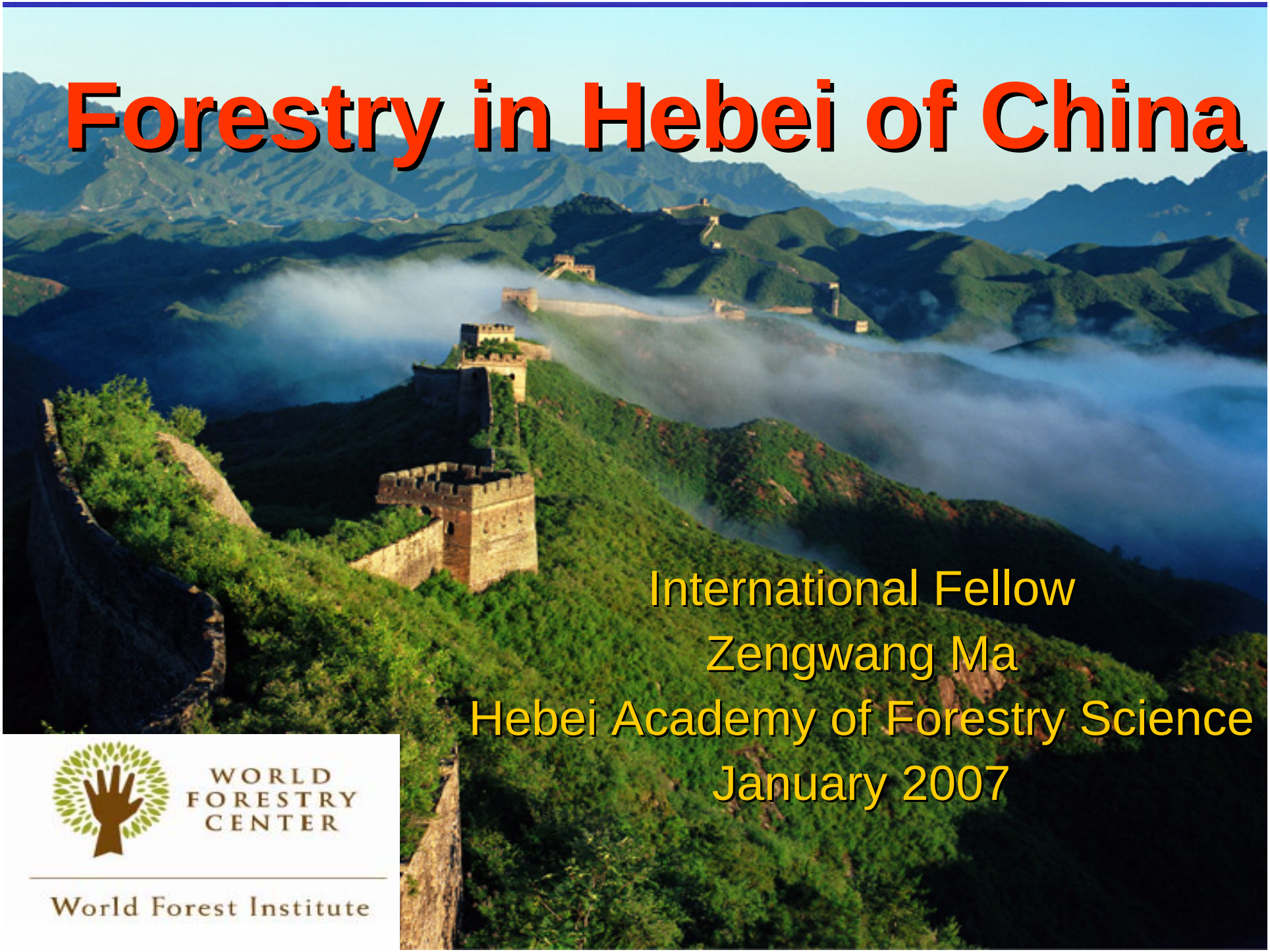
Forestry in Hebei of China



International Fellow
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Hebei Academy of Forestry Science
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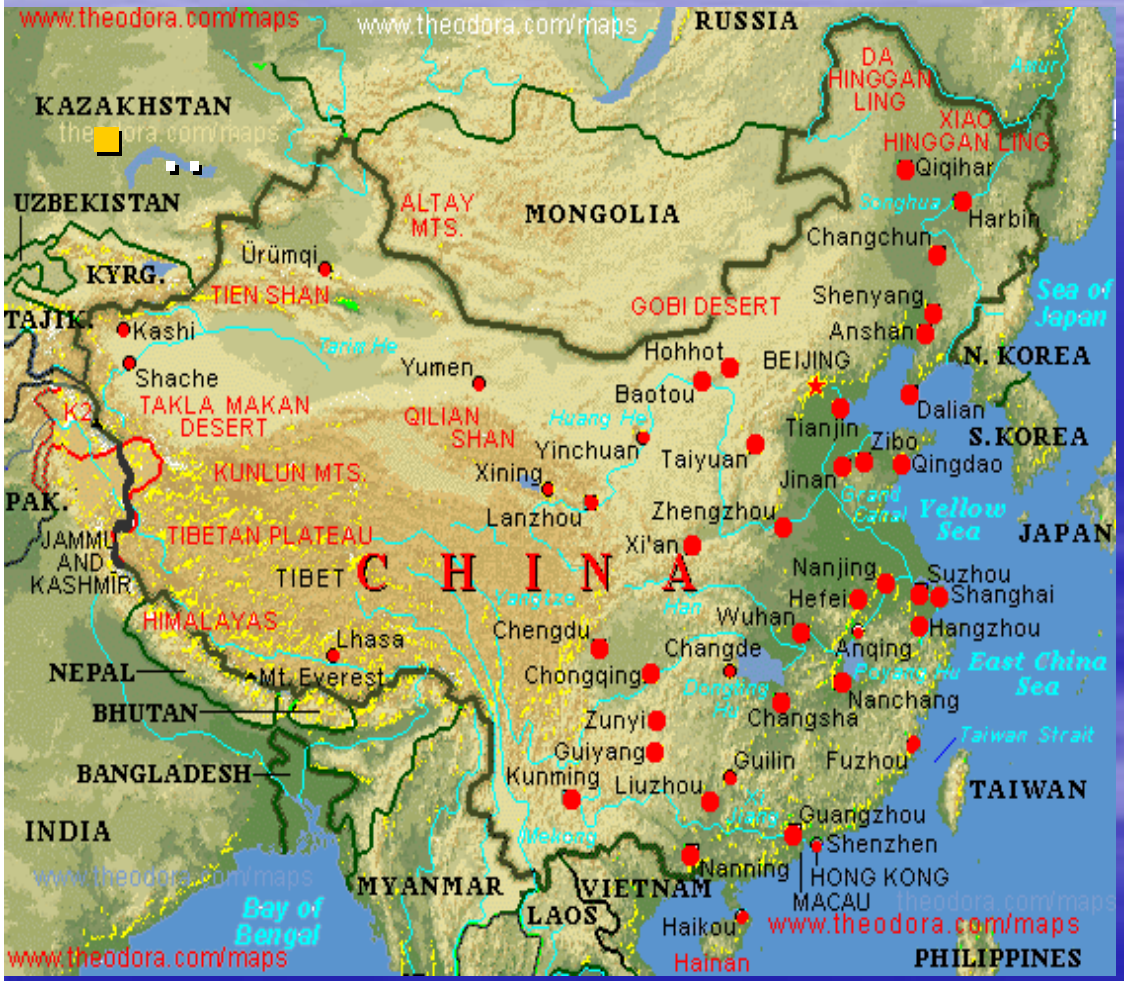
WORLD FORESTRY CENTER

