

# Forestry in Korea

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# Chapter 1. Korea

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# 1-1. History of Korea

Korea has over 4,000 years history. During that time Korea has kept their own country and culture. In the 20th century, Korea experienced great change. During 35 years, Japanese colonial occupation, division of North and South Korea by ideology and Korean War.

BC

2333

Gojoseon (Bronze Age) (2333 B.C.~200 B.C.)

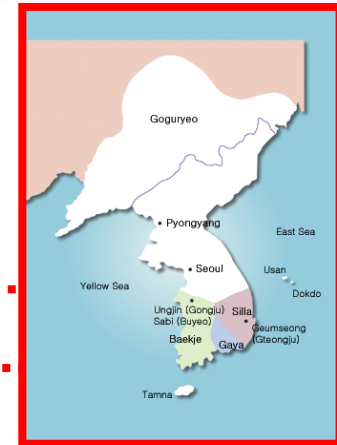
200

Samhan (Confederated Kingdom) (200 B.C.~100 B.C.)

57

AD

Silla, Goguryeo, Baekje (Three Kingdom) (57 B.C.~A.D.935)



935

Unified Silla & Balhae Kingdom (668-935)

918

Goryeo Dynasty (918-1392)

1392

Joseon Dynasty (1392-1910)



1910

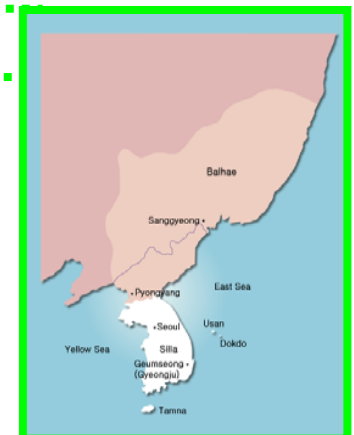
Colonial Occupation by Japan (1910~1945)

1948

Establishment of the Republic of Korea (1948)

1950

Korean War (1950~1953)



## 1-2. Origin of Name of Korea

The Name of Korea originated in Goryeo Dynasty (918~1392).

The oldest atlas indicating Korea which referred "Corea" in the map.

|      |   |
|------|---|
| BC   |   |
| 2333 | Gojoseon (Bronze Age)                   |
| 200  | Samhan (Confederated Kingdom)           |
| 57   | Silla, Goguryeo, Baekje (Three Kingdom) |
| AD   |   |
| 935  | Unified Silla & Balhae Kingdom          |
| 918  | Goryeo Dynasty (918-1392)               |
| 1392 | Joseon Dynasty                          |
| 1910 | Colonial Occupatiion by Japan           |
| 1948 | Establishment of the Republic of Korea  |
| 1950 | Korean War                              |



Frankius Atlas (1594)

Petros Frankius (1552~1622) : Dutch astronomer



### 1-3. Family Name “Corea”

The model of this painting, in 1617 by Peter Rubens, is assumed Antonio Corea. He moved from Korea to Italy and eventually fathered the “Corea” family lineage in Italy.



Peter Paul Rubens : Korean Man (1617)  
b.1577 d. 1640

| Family name “Corea” |   |
|---------------------|---|
| Korea               | In 1597, Japan invaded Joseon Dynasty. At that time many Koreans were forced to move to Japan as slaves.  |
| Japan               | Italian merchant Carleti bought 5 Korean slaves and brought one man to Florence, Italy.   |
| Italy               | Carleti gave him the name of ‘Antonio Corea’ and set him free. Antonio settled in Albi city, Southern Italy. Now over 300 family names of Corea live in Albi in Italy |
| America             | In 1904, 20 Coreas moved to America   |

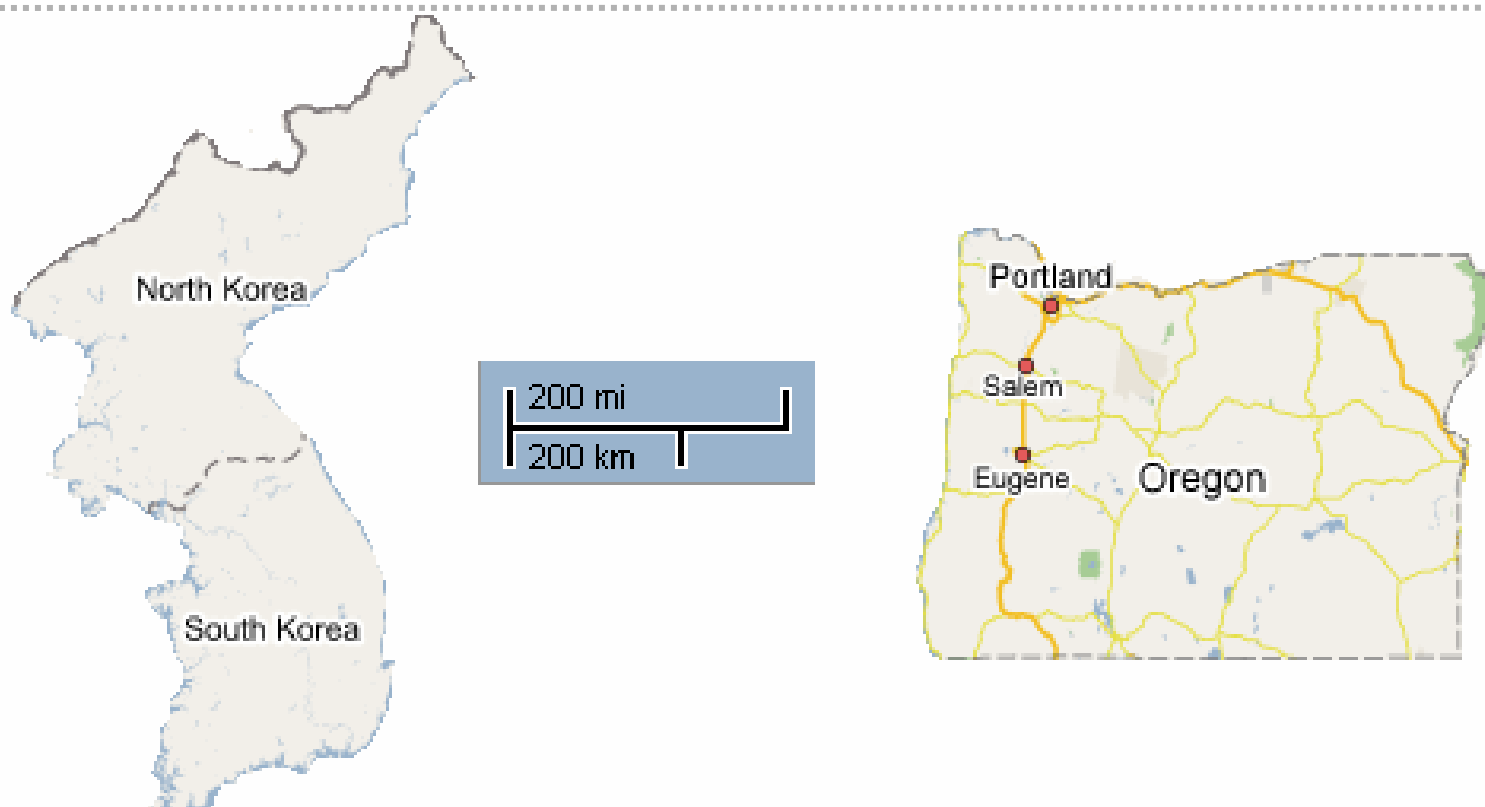
## 1-4. Geography

Korea is located in the Northeast section of the Asia continent, shares its northern border with China and Russia. And Japan lies beyond the East Sea of Korea



## 1-5. Comparison of Korea & Oregon

The Korean Peninsula is a little bit smaller in size than Oregon.  
But, the population is about 20 times more than Oregon.

