



EUROPEAN FOREST  
INSTITUTE

# Foresight Experiences in China and Applications to Forest Resources Sector

Xiaoqian Chen

Linyun Rong

Senior Expert on China Europe Forest Bioeconomy

European Forest Institute

Division Chief

Division of International Cooperation, State Forestry and Grassland  
Administration China

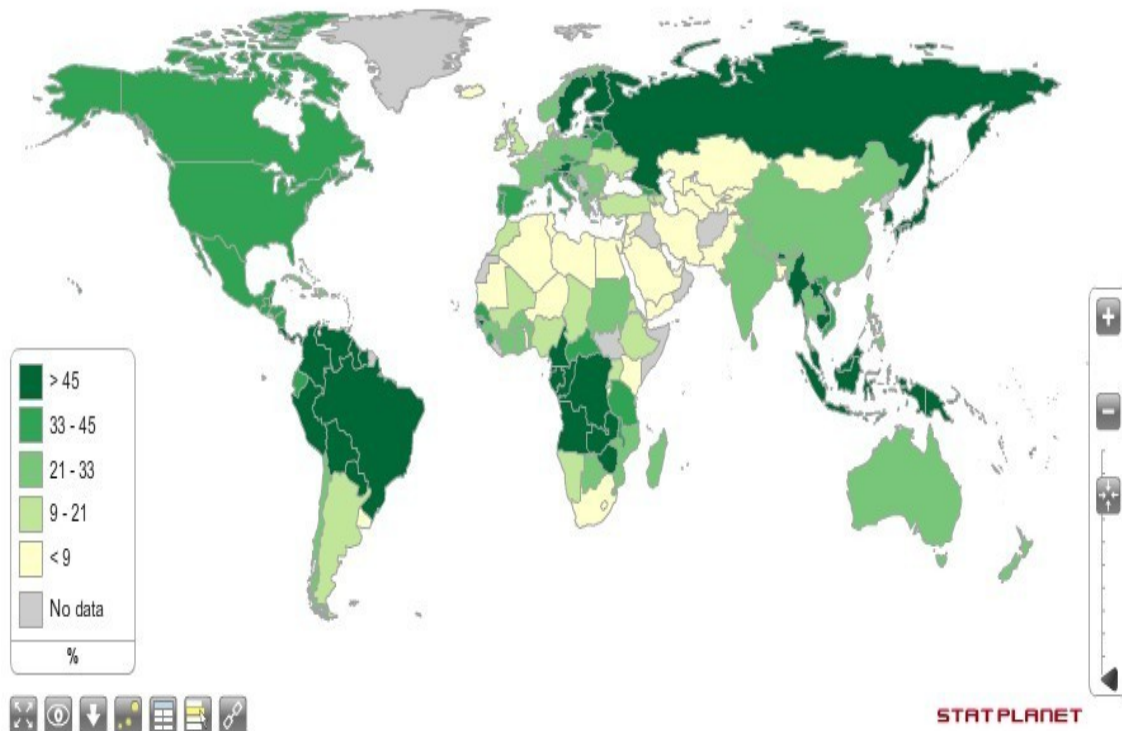
# Presentation outline

1. Forest Resource in China
2. Forest Resource Management Method in China
3. Forest Resource Management Planning in China
4. Foresight application in China's forest resource management