World Forest Institute

The People's Republic of China



Population: 1.26 billion (1999)
22% of the world population
USA: 300 million

Area: 9.6 million km^2
USA: 9.6 million km^2

Administrative Provinces: 34 (= states)

Nationalities: 56 nationalities.
91% are Han people

Language: Mandarin or Putonghua (official language), Cantonese

Economy grows rapidly during the past decade (CIA)
GDP: $7.262 trillion
GDP per Capita: $5600
growth rate: 9.1% (2004)

Many Faces of China

Tian'anmen Square

The Great Wall

Qingzang Plateau

Shanghai city

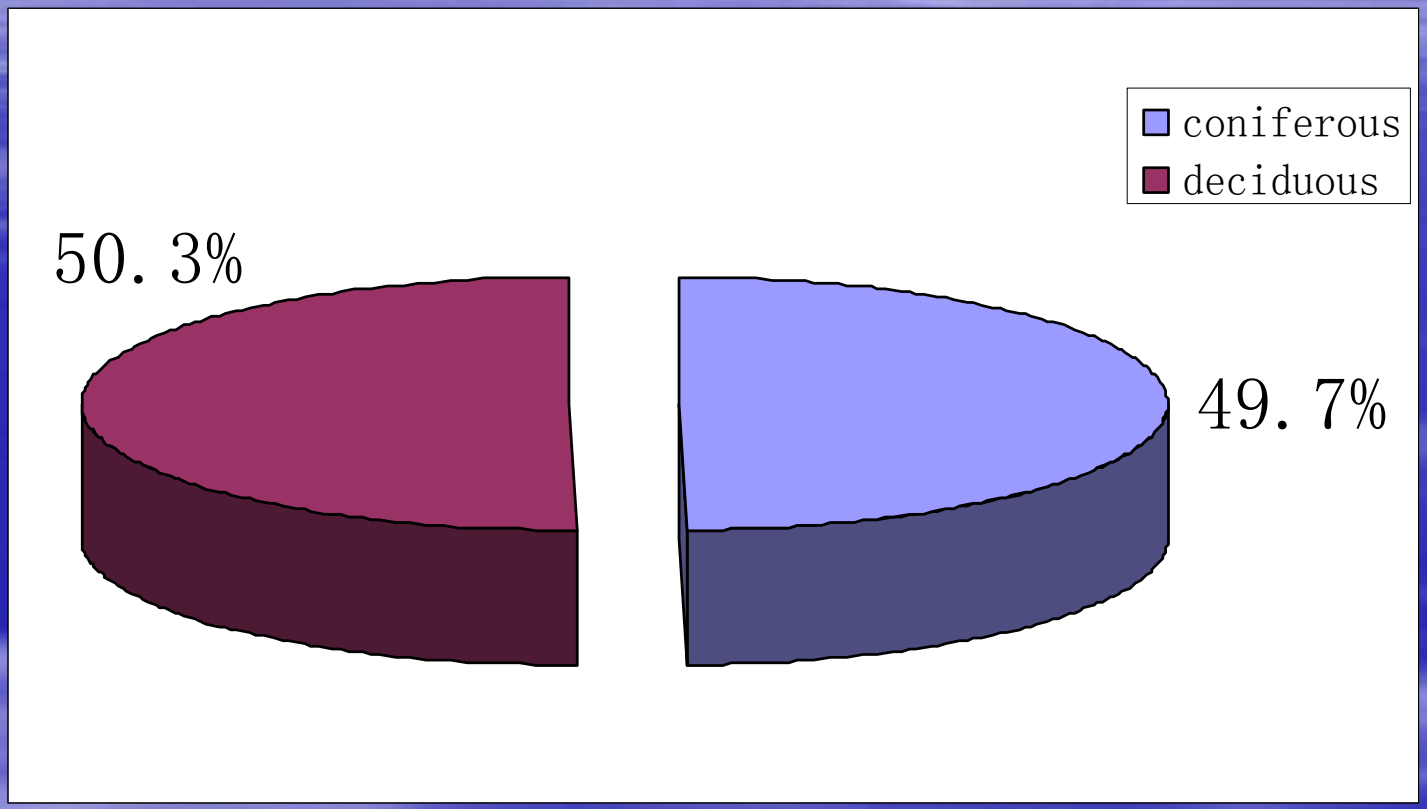
Forestry Facts

Elevation Higher in northwest, lower in east

Mountain: 33.3%, Plateau: 26%, Basin: 18.8%,
Plain:12%, Hill: 9.9%

Forest cover	18% USA 33%
Distribution	Northeast, Southeast
Forested land area (forestland that actually has trees)	169 million hectares
Forest per capita	0.128 hectares USA 0.84 ha
Natural forest	116 million hectares
Plantation forest	53 million hectares

