



GOVERNMENT OF
MONGOLIA

MINISTRY OF
CONSTRUCTION AND
URBAN DEVELOPMENT

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Land Affairs Coordination and Policy Implementation
Ministry of Construction and Urban Development, Mongolia

Supporting the formulation and implementation of spatial plans through multilateral collaboration

Abu Dhabi, 2020

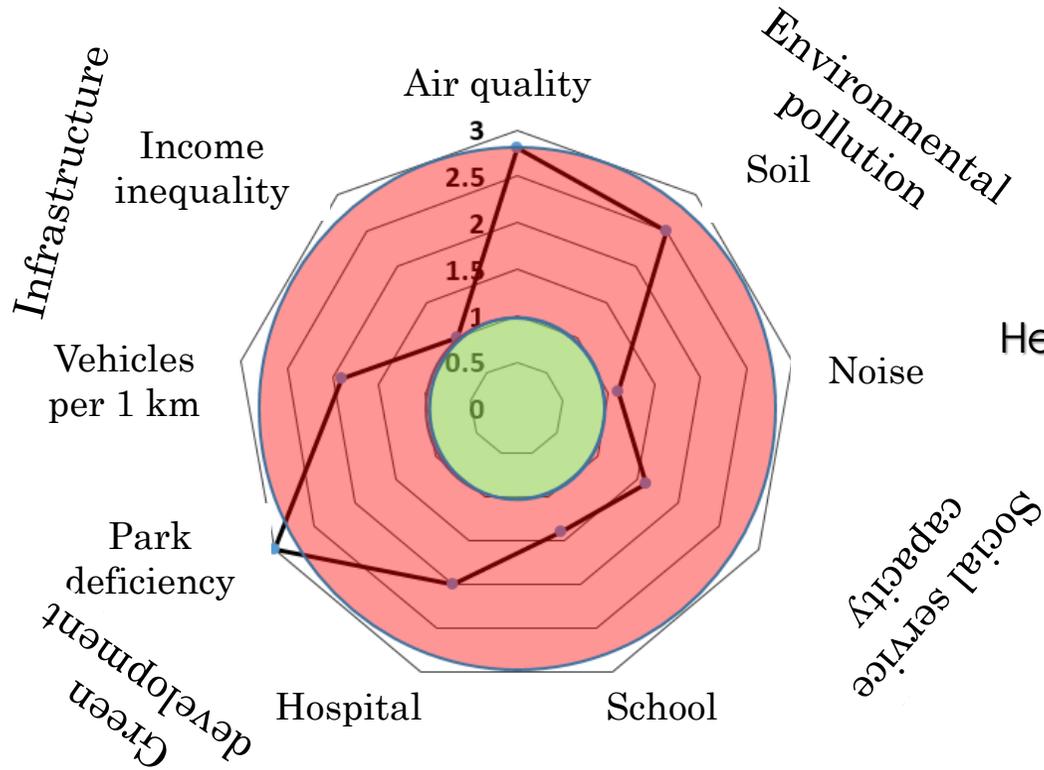


- Primacy of Ulaanbaatar
- Depopulation in Soum (county) with small population
- Human Settlement Plan for Spatial Plan and RDP for Socio-economic development
- Mongolian Economy: Mining, Livestock
- International Access to Russia and China for export and transit including border post
- New challenge is international air transport
- Utilization of promising locations; Border area, Urban hierarchy, Mining resources
- Spatial structure

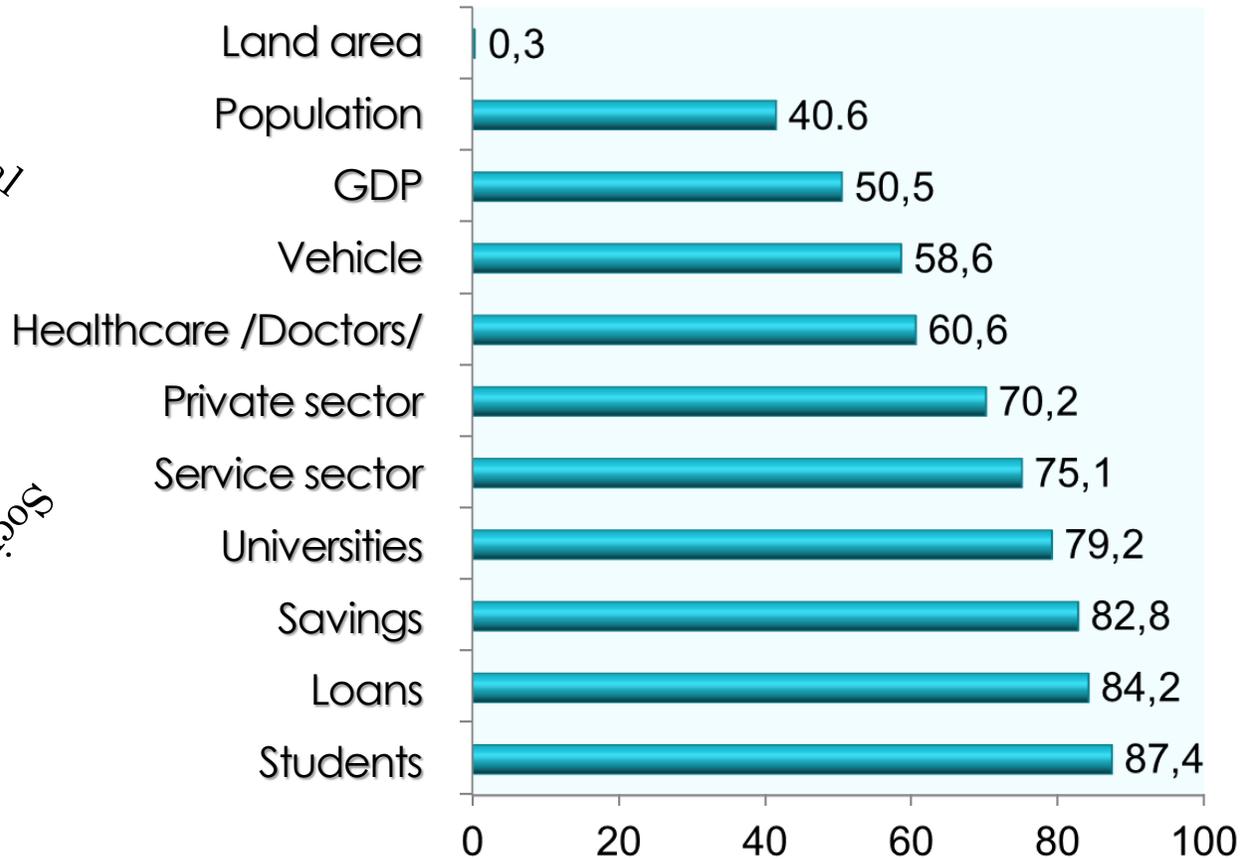


PRIMACY OF ULAANBAATAR

Ulaanbaatar city socio-ecological analysis



Ulaanbaatar city high concentration in national level percent

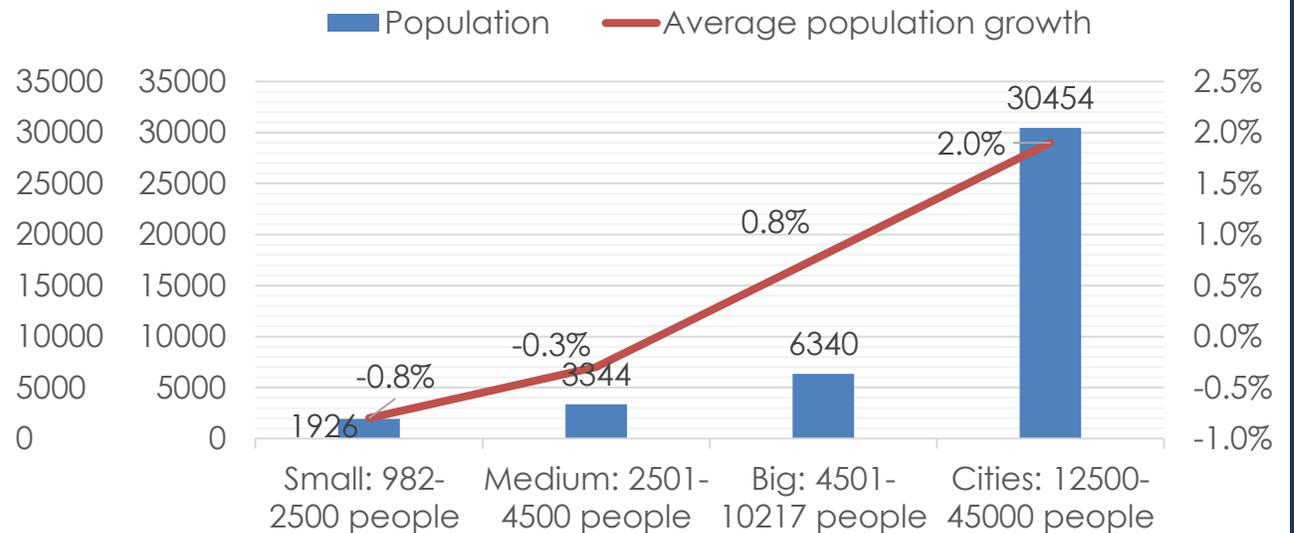
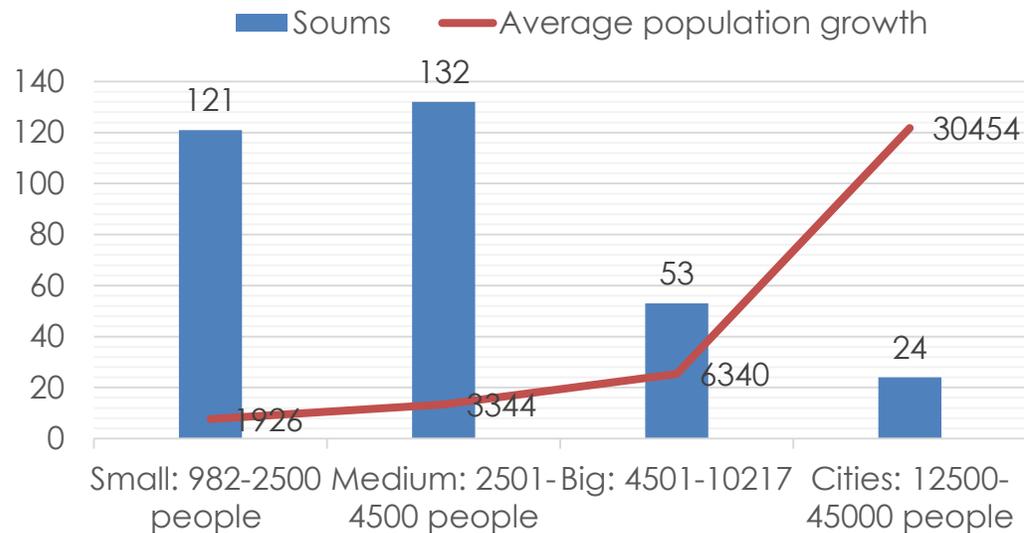




STRONG INFLUENCE TO PEOPLE IN SOUM (county) (NEGATIVE POPULATION GROWTH)

Settlements	Number	Population, thousands 2018	Population, thousands		Average growth 2001-2018
			2001	2018	
Small: 982-2500 population	121	1926	269.5	233.1	-0.8%
Medium: 2501-4500 population	132	3344	469.2	441.4	-0.3%
Big: 4501-10217 population	53	6340	302.5	336.7	0.8%
Cities: 12500-45000 population	24	30454	554.0	731.0	2.0%
Ulaanbaatar	1	1444600	781.2	14444.6	5.0%
Total	331	3186300	2386.6	3186.3	1.9%

- In medium and small soums population is decreasing compare to big soums and cities.
- Decreasing rate in towns close to big cities and capital is more rapid which shows a pulling effect of big urban areas.

