

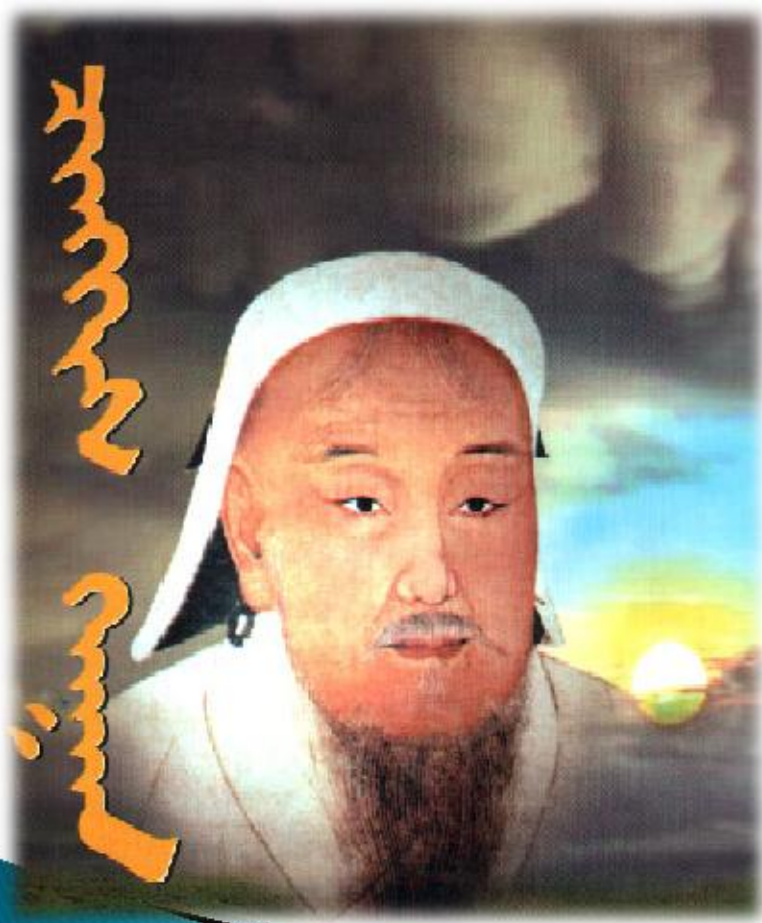
INTERNATIONAL SYMPOSIUM ON CLIMATE CHANGE & FOREST FIRE CONTROL



WILDFIRE INCIDENT MANAGEMENT SYSTEM IN MONGOLIA

Fire Department of National Emergency Management Agency, Mongolia
COLONEL J.GANBAATAR

WILDFIRE INCIDENT MANAGEMENT SYSTEM IN MONGOLIA



Mongolian people have ancient tradition and culture on steppe and forest fire prevention. From the time of Chinggis Khan's Empire legal documents provided with the provisions to protect forest and pasture land from fire. For instance, the Law "IKH ZASAG" included spring and autumn seasonal steppe and forest fire prevention measures, when the Law "Khalkh juram", 1709 had provisions to protect pasture land from fire and to punish strictly guilty to fire person.

INTERNATIONAL SYMPOSIUM ON CLIMATE CHANGE & FOREST FIRE CONTROL



In accordance with the international standard, National Emergency Management Agency of Mongolia (NEMA), responsible for disaster prevention, rescue, response and recovery, was established in 2004 by the decision of the Government of Mongolia, merging the State Board for Civil Defense, Fire Fighting Department and State Reserve Agency that previously and separately carried out disaster related activities. Today NEMA executes honorably and professionally its duties entrusted by the State and the People of Mongolia.

VISION

The vision of the NEMA is to support in providing national safety through risk and vulnerability reduction, strengthening disaster management and implementing intensively disaster protection measures based on community involvement.

MISSION

The Mission of the NEMA is to strengthen legal environment of disaster protection, provide strategic policy guidelines, assess disaster risk and vulnerability, prevent from potential disaster, reduce hazards, provide disaster preparedness, carry out immediately search and rescue, response and recovery of infrastructure, improve disaster protection capacity, implement the state reserve integrated policy, provide intersectoral coordination and to cooperate with States and international organizations in the field of disaster management.