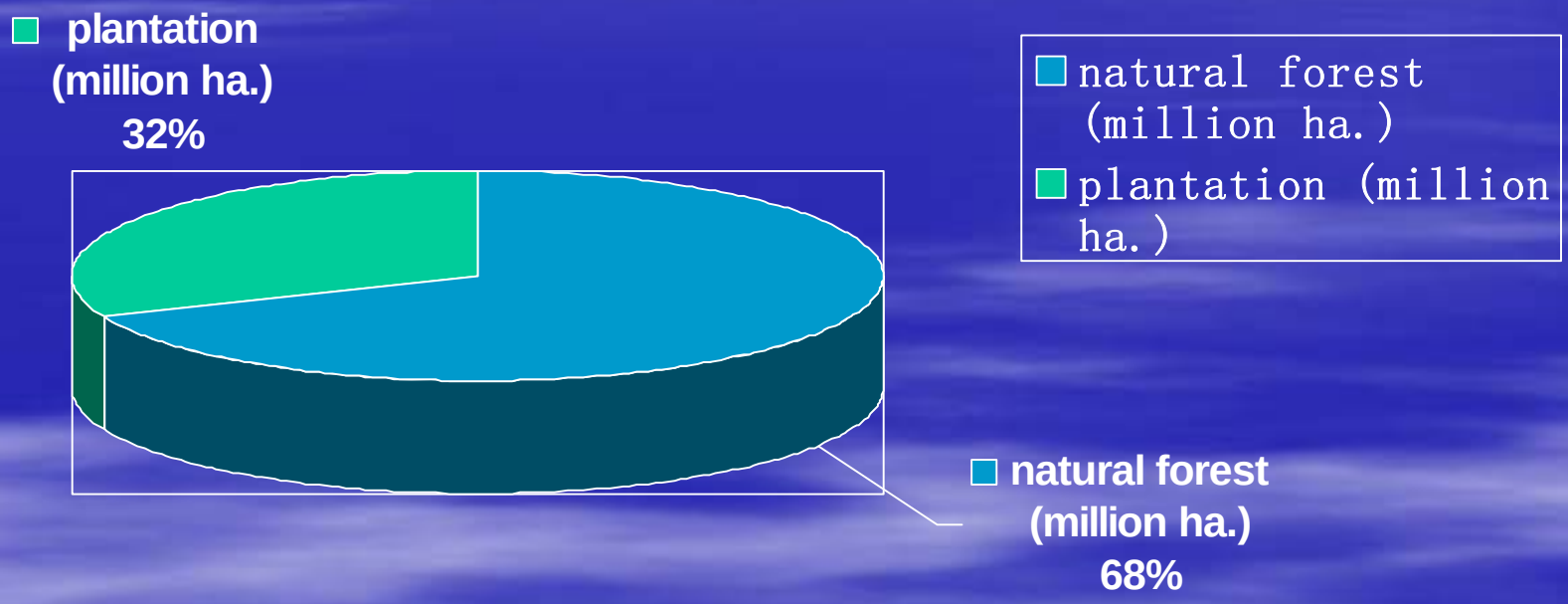
Forest type (I)



Deciduous species:
poplar, willow , acacia

Coniferous species:
Pine, cypress, fir, larch

Forest type (II)