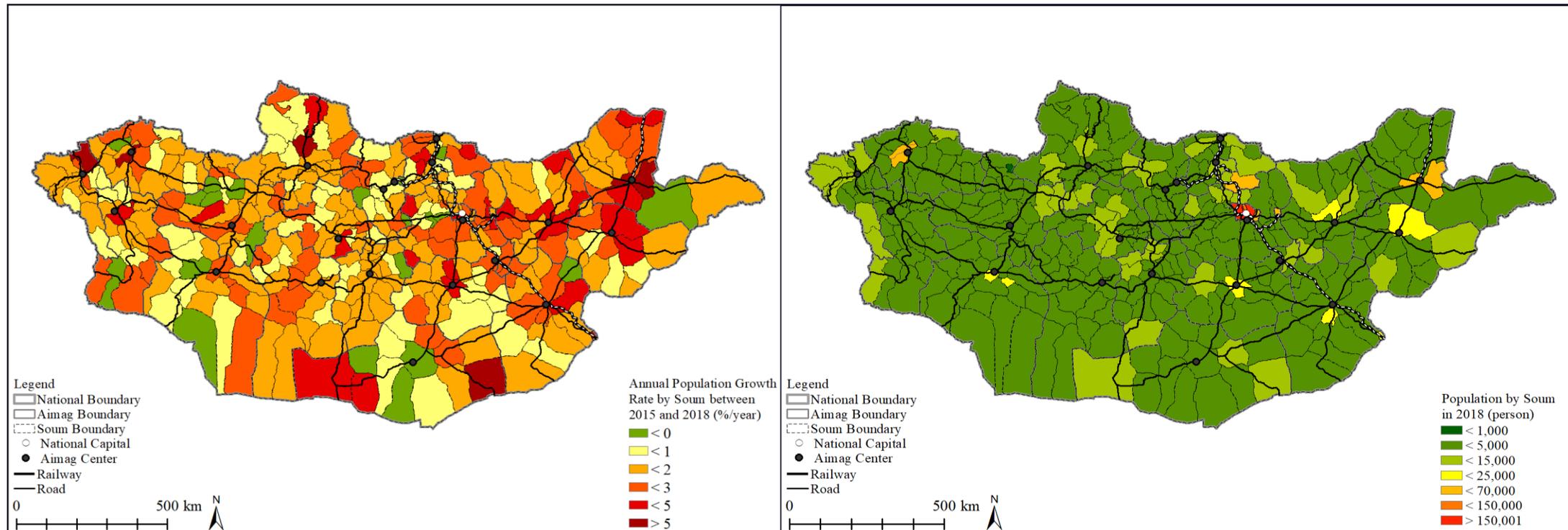




LOW POPULATION DENSITY AND ANNUAL GROWTH RATE

Annual Growth Rate during 2015-2018

Population Density in 2018





CHALLENGE BY HSP & RDP

Human settlement
concept

Regional development
concept

Interrelated, complemented each other and independently
could not be realized

Basic sense and type of concept

- The core of the concept is to provide a sustainable and convenient human settlement policy
- Nation wide spatial planning policy
- Reducing the natural and technological disaster risks
- Human settlement through the natural resources
- Appropriate human oriented infrastructure planning
- Balanced development level of urban and rural area
- Providing a basic public services in settled areas
- Consistent with the National comprehensive development plan

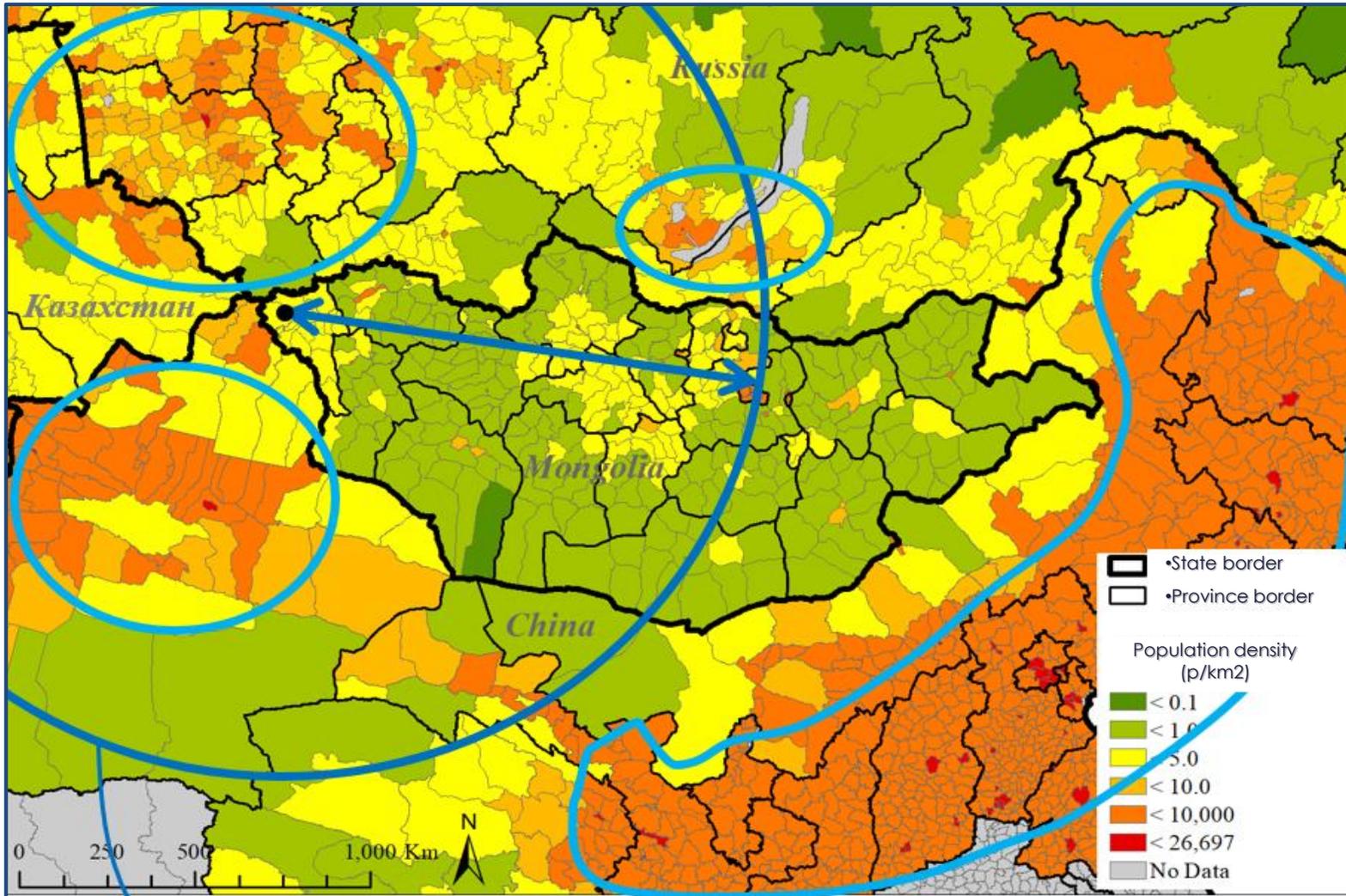
Basic sense and type of concept

- The core of the concept is to provide a sustainable economic growth
- Nation wide economical planning policy
- To provide national spatial economic extension
- Economical planning through the capacity resources
- Infrastructural planning to support the regional economic growth
- Regional development through the clustered development concept
- Ensuring the public participation in economy in order to provide an equal capability and distribution
- Contained a sustainable, green development concept

National urban development policy
Will be justified

IMPORTANCE TO CREATE INTERNATIONAL LINK

Population density of Mongolia and neighboring countries

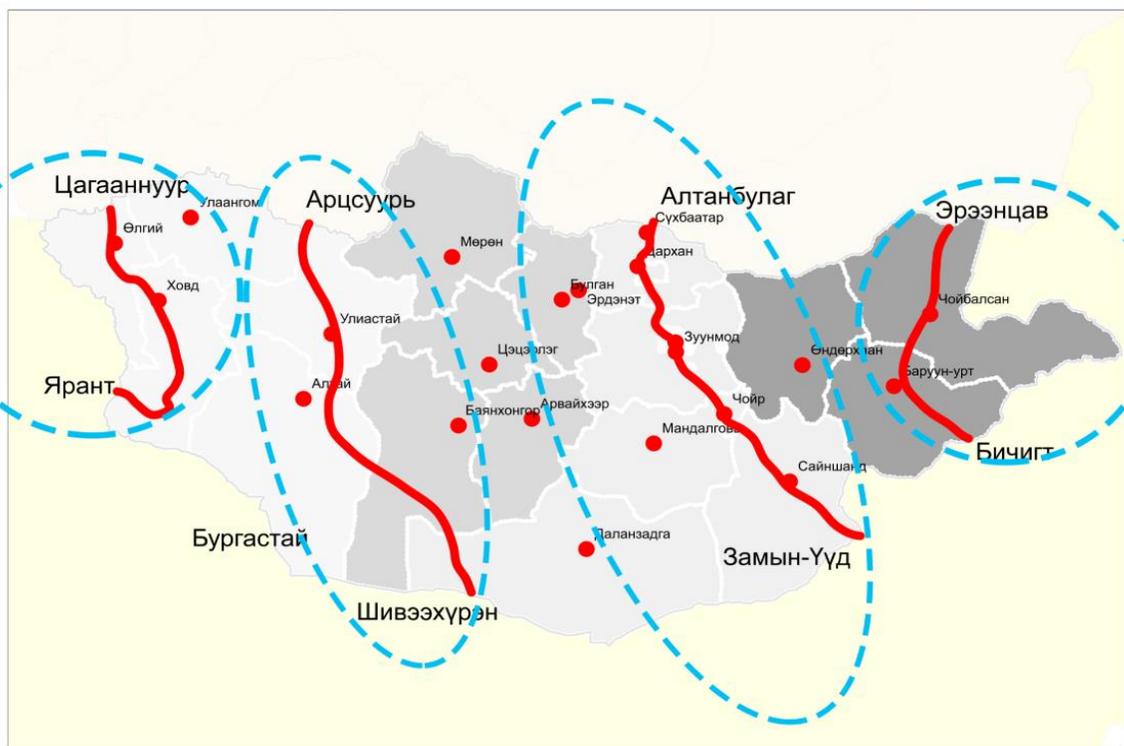




IMPORTANT ROUTES IN MONGOLIA

- The development of foreign trade and economy with the construction of roads and infrastructure is an illusion. Tsagaannuur-Khovd-Bulgan vertical axis is about to be completed, but has little impact on freight traffic of 3 provinces and 2 countries. You can also call the Choibalsan-Ereentsav railway. Therefore, it is necessary to develop the vertical axes, which will determine where the products will be supplied to whom and for how long.
- Our priority is to rank develop vertical axes of the economic corridor initiative connecting Asia to Europe.
- To accommodate foreign economic relations with the development of the regions

