

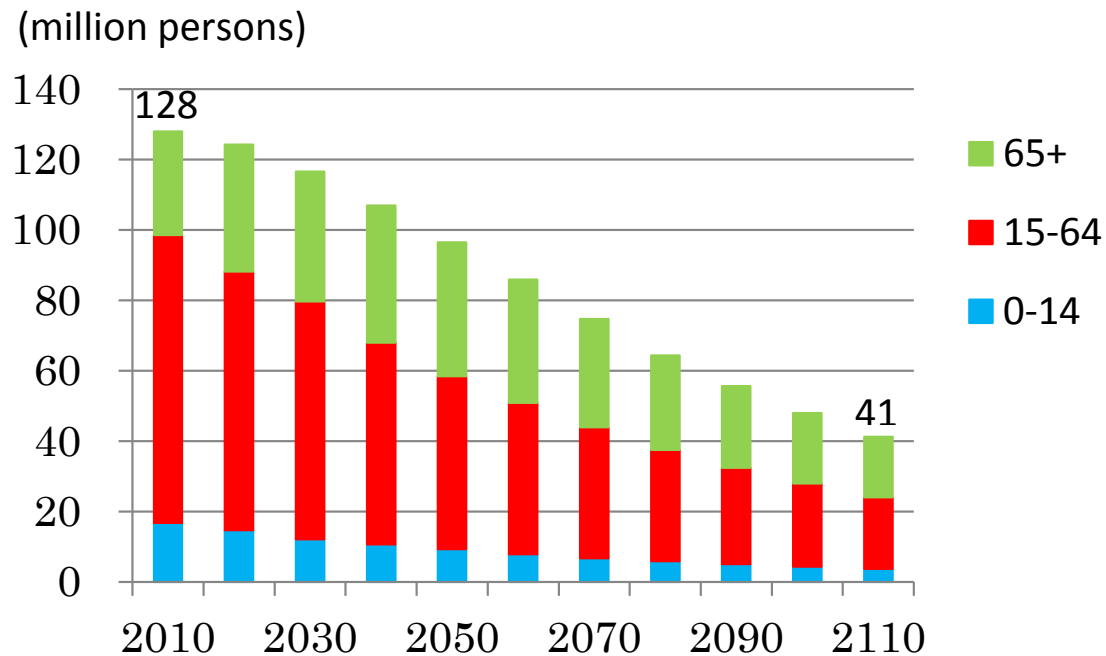
# Household composition and aging of forest owners in Japan

Analysis of individual data from the 2000 World Census of Agriculture and Forestry

Koji Matsushita\*, Yoshio Yoshida and Tetsuji Senda  
(Kyoto University, Japan; \*matsu@kais.kyoto-u.ac.jp)