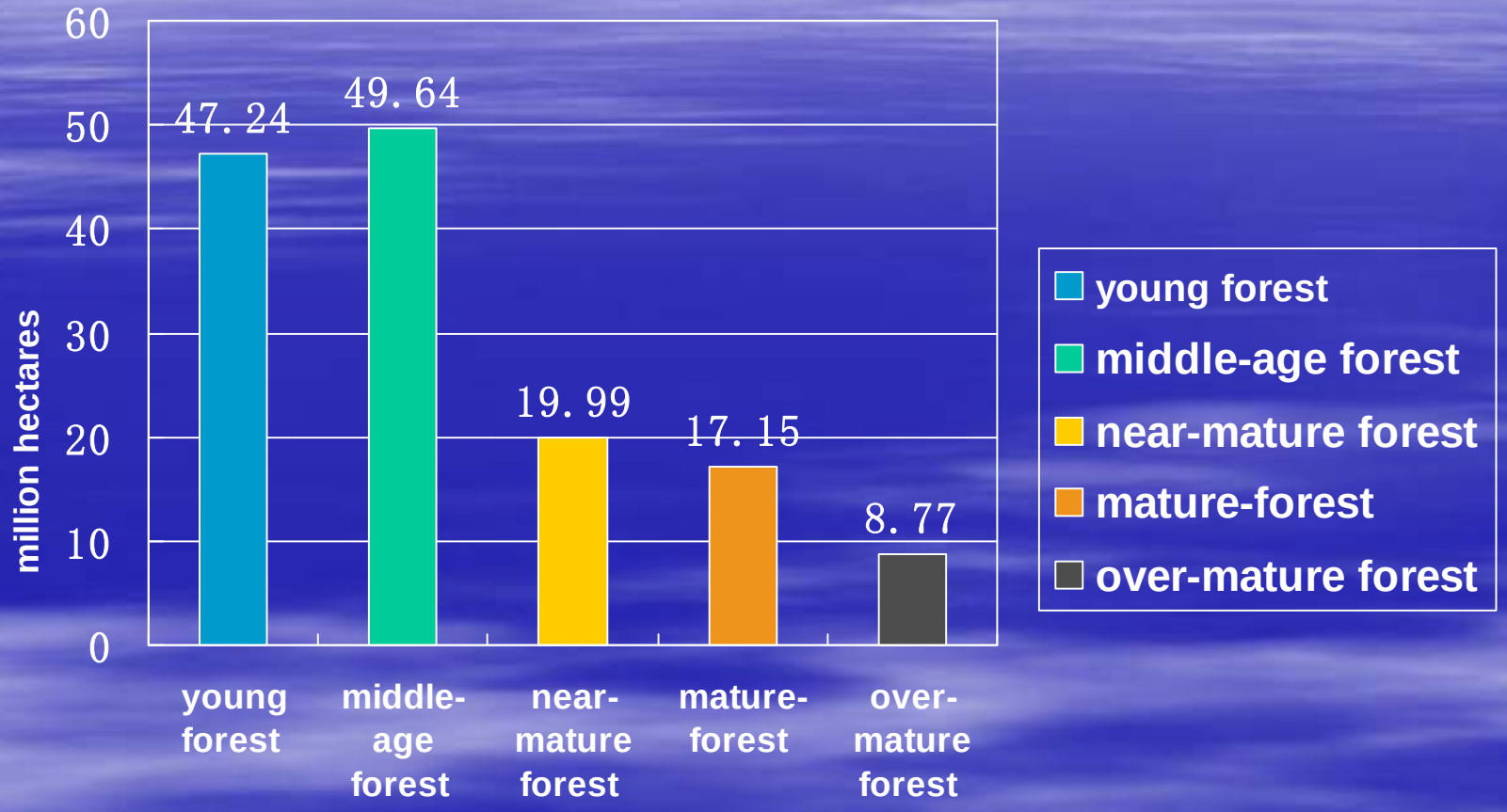


Forestry Categories

Two forest categories:

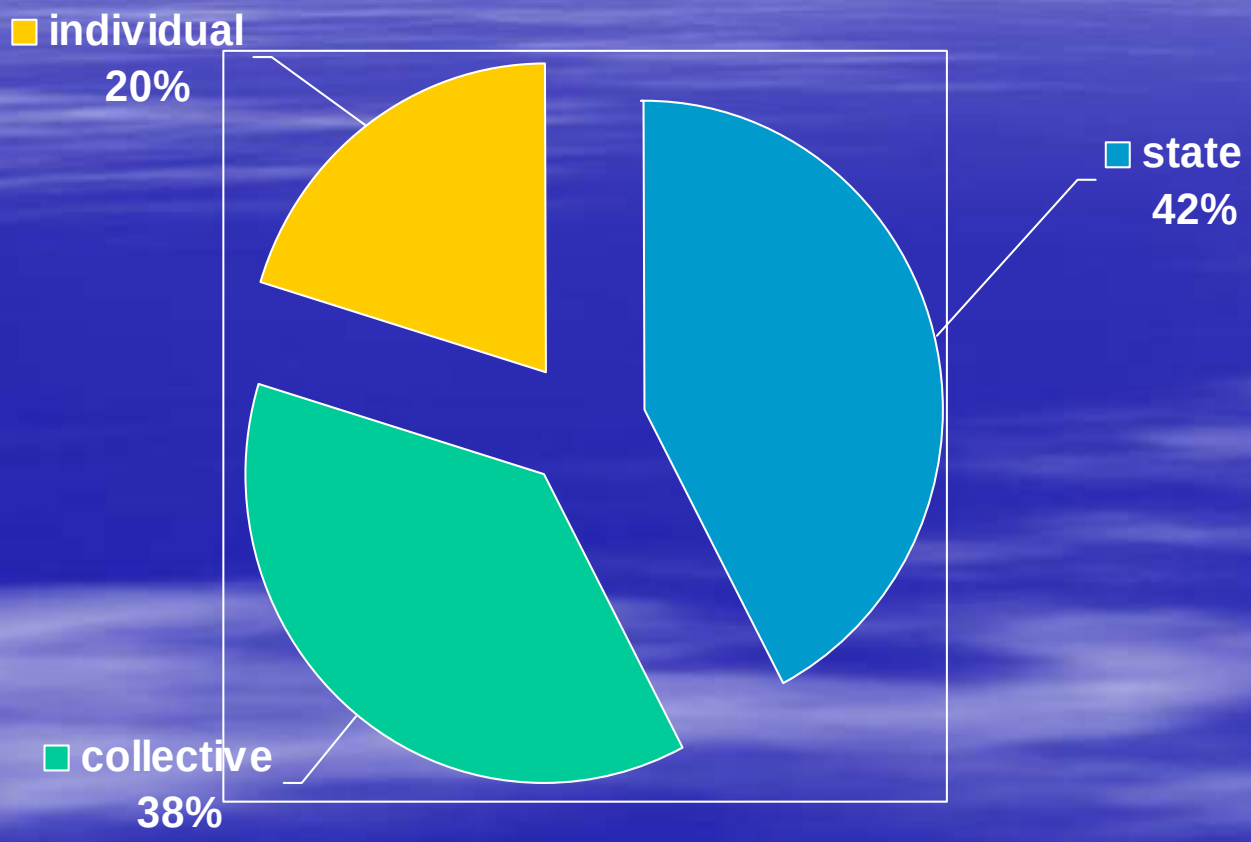
- Ecological forest: No logging permitted. Land is for environment protection. Located in mountains, plateau areas. Often poor growing conditions. Most is managed by government.
- Economic forest: Forest used for producing products like fruit or wood. Located in plains or valleys. Good growing conditions. Most is managed by private citizens or companies.

Age Class Structure



- Young and middle age forests amount to 68%, on the one hand, this means less current wood availability and lower environmental effect; on the other hand, it indicates huge future potential.

