




# **Wood Protection in China**


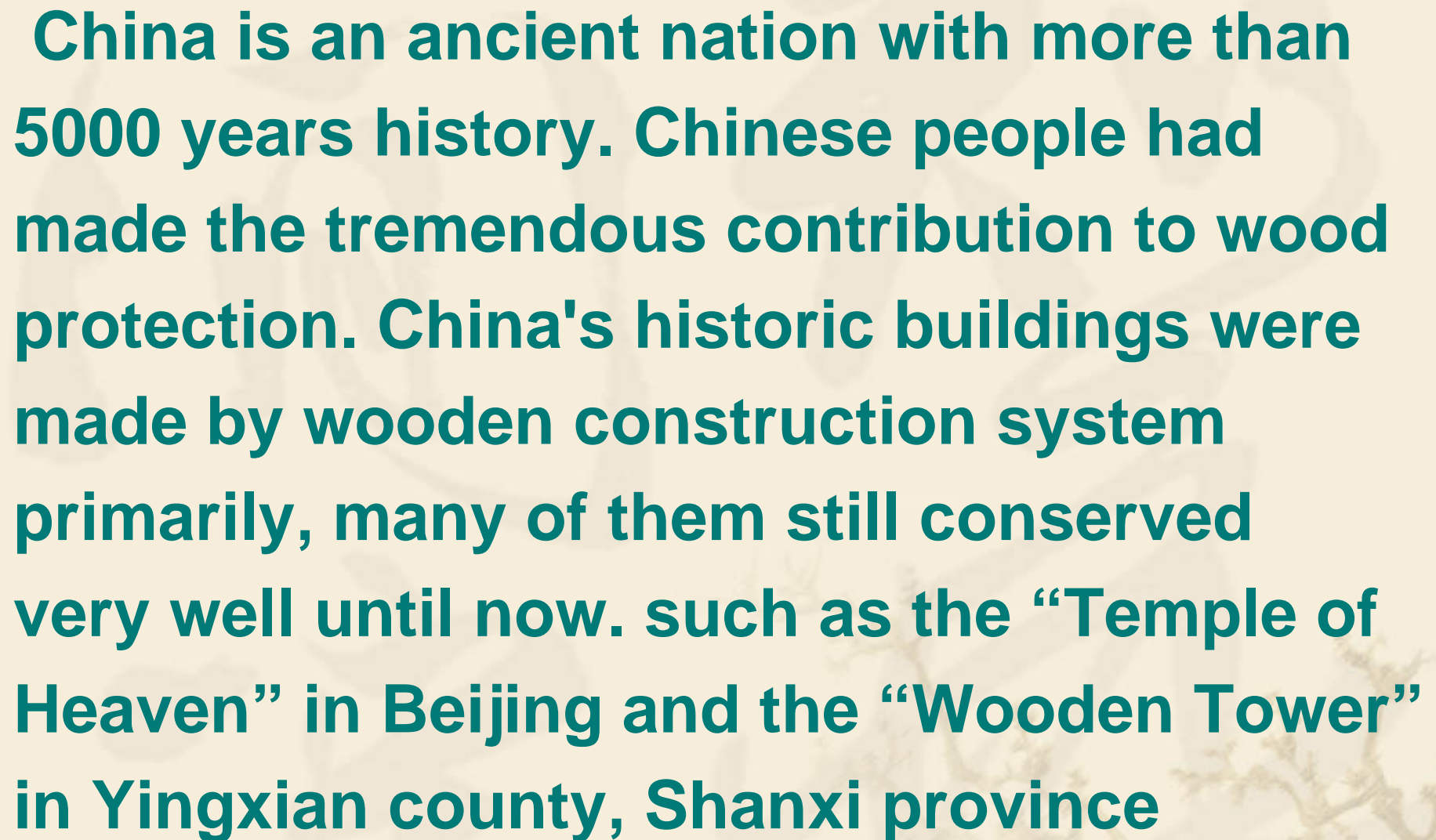
**Prof Zhongwei Jin**

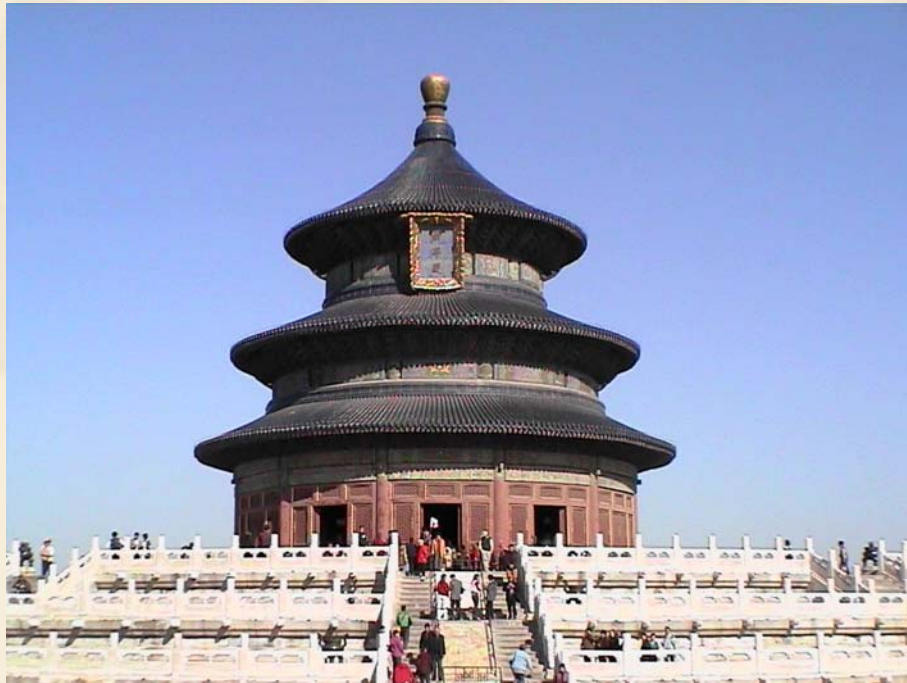
Nanjing Forestry University





**China is an ancient nation with more than 5000 years history. Chinese people had made the tremendous contribution to wood protection. China's historic buildings were made by wooden construction system primarily, many of them still conserved very well until now. such as the “Temple of Heaven” in Beijing and the “Wooden Tower” in Yingxian county, Shanxi province**







