengthening Disaster Protection Capacity of Mongolia 2006-2015 cohered with the Hyogo Framework for Action 2005-2015.

3. National Emergency Management Agency of Mongolia pays attention to define and assess disaster risk, monitor it and improve early warning system. Besides, we developed Procedure on Disaster assessment and approved it by the Government of Mongolia. Draft of Early warning system was developed and it has been submitted to foreign countries.

4. Legislative environment of the coordination for capacity activity was created. According to the resolution of the Government of Mongolia, ministries and agencies, which have main roles using the professions and support in the possible disaster period or disaster period, were appointed. Also in local area, disaster services were established and disaster protection tasks, recommendations and instructions were given to the community accordance with the resolutions of local administrator.

5. Some amendments were included in the Disaster Preparedness Plan in order to make disaster response immediately. All levels of the local preparedness plans were renovated and they have revision plans. In the national level, activity for the renovating disaster preparedness plan has been begun. During the local command staff exercise, we take into account possibility of the preparedness plan implementation and its practice.

6. We take into account increasing community participation in the disaster protection activity. The understanding of the word "Volunteer" was defined in the Law on Disaster Protection. National Emergency Management Agency of Mongolia is implementing the UNDP Project "Strengthening the Disaster mitigation and management system in Mongolia" and in the framework of the project, the commencement of the developing disaster management on the base of local community for supporting community initiative was made. Policy on disaster management on the base of local community was included in the Action Plan of the Government of Mongolia.

7. We take into account giving disaster protection education to the community so that according to the Law on Disaster Protection, disaster protection training is being organized. We organize the disaster management training to students of colleges and universities.

8. National Emergency Management Agency is carrying out to strengthen partnership and cooperation with national organizations as well it is pursuing the policy of establishing extensive cooperation with the concerned organizations of various countries and international organizations in the disaster protection field.

9. We carry the policy to be included risk into the insurance. We have begun developing the draft of the Law on Disaster Insurance with the Insurance organization.

10. The United Nation Disaster Assessment and Coordination (UNDAC) team worked to assess the situation of disaster preparedness in Mongolia and gave us 33 recommendations to improve disaster preparedness.

6. Legal system and framework

The role of the National Emergency Management Agency of Mongolia is defined primarily by four basic laws: 1) *The Law on Disaster Protection*, 2) *Law on Fire Safety*, 3) *Law on Forest and Steppe Fire Protection* and 4) *The Law on State Reserve*. It is through these four major laws and other emergency directives that NEMA will be called on to provide oversight, coordination and direct assistance in the event of a major catastrophe.

Amended Laws:

- Law on Government of Mongolia;
- Law on Management and Financing of State Agency;
- Law on State service;
- Law on Pension and Benefits of Military Serviceman etc.

The Earthquake Preparedness plan has been developed by the National Emergency Management Agency of Mongolia and the National Research Center of Astronomy and Geophysics, and approved by the Government in 2010.

Legal Documents:

- On implementation activities of Law on Disaster Protection
- On Establishment of State Disaster Protection Service
- On Approving Personnel of State Emergency commission and its activities
- On Emergency service day
- Program on Strategy and Structure changes of NEMA
- Rule of NEMA

- Rule of Internal Affairs of NEMA
- Regulation on Guard service of NEMA
- Regulation on Parade
- Regulation on Discipline etc.

About 40 legal documents were adopted by Parliament of Mongolia and Minister of Mongolia.

7. Challenges in Disaster Risk

Responding to a complex disaster such as an 8+ earthquake will present challenging issues for NEMA and the Mongolian emergency response system that in all probability have not been experienced before. Communications, emergency response and information assets will be required to function under the most demanding of situations. Information will be very uncertain. Traditional means of communications may not exist and emergency response assets will be hampered by the earthquake.

- Lack of coordination between NEMA and other stakeholders.
- Language challenges (English, Russian) of the personnel.
- Retrofitting of the National level earthquake disaster preparedness plan
- Strengthening of the capacity of public awareness raising activities.