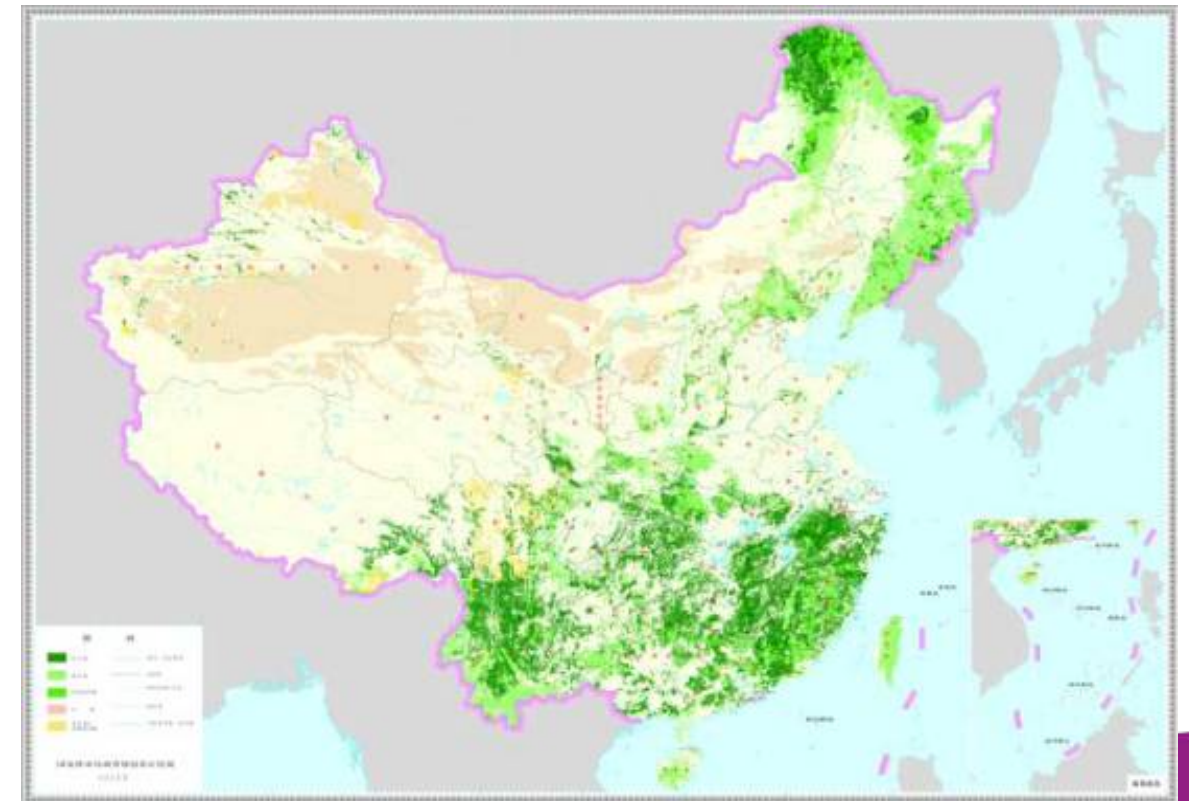
# 1. Forest Resource China

## 1.1 Global Forest Resource Vs Forest Resource in China

- Represent 5.2 percent of the planet's forest with 21.66% forest coverage rate and 208 million ha forest in 2016;
- Forest in China provide 600 million ton carbon sink annually;
- Consist of largest plantation forest in the world with area of 69.33million hectare in 2016
- Still low forest resource country 1/4 forest area per person , 1/7 forest stock per person of world average level



Source : UNDP [hdr.undp.org/en/](http://hdr.undp.org/en/) 2014



Source : Forest resource inventory SFA 2013 | 10.3.2019 | [WWW.EFI.INT](http://WWW.EFI.INT)



# 1. Forest Resource in China

## 1.2 Global Forest Resource change Vs China Forest Resource change

Forested areas have decreased but rate of net forest loss has been cut by 50%.