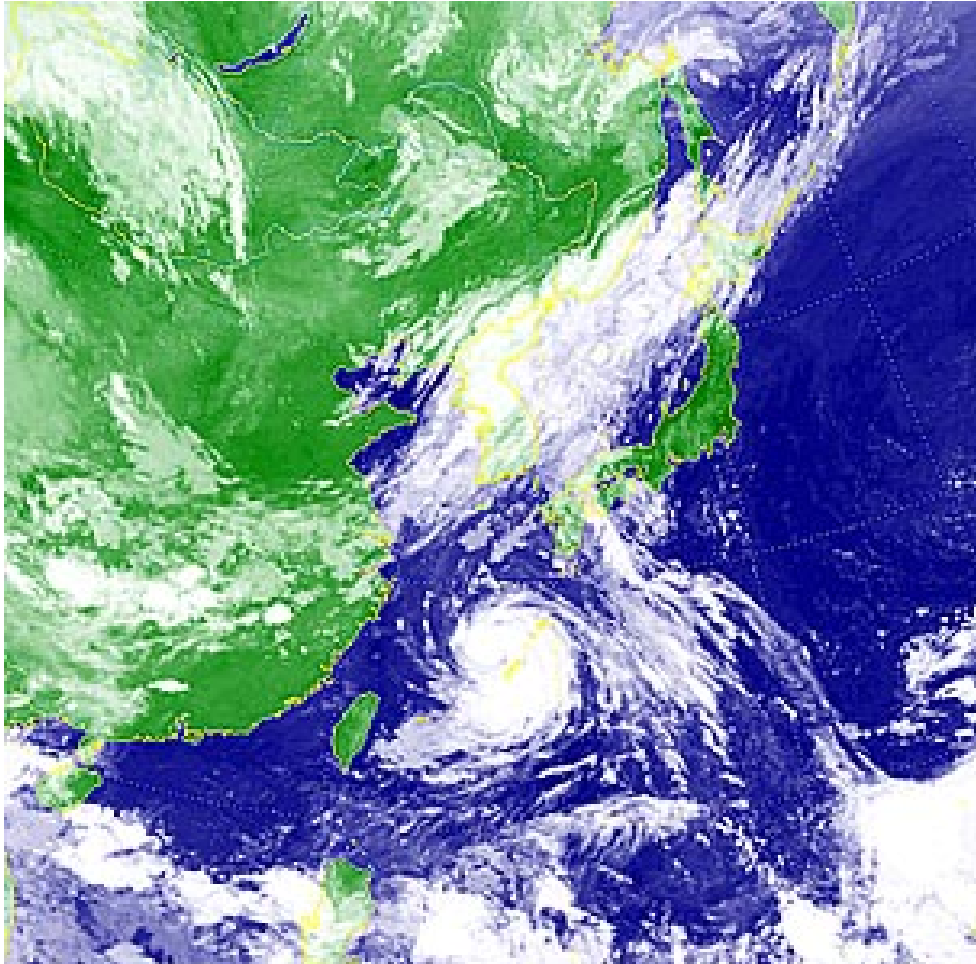


|            | North & South Korea |        |                            | Oregon                     |
|------------|---------------------|--------|----------------------------|----------------------------|
| Area       | N. Korea            | 47,415 | <b>85,833 square miles</b> | <b>98,381 square miles</b> |
|            | S. Korea            | 38,418 |                            |                            |
| Population | N. Korea            | 23     | <b>70.8 million</b>        | <b>3.5 million</b>         |
|            | S. Korea            | 48     |                            |                            |



## 1-6. Climate

Korea has a temperate climate characterized by 4 distinct seasons.  
Summer and winter are relatively longer than spring and fall.



Typhoon in Summer  
From south of Pacific

|        | Month | Climate  | Feature                                      |
|--------|-------|----------|--|
| Spring | 3     | 43~59°F  | “Dust Storms from northern China desert      |
|        | 4     |          |  |
|        | 5     |          |  |
| Summer | 6     | 66~86 °F | 45~60% of rainfall is concentrated in summer |
|        | 7     |          |  |
|        | 8     |          |  |
|        | 9     |          |  |
| Fall   | 10    | 50~62 °F | Dry air and blue sky                         |
|        | 11    |          |  |
| Winter | 11    | 14~43°F  | Cold and dry air<br>Snow                     |
|        | 12    |          |  |
|        | 1     |          |  |
|        | 2     |          |  |



## 1-6. Climate

Spring



Summer



Fall



Winter





## Chapter 2. Korean Forestry

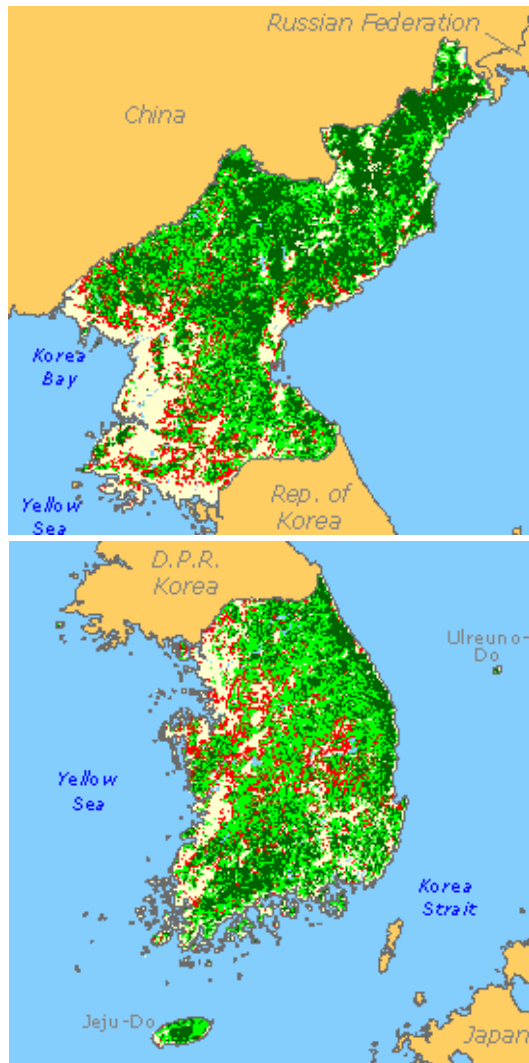
- 2-1. Land Area
- 2-2. Forest Distribution
- 2-3. Forest Type-South Korea
- 2-4. Forest Ownership-South Korea
- 2-5. Forest Development Plan-South Korea
- 2-6. Wood Products Industries-South Korea
- 2-7. Destruction of Forest in North Korea



## 2-1. Land Area

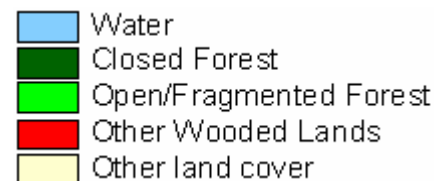
Mountains cover 70% of the land of Korea.