IUFRO Unit 4.05.00, BOKU, Vienna, Austria, 10 May, 2016

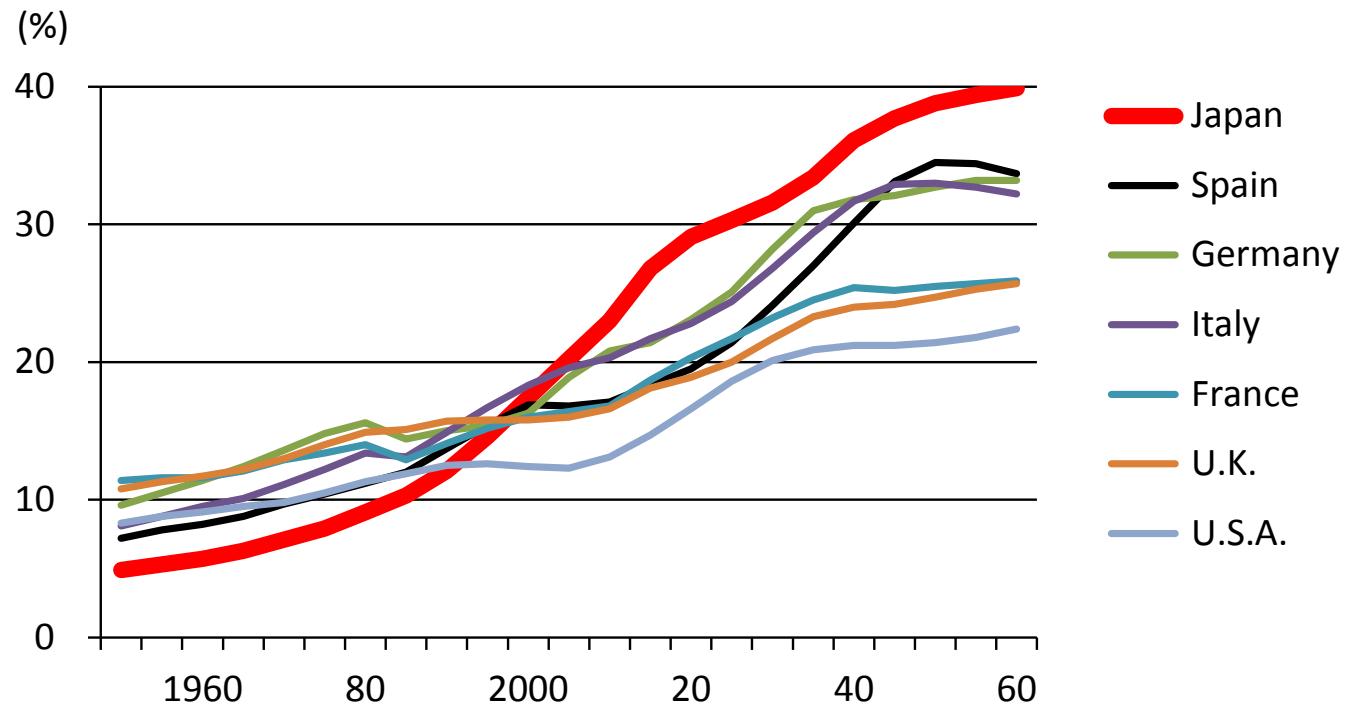
# Prediction of population in Japan



Source: National Institute of Population and Social Security Research,  
Population Research Series, No.327, 2013

Note: Estimation of the average birth rate and the average death rate

# Prediction of % of 65 years and over



Source: Cabinet Office Japan, Annual Report on the Aging Society, 2015  
U.N. World Population Prospects, The 2012 Revision

# Objectives

- Coniferous plantation forests are now increasing. Private owners own 73% of plantation forests in volume. Thus **the decisions of private forest owners** become increasingly important; decisions such as how to cut and when to cut.
- The situation of private forest owners must now be clarified statistically. Especially the following two will have to be clarified:
  1. **Size** of household and **age** of householder
  2. Planting and timber sales  
classified by **size** of household and **age** of householder
- The two keywords are **size**, **meaning the number of persons**, in the household, and **age** of householder.

# Brief history of Forestry Census

1960	Start of Forestry Census
1990	Survey target: <u>forest owners who have forest over 0.1 ha.</u> Number of forest owners <b>2,509,000</b> private owners + <b>354,000</b> other management entities
2000	Survey target: <u>forest owners who have forest over 1 ha.</u> Number of forest owners <b>1,019,000</b> private owners + <b>153,000</b> other management entities
2005	Agriculture Census + Forestry Census → Combined New survey target (Forestry): <ul style="list-style-type: none"> <li>• <u>owners who conducted forest practices during the past 5 years</u></li> <li>• <u>owners who have a forestry management plan</u></li> </ul> Number of forestry management entities = <b>200,000</b>

We used the **2000** Forestry Census.