- The biggest loss has been in the tropics, particularly in Africa and South America.
- Net forest area has increased in over 60 countries and territories, most of which are in the temperate and boreal zones

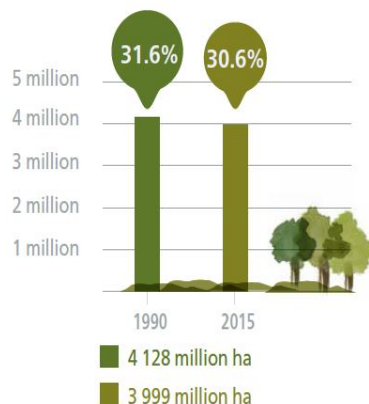
## Global Forest Resources Assessment



How are the world's forests changing?\*

Forested areas have decreased but rate of net forest loss has been cut by 50%

Percentage of global land area

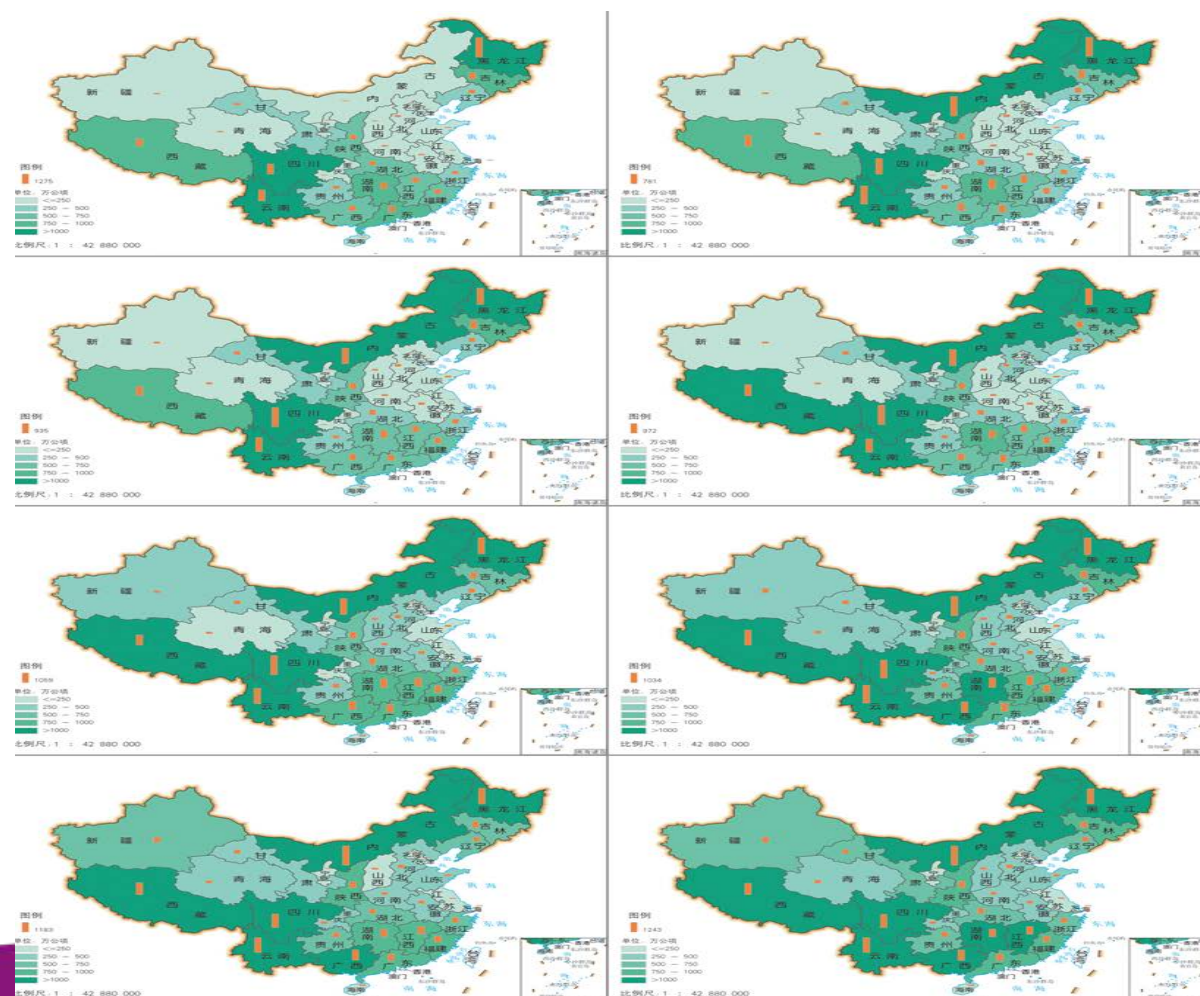


- The biggest loss has been in the tropics, particularly in Africa and South America.
- Net forest area has increased in over 60 countries and territories, most of which are in the temperate and boreal zones.