Forest land is larger in North Korea than South Korea.

But, forest stock is denser in South Korea.



|             | Land Area       | Forest Land   | Stock volume  |
|-------------|-----------------|---|---|
| North Korea | 12.3 Million ha | 8.5 Million ha  | 40.6 m3/ha  |
|             |                 |  |  |
| South Korea | 9.7 Million ha  | 6.5 Million ha  | 58.0 m3/ha  |





## 2-2. Forest Distribution

The Korean forests can be divided into warm-temperate, cool-temperate, and Sub boreal forest zones. Around 85% of forests are cool temperate forests.

Sub boreal forest

Temperature : 5°C and lower.

Forests : Coniferous,

Species : **Abies spp** (Fir), **Picea spp** (Spruce), **Larix spp** (Larch), **Juglans mandshurica** (Walnut), **Betula platyphylla** (Birch)

Cool-temperate forest

Temperature : from 6°C to 13°C.

Forests : Broadleaved deciduous trees

Species: **Quercus spp** (Oak), **Zelkova spp.**, **Fraxinus spp** (Ash), **Pinus densiflora** (Pine), **P. koraiensis**.

Warm-temperate forest

Temperature : higher than 14°C.

Forests : deciduous, mixed, or coniferous forests.

Species : **Quercus actua** (Oak), **Castanopsis cuspidata**, and **Camelia japonica**.

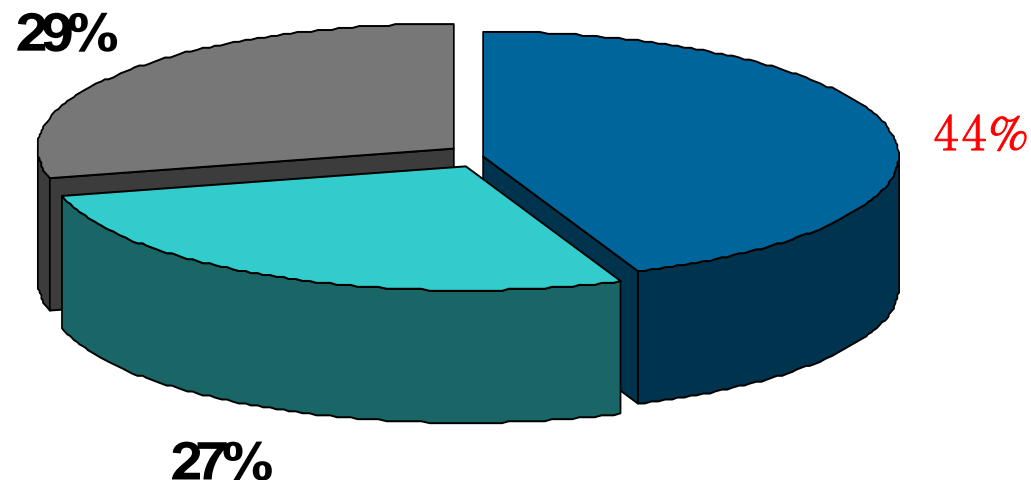
## 2-3. Forest type - *South Korea*

Forest types in South Korea have been classified into 3 categories which are conifers, broad-leaf, and mixed forests, Conifer forest occupies the largest portion at about 44%.