8. Latest disasters occurred in Mongolia

1. Dzud (Severe winter disaster)

Mongolia has one of the coldest climates in the world, with temperatures dropping below -20°C for several months each year. During 2009/10, Mongolia faced its most severe winter in nearly five decades, which has been extremely harsh even by Mongolian standards, has resulted in increased maternal and child mortality, and an unprecedented loss of livestock and the collapse of thousands of people's livelihoods and many basic services. The disaster is known locally as a Dzud which is a complex, long-lasting natural disaster in which a summer drought is followed by heavy snowfalls and unusually low temperatures in winter, and then by a dangerous spring thaw. Fifteen of Mongolia's 21 provinces, home to 769,106 people (28% of the country's population), have been declared disaster zones, and another four are seriously affected.

Although the winter months are over, heavy snowfall and sub-zero temperatures persist in many areas, prolonging and intensifying the suffering for both people and their livestock. The affected population is suffering from a range of factors caused by the Dzud, including lack of access to health care, widespread food insecurity, loss of livelihoods, risk of a mass exodus of people from rural areas to the cities in search of alternative employment, and psychological trauma for affected herders and their families.



The thick snow cover has also meant that livestock, vital to the lives and livelihoods of a significant proportion of Mongolia's population, have been unable to graze. Taken together with

the summer drought, which prevented the collection of adequate amounts of forage, and with the extreme cold, this has resulted in widespread deaths of animals and in a range of serious consequences for the people who depend on them. By the end of April 2010, more than 9.1 million head of livestock (some 25% of all Mongolia's livestock) had perished nation-wide. The loss of livestock, as well as a falling livestock birth rate, has had a devastating impact on affected herders and rural communities. The livestock sector provides livelihoods for 30% of Mongolia's population and represents 16% of the country's gross domestic product. At the end of May 2010, almost 9,000 households (45,000 people) have been left without animals.

Over 50 percent of rural Mongolians live in poverty. Families have grown increasingly vulnerable due to the lack of energy sources for heating, warm clothing, food supplies and access to basic services. Fiscal constraints have caused the retraction of welfare benefits such as 'child money', upon which many rely to provide for their families. Unlike sudden onset disasters, the Dzud's impact has escalated over months, forcing an increasingly weakened population to battle for day-to-day survival with diminishing food stocks, income and health status. Its impacts will further unfold through the spring and summer seasons, as flooding, displacement and mass migration generate further hardship.

2. Forest and steppe fire cases: as of 2009-2010

Mongolia has a 1.5 hundred thousand km² of territory and most of the territory is steppe and Gobi desert. Nomadic life style and agriculture is a traditional and most popular way of living and steppe and forest fires causes huge damages to the pasture field which can significantly affect the livestock and livelihood of the herder families. According to the statistics of last 10 years, about 2400 of hazardous phenomena and accidents occurred annually causing the death of more than 160 people and the loss of 65 billion MNT or about 3 percent of Mongolian GDP. Among them, 60 percent of these losses are caused by forest and steppe fire which is a human induced disaster.



Please see below the fire cases and losses as of 2009-2010.

**Fire Statistics 2009-2010
(National Emergency Management Agency, Mongolia)**

Statistical Data	Mongolia		Ulan Bator	
	2009	2010	2009	2010
Year				
Population (Unit: thousand)	2,698	2,750	1,034	1,100
Area (k m ²)	1,566,000	1,566,000	4,740	4,740