FUNCTIONS

- develop disaster protection legal environment, integrated planning and policy system;
- create an integrated information system for disaster prevention and response, set up a disaster information database, and undertake measures to join regional and neighboring countries' cooperative disaster prevention activities;
- provide preparedness and readiness of Emergency Management Service, and strengthen disaster protection capacity and technical supply;
- establish additional rescue and fire fighting units considering current necessity, and provide techniques and equipments;
- improve the professional staffs' training system for the Emergency Management Organization and local units;
- introduce advances of science and technology and findings of research work to disaster prevention, rescue, response and recovery

Law on Forest and Steppe Fire Protection:

1. to regulate matters relating to forest and steppe fire prevention, fighting, extinguishing and liquidating their consequence.
2. to arrange nationwide implementation of legal acts on Forest and Steppe Fire Protection.



**TYPES OF HAZARDOUS PHENOMENA AND INDUSTRIAL ACCIDENTS
OCCURRED IN MONGOLIA**

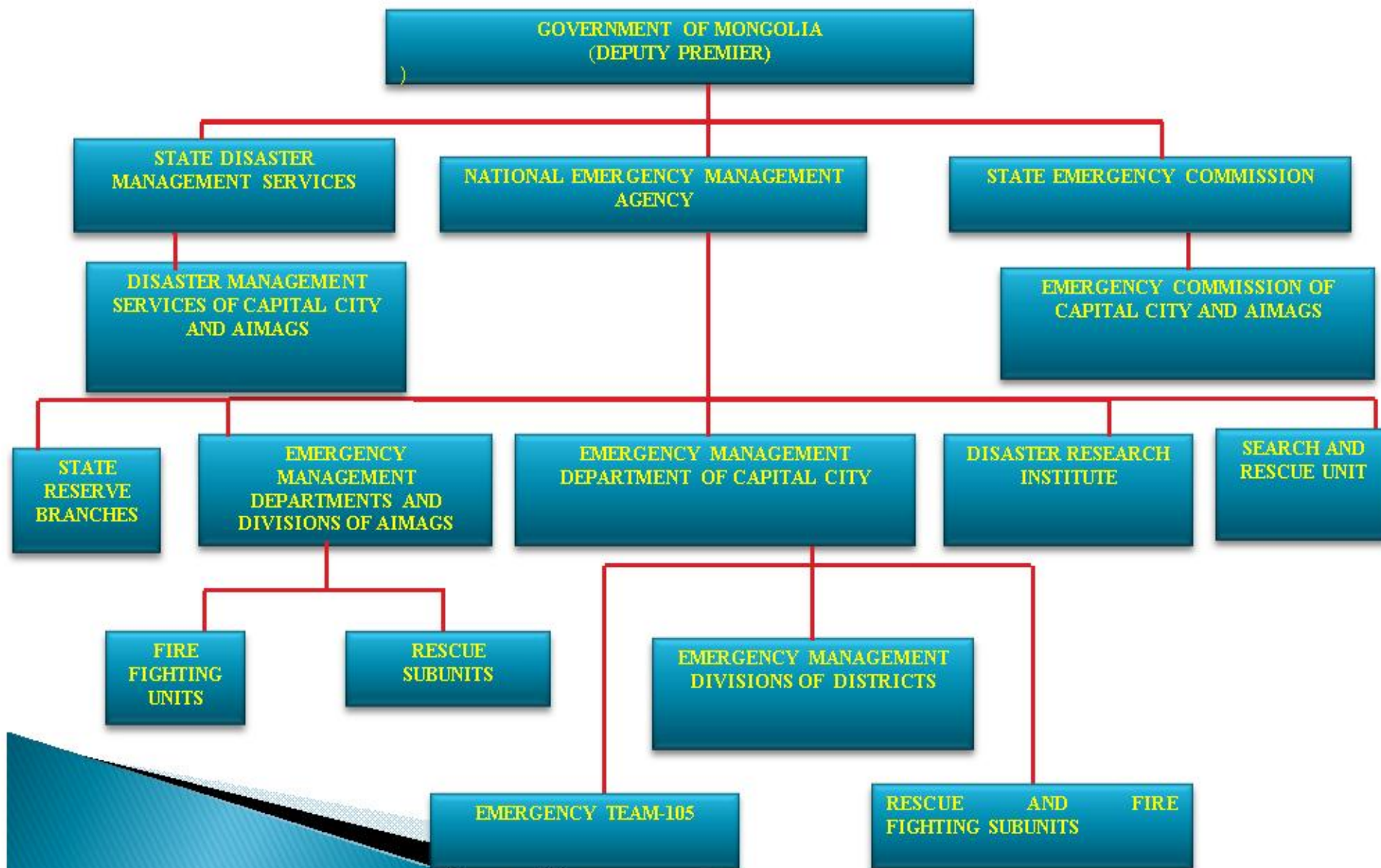
(the last 3 years)

- forest and steppe fire – 5.9 %
- building fire - 86.9 %
- human highly infectious and infectious diseases – 0.6 %
- animal highly infectious diseases – 0.09 %
- animal infectious diseases – 0.09 %
- natural and climatic hazardous phenomena – 2 %
- accidents related to explosives and chemical substances – 0.61 %
- river and lake accidents – 2.3 %,
- industrial and traffic accidents – 0.24 %.