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▶ Mixed : 1.8 M ha

▶ Conifers : 2.9 M ha

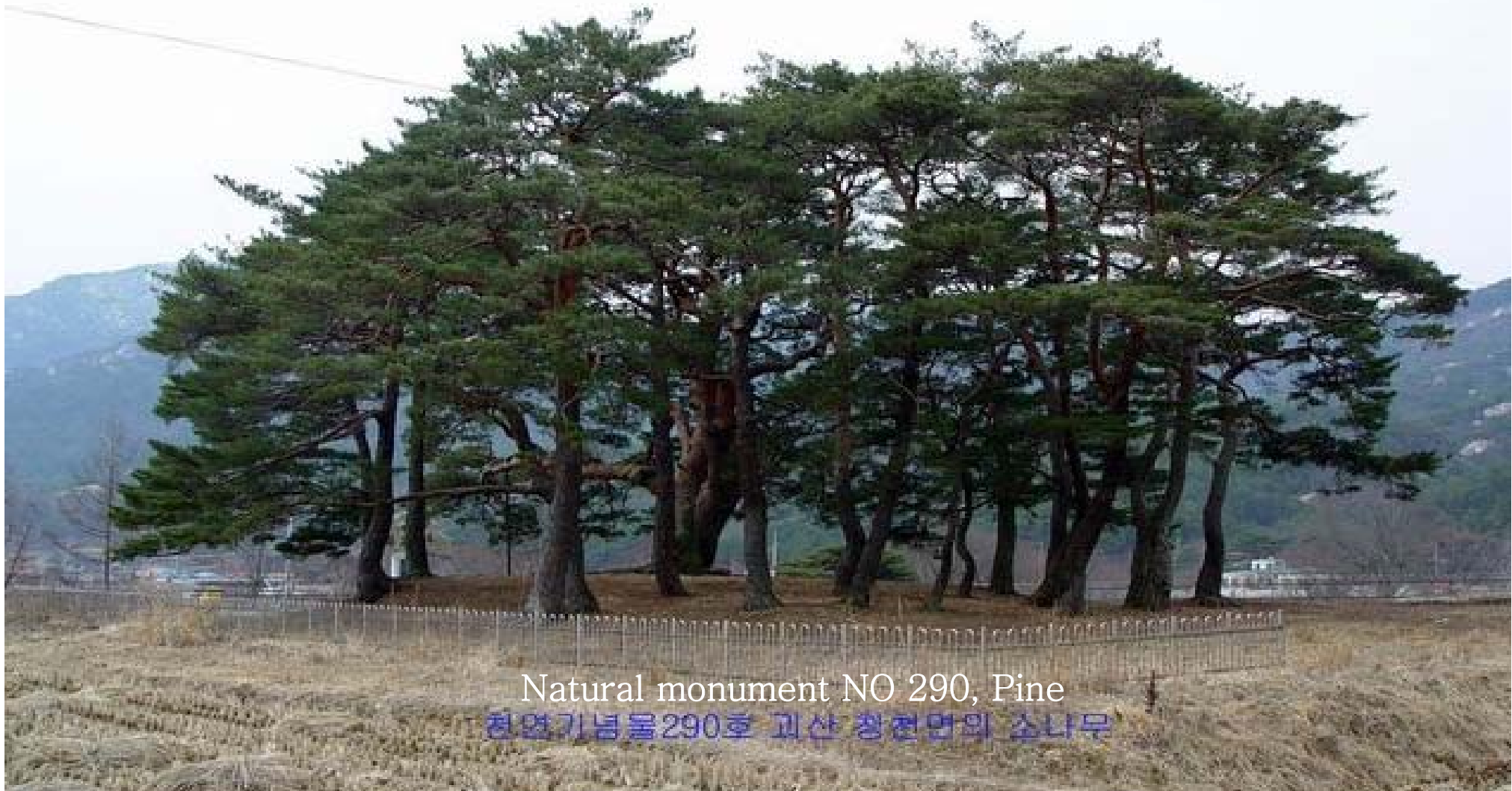


▶ Broad leaf: 1.7 M ha

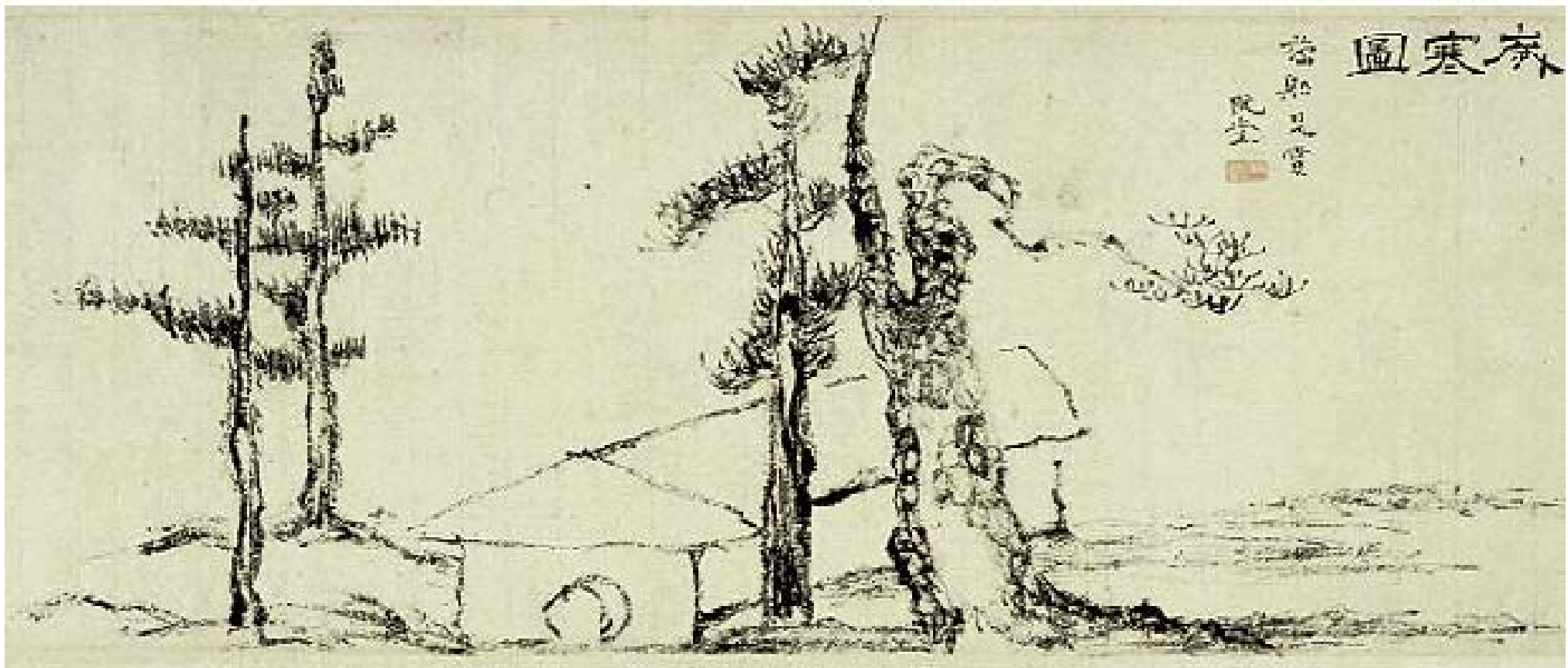
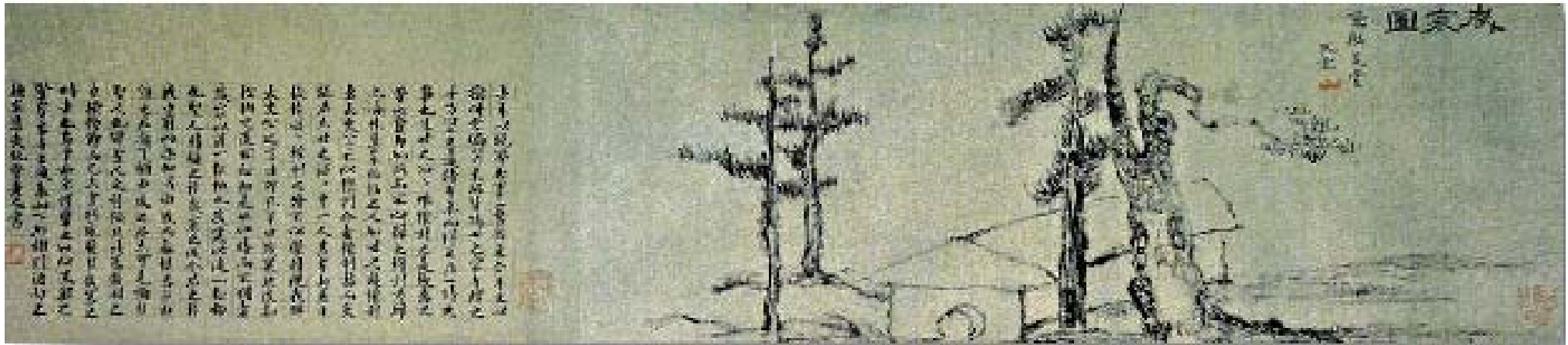
Total 6.5 millin ha

## 2-3. Forest type – *South Korea*

Gallup Korea says Koreans' most favorite tree is Pine (*Pinus densiflora* Sieb). 45.7% of people chose Pine. And the second is Ginkgo (7.5%) and the third is Camellia (5.5%).  
The reason why Koreans' like Pine the most is Pine is easily seen and keeps green in the winter.



## 2-3. Forest type - *South Korea*



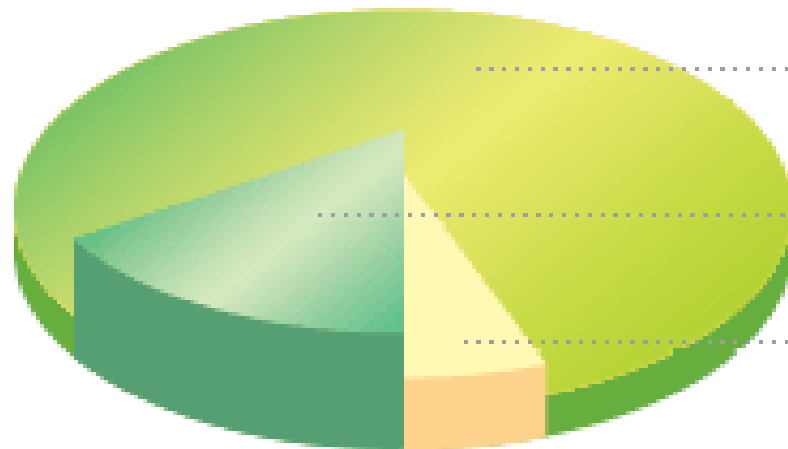


## 2-4. Forest Ownership - *South Korea*

Forest land is classified into National, Public and Private forests. Private forests occupy almost 70% of all forest land. 53% of private owners, who have less than 50 ha, do not actively manage their forest. So government tries to buy the non-managed private forest land to increase the National forest.

