



**Expert Consultation Meeting on NEASPEC activities in the field of
Transboundary Air Pollution in North-East Asia**

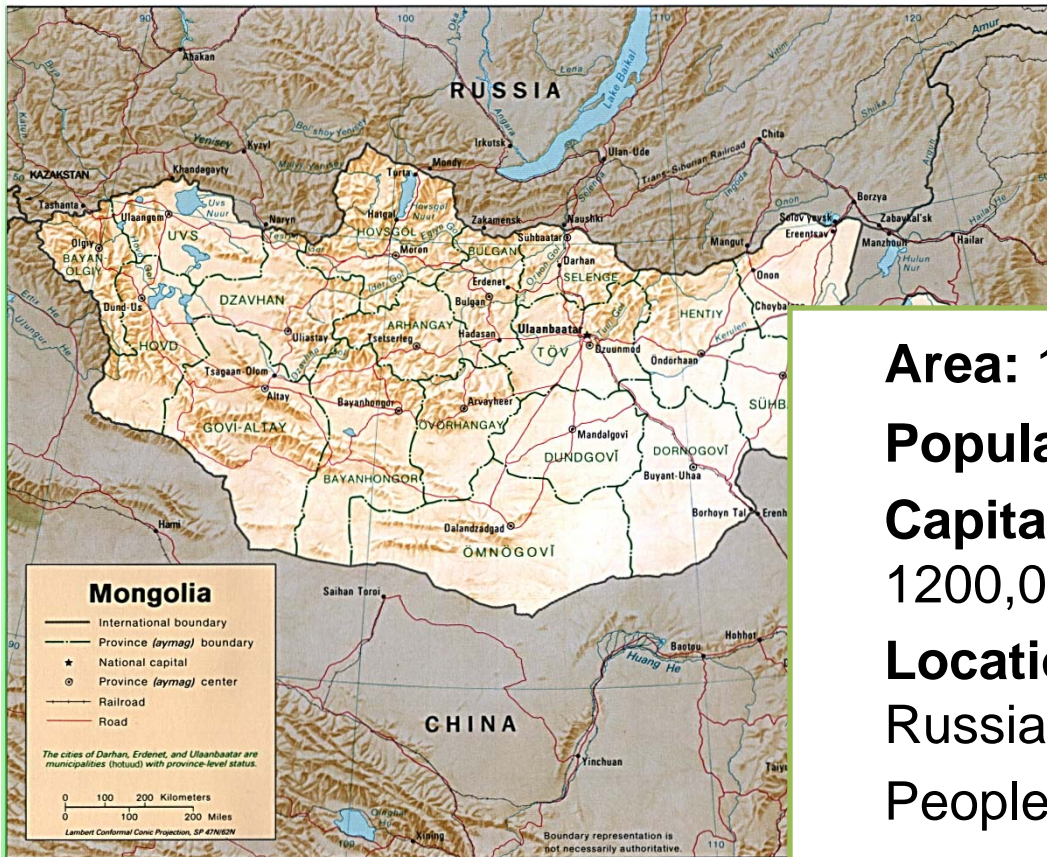
**RESULTS OF ENVIRONMENTAL IMPACT
ASSESSMENT OF AIR POLLUTION IN
MONGOLIA**

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20-21 Jan 2011, Incheon, Republic of Korea



Introduction



Area: 1,565,000 sq. km

Population: 3,000,000

Capital: Ulaanbaatar (population: 1200,000)

Location: Landlocked between the Russian Federation and the People's Republic of China.

Life style: Nomadic civilization up to now in the classic form but more than a half of its population live in cities.



Mongolia, Climate

- Mongolia's climate is extremely continental, with long cold, dry winters and short warm summers.
- Winter usually lasts from mid-November until April, with the coldest period being between mid-December and the end of February or mid-March when the temperature drops to -20° or -30° C and occasionally even lower. There are some regions, especially in the north-west, where the temperature goes down to -40° to -50° C. In summer it reaches to 20° - 30° C.
- Humidity is generally low (47-73%), especially in winter, and because of the dryness the cold is less noticeable.
- Precipitation – 300mm per year.



Law and standards

Law on Air / in 2010/

Law on Payment of Air pollution /in 2010/

Law on Auto transportation /in 2006/

National program of New rebuilding /in 2010/

Air quality, General requirement MNS 4585:2007

Air pollutant emissions from automobiles (engine with petrol), standard measurement and method of measurement, MNS 5013 : 2003

Air pollutant emissions from automobiles (engine with diesel), standard measurement and method of measurement, MNS 5014 : 2003



150.000 automobiles



167.000 traditional and private houses

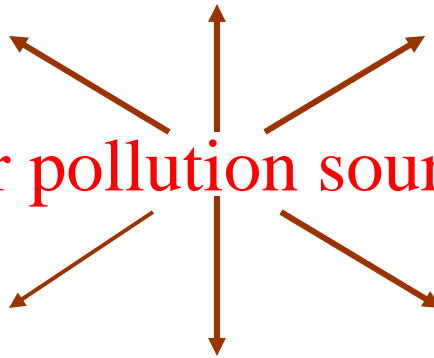


3 Thermal power plants and 1.400 HOBs



Auto service area

Air pollution sources



Petrol station /fuel/ area



Scraphoper



Roadways in ger area



Dust (storm, flood out, soil erosion etc.)