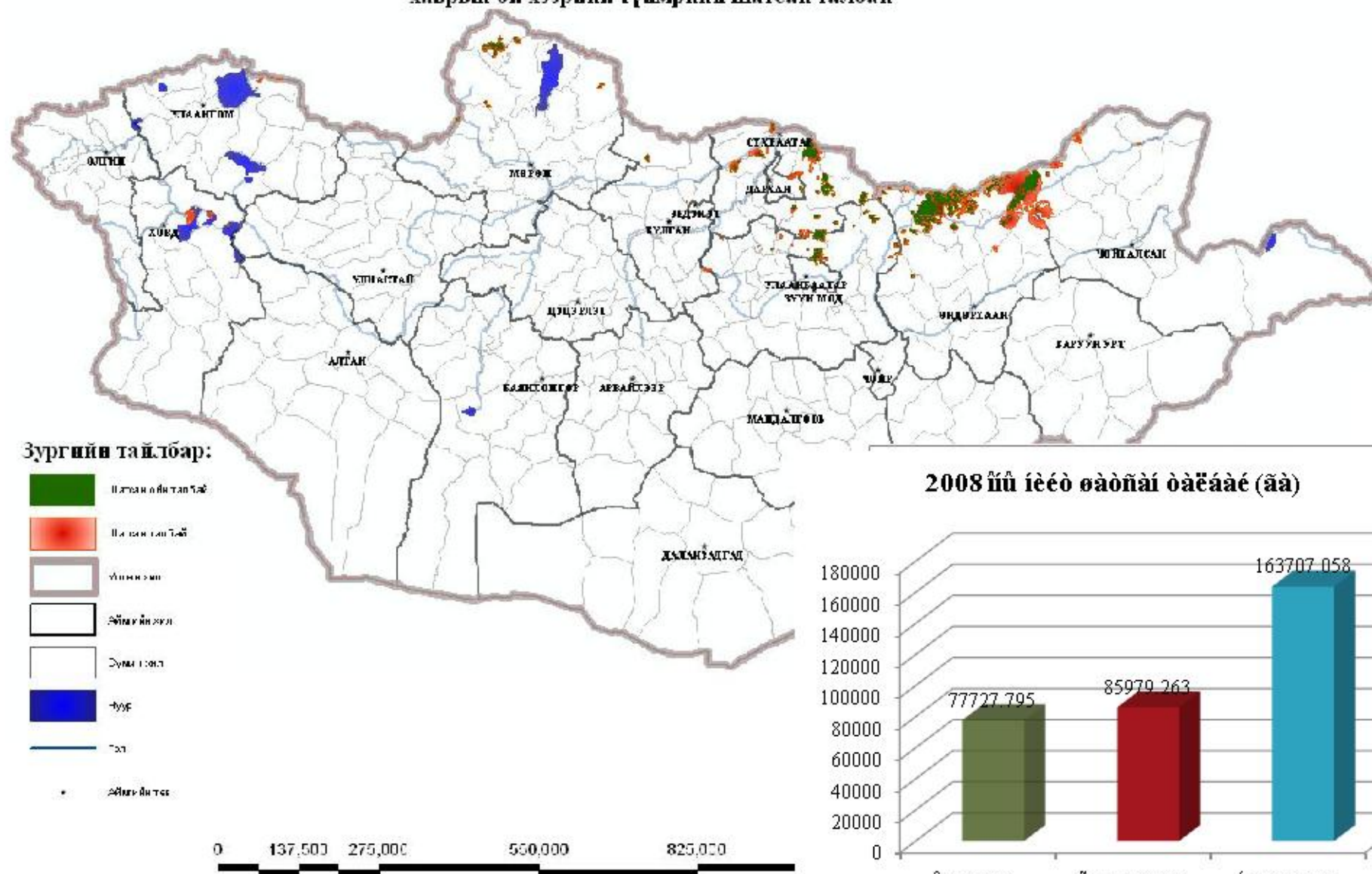
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ORGANIZATIONAL STRUCTURE