Location of vertical axes and exits



Assessment of vertical axes

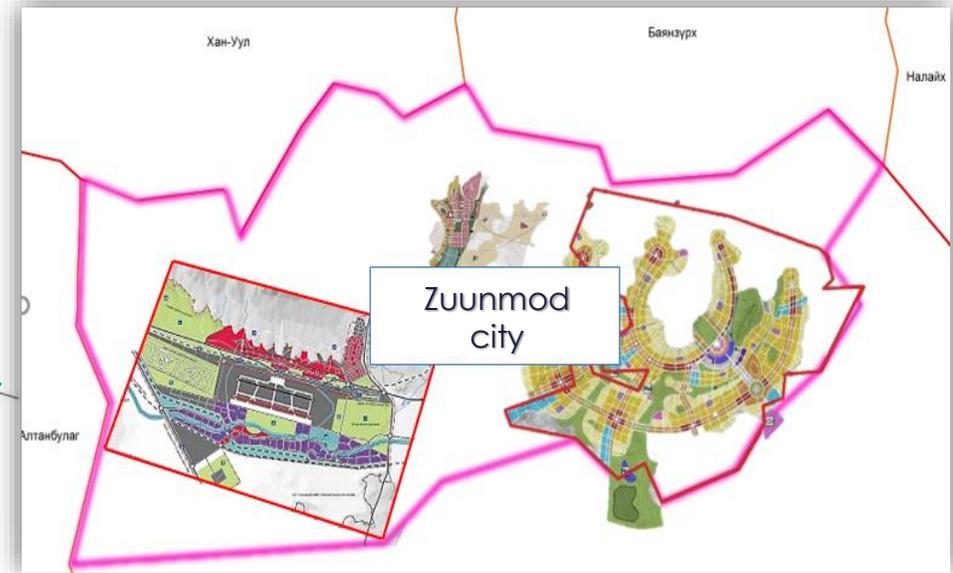
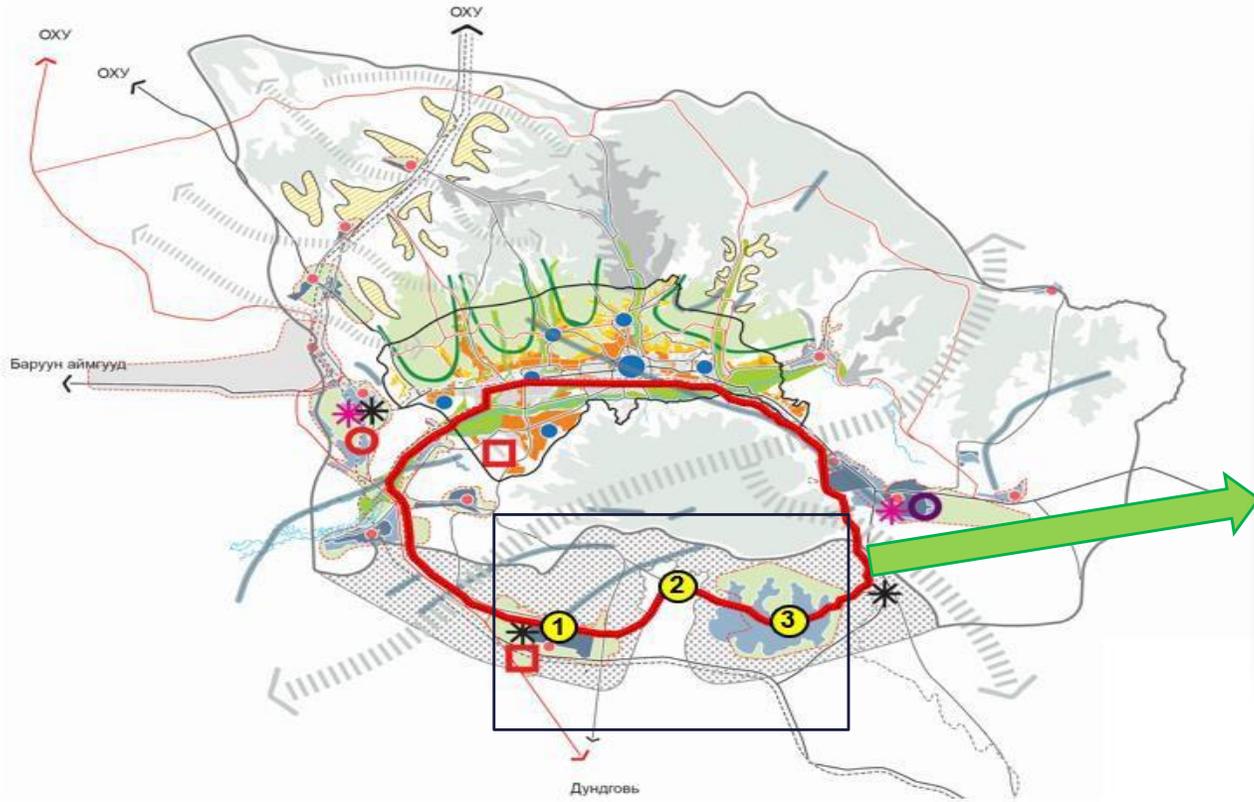
	Цагааннуур-Ховд-Булган	Арцсуурь-Бургастай	Арцсуурь-Шивээхүрэн	Алтанбулаг-Замын-Үүд	Эрээнцав-Чойбалсан-Бичиг
1. Дэд бүтцийн өнөөгийн байдал	Хатуу хучилтай автозамд холбогдсон ★	байхгүй	байхгүй	Авто болон төмөр зам ★★★	Төмөр зам, авто зам дутуу ★
2. Гадаад зах зээлд ойр байршил			★★★	★★★★	★
Газарзүйн нөхцөл өндөршлийн зөрүү	★	★	★★★	★★★	★★★★
3. Тээврийн ашиглалт	Хөшөөтийн нүүрсний экспорт Шинжаань руу ★	Говь-Алтайн Таянгийн уурхайн төмрийн хүдрийн экспорт		★★★★	★★★
4. Аюулгүй байдлын эрсдэл бага байдал		★	★★★★	★★★★	★★★
5. Хоёр хөршийн ашиг сонирхол	★	★	★★★★	★★★★	★★★★★
6. Усны нөөц			★★★		★
7. Хот байгуулалт					
8. Гадаад тээврийн гарц, боломж		★	★★★	★★★	★



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NEW CHALLENGE BY NEW INTERNATIONAL AIRPORT

(Aero city + Zuunmod + Maidar = comprehensive planning)



① 34.000 Pop
Aero city

- Economic free zone
- Air hub
- Advanced technology
- Logistical hub

② 70.000 Pop
Zuunmod

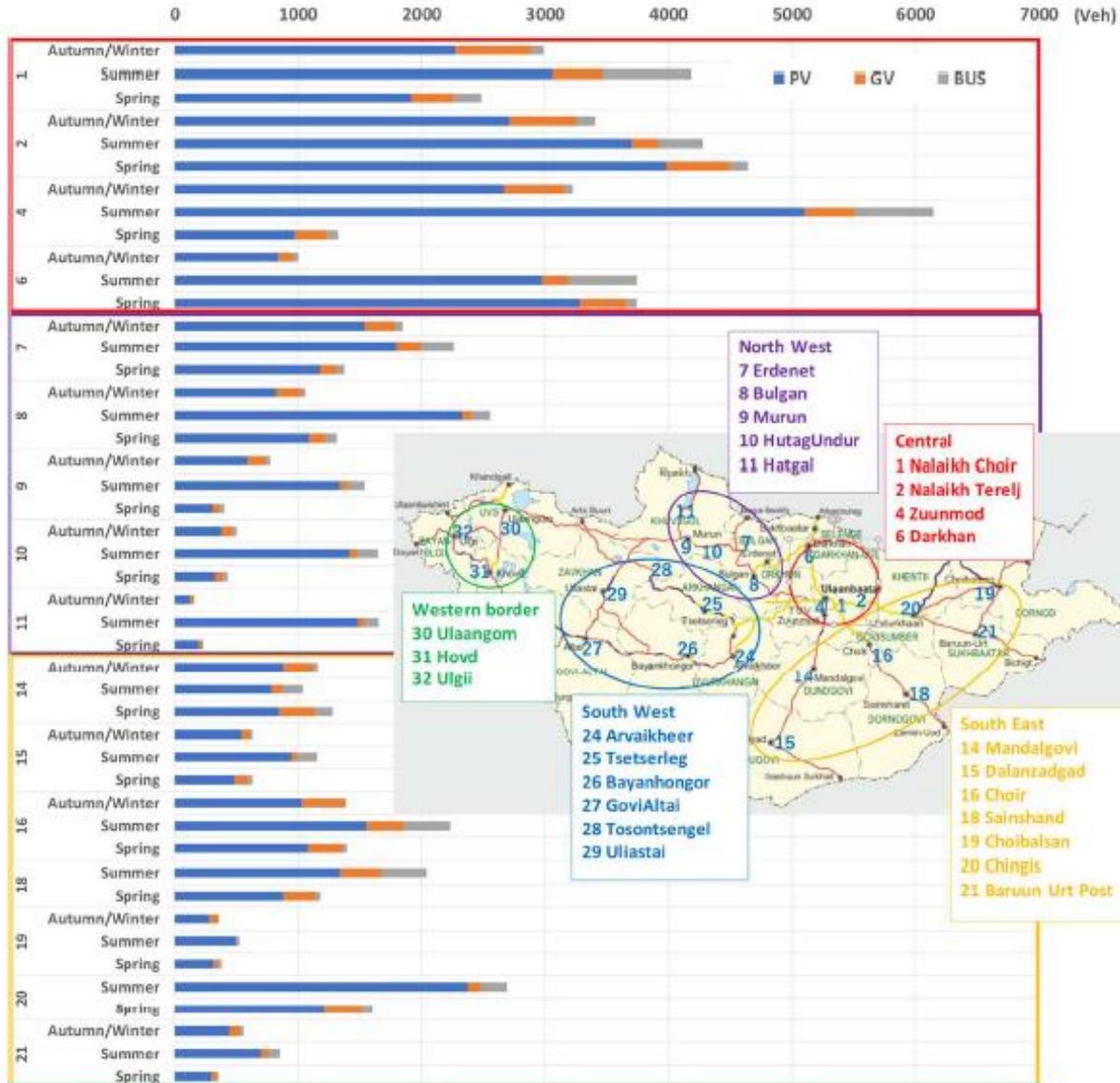
- Production
- Service

③ 300.000 Pop
Maidar city

- Eco city
- Tourism
- University town



TRAFFIC IS GROWING TO CENTRAL PART AND SOUTH (Counter traffic volume in 2019 (Seasonal & Regional summary))

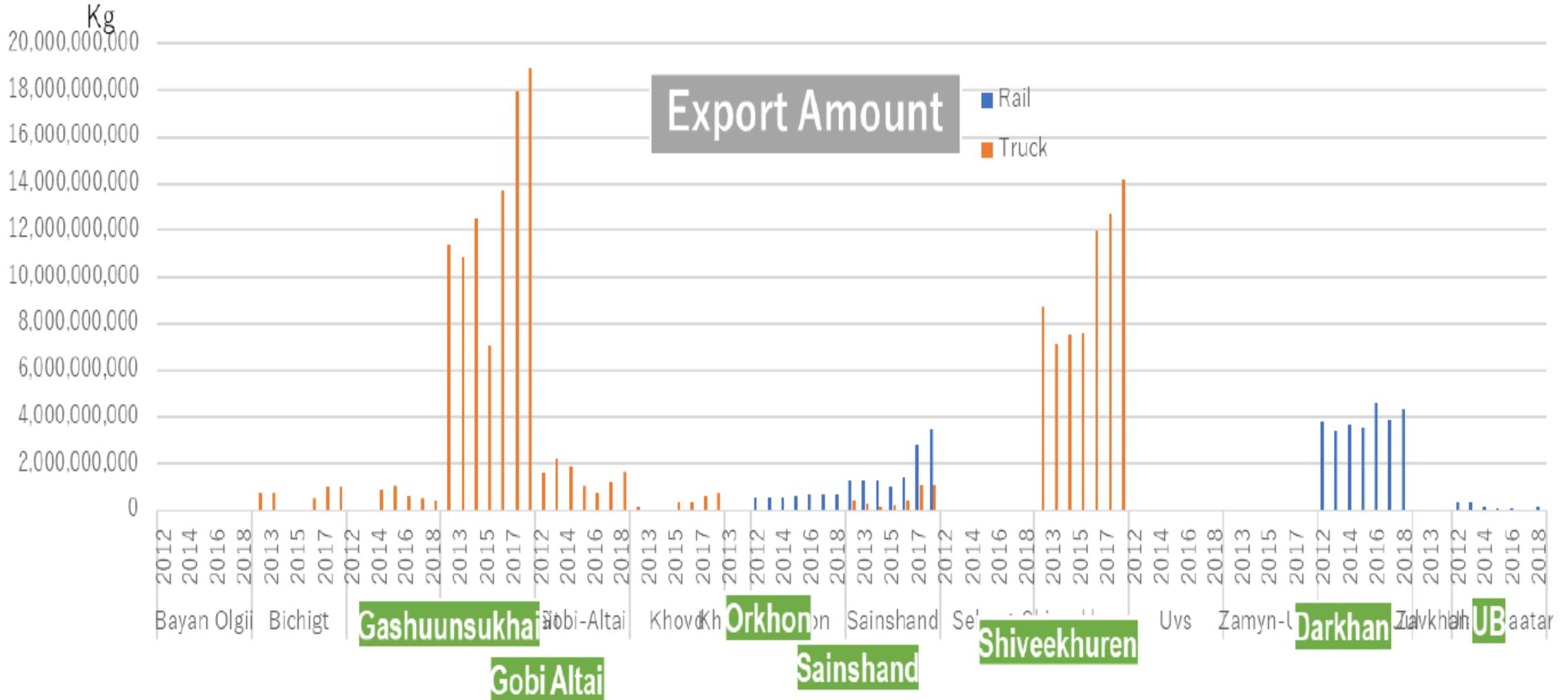


Large traffic volume at the following locations:

- >3,000: Bayankhongor
- >2,000: Khenti, Erdenet, Bulagan, Choir, Sainshand, Arvaikhaeer, Tsetserleg
- >1,000: Murun, Hutagundlur, Hatgal, Mandalgovi, Dalanzadgad, Tosontsengel, Uliastai
- <1,000: Govi-Altai, Ulaangom, Khovd, Ulgii



NEW EXPORT IS COMING IN SOUTH (Export amount by entrée location)

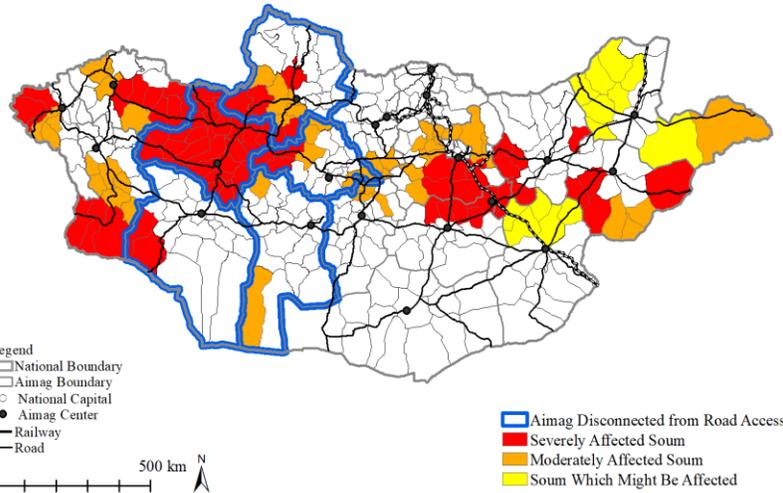


Large export amount at Gobi-Altai and Shiveekhuren



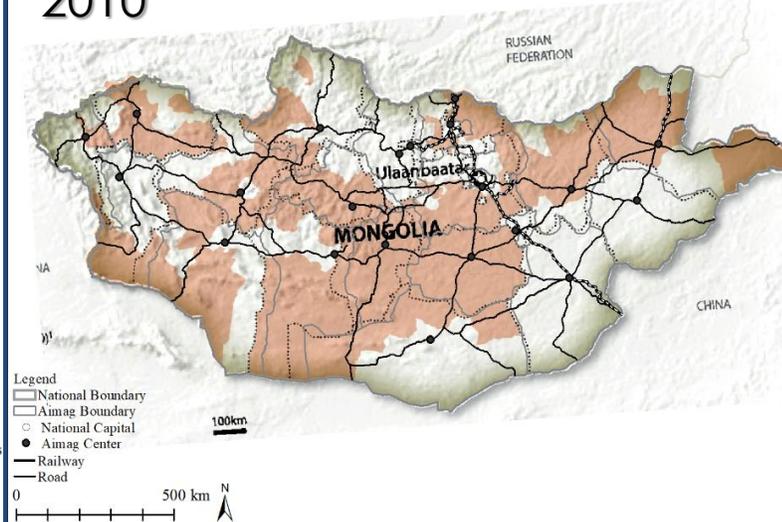
DZUD /SEWERE WINTER/ WAS CAUSE OF MIGRATION (Affected area of Dzungar)

2000



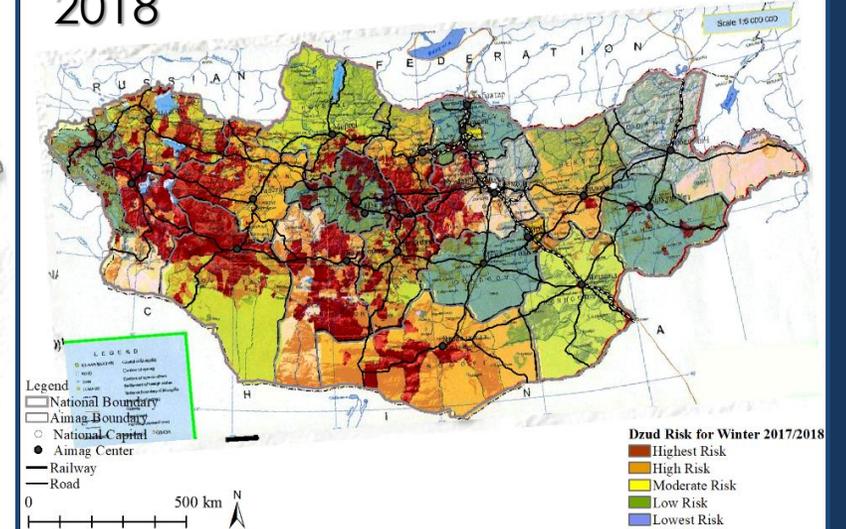
Source: Office of the Coordination of Humanitarian Affairs (OCHA), United Nations (UN) and JPT

2010



Source: OCHA, UN

2018



Source: International Federation of Red Cross and Red Crescent Societies



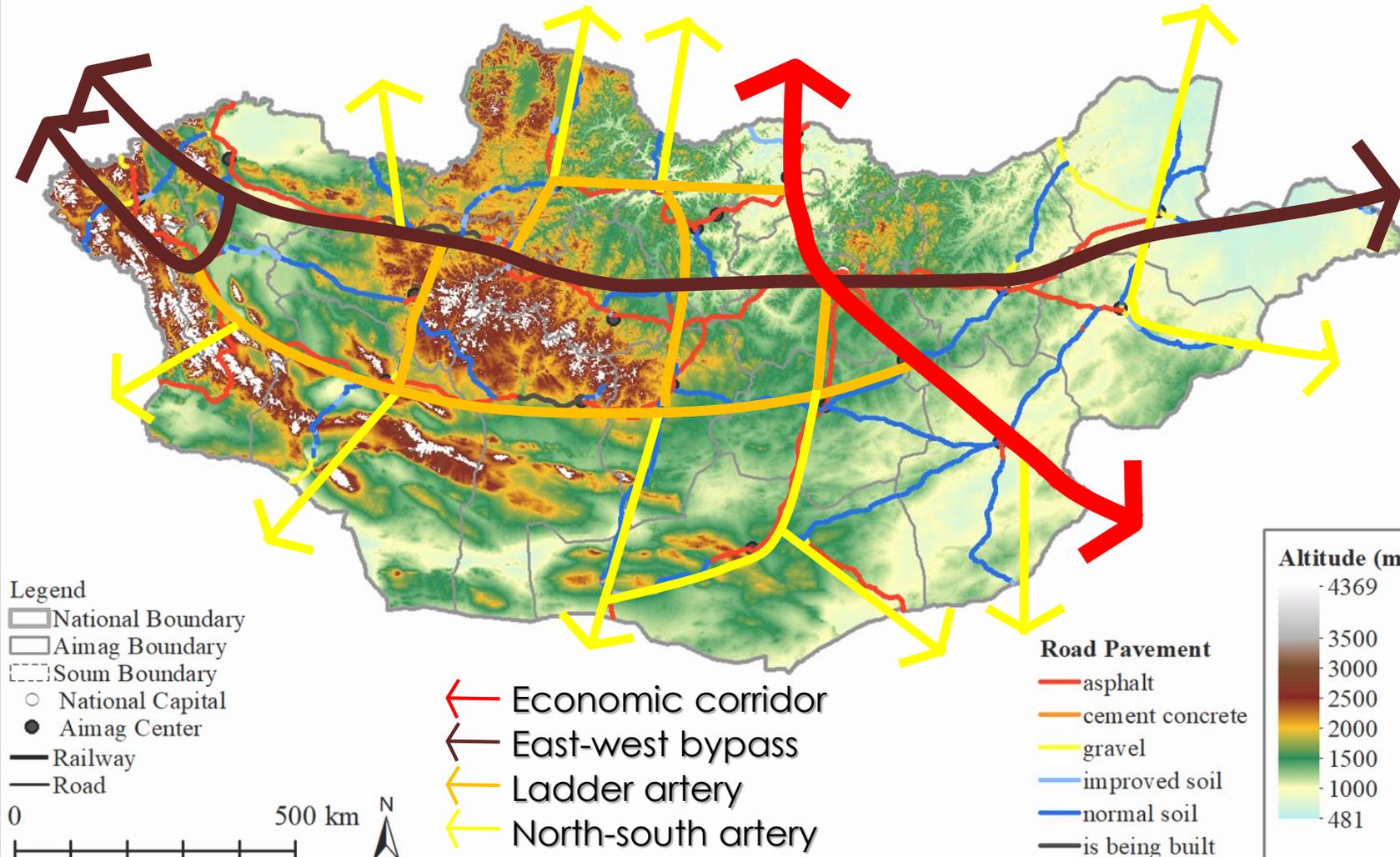
Road access to Khuvsgul, Zabkhan, Bayankhongor and Gobi-aitai was disconnected due to affects of Dzud in 2000.



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SECURING DOUBLE ACCESS FOR SECURITY & ECONOMIC CORRIDOR FOR ECONOMY

(Concept or Road Network Structure)



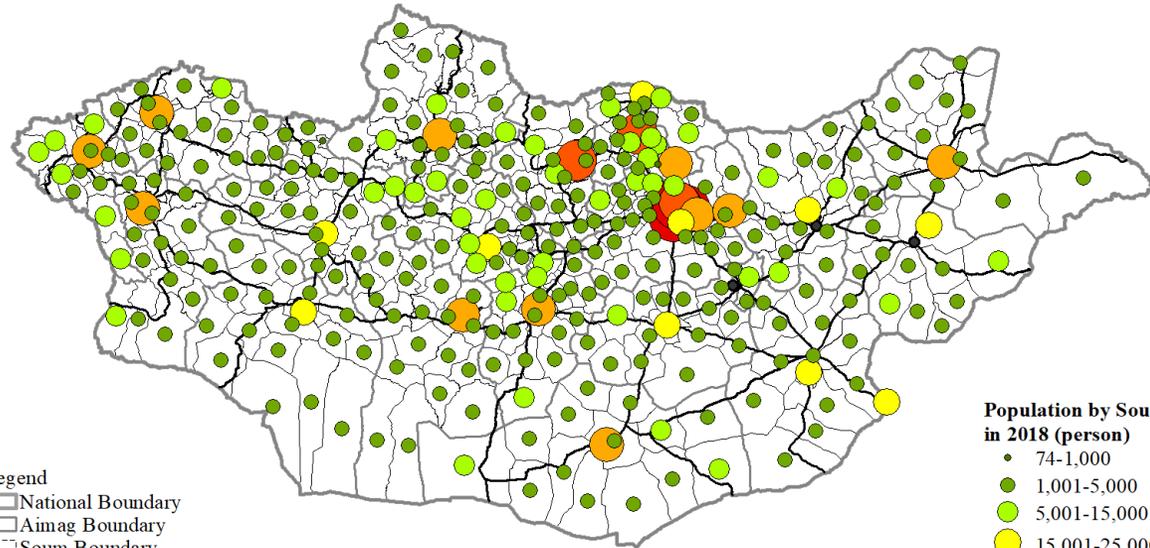
- Economic corridor
- East-west bypass: Shortest travel time from UB to Ulgii
- Ladder artery: Linkage of Aimag Center and disaster response
- North-south artery: International access