Air pollution, winter



Clean air



In the afternoon 13⁰⁰

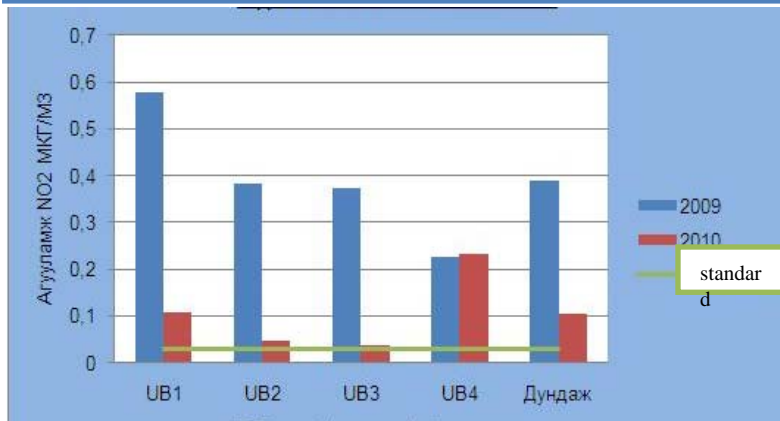
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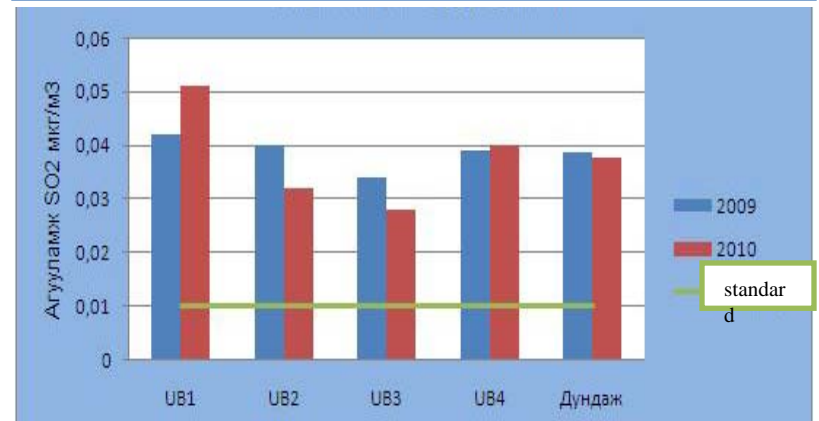
Air quality of UB city

(November of 2009-2010year)