Total Number of Emergency Phone Calls			2,165	2,541	1,318	1,691
	Fires		2,165	2,541	1,318	1,691
	Ambulances		259	248	259	248
	Rescue		260	248	260	248
	Hazard Removal		260	248	260	248
Fires						
Total Number of Fires	Structures		990	1,560	457	1,012
	Vehicles		174	255	81	149
	Forests		120	104	4	5
	Ships		—	—	—	—
	Airplanes		—	—	—	—
	Others		1,001	726	780	530
Fire Causes	1st		Electric	Electric	Electric	Electric
	2nd		Open Fire	Open Fire	Open Fire	Open Fire
	3rd		Stove	Stove	Stove	Stove
	4th		Cigarette match	Cigarette match	Cigarette match	Cigarette match
	5th		Children playing	Children playing	Children playing	Children playing
Fire Deaths			55	65	33	59
Fire Injuries			41	55	29	49
Firefighters' Deaths						
Ambulance Runs						
	Total Number of Ambulance Runs		259	248	259	248
	Acute Illnesses					
	Traffic Accidents		98	91	98	91
	Others		162	157	162	157
Total Number of Hazard Removal						
Your Organization						
Number of Fire Personnel	Full-timers	Men	2,784	2,784	745	745
		Women	339	342	85	88
	Part-timers	Men				
		Women				
Number of Fire Stations			42	45	12	13
Number of Branch Fire Stations						
Number of Apparatus	Pumpers		148	151	28	28
	Ladders		7	7	1	1
	Squirts		2	2	1	1
	Foam Trucks		2	2	2	2
	Rescue Trucks (including scuba rescue trucks)		5	6	4	4
	Ambulances		1	1	1	1
	Fireboats					
	Helicopters					
Fire Budget	(Unit: million MNT)		30,834.1	29,244.3	4,771.5	4,510.8

		(Unit: million USD)*	21.47	21.36	3.32	3.29
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*1,435 Mongolian Togrog (MNT) = 1.00 U.S.Dollar (USD)

9. On-going projects implemented by NEMA or International Organizations.

1. The project *“Strengthening the Disaster Mitigation and Management System in Mongolia”* has been implemented by the national disaster management authority since 2002, and is currently in its third phase. The overall project goal is to contribute to the sustainability of the country’s development gains by reducing risks and vulnerabilities through enhanced government capacity, and wider partnerships with other sectors and regions.

The principal objective of the Phase III is to support the implementation of the long-term disaster risk management strategy of Mongolia to minimize vulnerability, improve preparedness, enhance institutional capacity for disaster management and emergency response, and assist in adapting to climate change that adversely affects sustainable development of the country, especially those in the rural environments. Within this objective, the project has the following three Outcomes:

Outcome 1: Professional capacities of the National Emergency Management Agency and branches to respond to emergencies enhanced

Outcome 2: Increased awareness for disaster risk reduction through strengthened partnerships

Outcome 3: National capacity for climate resilience and adaptation to reduce disaster risks strengthened

2. The project “Avian Influenza and Human Influenza Preparedness and Response”

The Government of Mongolia developed and approved a National Strategy on avian influenza preparedness and response in 2007. The goal of the National Strategy is to limit outbreaks and spread of avian influenza, prevent human infection by the highly pathogenic virus, and to minimize the risks and threats to health and economy through improved international and inter-sector cooperation. Effective, well coordinated and interrelated activities at the social, economic, legal and levels are required to prevent or reduce the significant losses that could be caused by avian influenza outbreaks and a human influenza pandemic.

World Bank carried out an assessment of the Mongolia’s avian influenza preparedness and human pandemic prevention strategy in February 2007 and subsequently decided to provide financial and technical support in this direction and started the project *“Avian Influenza and Human Influenza Preparedness and Response”*.

Project goal:

Improve the capacity of avian influenza and human pandemic response in Mongolia.

The following issues are to be addressed by the project:

Improve the avian influenza outbreak and human influenza pandemic preparedness planning at the national and aimag (province) levels:

- Establish early warning system and surveillance system for avian influenza outbreak and human influenza pandemic
- Improve the capacity of avian influenza outbreak and human influenza pandemic prevention, diagnosis and treatment.
- Monitor and evaluate avian influenza outbreak and human influenza pandemic preparedness and response planning at the national and aimag (province) levels.

10. Budget Size on National Level

In the fiscal year 2011, the national budget for emergency management service was approximately 40.6 billion tugriks (40 million USD). The budget was allocated to the fields of i) scientific technology research ii) disaster prevention and preparedness iii) Renovation of the equipments and facilities; and iv) Disaster recovery and rehabilitation.

11. ADRC Counterpart

Foreign Relation Division

National Emergency Management Agency

Government Regulatory Agency

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