POPULATION WILL INCREASE IN CENTRAL, WEST & SOUTH

(Population size in 2018 and 2040)

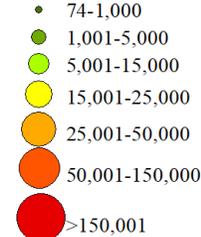
2018



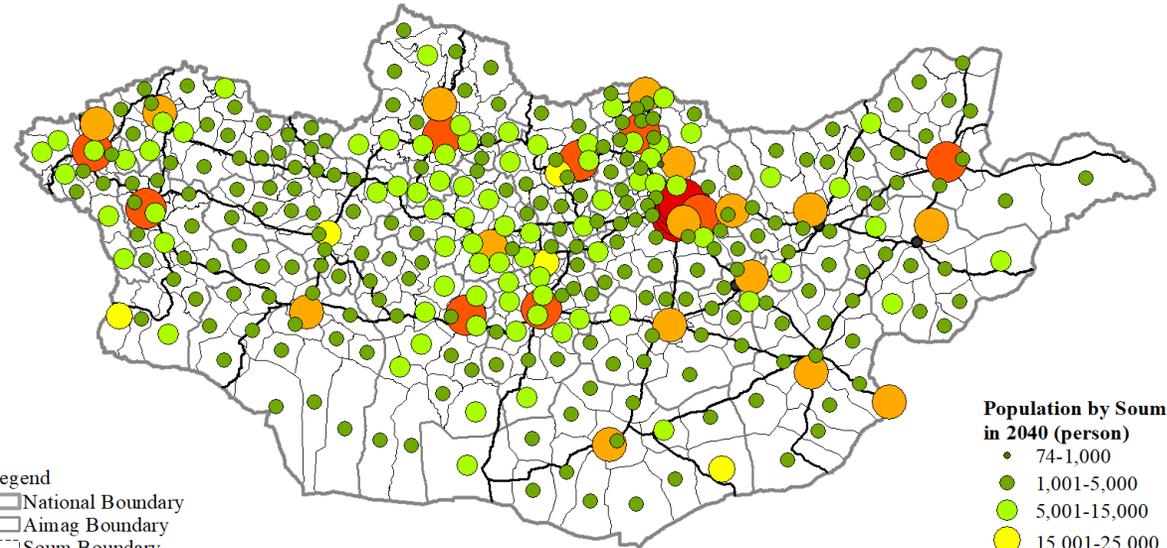
Legend
National Boundary
Aimag Boundary
Sum Boundary
National Capital
Aimag Center
Railway
Road

0 500 km N

Population by Sum
in 2018 (person)



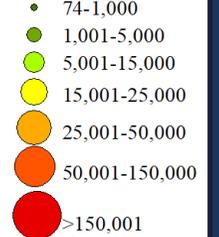
2040



Legend
National Boundary
Aimag Boundary
Sum Boundary
National Capital
Aimag Center
Railway
Road

0 500 km N

Population by Sum
in 2040 (person)



Source: NSO for 2018 and JPT for 2040

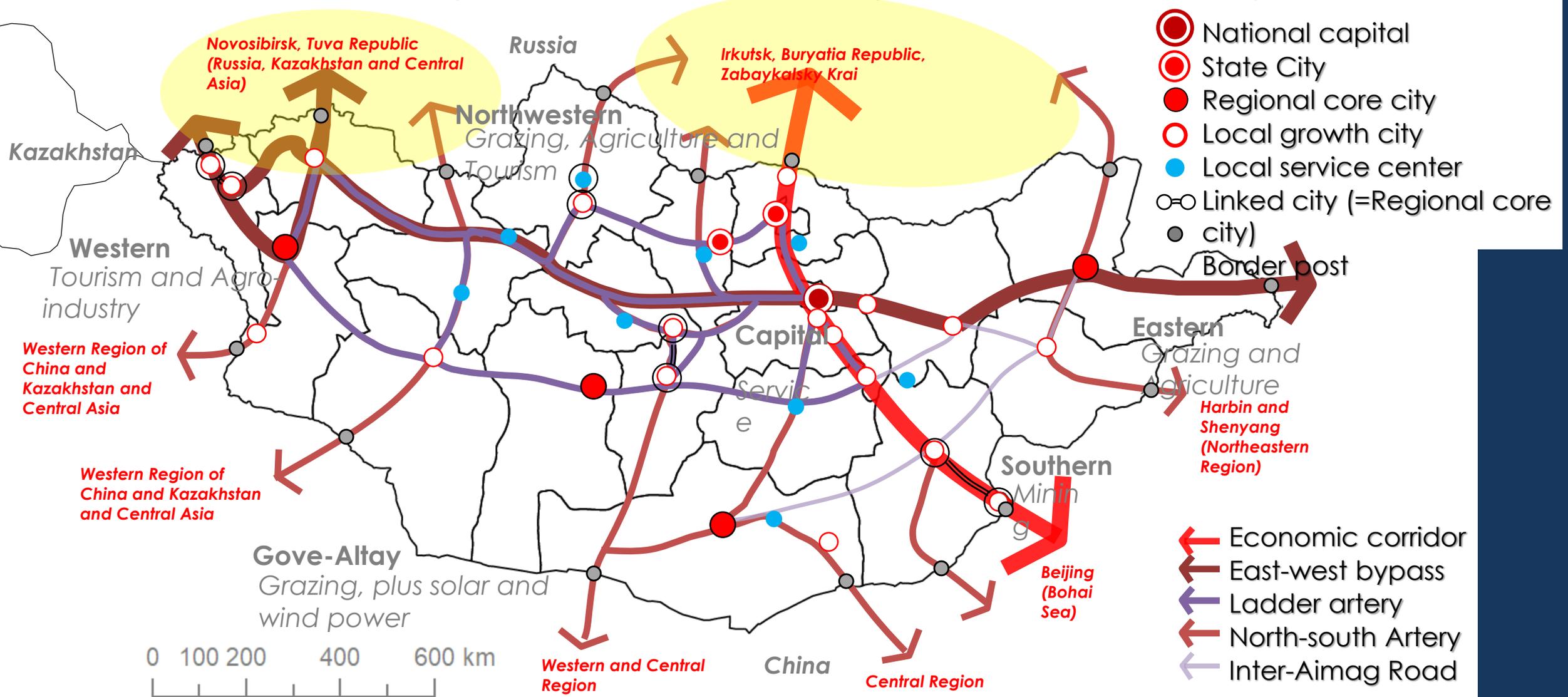
- No significant change of geographical distribution of cities having large population.
- Excluding Ulaanbaatar, Erdenet and Bulgan in 2018, 8 Aimag centers will have more than 15,000 people in 2040.



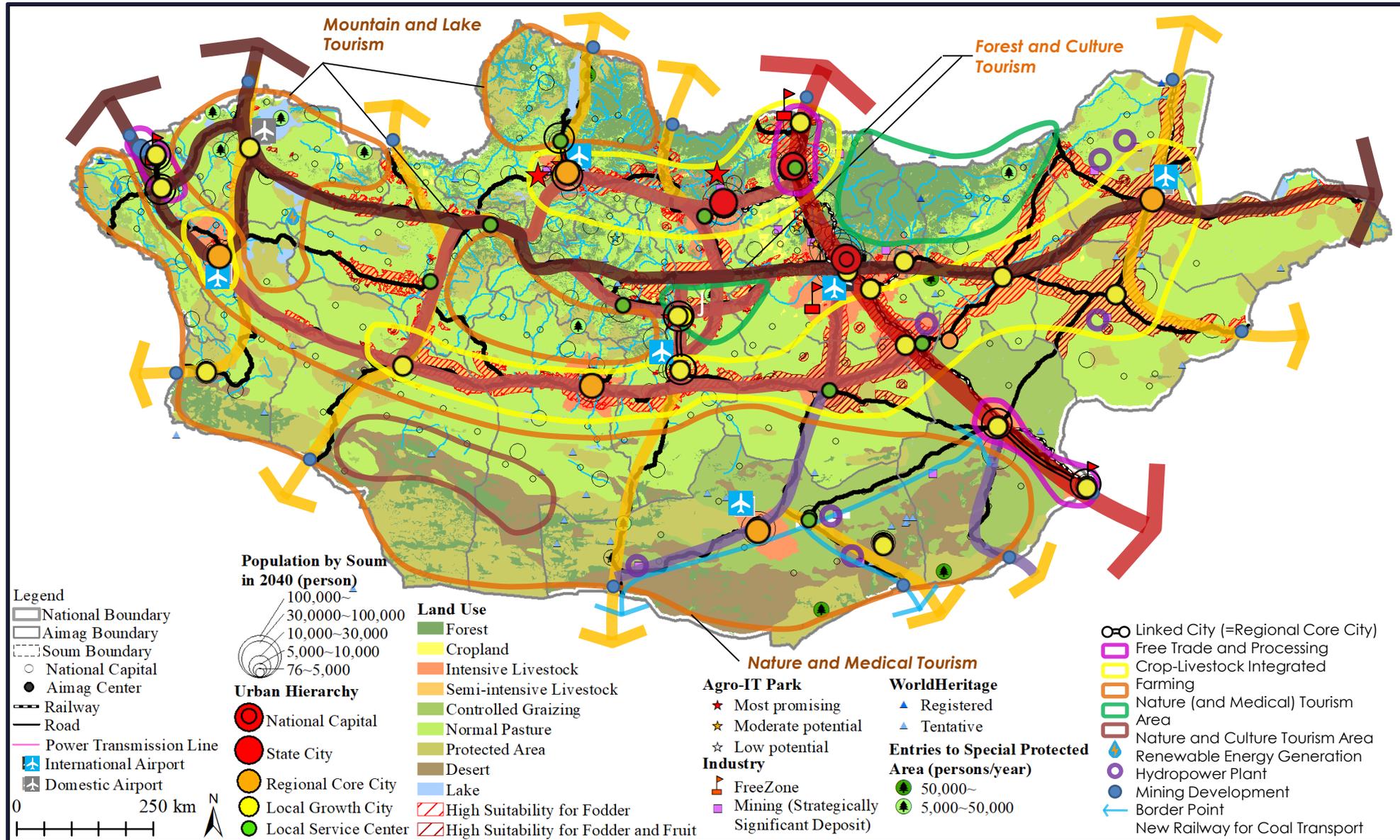
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SPATIAL STRUCTURE FOR INTERNATIONAL ACCESS & DOMESTIC BALANCE