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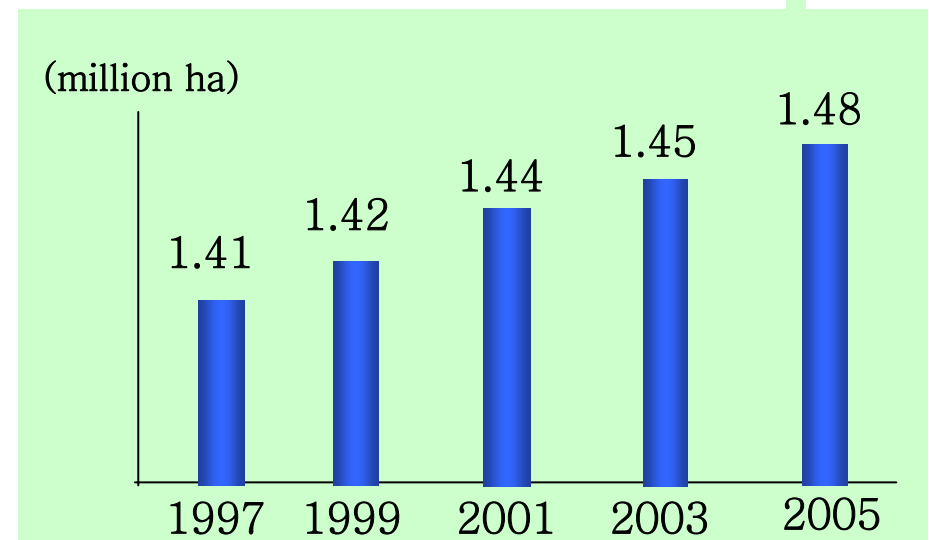
### ► Forest ownership (unit : Million ha)



Private forest 4.44 (69.4%)

National forest 1.48 (23%)

Public forest 0.6 (7.6%)



## 2-5. Forest Development Plan – *South Korea*

In the 19<sup>th</sup> century, Korean forests were rich old-growth forests.

However, these forests were destroyed by over-cutting during the Japanese occupation (1910~1945)



## *2-5. Forest Development Plan – South Korea*

And through the Korean War (1950~1953),  
Korean forests were totally destroyed.



## 2-5. Forest Development Plan – *South Korea*

A turning point in Korean forestry was The First 10 Year Forest Development Plan in 1973.

### History of Reforestation

- 1961 : Registration of Forestry law
- 1967 : Installment of Korea Forestry Service
- 1973 : The First 10-year Forest Development Plan
- 1979 : The Second 10-year Forest Development Plan
- 1988 : The Forest Resources Enhancement Plan
- 1998 : The Fourth 10-year Forest Development Plan

So Korea has only had about 30 years of modern forest management.

1960's Erosion controlled mountain

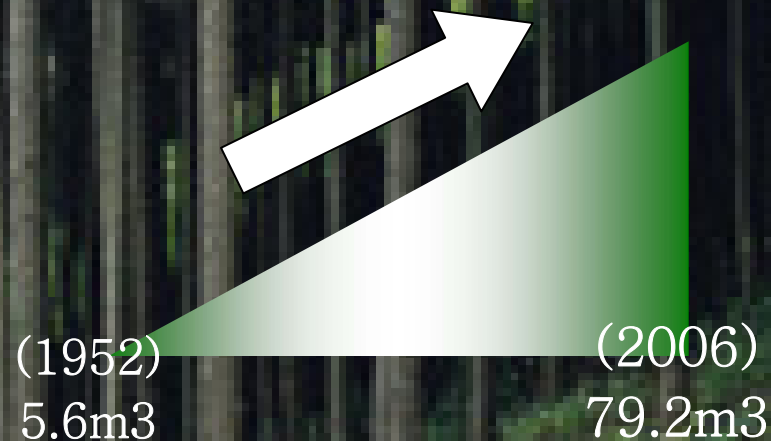


## 2-5. Forest Development Plan – *South Korea*

*“ South Korea’s reforestation is a great accomplishment in the world, Like in this case, we can make green earth again.”*

Mr. Lester Brown, President of Earth Policy Institute, Plan B 2.0 : Rescuing a planet under stress and a civilization in trouble)

Stock volume per ha



## 2-6. Wood Products Industries – South Korea

But, 59% (38million ha) of South Korean forests are under 30 years and still growing.  
So we depend on imports for 90% of our raw forest products.

### ► Top Exported Products ■ Value : \$ million

| DESCRIPTION     | 2005       | SHARE(%)    |
|-----------------|------------|-------------|
| Wooden Material | 61         | 35%         |
| Chestnuts       | 42         | 24%         |
| Plywood         | 36         | 20%         |
| Mushrooms       | 20         | 11%         |
| Others          | 17         | 10%         |
| <b>TOTAL</b>    | <b>176</b> | <b>100%</b> |

million

### ► Top imported Products ■ Value : \$ million

| DESCRIPTION      | 2005                | SHARE(%)    |
|------------------|---------------------|-------------|
| Logs             | 704                 | 30%         |
| Plywood & Panels | 397                 | 17%         |
| Lumber           | 304                 | 13%         |
| Wood furniture   | 265                 | 11%         |
| Fiberboard       | 192                 | 8%          |
| Veneers Sheets   | 130                 | 6%          |
| Particle Board   | 121                 | 5%          |
| Others           | 214                 | 10%         |
| <b>TOTAL</b>     | <b>2,327million</b> | <b>100%</b> |