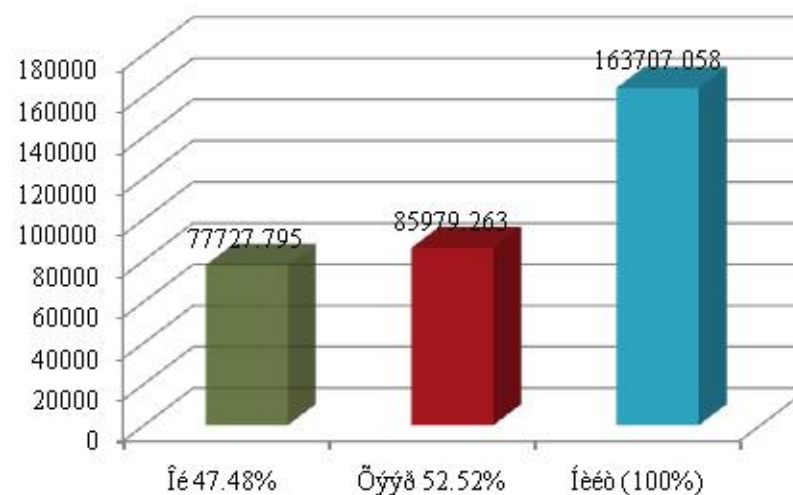


INTERNATIONAL SYMPOSIUM ON CLIMATE CHANGE & FOREST FIRE CONTROL

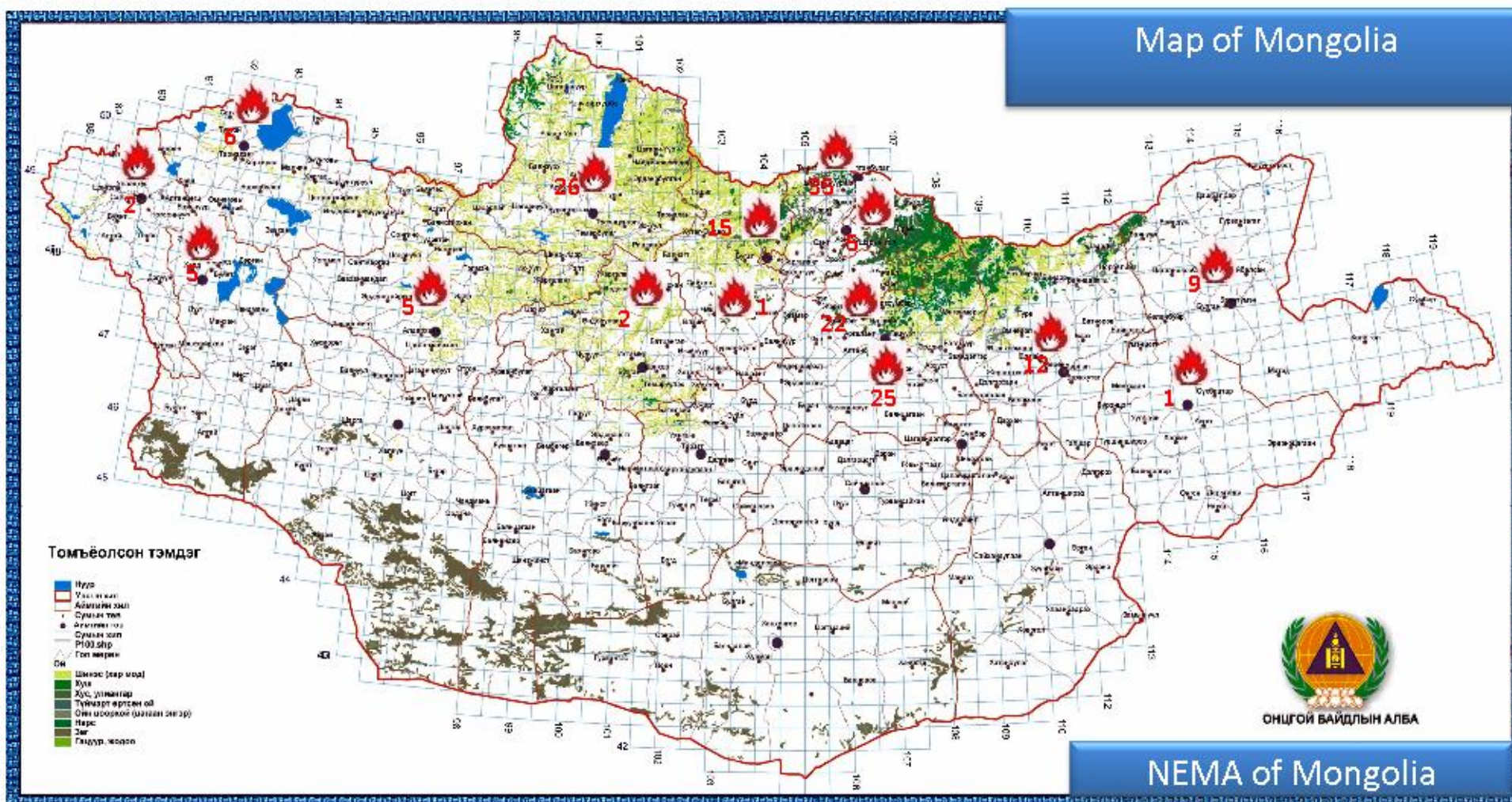
2008 оны MODIS/Terra, Aqua хиймэл дагуулын мэдээгээр илэрсэн
хаврын ой хээрийн түймрийн шатсан талбай