Forest Tenure



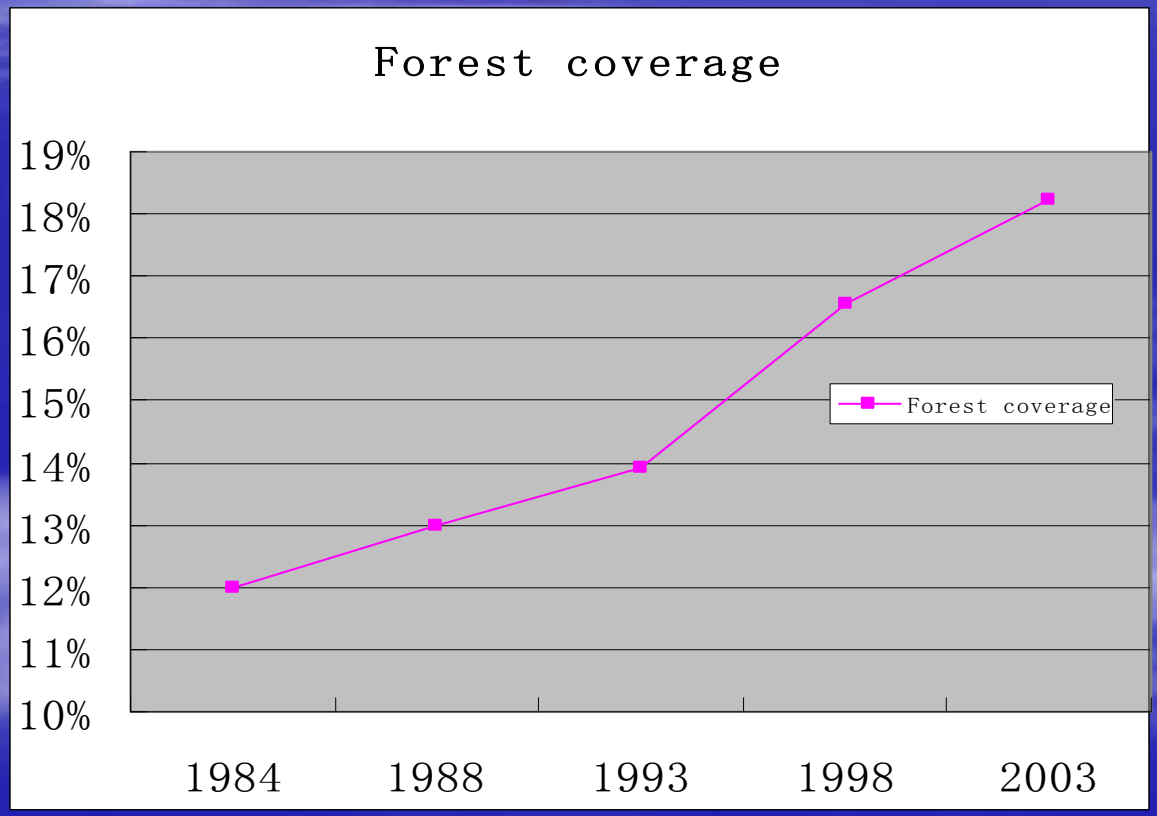
All forest land is public land—there is no private land ownership

But different groups can lease forest land.

Forest Tenure is divided into state, collective and individual.

The government is encouraging private forest, to develop non-public forestry.

Forestry achievement



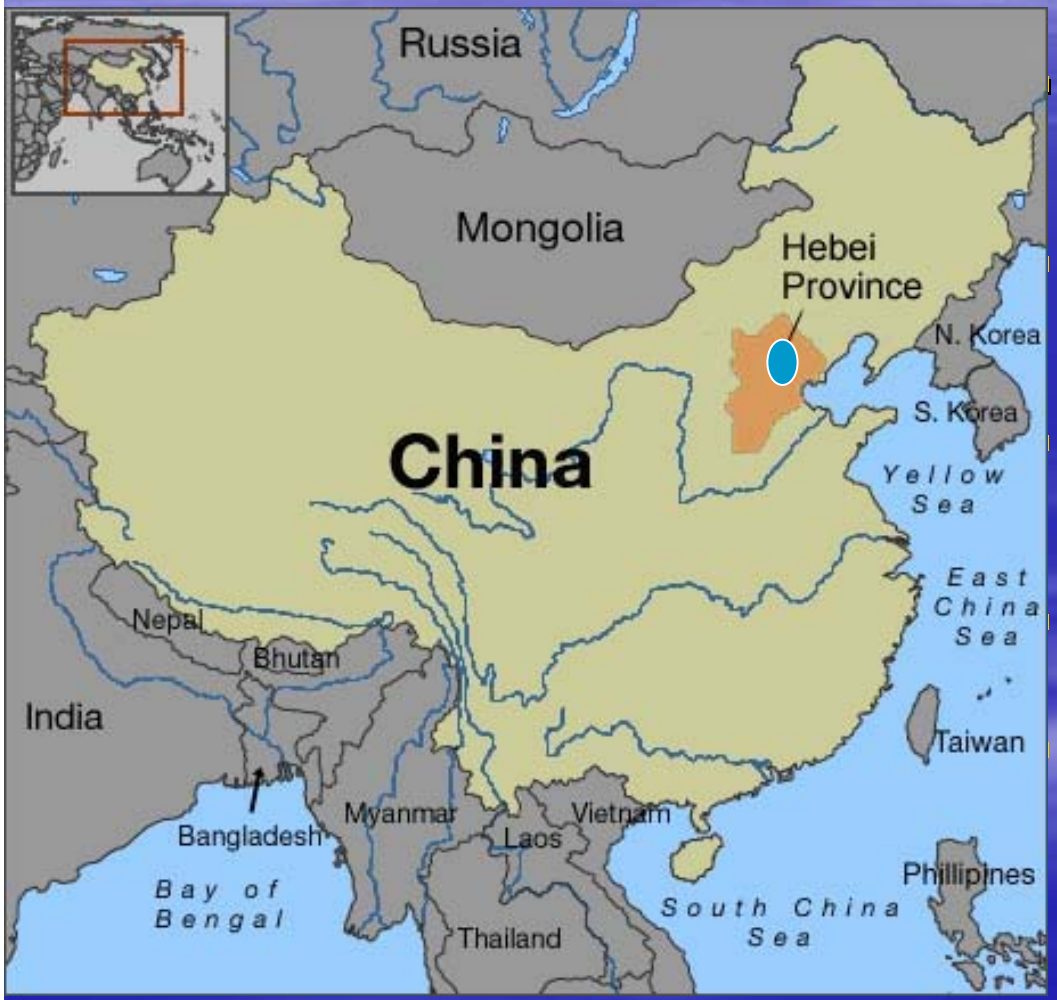
Since 1985 the government has paid more attention to forestry issues and new Forest Laws. Many afforestation projects have been implemented. Forest cover is steadily increasing.