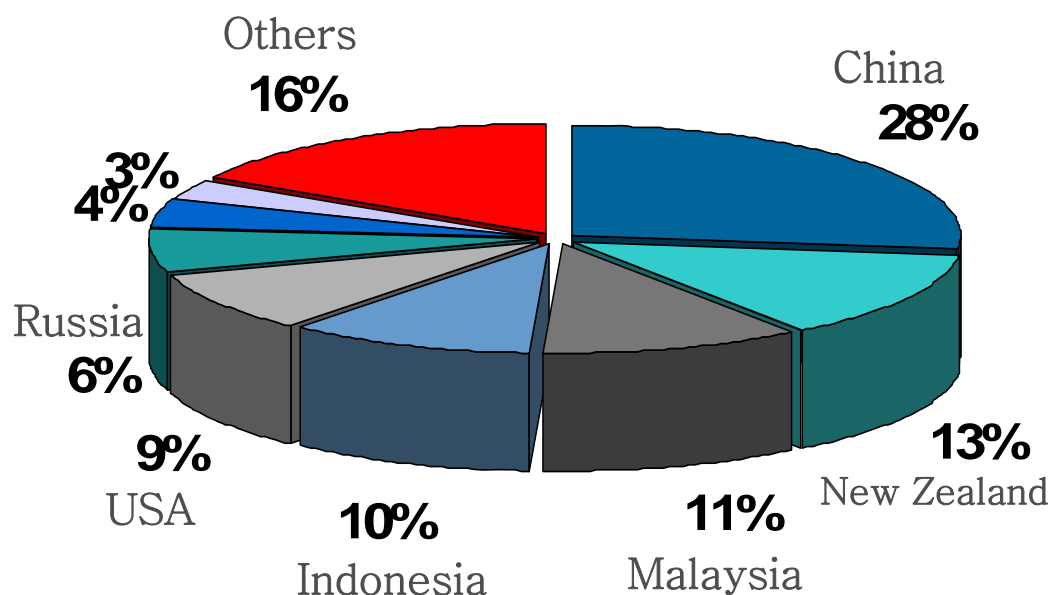
## 2-6. Wood Products Industries – South Korea

South Korea's main import sources are China, New Zealand and Malaysia.

■ Value : \$ million

### ► South Korea import sources

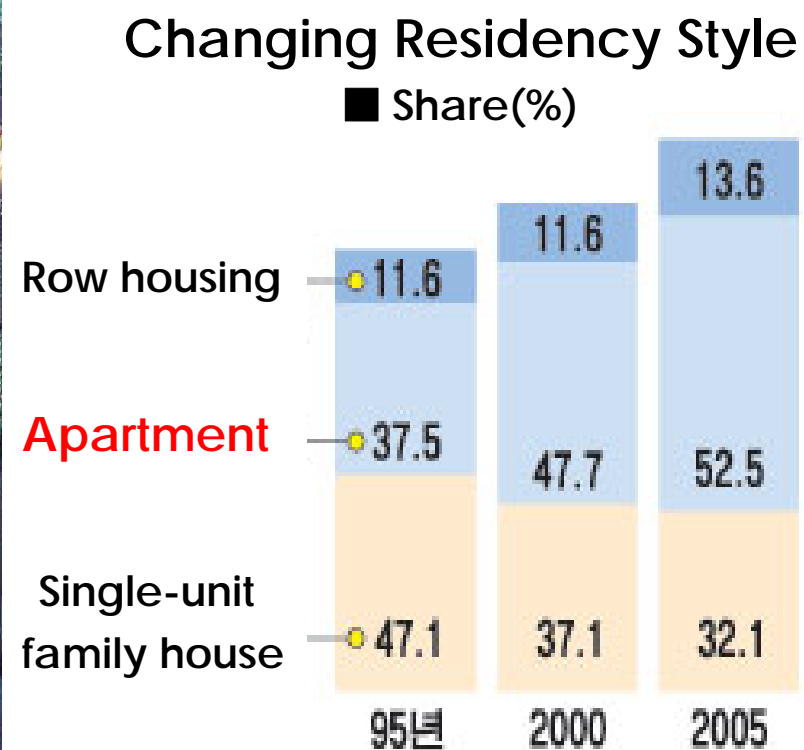
■ Commodity : Wood Products



| Partner Country | 2005                | SHARE(%)   |
|-----------------|---------------------|------------|
| China           | 624                 | 28%        |
| New Zealand     | 309                 | 13%        |
| Malaysia        | 249                 | 11%        |
| Indonesia       | 239                 | 10%        |
| United States   | 211                 | 9%         |
| Russia          | 147                 | 6%         |
| Canada          | 94                  | 4%         |
| Australia       | 72                  | 3%         |
| Other countries | 382                 | 16%        |
| <b>World</b>    | <b>2,327million</b> | <b>100</b> |

## 2-6. Wood Products Industries – *South Korea*

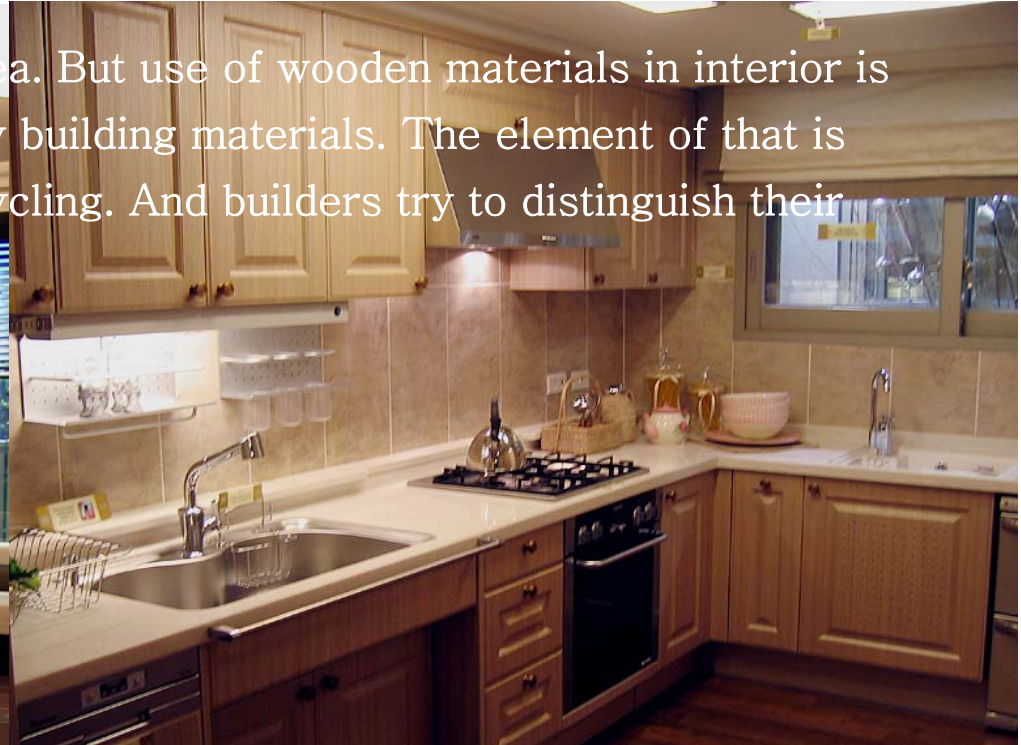
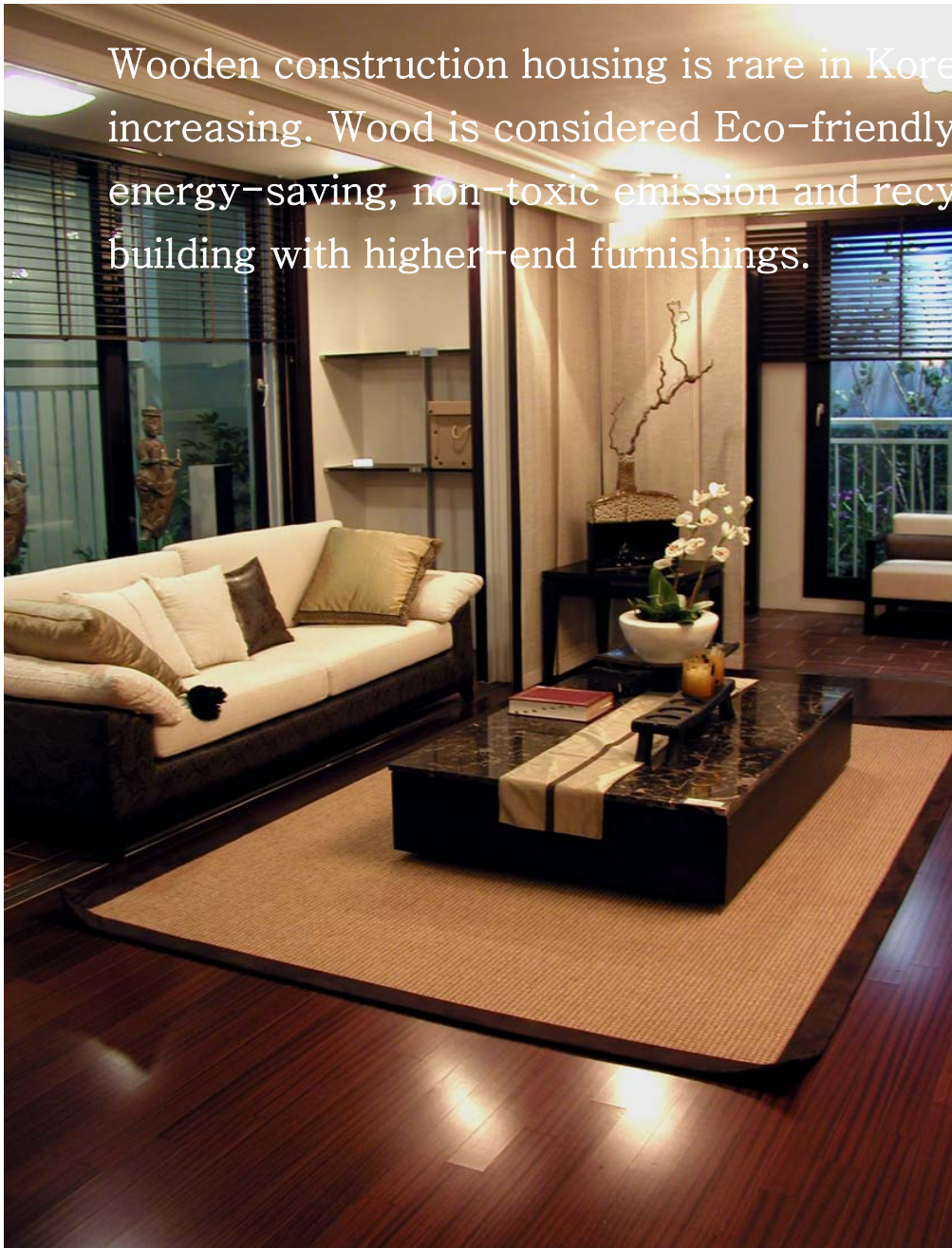
Recently, half of Koreans live in high-rise apartments which are mainly constructed by concrete. Single-unit family housing is declining, while apartment living is increasing. Apartment living is considered a higher standard of living.