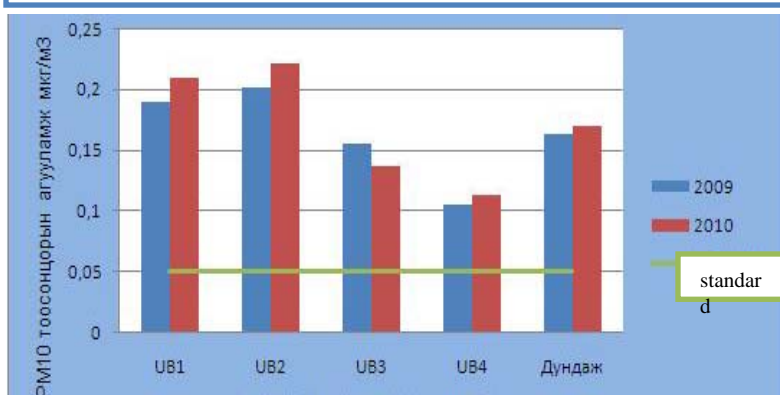
Volume contained NO₂ mkg/m³



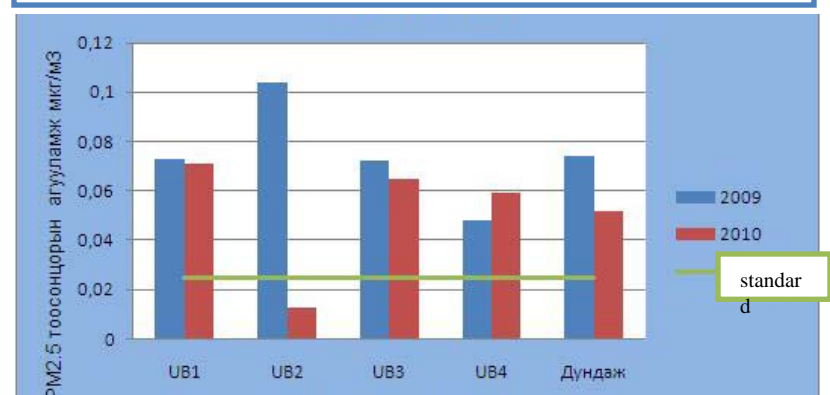
Volume contained SO₂ mkg/m³



Volume contained Dust PM10 mkg/m³

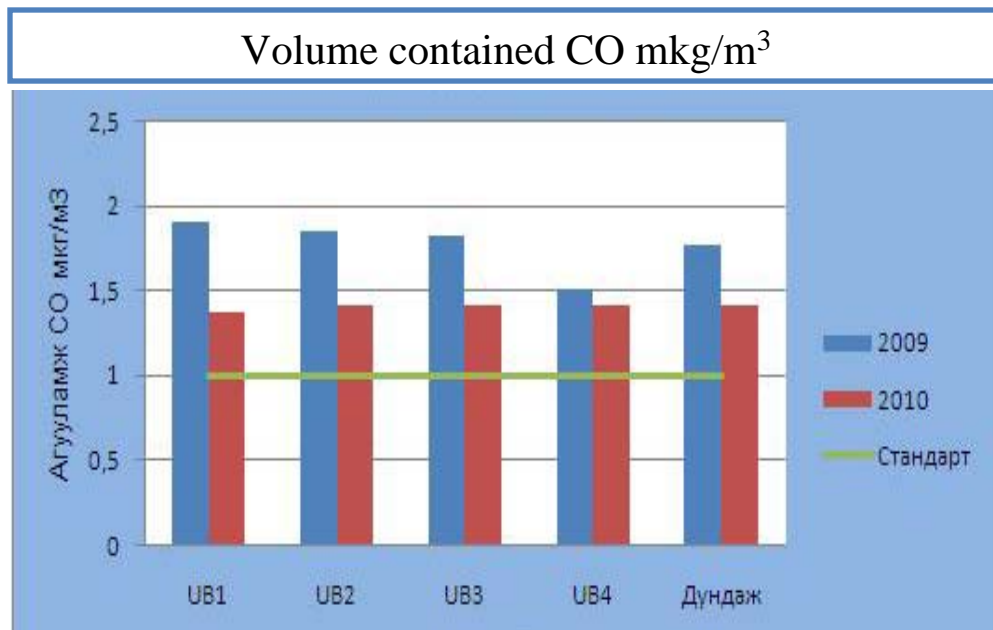


Volume contained Dust PM 2.5 mkg/m³





Measurement results

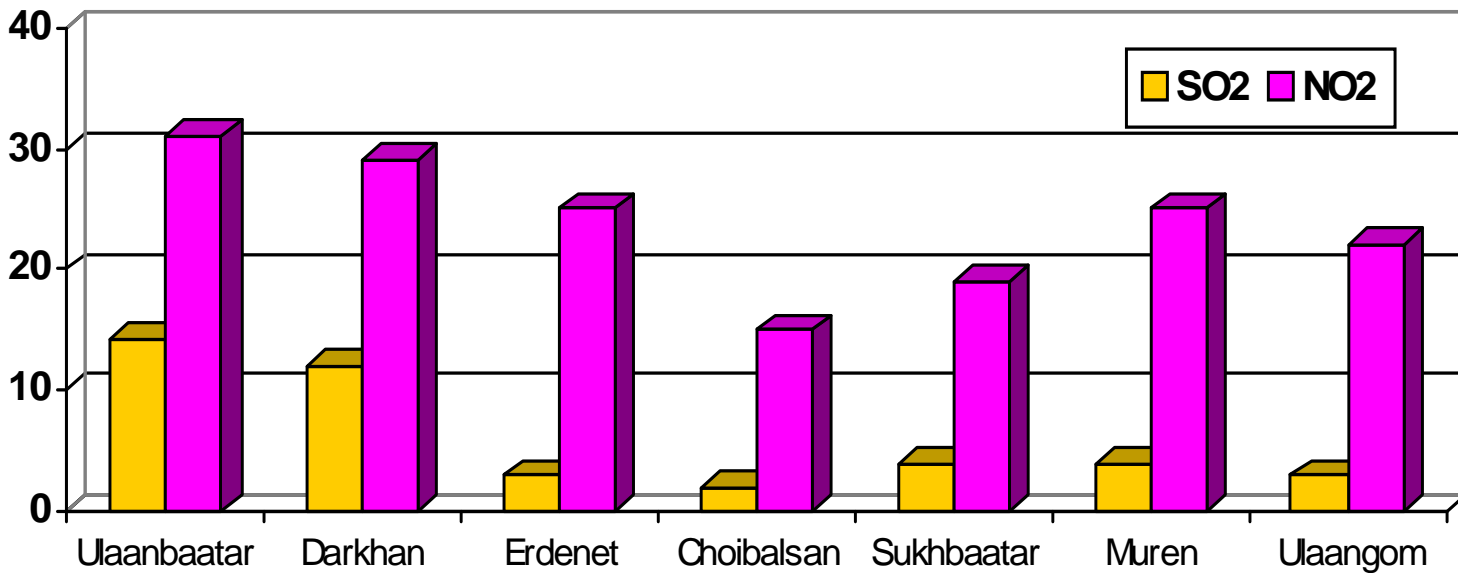


November of 2009-2010 year

- NO_2 -2,4 more times
- SO_2 -5,1 more times
- PM_{10} 2.2 more times
- $\text{PM}_{2,5}$ 1.5-2 more times
- CO 1.5-1.9 more times