Revised artery road network for economy, social benefit & security



INTEGRATED SPATIAL STRUCTURE



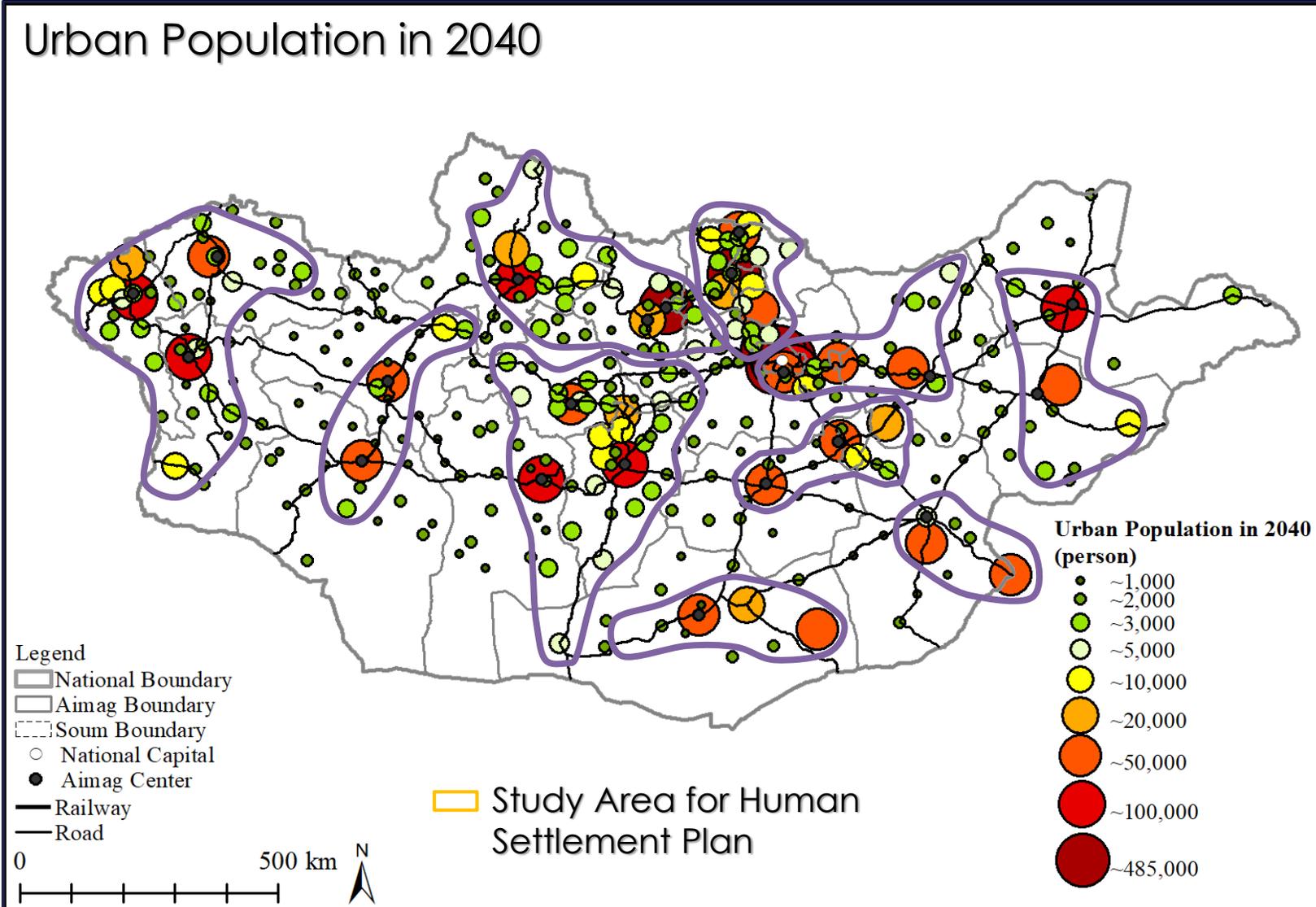


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HUMAN SETTLEMENT PLAN FOR AREAS OF INCREASING POPULATION

(Reference: Urban population in 2040)

Urban Population in 2040



If urban population increases from 0~25% to 25%, 25~50% to 50%, 50~75% to 75% and more than 75% to 100% in 2040.



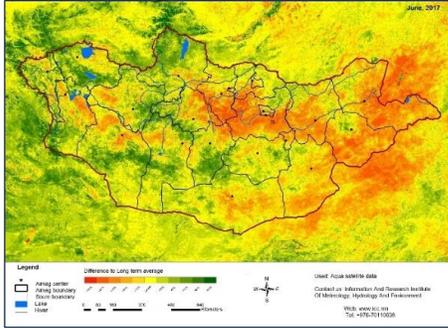
Human Settlement Plan for soum centers with population more than 2,000 people to design necessary functions, especially focusing on social service and land use.



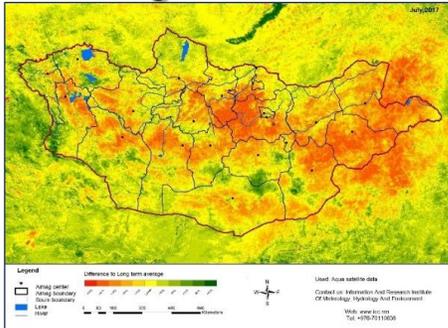
PASTURE GROWTH IS AFFECTED BY PRECIPITATION

(Estimated change of NDVI compared to the long-term NDVI after 2008)