The target of forest cover is to achieve 26% by 2050.

Introduction to Hebei

- Background
- Forestry
- Afforestation Projects
- Research

Hebei Location



Position: North of China, surrounds Beijing

Area: 0.188 million km^2 , 2 % of the national area

Northwest: south edge of Mongolia Plateau, Yan Mountain

West: Tai Hang Mountain

East and Southeast: North China Plain

Landscape of Hebei

Categories	Hebei	Oregon
State Population	67 million	3.5 million
Land area:	188,000 sq. km	251,418 sq. km 96, 002 sq. miles
Capital	Shijiazhuang	Salem
Topography	18%Forested Coastal, plain, plateau and mountain zones -0.5 ºC to 14.2 ºC 22 in	45% Forested Coastal, desert and mountain zones -0.4 ºC to 28 ºC 28 in
Largest City	Shijiazhuang, 9.2 million	Portland, 1.7 million
Income	GDP US$89 billion Per capita GDP US$1,200	GDP US$73 billion Per capita GDP US$28,000
Main Industries	Agriculture, Textile industry, Medical, Trade	High Technology, Forestry, Tourism, Agriculture, Food processing

Shijiazhuang City: the capital of Hebei

Built in 1950

The largest city in Hebei

Nearly 3 mil population in city center

Light industry and trade

Yesterday and Today

Shijiazhuang at night

Arts Center:

Most famous symbol of the city

Hebei Nature

- Hebei is in temperate and warm temperate zones, with monsoon season.
- Features:
  - Four distinct seasons.
  - The annual rainfall is 13.7-31.5 in and the rainy season is summer.

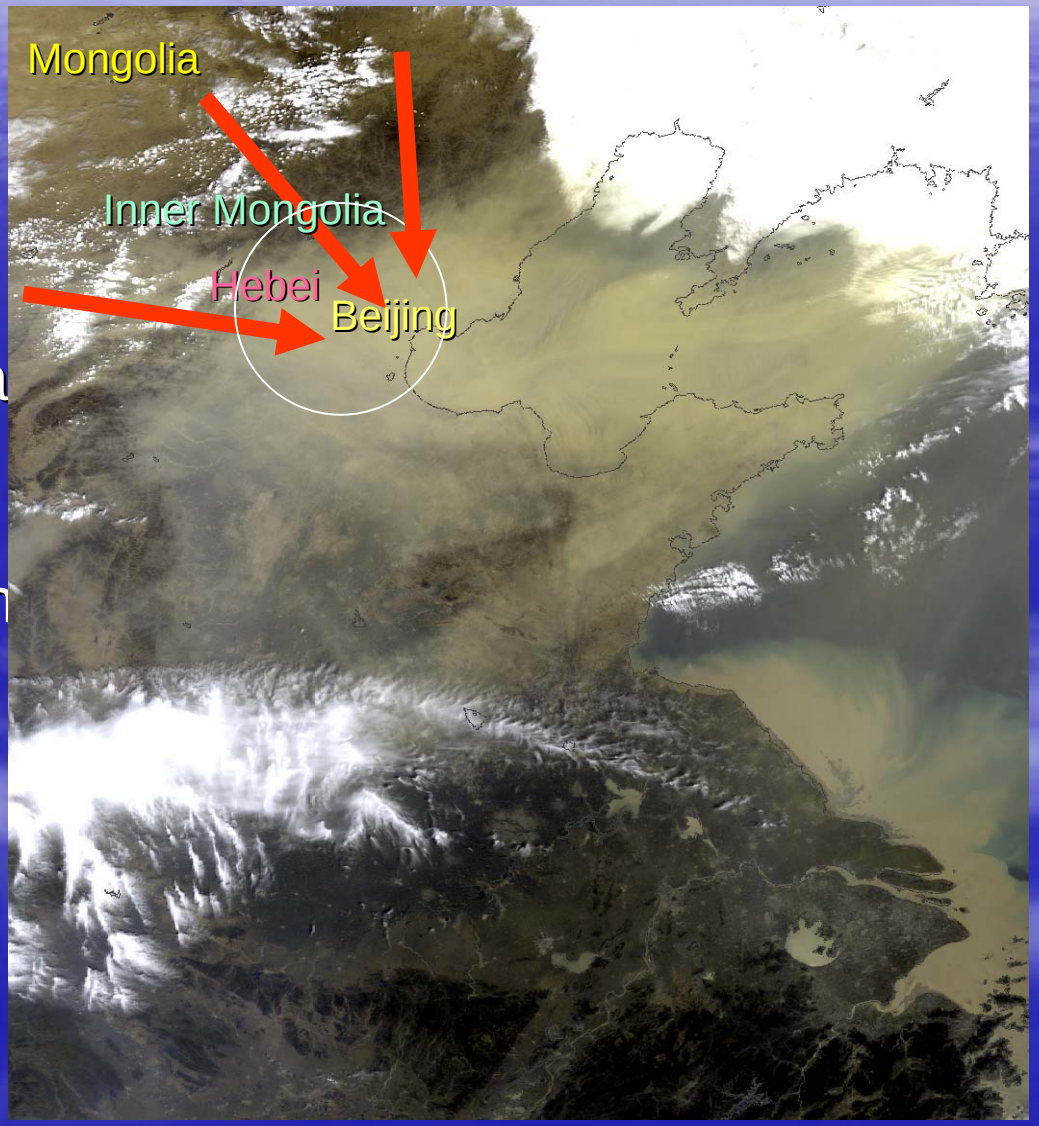
You may have seen Hebei in the news:

2000: 12 sandstorms

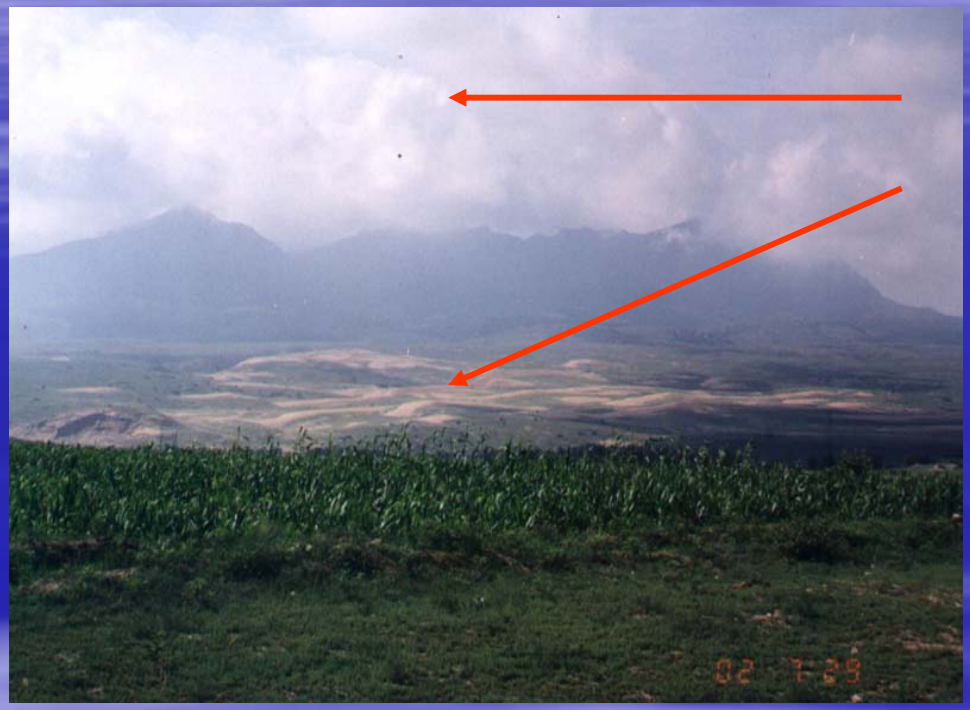
2006: The worst sandstorm in five years swept through northern China, covering Beijing in some 300 000 tons of sand and yellow dust.

Why sandstorm happened?

- Causes of Sandstorms:
  - Dust source from Hebei, Inner Mongolia and Outer Mongolia Country.
  - Fragile environment in northern China
  - Strong wind from Siberia



Medias reported:



In some areas, the desert has encroached to within 70 kilometers of Beijing and is expanding at an annual rate of 2 to 3 kilometers.

Where is dust from: desertification

Desertification is a form of soil degradation.

It is one kind of phenomenon that looks like desert but not desert.

Another main form is water and soil erosion in Hebei.

The Heaviest Desertification Land

Heavier Desertification land

Potential Desertification land

Water and Soil Erosion Area

Desertification and soil degradation caused by:

Natural factors

- Drought and water shortage
- Soil quality decreasing
- Climate change

Human factors

- Unreasonable land use
- Destruction

Natural Factors：Drought

- In mountains and plateau areas, harsh climate conditions and water shortage is a huge challenge for afforestation.
- In some dry places，precipitation is less than 14 in

Natural Factors: Poor Soil in Mountains

- On some slopes, surface soil is very poor and thin, even less than 30 cm deep.

Natural Factors: Global Climate Change

- Global climate change is making afforestation more difficult.
- Recently, the climate in northern China tended to be dry. There is uneven spatial distribution of precipitation and the precipitation tends to be reduced.

Human factors: Land Use Change

Since 1950's, as population increased, 4 big scale land use changes happened:

Forestlands were converted into farmlands to increase crop production. This led to grassland and mountain slopes being over exploited and degraded.

Human factors: Over-grazing

In plateau and mountain areas, non-scientific, un-planned, over-grazing happened heavily in past. Pasture load for one sheep decreased dramatically.

Human factors: Destruction

Logging for wood and fuel: People living in mountain and plateau areas depend heavily on natural resources, so they grabbed wood, fuel and other products from forests.

Argument: Which one is more Heavier?

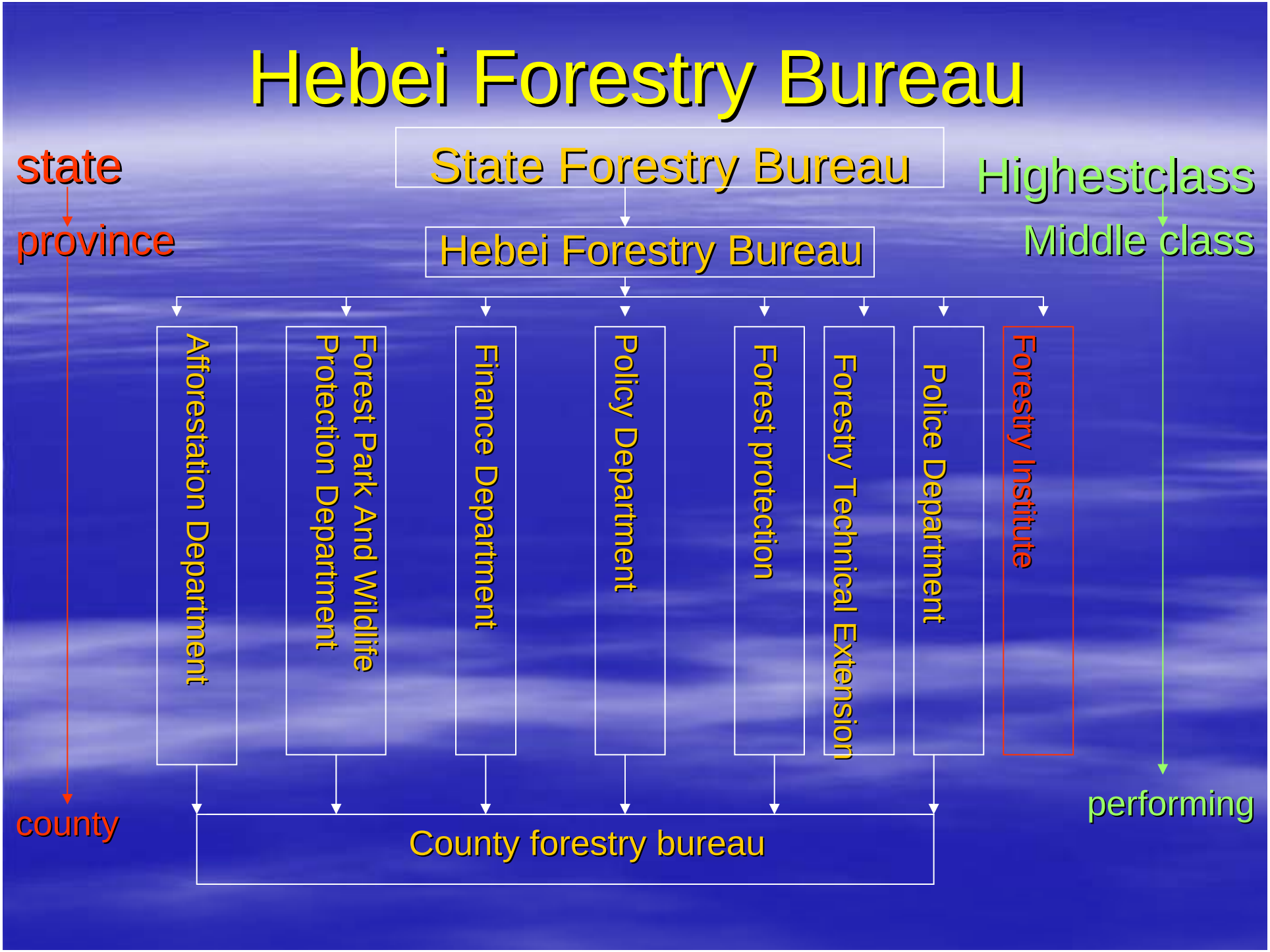
- Some experts think the influence from human is bigger, should reduce disturbance from human, and make it restoration relying on natural strength.
- Some experts emphasize natural factors.