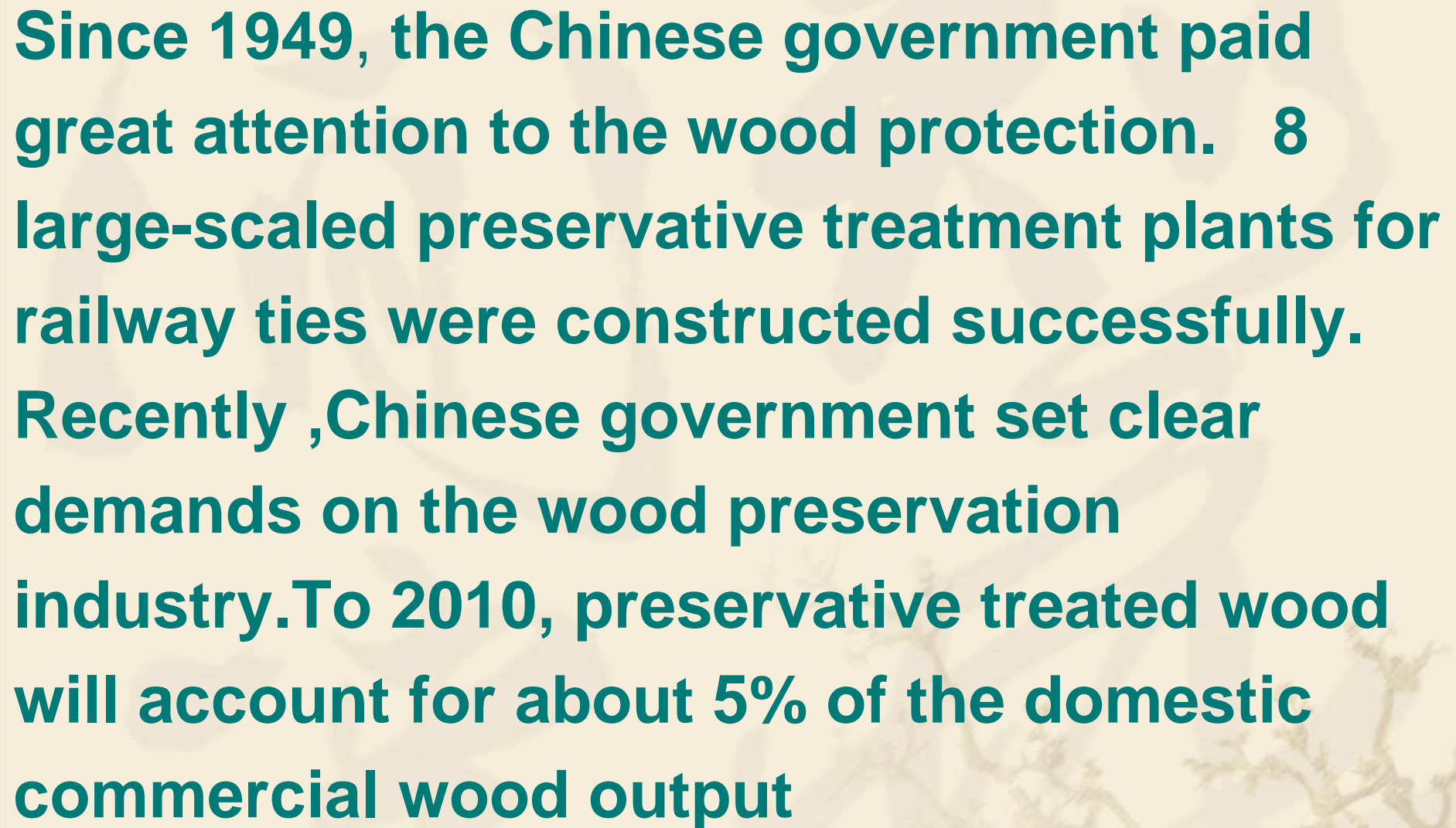
**Temple of Heaven**



**Wooden Tower**



**Since 1949, the Chinese government paid great attention to the wood protection. 8 large-scaled preservative treatment plants for railway ties were constructed successfully. Recently, Chinese government set clear demands on the wood preservation industry. To 2010, preservative treated wood will account for about 5% of the domestic commercial wood output**



# Contents

- ❖ **The present situation of wood protection industry in China**
- ❖ **Main Research organizations in China wood protection industry**
- ❖ **Main management organizations**
- ❖ **Current Status of wood protection standardization system**
- ❖ **Establishment of the quality assurance system**
- ❖ **Conclusions**

## **The present situation of wood protection industry in China**

**More than 300 enterprises.,Distribute in 20 provinces, mainly concentrated in Shanghai, Beijing, Zhejiang, Guangdong, Sichuan providences.**

**Annual production is about 1,000,000 cubic meters, accounting for less than 2% of total domestic commercial wood consumption.**

## **preservative -treated products**

The main wood preservative- treated products include:

1. Railway crossties
2. Timer structures in landscape/ garden
3. Rubber wood
4. Mining timber
5. Bamboo and bamboo ware
6. Thermo-modified wood
7. Fire-retardant treated wood
8. Other wood protection agents and technologies

## Wood preservatives

- ❖ large quantity---- CCA, ACQ
- ❖ small quantity----CBA-A, CA-B, CCB, water repellent chemicals and other preservative systems
- ❖ total consumption quantity of the preservatives is about 2500 ~ 3000 metric tons (as active ingredients) per year,among them ,CCA is 85%-90%,followed by ACQ at about 8%-12%

# Wood supply

- ❖ **Rely on foreign import heavily**

dominant species: Scots pine(Russian pine)

Market share  $\geq 80\%$

- ❖ **Seek for new resources**

Southern yellow pine、Radiata pine 、  
Western hemlock and so on

- ❖ **Native alternative species**

Yunnan pine, Chinese fir ,Masson pine

# treatment equipment

- ❖ Treating equipments are mainly produced internally
- ❖ Degree of automation is low ,the vessels are manually operated
- ❖ Common length of cylinder is 8-12 meters and diameter is 1.2-2.0 meters

## Main Research Organization

- ❖ Research Institute of Wood Industry, China Academy of Forestry.
- ❖ China Academy of Railway Science.
- ❖ Research Institute of Microbiology, China Academy of Science.