Source: FAO Forestal 2015

Forest area kept increase 40year 1973-2013 1<sup>st</sup>-8<sup>th</sup> forest inventory investigation

- Suitable afforestation area kept decrease
- Forest quality still need to be improved



Source: SFA 2015

## 2. Forest Resource Management Method in China

Three certificates management system

- **Forest Harvest Quota Certificate**

Need receive it before any commercial harvest behaviours

Issued by local forestry authority

- **Forest Transportation Certificate**

- Need receive it before transport any log cross the local administrative boundary (county, city, province)

- Issued by local forestry authority

- **Forest Process/Manufacture certificate**

- Need receive it when set up wood process factory

- Issued by local industry and commerce bureau together with local forestry authority



# 3. Forest Resource Planning in China

## 3.1 National Forest Inventory investigation system

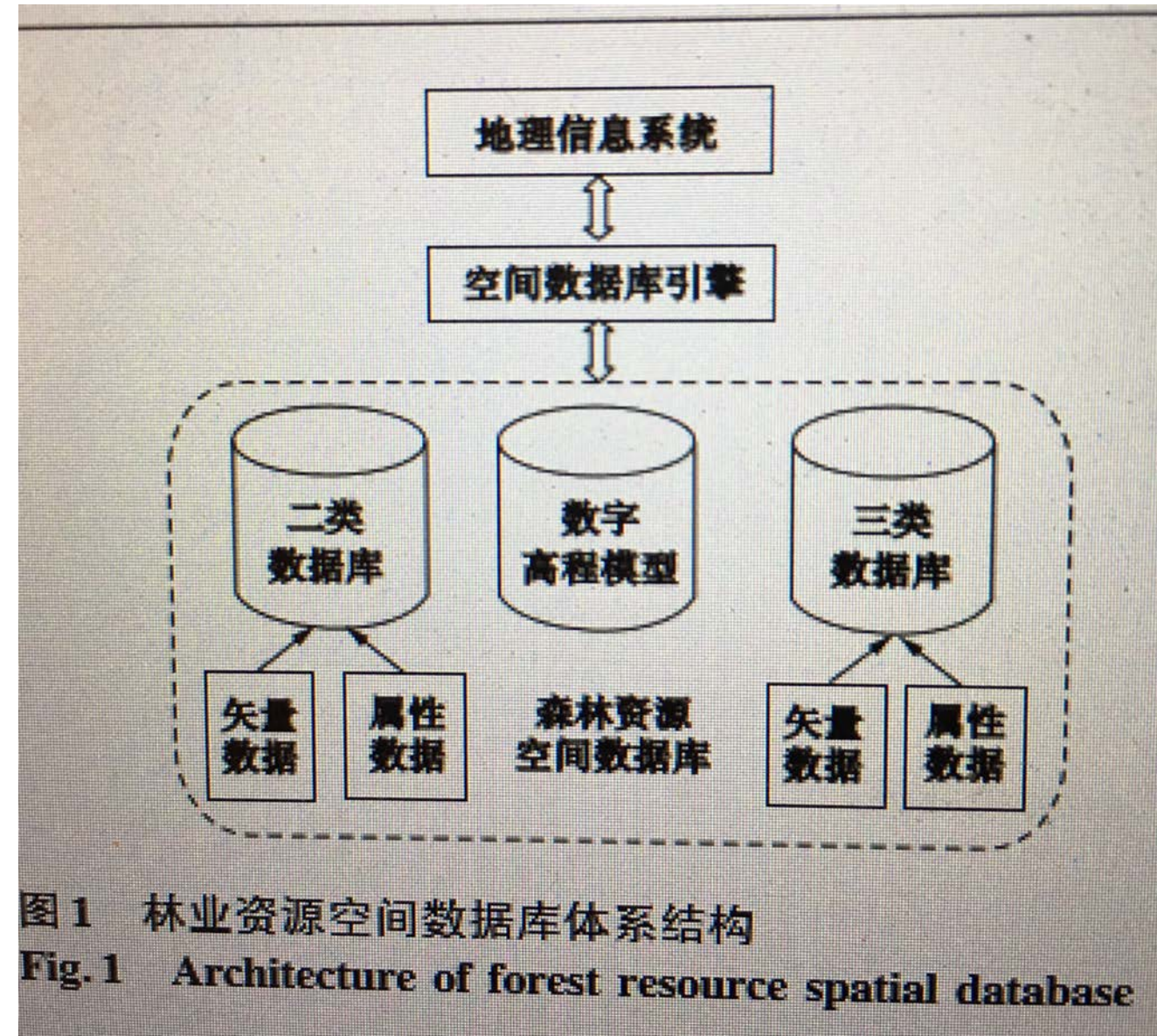
- Every 5 years, start from 1973
- The latest one is 8th and covered 2008- 2013
- Recorded the forest resource change in past 40 years
- Every year 1/5 provinces attend the investigation and sum data into national data every 5 years.
- Investigation covered 5 areas: Land use coverage change, landscape and soil, forest features, forest functions and others.
- Set permanent sample can be in size of 2 km×2 km、3 km×4 km、or 8 km×8 km, and total area must larger than 0. 06 hm<sup>2</sup>.
- Provide the consolidate foundation for forest management planning
- Forest ecological foundations investigation and data need to be improved