## 2-6. Wood Products Industries—*South Korea*

Wooden construction housing is rare in Korea. But use of wooden materials in interior is increasing. Wood is considered Eco-friendly building materials. The element of that is energy-saving, non-toxic emission and recycling. And builders try to distinguish their building with higher-end furnishings.



How much forest has been destroyed in North Korea?

*Estimated by FAO and KREI, 2~2.4 million ha destroyed.  
That is 25% of forest area in North Korea.*

- ▶ 2.24 million ha (27% of the Forest Area)

Korea Rural Economic Institute Report

- ▶ 2 million ha (25% of the Forest Area),

FAO and UNDP Report

Food and Agriculture Organization of the United Nations  
United Nations Emergency Force



## 2-7. Destruction of Forest – *North Korea*

Reasons for deforestation ?

- 1. Conversion of low mountain forests into farmland*
- 2. Logging for fuel wood for cooking and heating*
- 3. Commercial logging for export revenue*

© Артёмия Лебедев

## What is the result of forest destruction ?

*1. Destruction of Ecosystems*

*2. Decline of Soil Quality*

*3. Environmental problems*

- \* Flooding*
- \* Dust Storms*
- \* Land Slides*

- Flooding in July, 2006 – UN Report
1. 154 people died, 127 people missing
  2. 7.4 million acre Farmland damage  
(10million ton loss of foodstuff)

Dust Storm in Seoul

## 2-7. Destruction of Forest – *North Korea*

Corn field



Terrace bean field



Logging for fuel



Logging for fuel





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## Chapter 3. EAGON

3-1. About Eagon

3-2 Eagon Network

3-3. Eagon Subsidiary

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### 3-1. About Eagon

Eagon is a vertically integrated wood products company. We deal with all cycles of trees, from breeding and planting to manufacturing and recycling.



### 3-2. Eagon Network

Eagon has 5 domestic companies in Korea and 6 overseas network.  
2,500 people working for Eagon.





### 3-3. Eagon Subsidiary

## EAGON INDUSTRIAL

Eagon Industrial, as a mother company in Eagon, they bring the logs from Eagon Solomon Island and other countries and produce plywood and many kinds of boards.

.....





### 3-3. Eagon Subsidiary

## EAGON WINDOW & DOOR SYSTEMS

Eagon Window & Door systems has the largest window manufacturing facilities in Asia.  
They created the High-quality system window market in Korea.  
Eagon windows are installed in major buildings in Korea,

.....

Wooden window



System Window

Curtain Wall

Aluminum Curtain wall



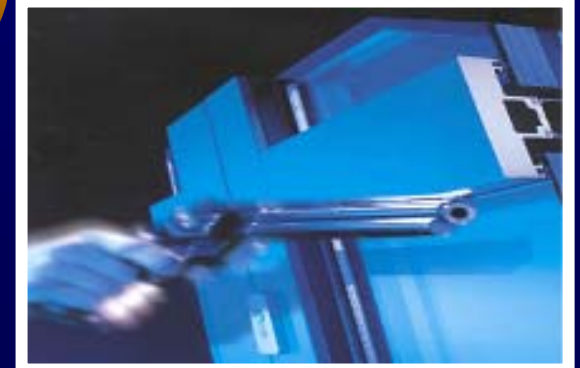
PVC window



PVC Window

Special Window

Bullet Proof, Solar cell



EAGON  
이건창호

### 3-3. Eagon Subsidiary

Also Eagon first introduced the wood flooring in Korea. Eagon Living has about 45% of market share in wood flooring market.

Residential  
Flooring

▪ Modern Pattern flooring



▪ Korean traditional style flooring



Commercial  
Flooring

▪ Wooden flooring for commercial space



▪ Flooring for court



### 3-3 Eagon Subsidiary

### EAGON INTERIOR

Eagon produces wood furniture.