2008-ийн үеэс өмнөх үеийн шатсан талбай (аа)

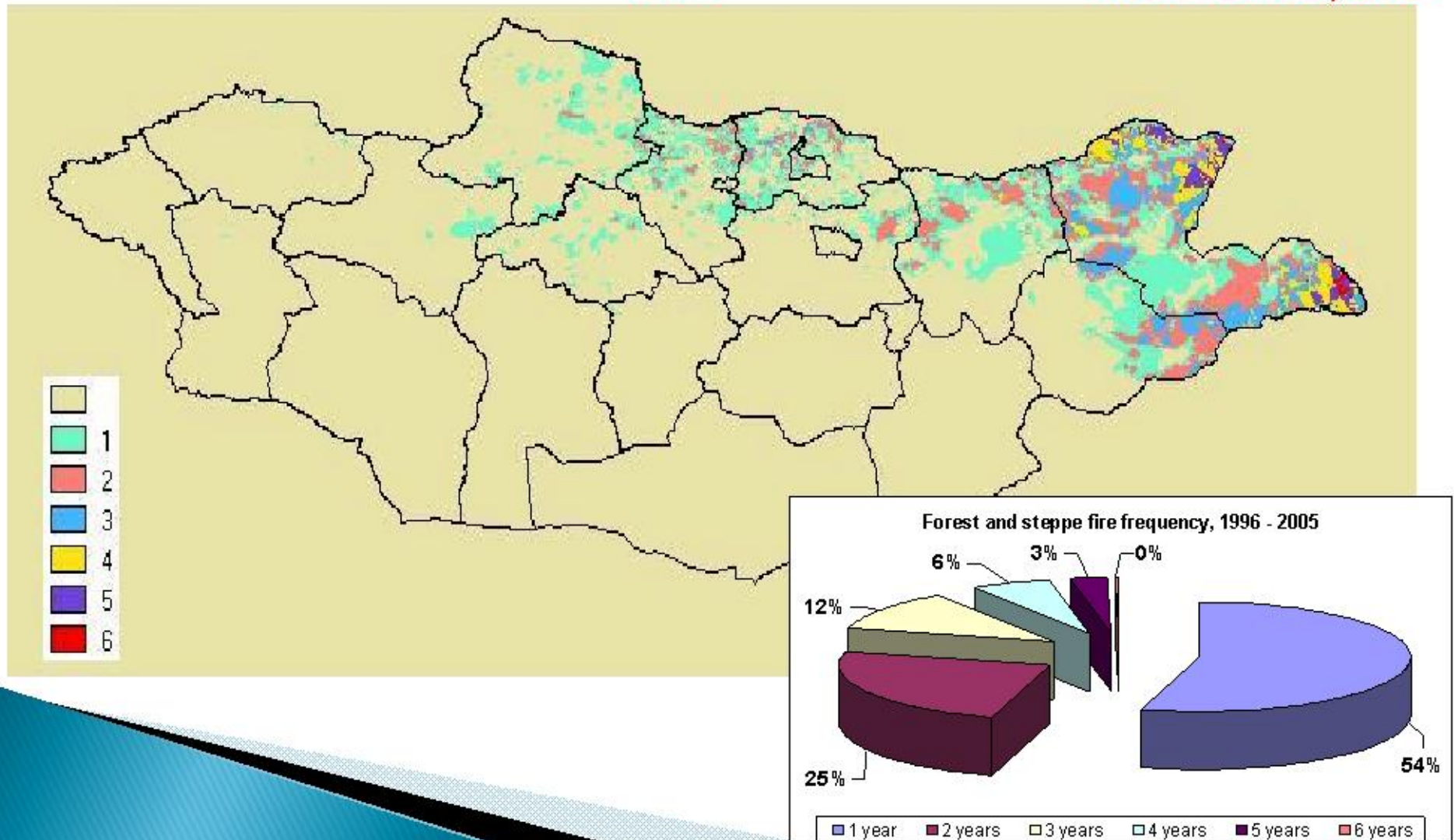


FOREST FIRE SITUATION IN THE 2008



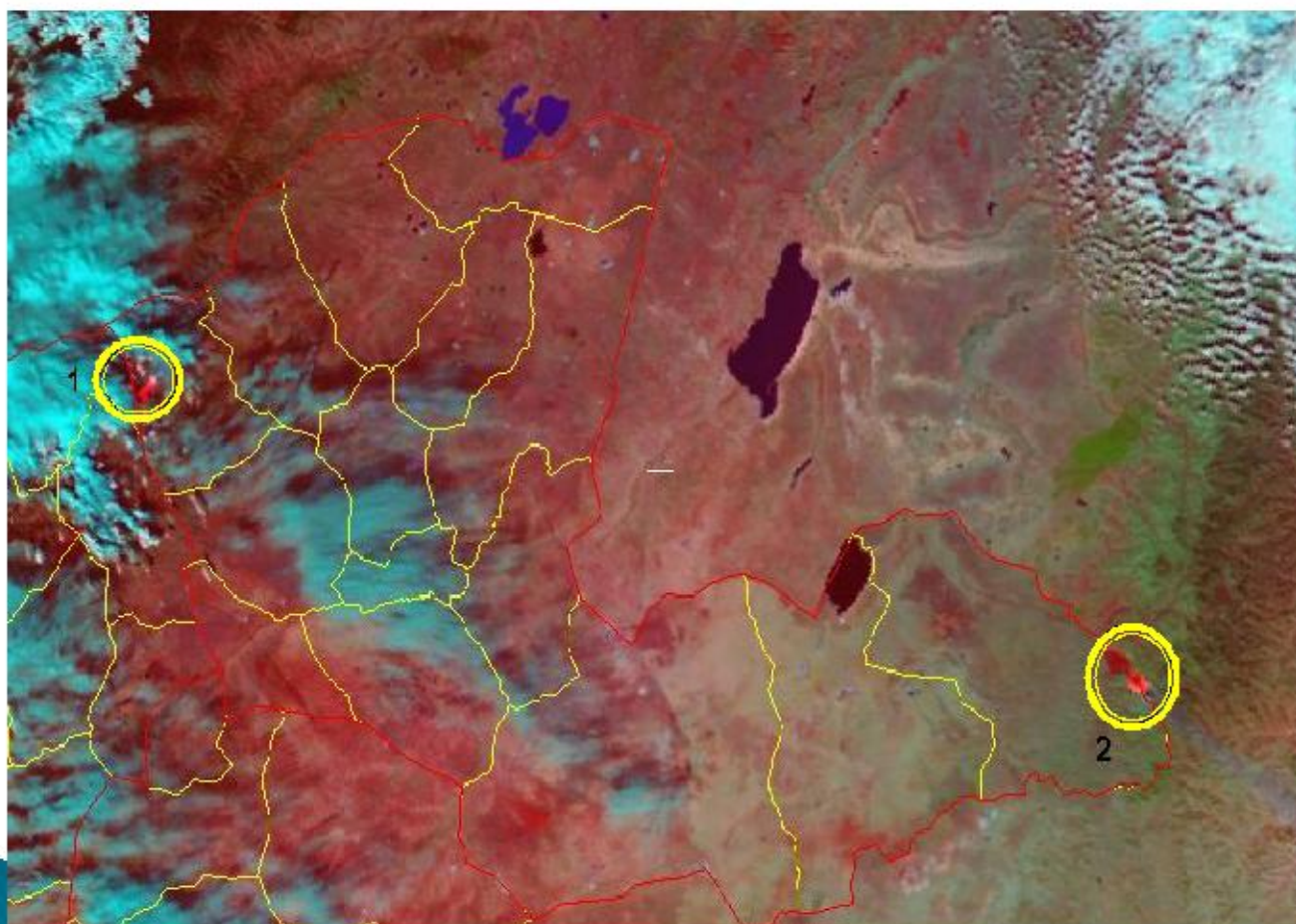
Burnt area frequency analysis

21 % of total burnt area - more than 3 years



Forest and Steppe Fires

Active fires detection technology: by NOAA and MODIS satellites



RGB: 3,2,1
Composite
image

Active fire: red
Smog: blue
Burnt area: dark
red

2004.10.19

1. Дорнод. Баян-Уул - (Хэнтийн Дадалын түймэр)

2. Дорнод. Сүмбэр.

УЦУОШГ. Мэдээлэл Тооцооллын Төв.

Е_мэйл: mtt@maginet.mn

Вэб: www.env.pmis.gov.mn

Mongolian forest fire vulnerability



Forest fire frequencies in 100 000 ha

1.	Arkhangai	1,4
2.	Khuvsgul	0,9
3.	Bulgan	5,4
4.	Selenge	8,5
5.	Khentii	2,1
6.	Dornod	2,3
7.	Tuv (Ulaanbaatar)	5,9

Forest fire vulnerability:

1. Selenge- very high
2. Bulgan, Khentii, Dornod Tuv high
3. Arkhangai, Khuvsgul

(Botanical Institute of Science
Academia, doc. Ts Chuluunbaatar)



Data

Mongolian GDP is 3748.8 billion tug or **2.8 billion US\$** (by 2007)

“Mongolian development fund” and State budget for supporting the regional and rural development is **240 billion tug.**