# 3. Forest Resource Management Planning in China

- 3.2 Forest resource management planning
- Down to up approach: collect the data from village county level and summarize them
- Every management unit/company/village /county /city/province have the forest management plan
- GIS data also be collected
- Collected data were used in management and forest management plan and set the forest harvest quota





# 3. Forest Resource Planning in China



图2 森林经营模型设计  
Fig. 2 Design of forest management model

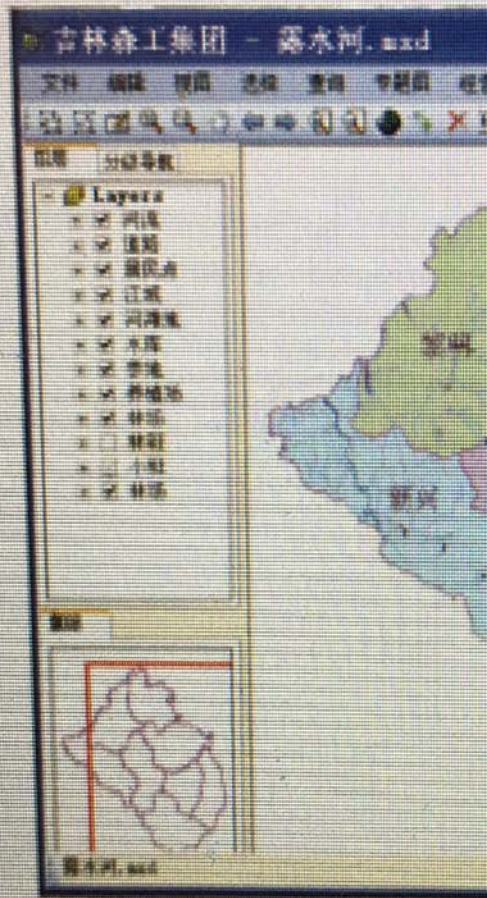


图5 森林经营决策支持地理  
Fig. 5 Main interface of forest management decision support system