# Method

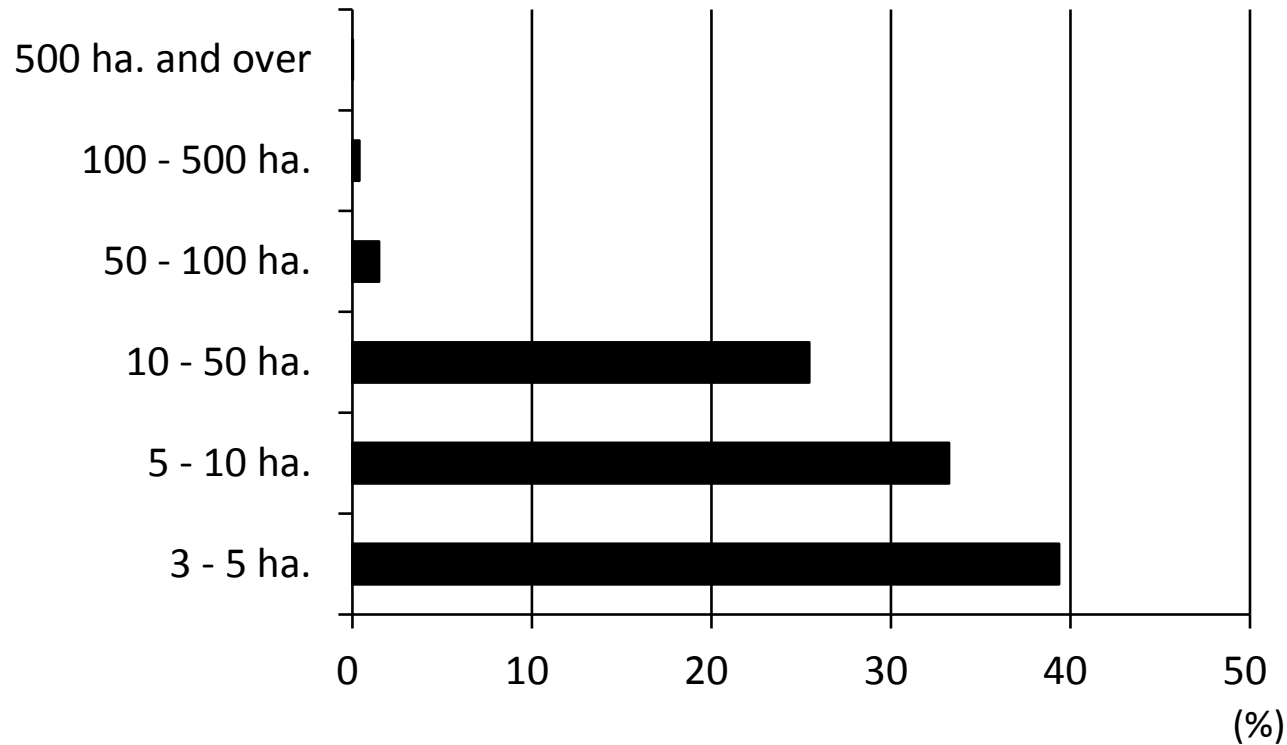
Creating new dataset by combining the following:

- 2000 Forestry Census (forestry data)
- 2000 Agriculture Census (household data)

## 2000 Forestry Census

- **Forestry (3ha.+) + Agriculture: 28% (N=283,839)**
- Forestry (1-3 ha.) + Agriculture: 37%
- Forestry only: 36%

# Holding size of forests



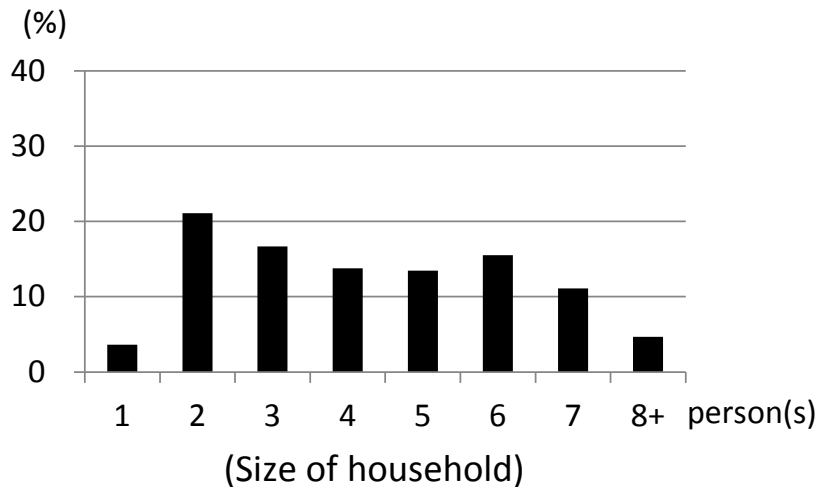
# Results: Household Composition

1. **Size**, **number of persons**, in the household
2. **Age** of householder and inheritor