Forest management in Hebei

Hebei Forestry Bureau is

- in charge of managing the state's forests
- In charge of afforestation
- Protecting wildlife
- Forest parks and natural conservation areas
- Enforce forest laws and regulations

Hebei Forestry Bureau



Ecological Afforestation Projects

- There are six major forest projects in the mountains, plains, coast, desert and around Beijing

Converting Farmland to Forest

Taihang Mountain Afforestation Project

Some Mountain Closed to All Activities

Fast Growing Plantations

These plantations have been planted in the plains -- forest coverage has been increased to 10.5%.

The dominant species is Poplars (black and white). They are fast growing and intended to supply wood

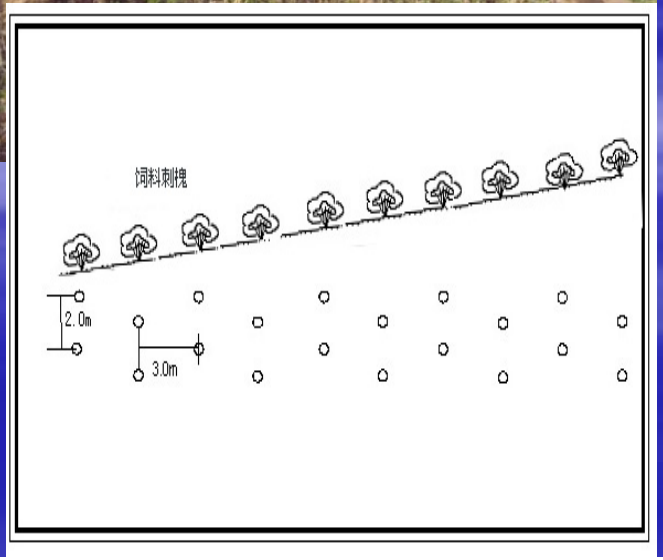
Anti-Drought Planting

container seedlings

Covering tree-hole using plastic film to prevent evaporation

Try tocover sand

Land Preparation for Planting



Fire Management

Fire tower

Training to put out fires

Economic Forest: Fruit Production

Hebei province is No. 2 biggest fruit producer, especially walnuts, persimmon, pears and dates

Walnut

pear

persimmon

date

Forest Products

More and more forestry products are exported. Chestnut, pear etc. were exported to more than 30 countries, bringing 370 million dollars foreign exchange every year.

Forestry Tourism

- Forestry tourism is developing quickly to 200 sightseeing places, among which 100 have already been opened to the public.
- There are 54 forest parks and 14 reservation areas in Hebei. Of them, 15 are national forest parks or reservation areas. These are visited by 2.75 million Chinese and foreign guests annually, bringing 5 million dollars income.

Tuoliang State Park

Yesanpo State Park

Bashang Forest-Grassland

Today, Forest Tourism has become a new part of the forest economy

- Local people are seeking new income sources after logging was prohibited
- Meeting the need of urbanites for fresh air and relaxation
- Eco-tourism has emerged as a viable alternative as recreation in natural scenic areas is a very popular and expanding market in some ecological areas.

Hiking is the most common type of forest recreation

Tourism Tide During Holidays

What can be done facing the tide of people?

How to manage visitor impacts

Picking mushrooms

litter

The big question:

How to turn areas like this into ecotourism destinations

How to make money from this resource?

What is My Job in Hebei?

Senior Engineer, Researching forest silviculture and management technologies at Heibei Academy of Forestry Science

What Will I Do Here?

I work at World Forestry Institute as an international fellow. I will finish my program on forest management issue.

Hebei Academy of Forestry Science

Hebei Academy of Forestry Science is a provincial organization for forest research—it is 50 years old. Its main focus is on forestry techniques including silviculture, forest management, desertification control, forest protection, flower culture, etc.

Challenge

Forest Resource Exploration and Management

Facing Tourism Tide for Hebei, China

Project Questions

1. What role does forest management play in developing forest-tourism?
2. Who impacts forest management in forest-tourism areas?
3. What management strategies should be implemented in order to avoid or mitigate the destructive impact of forest-tourism on the forest habitat?
4. What can be done to improve the attractiveness of forests as a recreation destination?

Thanks
HARRY A MERIO HALL