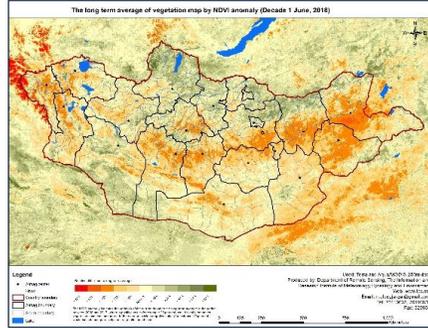
Average in June 2017



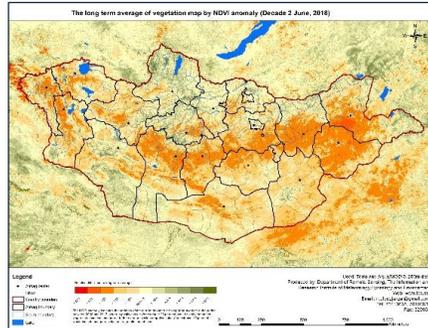
Average in June 2017



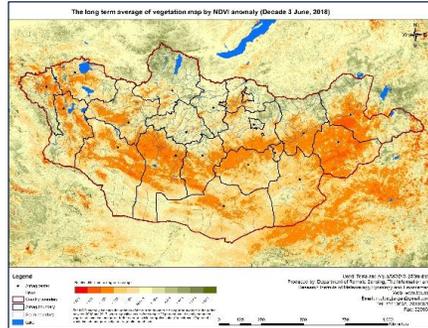
June 1~10, 2018



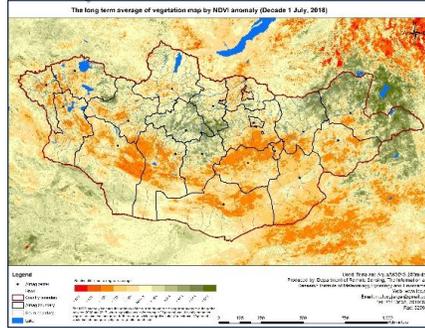
June 11~20, 2018



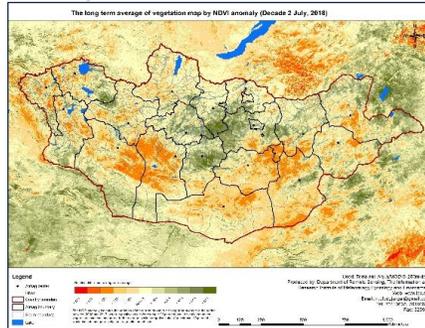
June 21~30, 2018



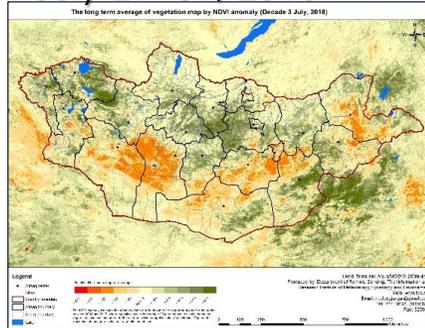
July 1~10, 2018



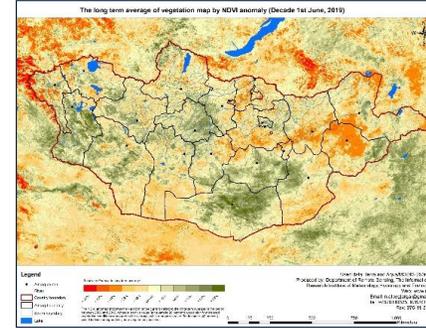
July 11~20, 2018



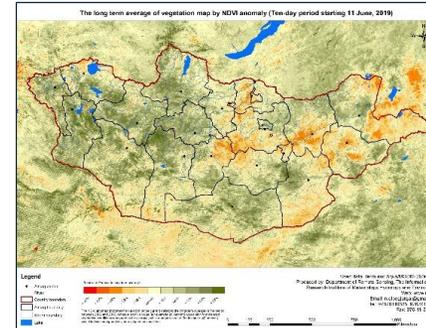
July 21~31, 2018



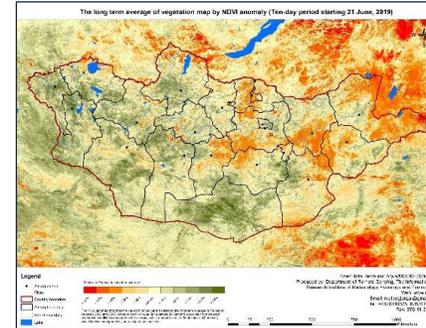
June 1~10, 2018



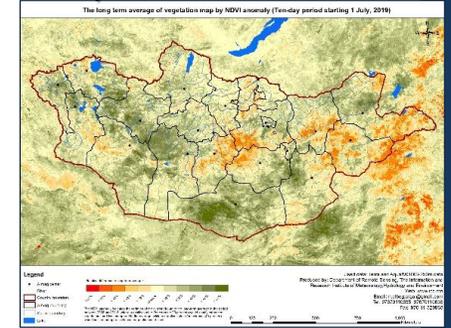
June 11~20, 2018



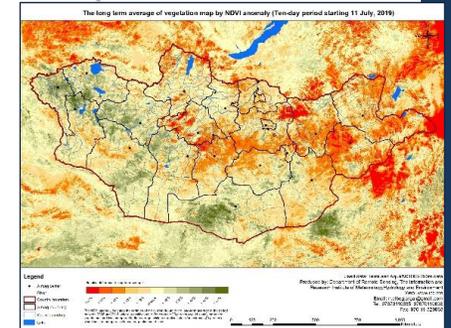
June 21~30, 2018



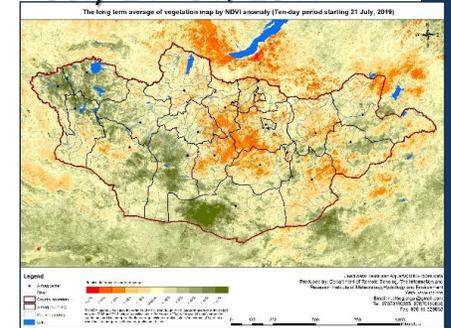
July 1~10, 2019



July 11~20, 2019



July 21~31, 2019

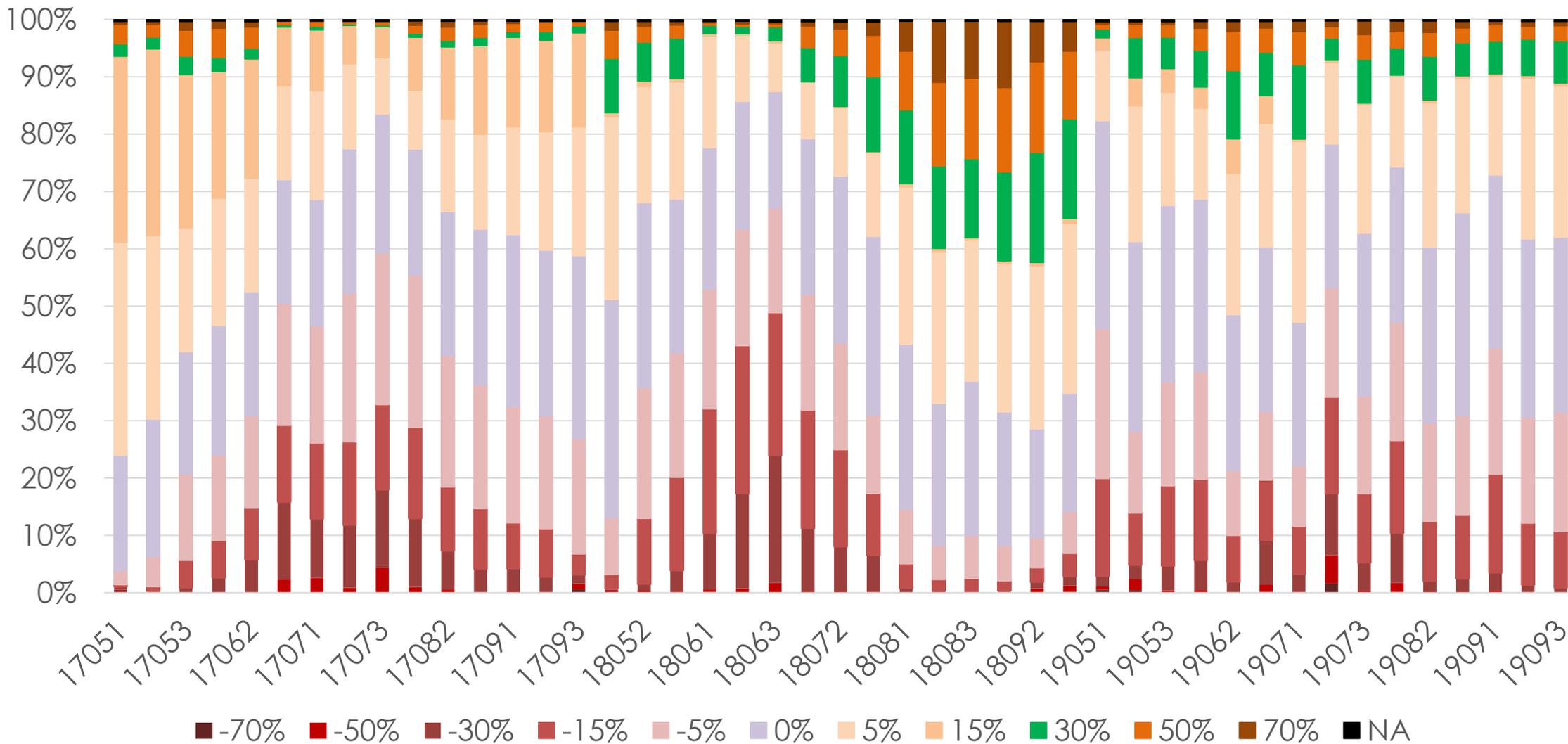


Source: National Remote Sensing Center



NDVI BY MONTH DURING 2017-2019

(Change of NDVI from May to September during 2017-2019)

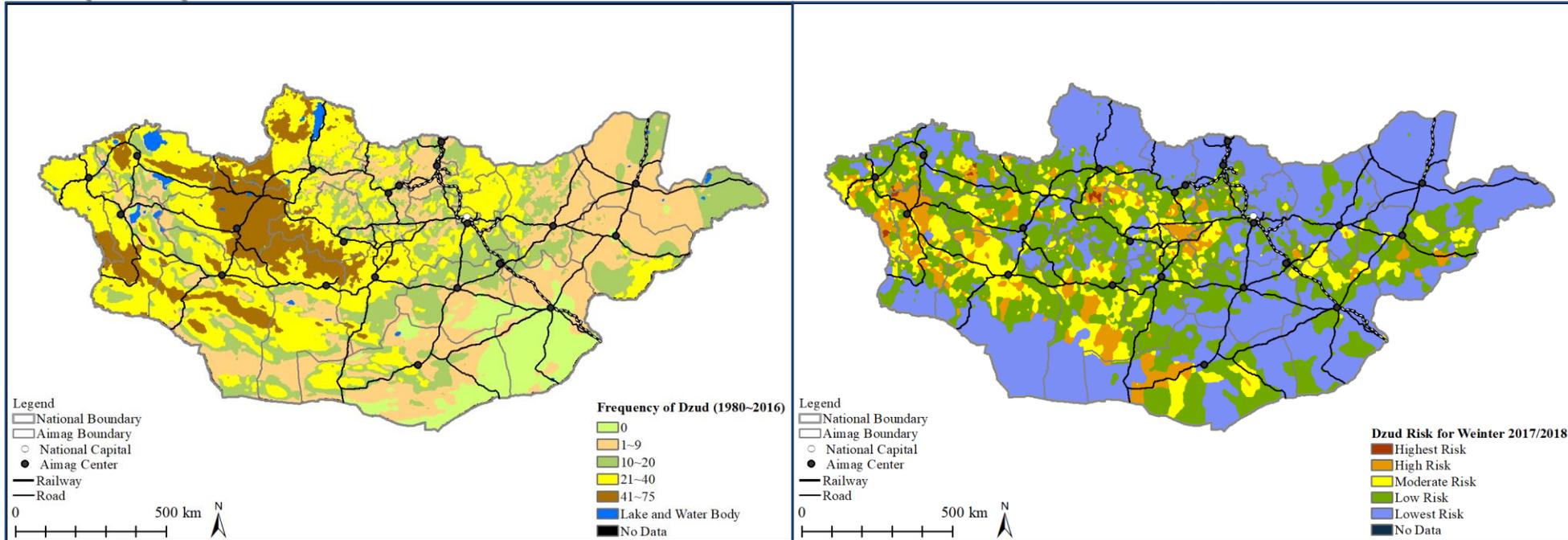


LOW GROWTH OF PASTURE IN SUMMER WILL LEAD TO DZUD IN WINTER

(Hazard analysis of Dzud)

Frequency of Dzud from 1980 to 2016

Dzud Risk for Winter 2017/2018



Hazard Level of Dzud by Frequency and Risk

		Frequency of Dzud from 1980 to 2016 (%)				
		41~75	21~40	10~20	1~9	0
Level of Risk	Very High	++	++	++	++	-
	High	++	++	++	++	-
	Moderate	++	++	+	+	-
	Low	+	+	+	+	-
	Lowest	+	+	+	+	-

Note:

xx: High hazardous area requiring the proactive measure against Dzud

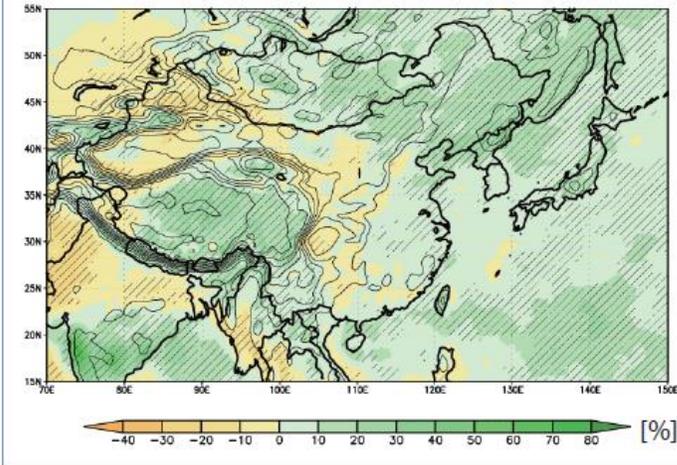
x: Hazardous area against Dzud



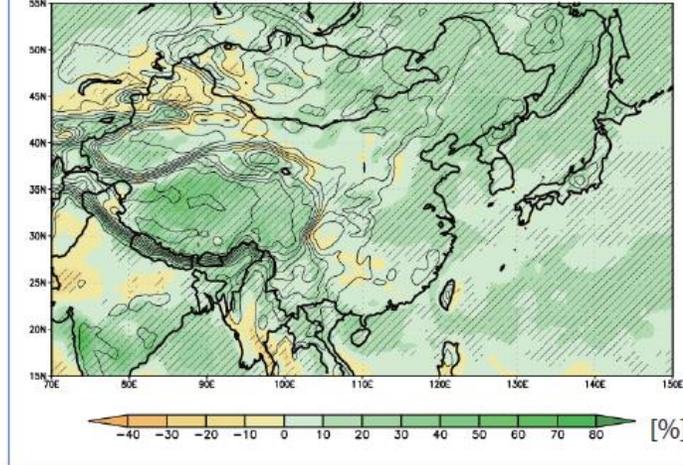
THREAT TO DECREASE ANNUAL PRECIPITATION

Changes (%) in annual mean precipitation under each RCP scenario

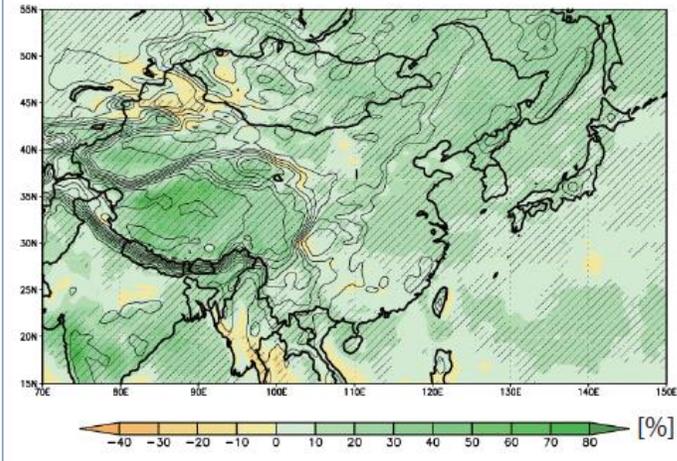
RCP2.6



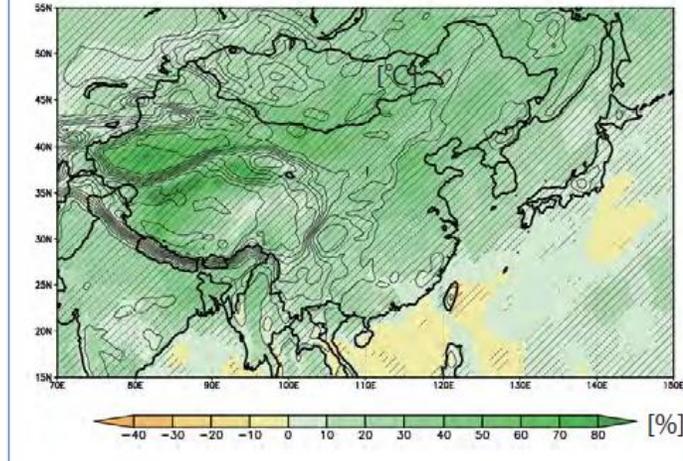
RCP4.5



RCP6.0



RCP8.5 (the average of 9 cases)



Annual precipitation will be reduced by 0~-10% in west of the country and -10~-20% in particular area in RCP2.6, RCP4.5 and RCP6.0.

In RCP 8.5, the annual precipitation will increase in the whole country, however the precipitation declines in months from June to August. As those months are in a crucial period for vegetation growth, this deduction will be constraints for growth of pasture.