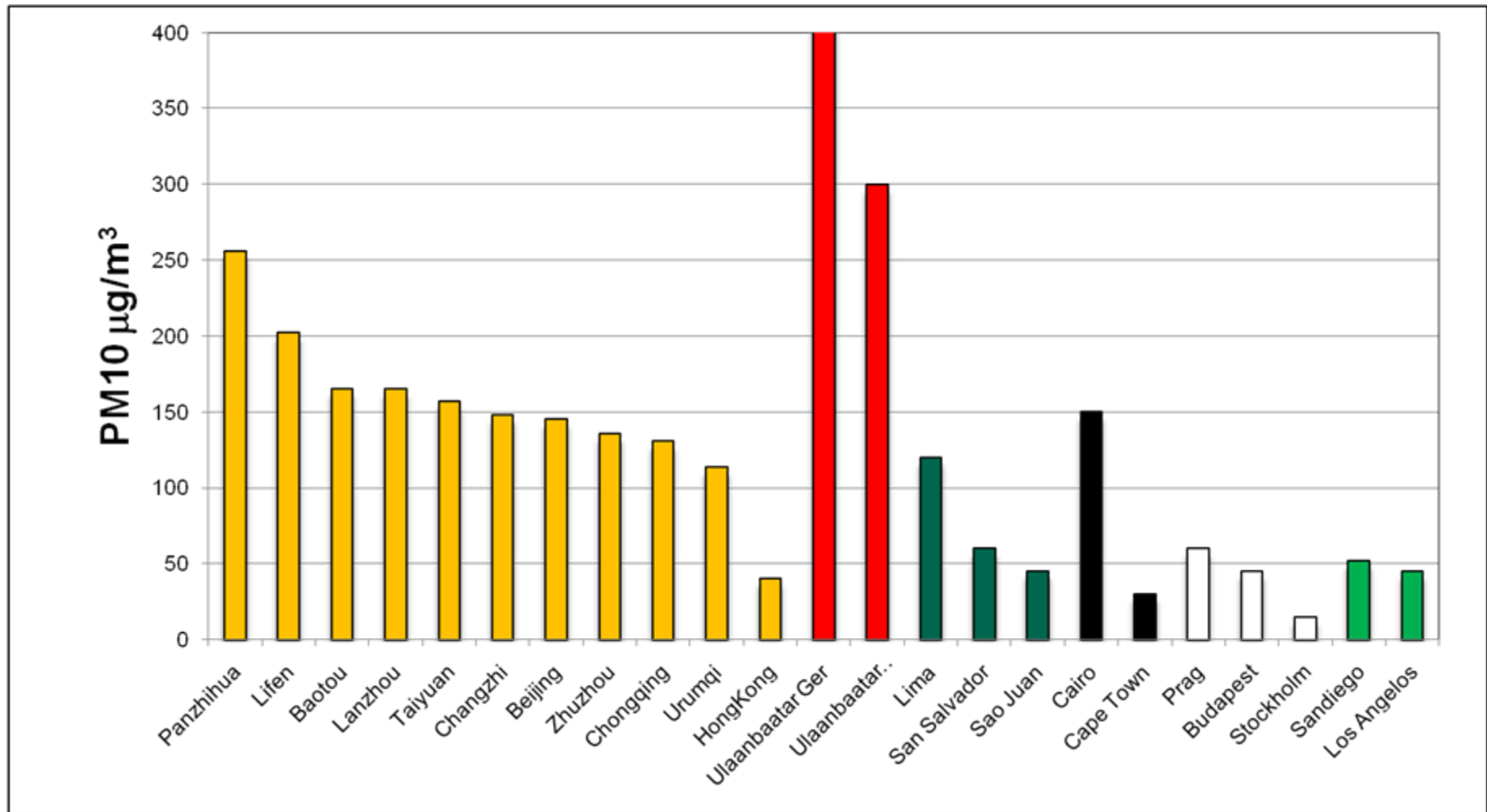
Air quality of major cities



Annual average concentration of air pollutants for selected cities, $\mu\text{g}/\text{m}^3$