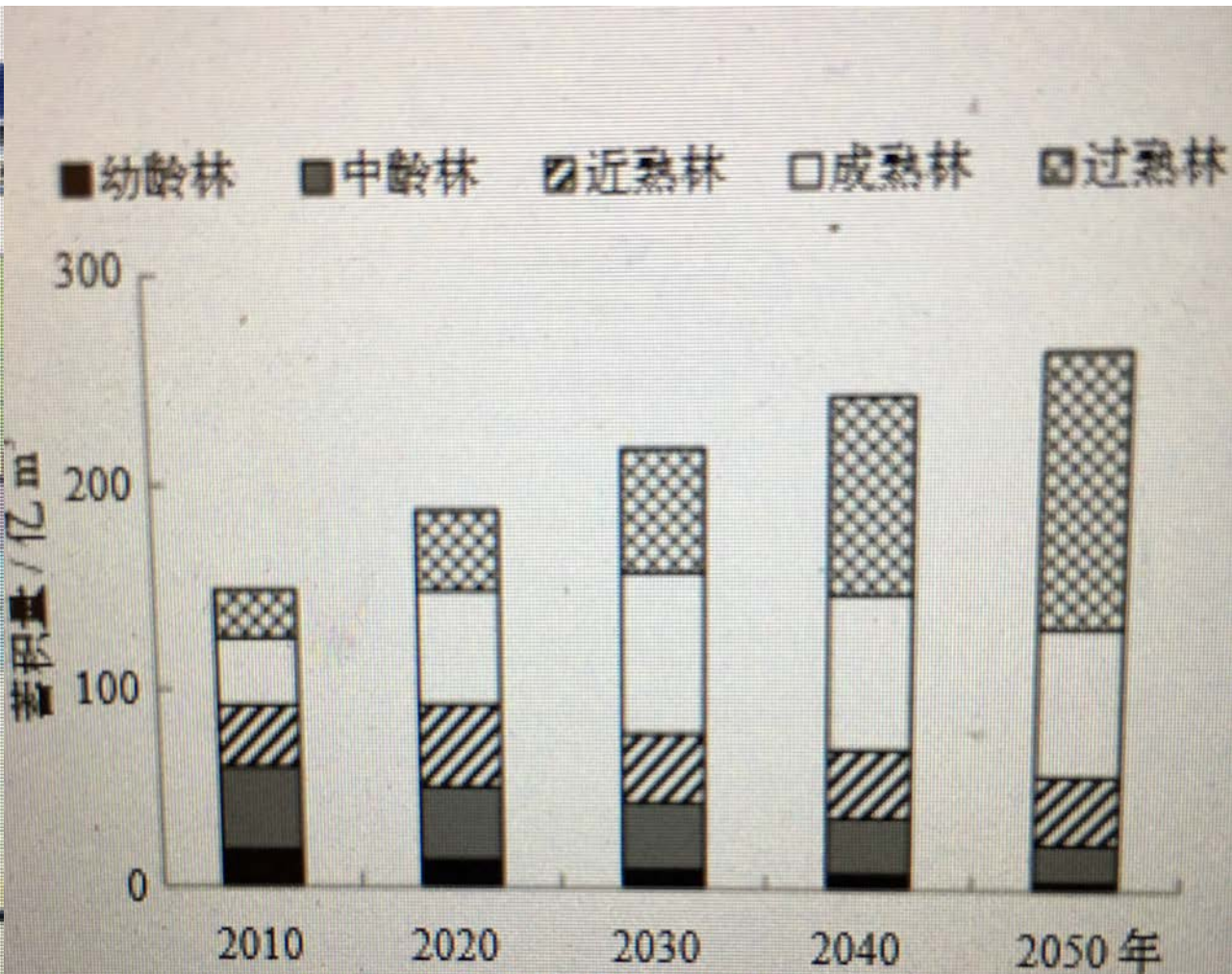
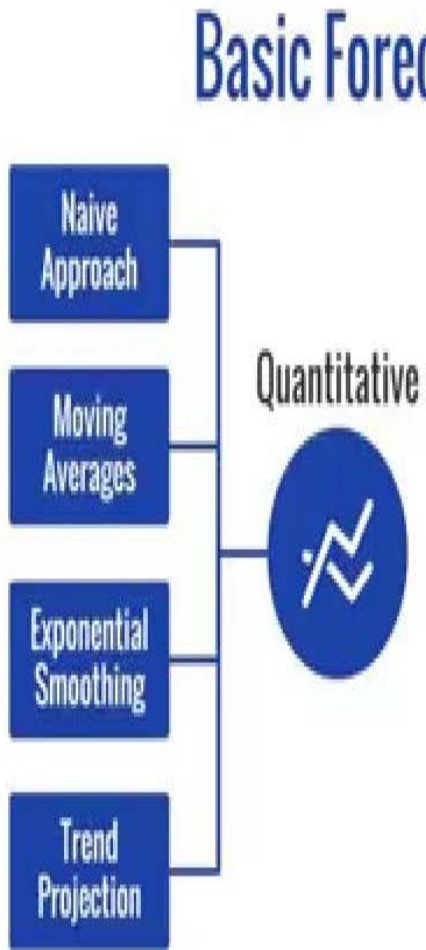