- **BUILT-IN Furniture**  
Living Room Furniture  
Bedroom Furniture
- **Kitchen Furniture**





### 3-3. Eagon Subsidiary

## EAGON ENVIRONMENT

Eagon Environment produce landscape architecture facilities and wood recycling products. Landscape architecture will be a new business model for Eagon's future

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Noise-proof wall



Recycling Wood Container



Green pallet



Deck



Wood pavement





### 3-3. Eagon Subsidiary

## EAGON SOLOMON ISLAND

From 1979, Eagon has established tropical plantations in Solomon Island.

Eagon manages around 3.4 million ha.

Eucalyptus, Teak and Mahogany are the 3 major plantation species.

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Eucalyptus Nursery



Grafting



Logging



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## Chapter 4. Senior Housing

4-1. Project Background

4-2. Change of Lifestyle

4-3. Project Questions & Expected Output

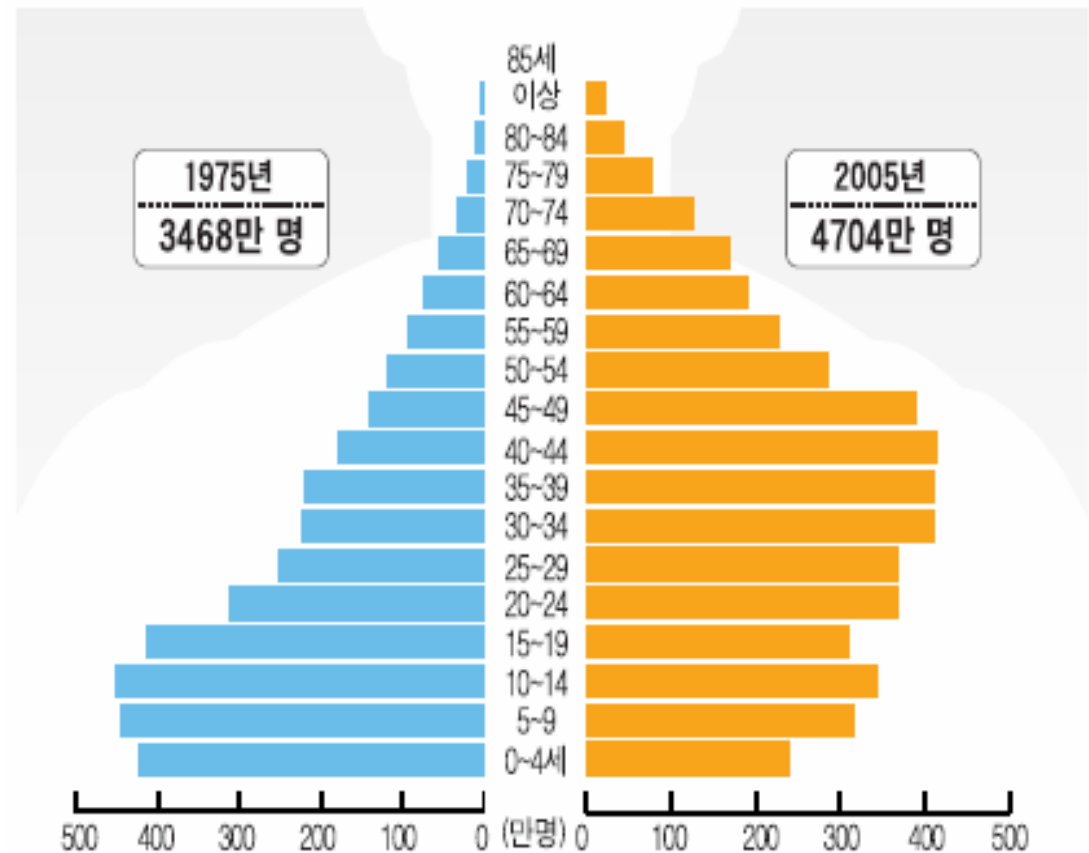
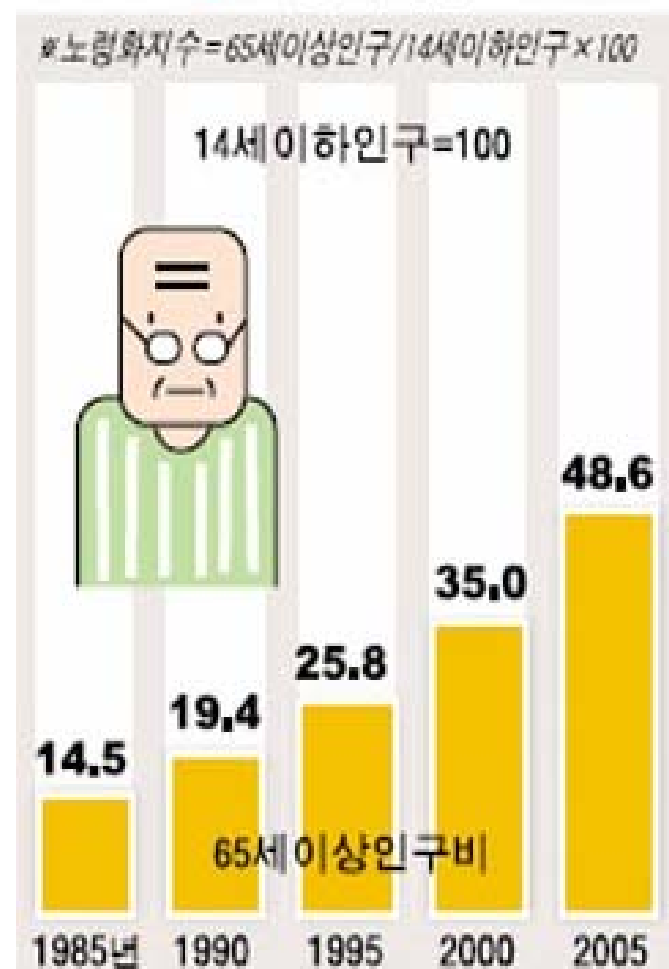
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## 4-1. Project Background

Now 9.1% of people is above 65 years old. By 2026, 20% of people will be above 65 years old. Korean society is expected to become a “Super-aged Society”

This is due to low birthrates and an increase in life expectancy.

### ◆ Aging Index



Aging Index number = More than 65 / Less than 14 × 100



## 4-2. Change of Lifestyle

50 years ago, 3 generation families were common in Korea. But now, Korean society has changed very dramatically. Nuclear family and High-rise apartment is the common life style. It is impossible to live together with the elderly.

The past



Current



## 4-2. *Change of Lifestyle*

Therefore, the development of facilities for seniors has become a key issue in Korea. But, Korea does not have a well-developed system of housing catering to elderly needs.

► Assisted Living Facilities in US

Eagon has interest in developing senior housing constructed of wood instead of concrete. So I am here to review senior housing in U.S, to see design features and consumer needs of this population.

## Project Questions

- ❖ What types of housing are available in US?
- ❖ What kind of lifestyles do the elderly want?
- ❖ What kind of services do they offer?
- ❖ How much money needed to use the facilities?

## ❖ Project output

It will be a report on the architectural characteristics and trends of senior housing in US, in order to draw lessons for use in Korea.



# End of Document

T h a n k s