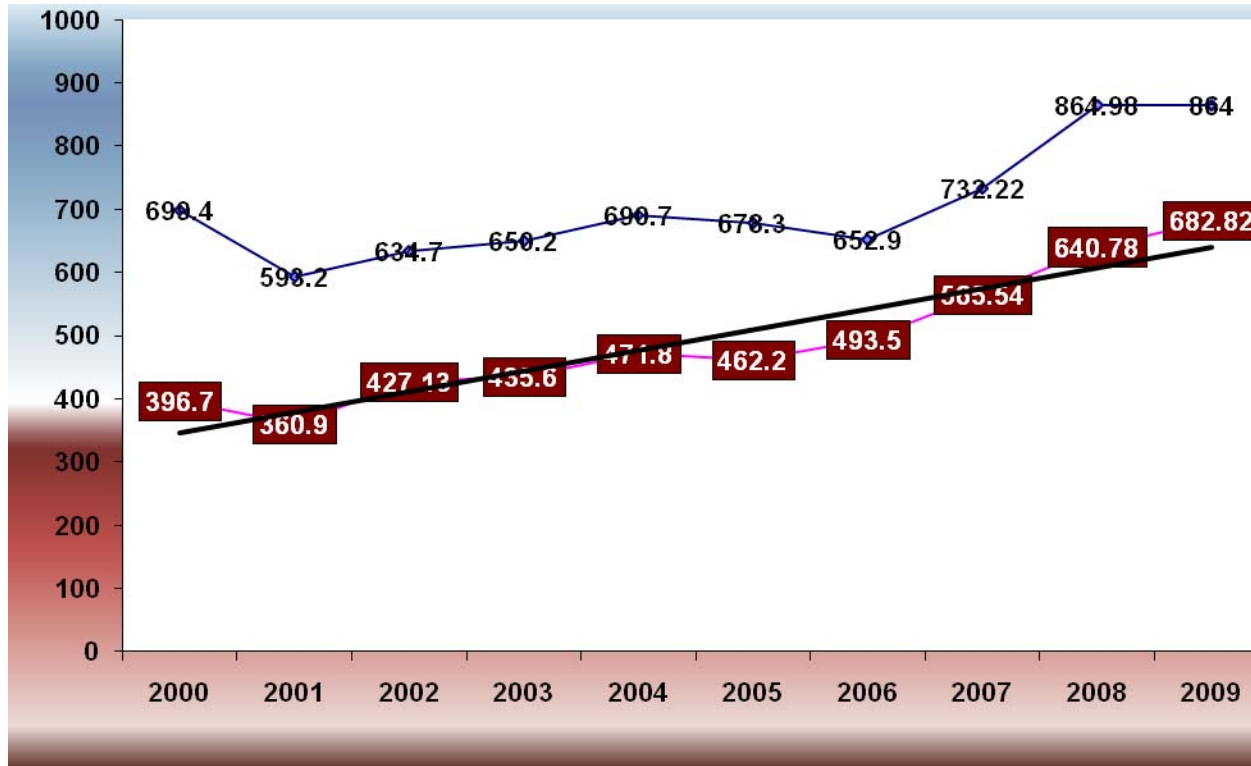


PM₁₀ concentrations in Chinese cities (2003-04) compared to other cities around the World (2003-04) and Ulaanbaatar (2008-09)