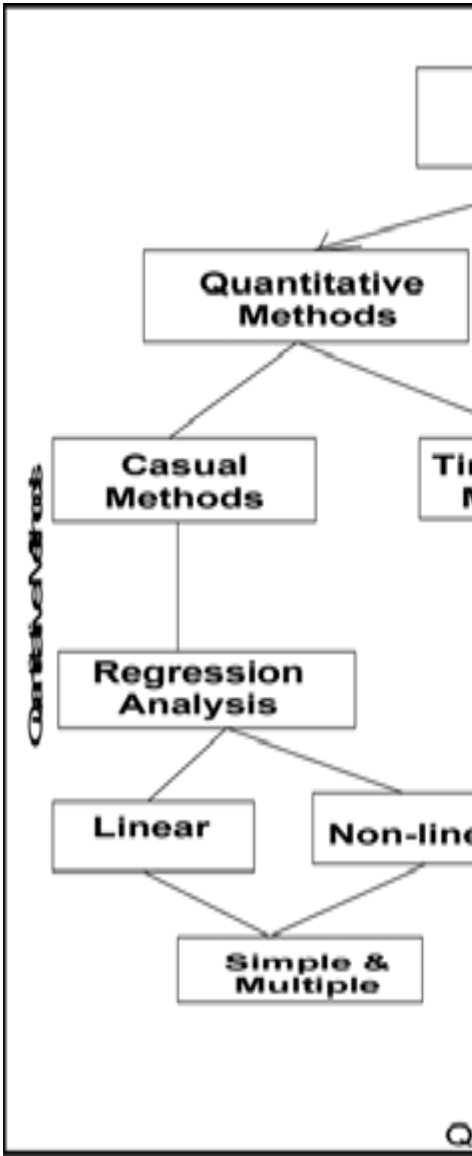