- ❖ Wood Protection Institute, Nanjing Forestry University.
- ❖ College of Materials Science and Engineering, Beijing Forestry University.
- ❖ College of Materials Science and Engineering, Northeast Forestry University.
- ❖ College of Materials Science and Technology, Central South University of Forestry and Technology.
- ❖ China Wood Protection Quality Supervision and Test Center

# Management Organizations in China's Wood Preservation Industry

- ❖ Timber Value Promotion and Sustainable development Center P.R.C
- ❖ Wood Protection Association of China (WPAC, Preparatory Group)
- ❖ China timber&wood products distribution association wood preservation committee
- ❖ Wood Protection Research Division- Wood Industry Branch of Chinese Society of Forestry

# **Timber Value Promotion and Sustainable development Center P.R.C.**

Mainly responsible for:

- ❖ drafting of plans and policies on the development of timber conservation and substitution industry
- ❖ examination of timber conservation and substitution demonstration projects
- ❖ organization and implementation of above projects
- ❖ Research and development of new technologies new materials, new processes and new products for timber conservation and substitution
- ❖ the organization of the relevant technical training and information consultancy

## Current Status of Standardization System

Recent years, there are many activities centered in standardization of wood protection chemicals, methods and technologies in China.

Timber Value Promotion and Sustainable Development Center P. R. C already has organized and completed the drafting work of more than 30 national and professional standards for wood protection. Especially the national standard for engineering application specification for preservative-treated wood has been authorized by the Ministry of Construction

## **Establishment of the quality assurance system**

**the framework of the quality control systems has  
been established, however**

**there is still a long way to ensure the quality of the  
treated wood products in the market place for  
fair competitions**

# Conclusions

- ❖ **production scale is still small**
- ❖ **The techniques and equipments are primitive and need to be improved**
- ❖ **products need to be further rationalized**
- ❖ **The invested funding for science and technology is insufficient**
- ❖ **related standards are in the early stage and the enforced, professional management is still lacking**



Thank You !