Breath disease from Air pollution of UB city /2000-2009 year/

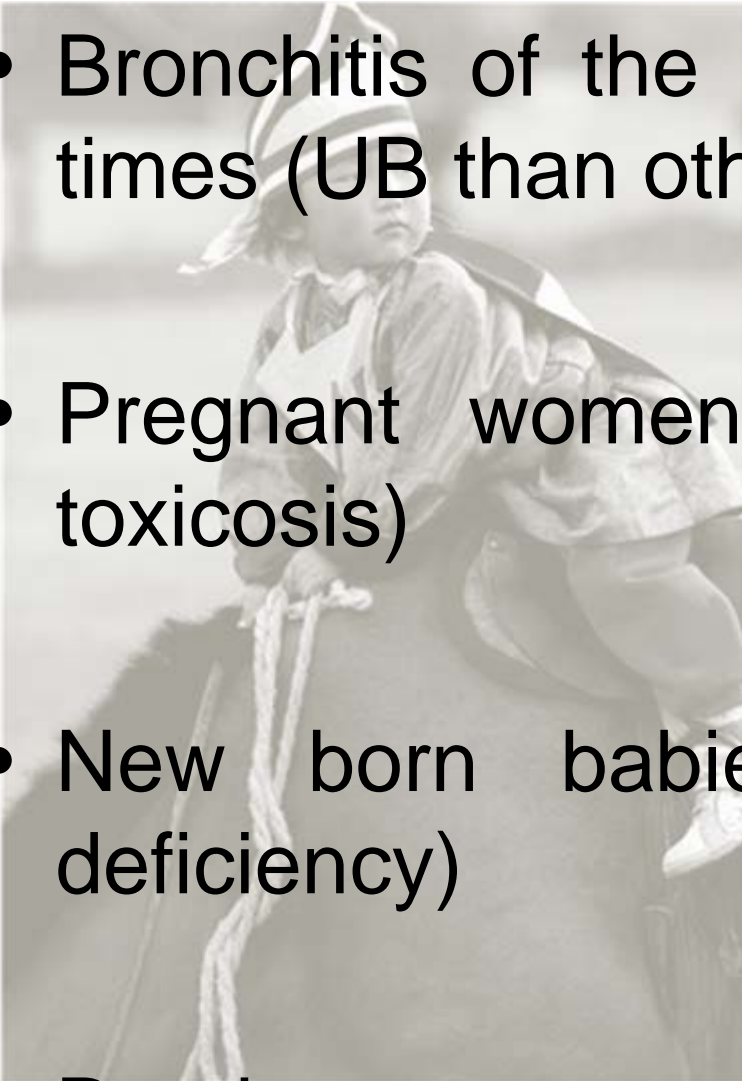


- Breath disease 2000-2009 year 1.2 more times
- Blood circulating disease 2000-2009 year 1.72 more times



Sickness rate

- Bronchitis of the Children-1.4-2.7 more times (UB than other cities)
- Pregnant women (20-27%- pregnancy toxicosis)
- New born babies (3.2-36%- oxygen deficiency)
- Death rate reason (45-60%- of oxygen deficiency)



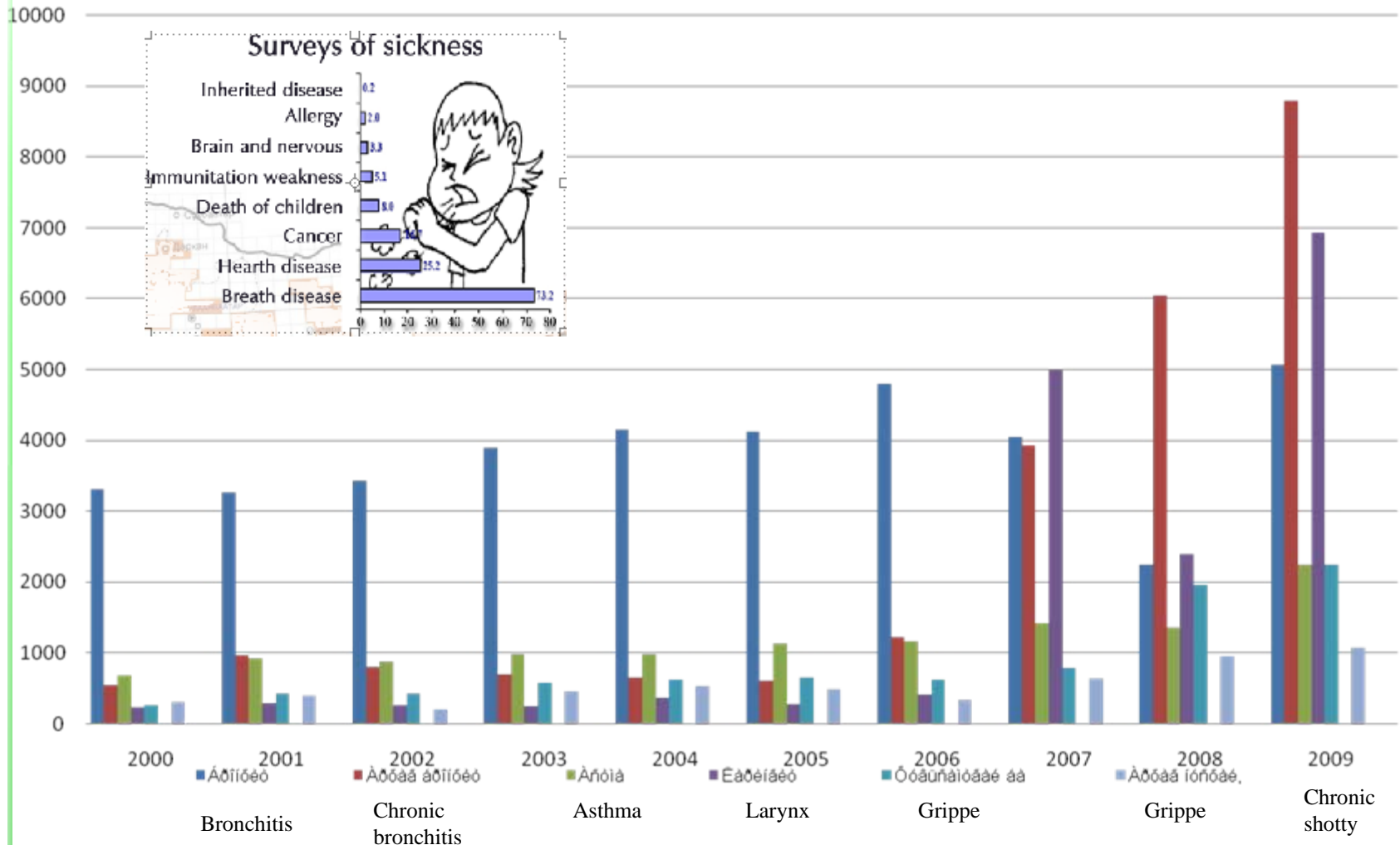


- Bronchitis -1.52 more times
- Asthma -3.3 more times
- Other disease -2 more times