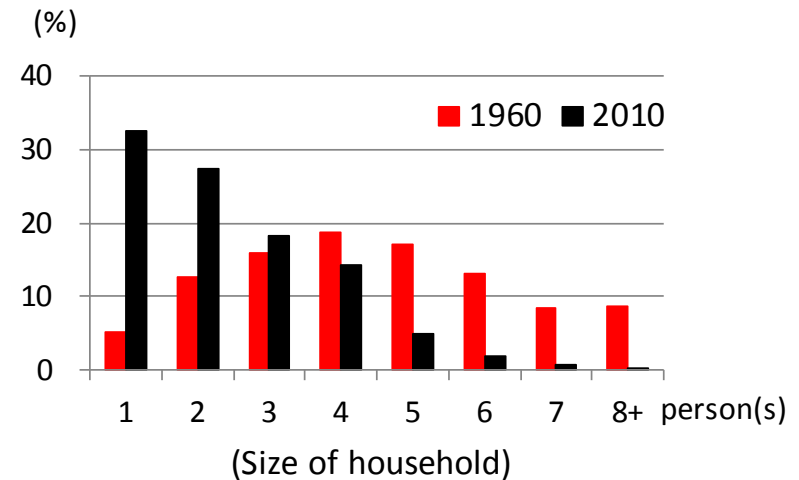


# 1. Size of household

## Forest owners in 2000

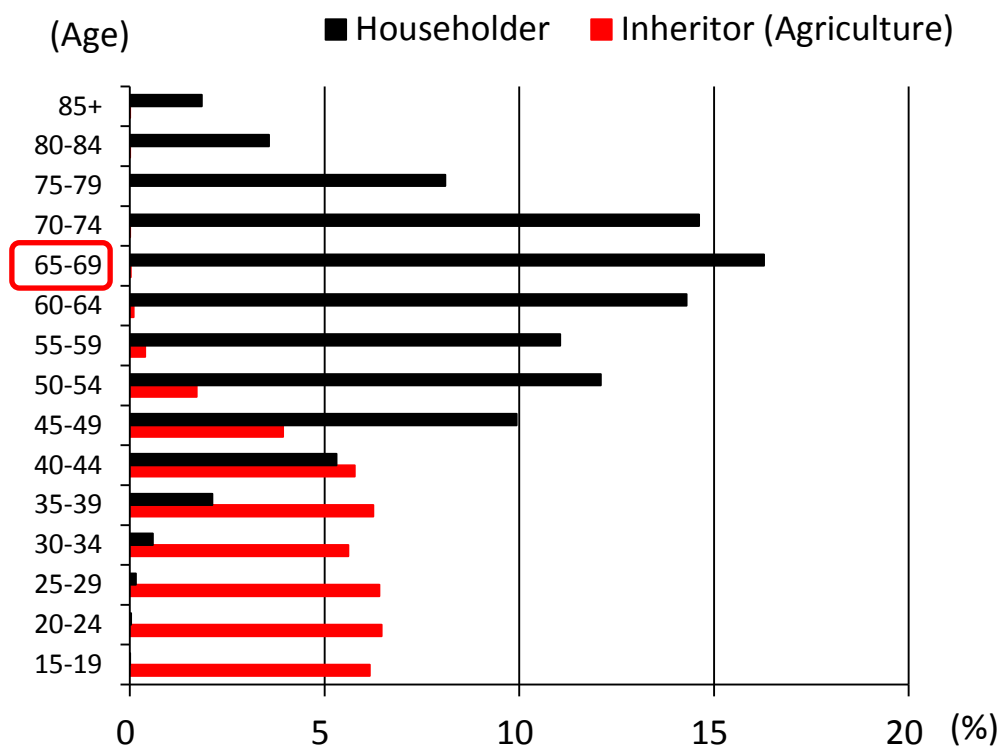


## Total Japan (Reference)



Source: Japan Statistics Yearbook (1982, 2016)

## 2. Age of householder and inheritor



### Householder

65 and over = 44.4 %

50 and over = 81.9 %

(65+ in 2015)