The forest and steppe fire damage in 1996 is **2 billion US\$**

The forest and steppe fire damage in 2007 is **195.9 billion tug.**

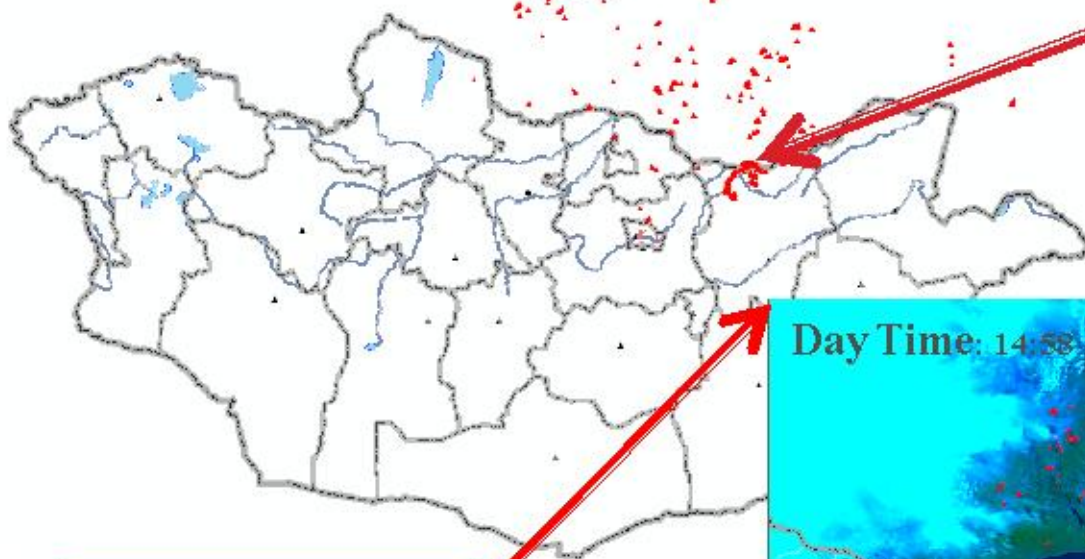


Forest and Steppe Fires

*Active fires detection technology:
by MODIS data*

18-May-2008

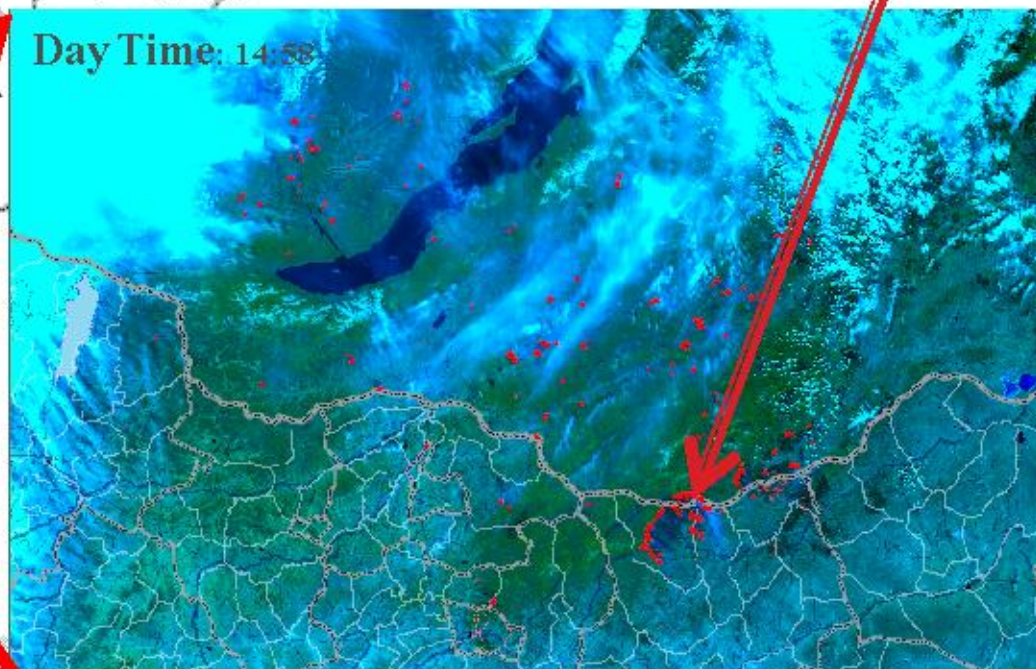
Product of MODIS:
MOD14
Hot spot's location



Composite image

R = band3
G = band1
B 2 = band2

Day Time: 14:58



Forest fire statistics of 2004-2008

Year	Provinces in which occurred a fire	Districts and soums in which a fires occurred	Number of the forest fires	Burned area \thousand hectares\		
				Forest	Field	Total area
2003	10	34	60	320.0	3500.0	3820.0
2004	12	42	79	73.9	7234.7	7308.7
2005	14	61	115	310.9	4053.8	4364.8