Surveys of sickness





Transboundary Environmental Problems

- Desertification and land degradation
- Deforestation relating transboundary fire
- Pollution of Transboundary Rivers
- Yellow Sand Storms
- Cumulative impacts of mining and other industries locating in the border zones
- Transboundary transport of coal, oil and other mineral production
- Migrotary species: Birds, gazelle, wild camel

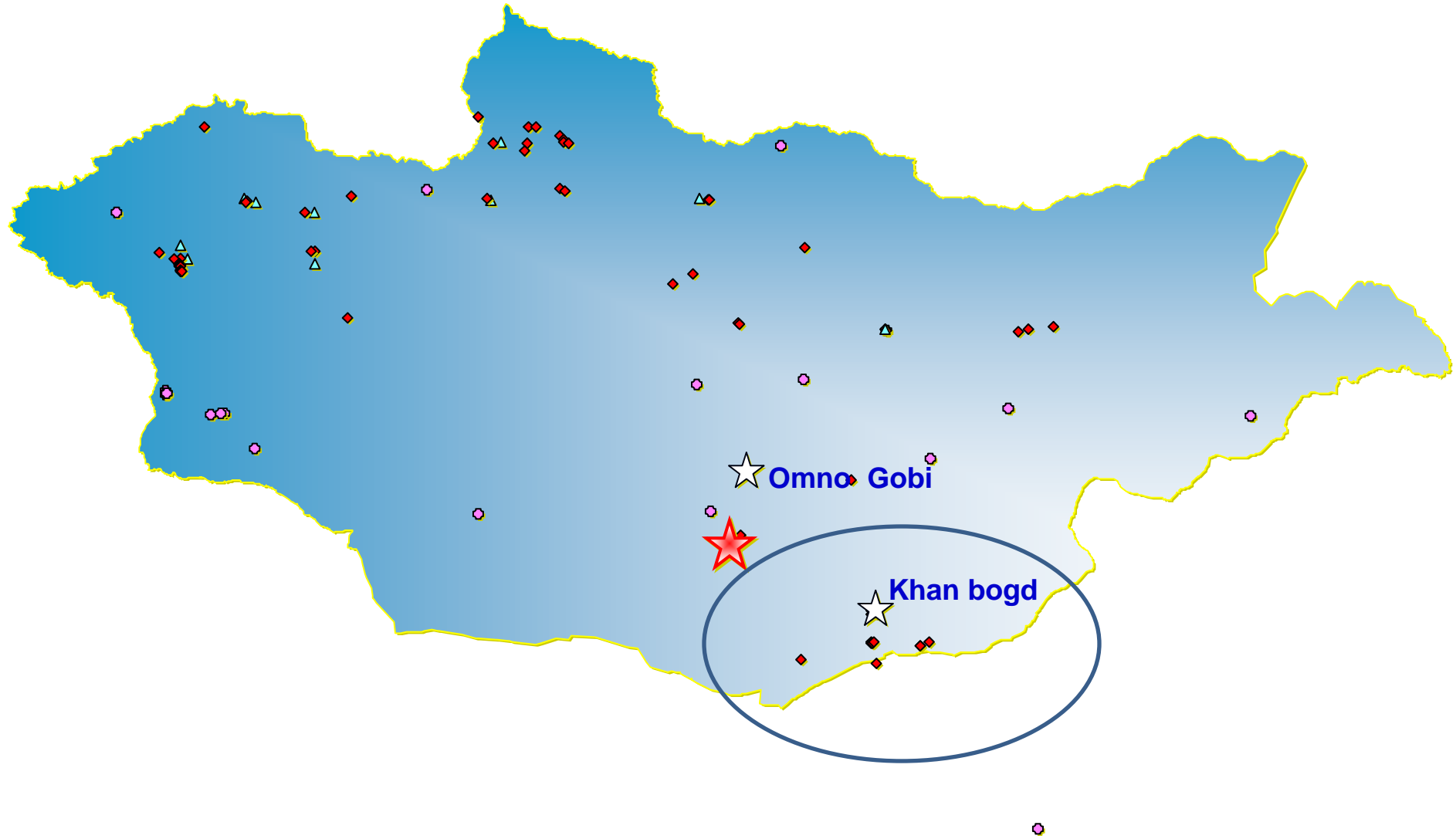
Desertification

More than 40% of the territory are arid and deserted

- 70% degraded at certain rate
- 90 % of the total territory are subject to desertification.
- Mining activities, improper as well as illegal logging.