### Inheritor (Agriculture)

In household = 42.9 %

Out of household = 16.1 %

Lack of an inheritor = 41.0 %

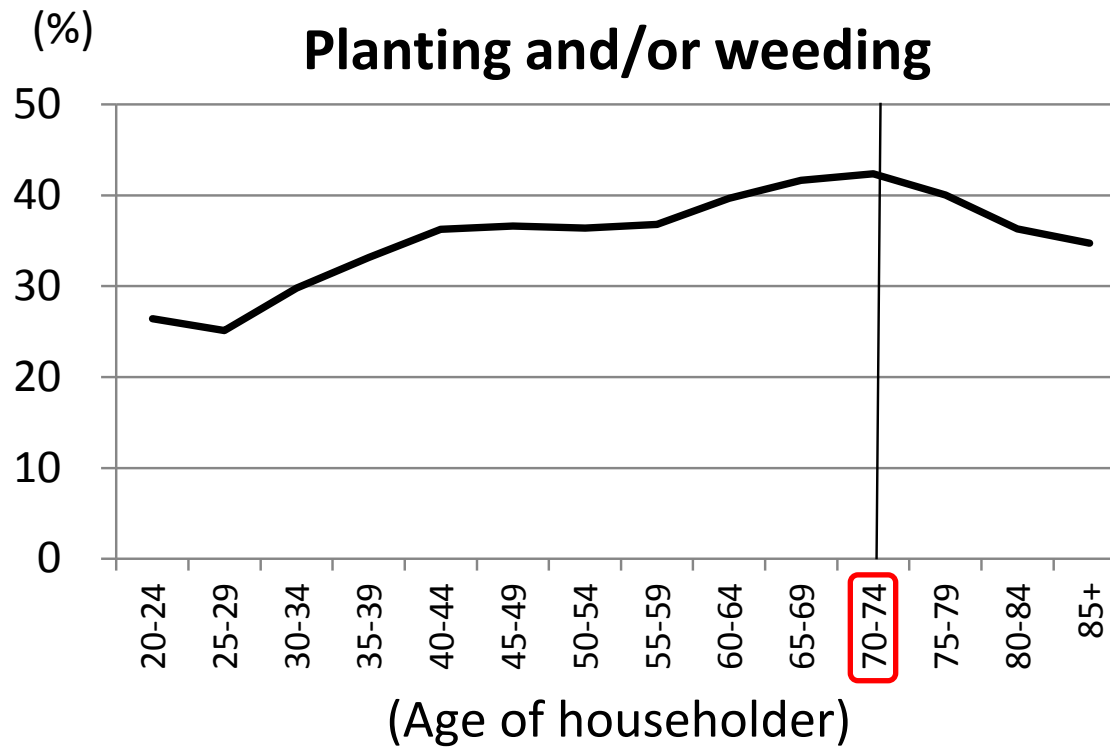
## Results: Planting and Timber Sales

1. Planting by **size** of household
2. Planting by **age** of householder
3. Timber sales by **size** of household
4. Timber sales by **age** of householder