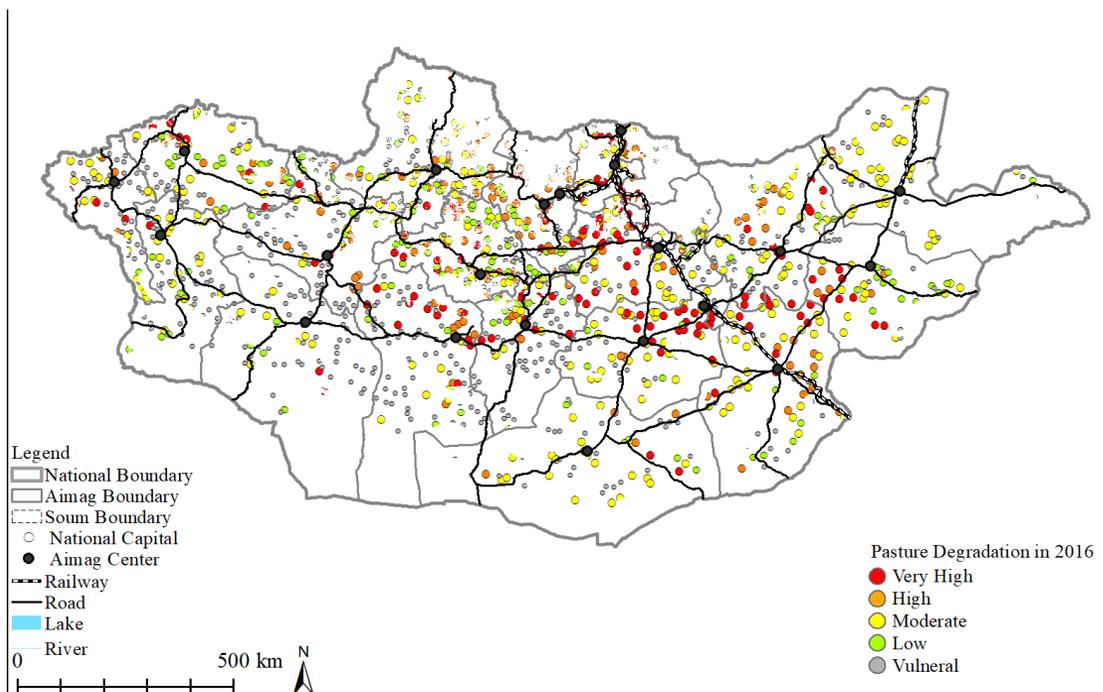
Note: Differences in precipitation between present climate (1984-2004) and future climate (2080-2100)
Source: Climate Change of Mongolia, Ministry of the Environment

CHALLENGE TO MONITOR PASTURE CONDITION & CARRYING CAPACITY

(Degraded pasture assessed by National agency for meteorology & environmental monitoring)

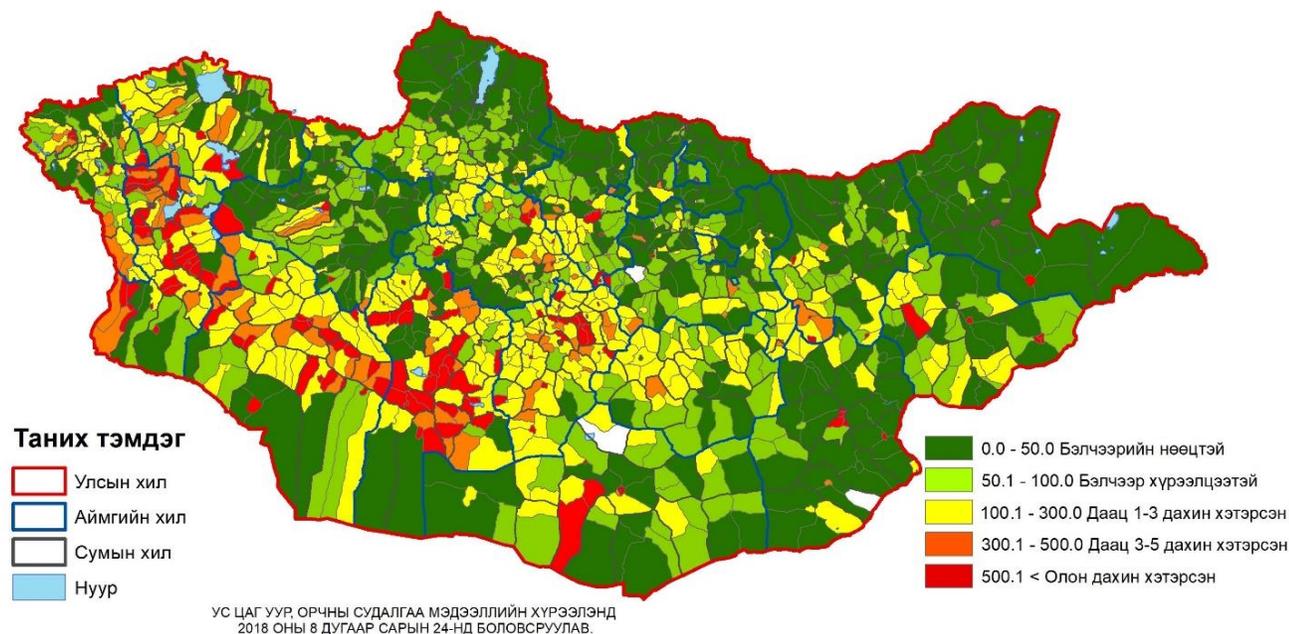
Pasture Condition at Monitoring Point in 2019

Pasture is degraded along artery roads and in Tuv, Dundgovi, Dornogovi, Skhubaatar, Uvrukhangai and Arkhangai.



Assessment of Pasture Degradation in 2018/2019

Pasture is in high risk of degradation along artery roads from Ulaanbaatar to Khovd and in Tuv, Arkhangai, Uvrukhangai, Dundgovi, Dornogovi, Umnugovi and Sukhbaatar.

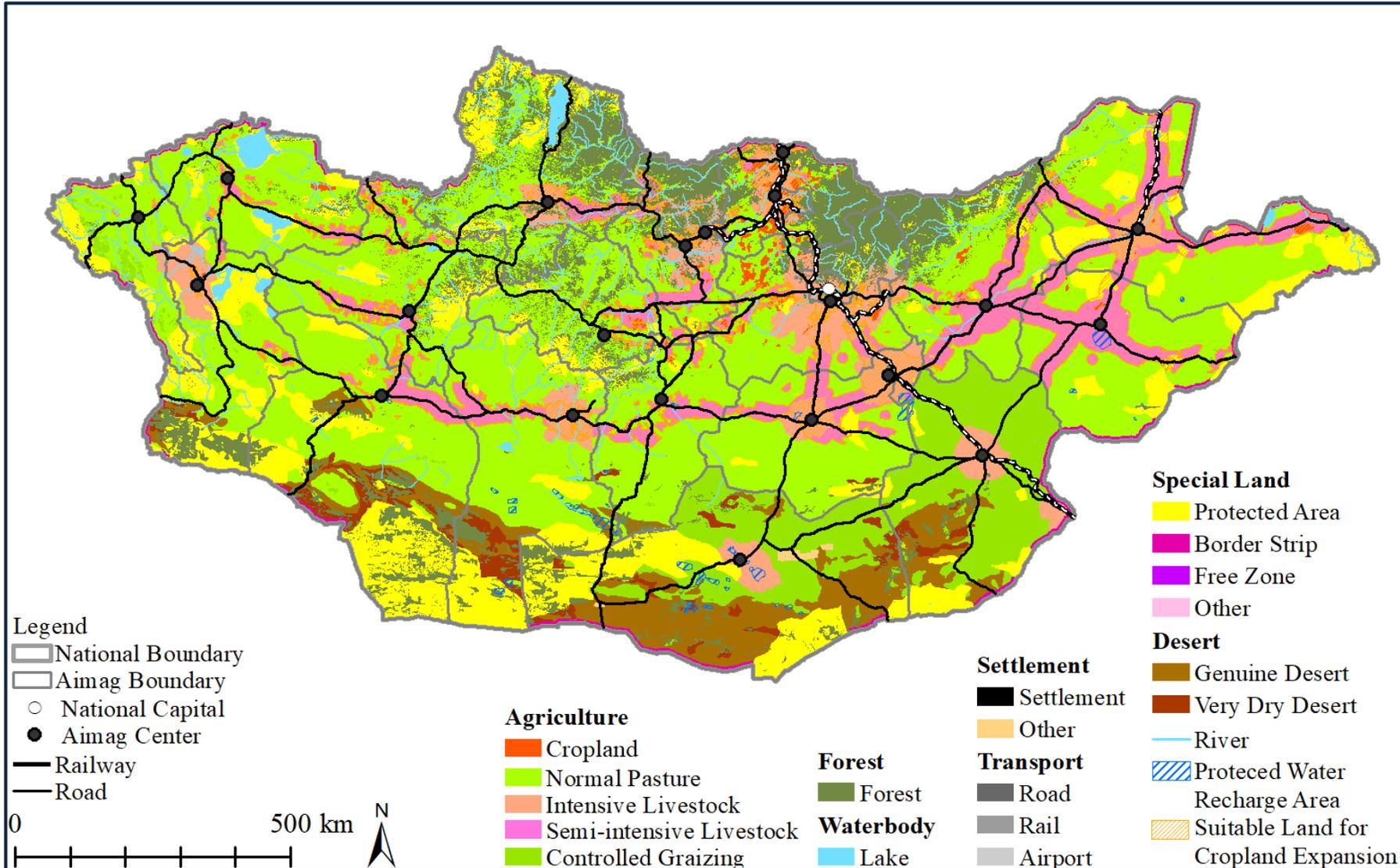




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LAND USE PLAN IS A TOOL TO SUSTAINABLE USE OF OUR PASTURE LAND

(Revised indicative land use plan)





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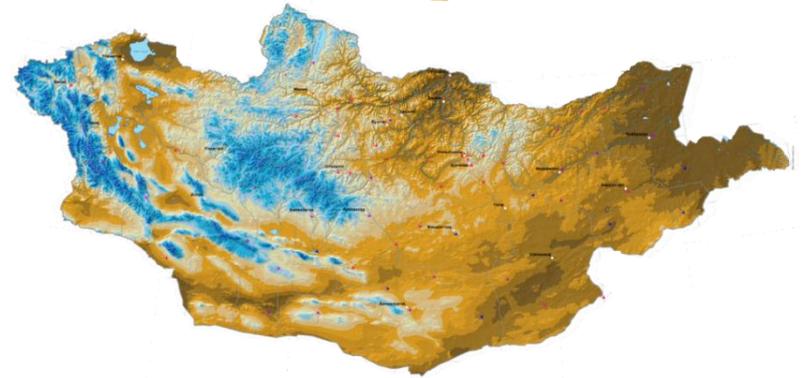
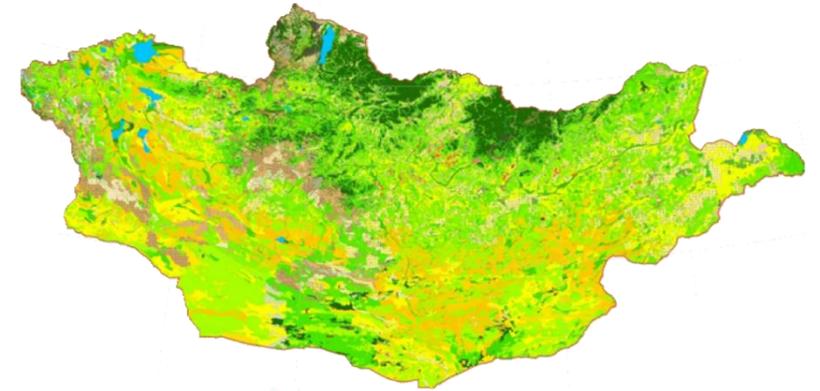
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GEOPORTAL

geoportal.nsd.gov.mn

Геологи орчны мэдээллийн сан Орон зайн мэдээллийн сан Хайлт

Web Map Газрын гадаргын хэрчигдлийн шигүү	Web Map Геоморфологи	Web Map Геоморфологийн мужлал	Web Map Гидрогеологи
Web Map Инженер геологи	Web Map Монгол орны ашигт малтмалын мэдээлэл	Web Map Монгол орны гадаргын өндөржилт	Web Mapping Application Монгол орны геологийн орон зайн өгөгдлүүд





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FUNDAMENTAL GEOSPATIAL DATA THEMES



Public base topo
map



Land parcels



Transportation
network



Boundary/
functional areas



Geodetic
reference system



Buildings and
settlements



Water



Population



Land use and
cover



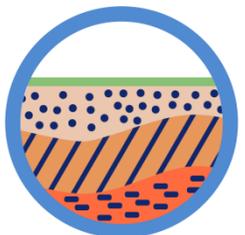
Geographic names



Elevation and
depth



Address



Geology and soil



Orthophotos



Historical, cultural
sites



Facility/infrastructure

Thank you !!!

gunbold.b@mcud.gov.mn
mn98098098@gmail.com