图1 中国乔木林未来蓄积量  
Fig. 1 Future accumulation of Chinese forest

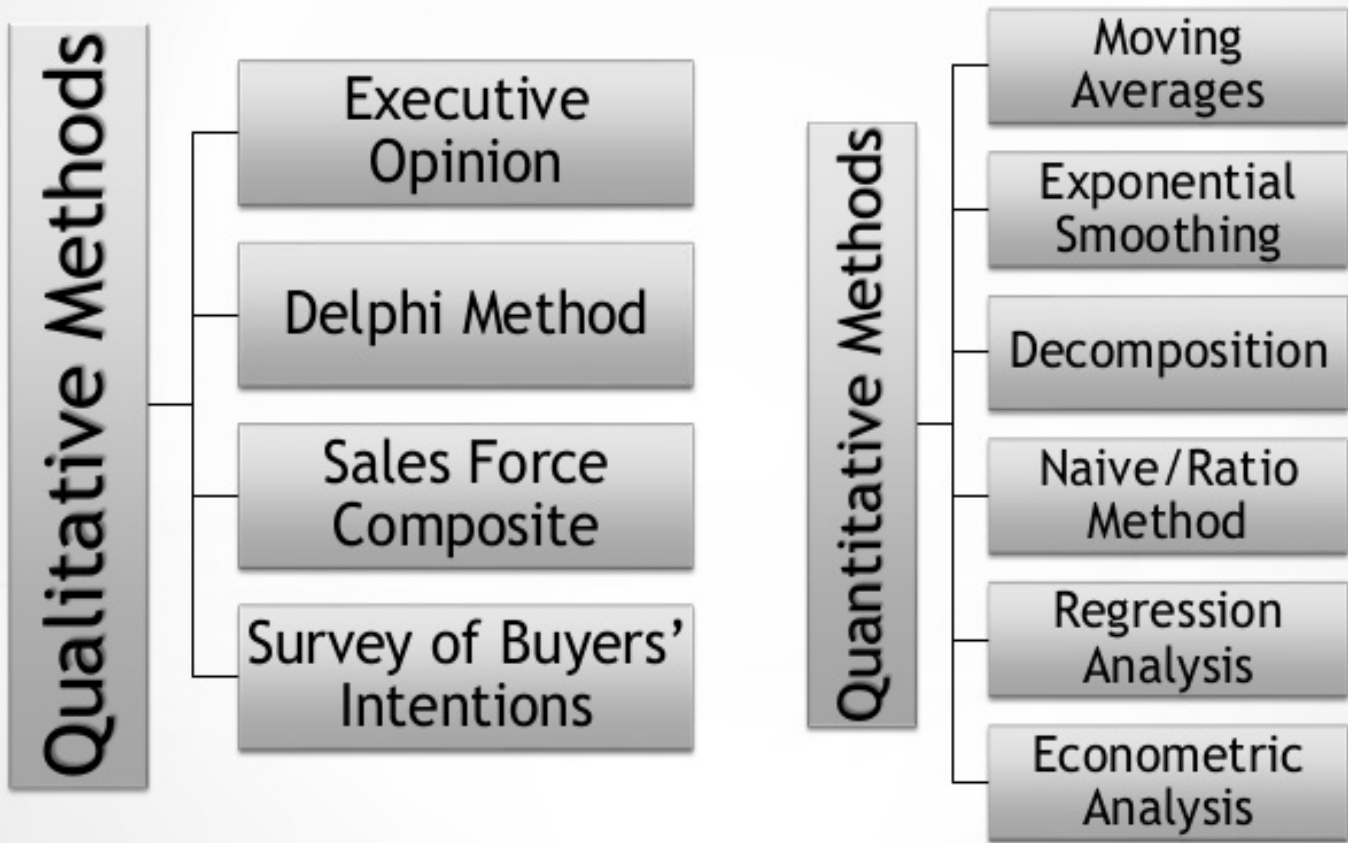


# 4. Foresight application in China's forest resource management

Foresight as a economic tool to be used to support and make the decision



Sales forecasting methods or techniques can be classified as:



## 4. Foresight application in China's forest resource management

- However, in China **“Foresight”** was not a popular term comparing with **“Forecasting”**
- Foresight and Forecasting shared common goals and functions
- Previous slides showed China has set up systematic forest resource management forecasting and decision supporting system
- How better use forecasting to support better decision also is important issue faced by Forest resource management system in China, global lesson learn and sharing are welcome both on academic and policy level.



# Thanks!



*Photo: Sanit Fuangnakhon / Shutterstock*

For more information, please contact:  
Xiaoqian Chen: [xiaoqian.chen@efi.int](mailto:xiaoqian.chen@efi.int)