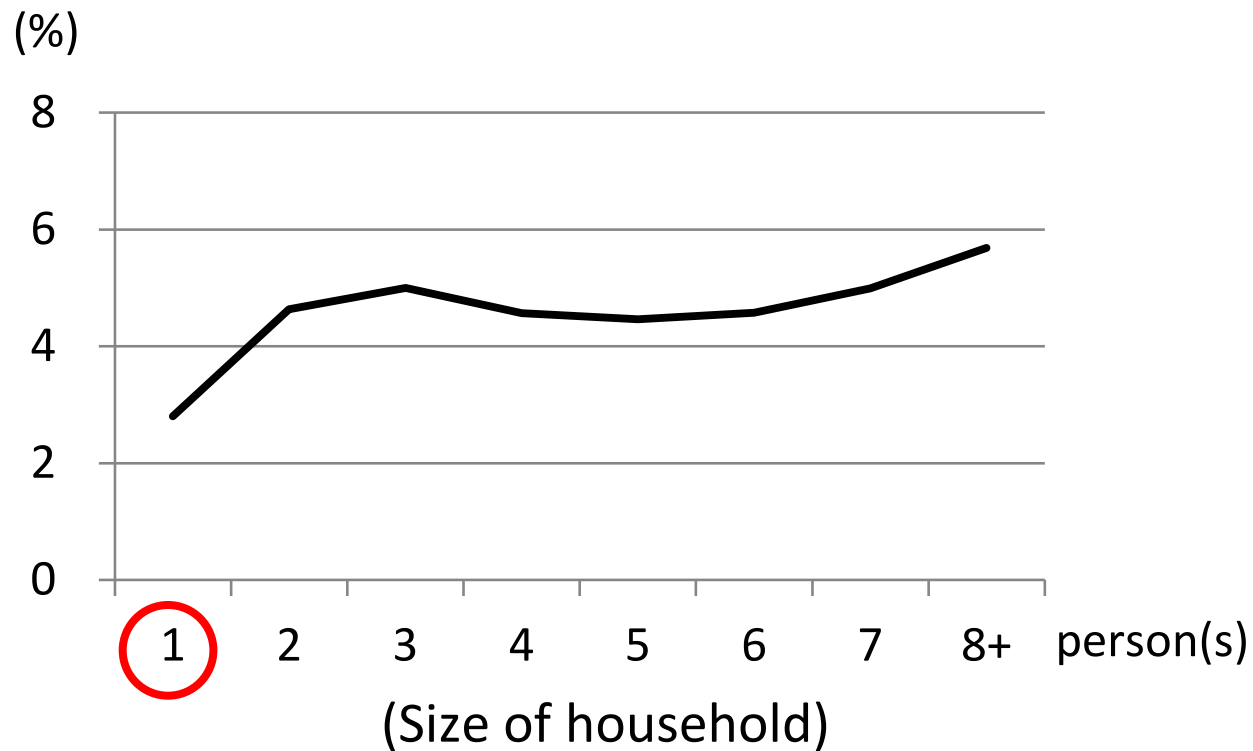
# 1. Planting by **size** of household



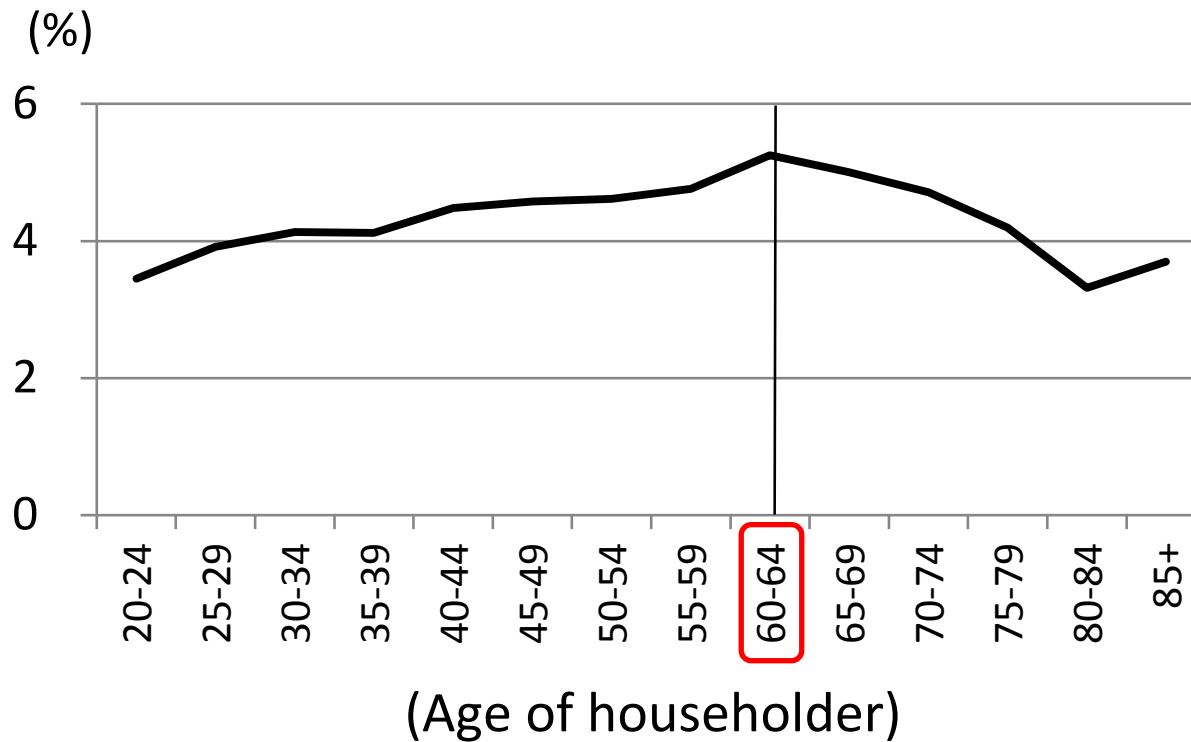
## 2. Planting by **age** of householder



### 3. Timber sales by **size** of household



#### 4. Timber sales by **age** of householder



# Conclusion

- **Size** of household → The 2-person household was the most common in 2000. The percentage of the 1-person household is now increasing. In the case of the 1-person household, the percentages of planting and timber sales are significantly low.
- **Age** of householder → The peak age was 65-69 in 2000 and I believe it is over 75 now. The peak age in planting was 70-74, and that in timber sales was 60-64 in 2000. In the case of the householder of 75 years and over, the percentage of timber sales is low.
- The increase in timber stock does not equal to the increase in timber production. The reasons are analyzed by the economic conditions such as timber price and exchange rate of the yen. Characteristics of the forest owner's household, such as **size**, the number of persons in the household, and **age** of the householder are important.