Mining locations in border zone





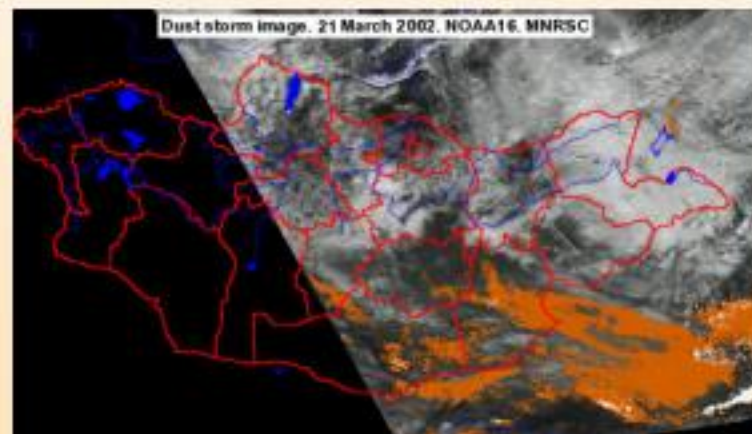
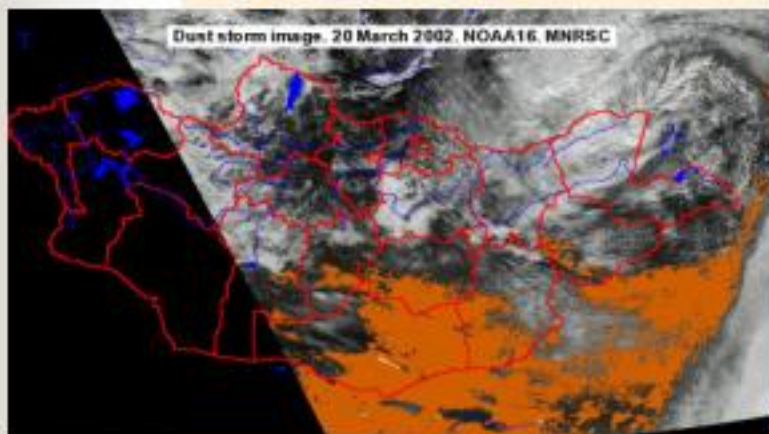
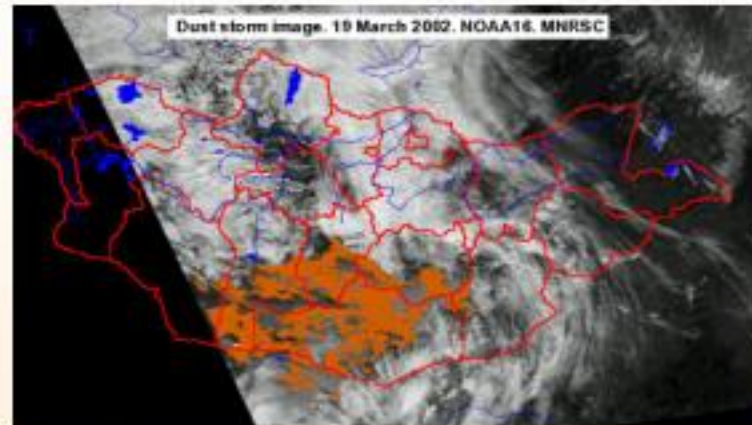
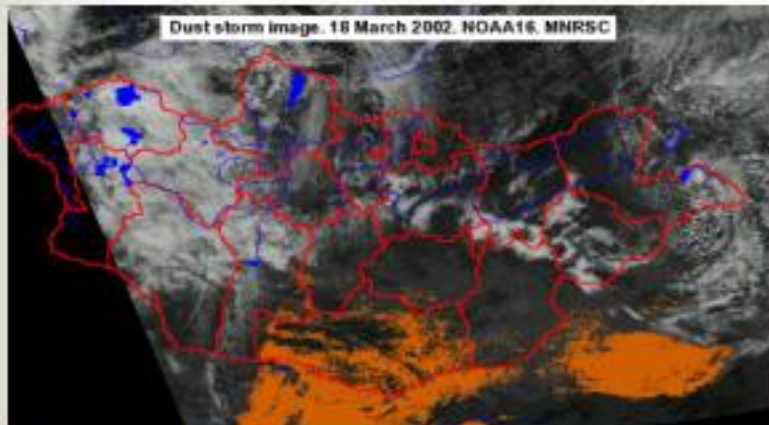
Yellow dust storm of Gobi





NATURAL DISASTER - STRONG DUST STORM

2002.03.18 – 03.21



20 aimag

Wind speed > 16m/s: 217 soum
> 28m/s: 31 soum

Maximum Duration: 68 hours

Losses:

3 person

53000 livestock

2.1 billion tugrigs



Thank you for your attention

**Welcome to country of Nomadic
Legends-Mongolia**