2006	16	69	164	391.7	5202.2	5593.9
2007	16	88	228	512.3	822.9	1335.3
2008	12	65	152	464.1	472.9	936.9
Total	78	359	798	2072,9	21286,5	23359,4

Forest fire damage in 2003-2008 /million tugrik/

Year	Ecological damage /Million tugrik /
2003	819.0
2004	404.1
2005	426.3
2006	1289.8
2007	195924.0
2008	13392.9
Total	212253,1

Forest fire threatening a herds



Forest fire threatening the green environment



Forest and steppe fire is suppressed



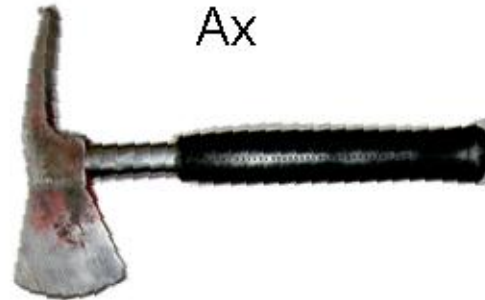
6 6:47PM

Forest fire suppression tools

Blowing apparatus



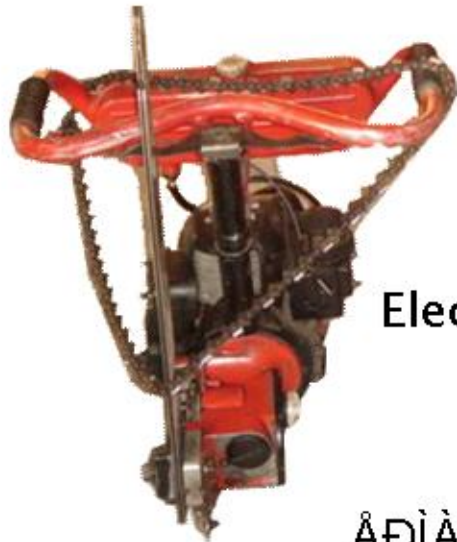
Ax



Shovel



Electrical saw



Small shovel



АДИА-18 L Russia



Water can 15 L





Thank you again

WELCOME TO MONGOLIA