Japan
Forestry in Japan: Solutions for the Future

by Daisuke Tajima
Tajima Forestry
World Forest Institute Fellow
Summer 2010
• Basic information about Japan
• Japanese forestry
• Tajima Forestry
• The subjects I am researching at WFI
Japan

Capital: Tokyo
Language: Japanese

My home town: Oita
I live near Yokohama

Tokyo
Japan is famous for...
Population: 127 million;
  90% of them live on 10% of the land

Japan has the world’s tenth-largest population

Of 364,485 square km of total area, approximately 253,203 square km (67%) is forestland.
Land Use and Forest Area

Land Use
37 millions ha

- Forest covers 67% of land
- The second highest rate in the world
Forest Ownership

Forestland
25 millions ha
(67% of land)

- Private
- National
- State, City, Village

58%  
31%  
11%
More info on what is national, public, private

- Government forestland (30%)
  - 20% is plantation
  - 70% is natural
  - 10% is no tree land

- State, city, village forestland (10%)
  - 45% is plantation
  - 50% is natural
  - 5% is no tree land

- Private forestland (60%)
  - 45% is plantation
  - 45% is natural
  - 7% is no tree land
  - 3% is bamboo

Farm

Others

Private Forest
- 58%
- 14.6 mil ha

Public Forest
- 11%
- 2.7 mil ha

National Forest
- 31%
- 7.8 mil ha

The Ministry of forestry Japan 2008
Type of Forests and Common Tree Species

- Japanese cedar (sugi, Cryptomeria japonica), which grows in most of Japan, is the most exploited species, followed by Japanese cypress (hinoki, Chamaecyparis obtusa) and Japanese red pine (akamatsu, Pinus densiflora).
History of Japanese Forestry

• During World War II, many trees were harvested for the war. We started importing lumber from other countries.
• Replanting efforts have produced 60 yr old trees now.
• Japan theoretically has enough forest to be self-sufficient in wood, but we are still importing today instead of buying domestic lumber, even though we are harvesting
Reasons for importing

• 1995, Great Hanshin Earthquake occurred in Japan. The government made two new laws for housing which require
  ① Earthquake-proof structure
  ② Fire resistance houses

• Domestic lumber is not suitable for this type of construction......therefore imported lumber and other materials are used.
Q. How much is one 50 years old Japanese Cedar log in our market?
① $20  ② $150  ③ $300  ④ $500
Answer

$20
Market Price of Japanese Cedar per 1 m³
*calculated rate $1=100Yen

<table>
<thead>
<tr>
<th>Year</th>
<th>Saw log price ($/m³)</th>
<th>Profit ($/m³)</th>
<th>Cost ($/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>420</td>
<td>297</td>
<td>122</td>
</tr>
<tr>
<td>1981</td>
<td>360</td>
<td>243</td>
<td>117</td>
</tr>
<tr>
<td>1982</td>
<td>325</td>
<td>255</td>
<td>114</td>
</tr>
<tr>
<td>1983</td>
<td>320</td>
<td>205</td>
<td>114</td>
</tr>
<tr>
<td>1984</td>
<td>290</td>
<td>173</td>
<td>116</td>
</tr>
<tr>
<td>1985</td>
<td>260</td>
<td>146</td>
<td>113</td>
</tr>
<tr>
<td>1986</td>
<td>250</td>
<td>137</td>
<td>113</td>
</tr>
<tr>
<td>1987</td>
<td>220</td>
<td>106</td>
<td>113</td>
</tr>
<tr>
<td>1988</td>
<td>220</td>
<td>115</td>
<td>113</td>
</tr>
<tr>
<td>1989</td>
<td>230</td>
<td>113</td>
<td>115</td>
</tr>
<tr>
<td>1990</td>
<td>240</td>
<td>123</td>
<td>116</td>
</tr>
<tr>
<td>1991</td>
<td>230</td>
<td>104</td>
<td>125</td>
</tr>
<tr>
<td>1992</td>
<td>210</td>
<td>82</td>
<td>127</td>
</tr>
<tr>
<td>1993</td>
<td>210</td>
<td>81</td>
<td>128</td>
</tr>
<tr>
<td>1994</td>
<td>210</td>
<td>81</td>
<td>128</td>
</tr>
<tr>
<td>1995</td>
<td>205</td>
<td>77</td>
<td>128</td>
</tr>
<tr>
<td>1996</td>
<td>220</td>
<td>90</td>
<td>129</td>
</tr>
<tr>
<td>1997</td>
<td>220</td>
<td>81</td>
<td>128</td>
</tr>
<tr>
<td>1998</td>
<td>210</td>
<td>72</td>
<td>127</td>
</tr>
<tr>
<td>1999</td>
<td>205</td>
<td>63</td>
<td>126</td>
</tr>
<tr>
<td>2000</td>
<td>200</td>
<td>58</td>
<td>126</td>
</tr>
<tr>
<td>2001</td>
<td>190</td>
<td>48</td>
<td>126</td>
</tr>
<tr>
<td>2002</td>
<td>160</td>
<td>28</td>
<td>123</td>
</tr>
<tr>
<td>2003</td>
<td>130</td>
<td>32</td>
<td>101</td>
</tr>
<tr>
<td>2004</td>
<td>125</td>
<td>30</td>
<td>94</td>
</tr>
<tr>
<td>2005</td>
<td>110</td>
<td>19</td>
<td>90</td>
</tr>
</tbody>
</table>

- The price of cedar is going down
- The cost is almost the same as the revenue

1980: $420
1980: $122
2005: $100
2005: $89

Cost of harvesting, truck fuel, insurance, etc.
Revenue

Price range: $0 to $500
Wood Supply and Self-sufficiency Percentage


- **Import Supply**
- **Domestic Supply**

**Self-sufficiency Percentage**
- 15%
- 30%
- 45%
Which country are we importing logs from?

2008
Total amount 7.62 million m³

- USA 32%
- Russia 30%
- New Zealand 14%
- Canada 12%
- Malaysia 9%
- Others 3%
Which country are we importing lumber from?

2008
Total amount 10.32 million m³

- Canada: 40%
- Europe: 31%
- Russia: 11%
- Chile: 6%
- USA: 2%
- Malaysia: 4%
- Others: 6%
- USA: 2%
- Europe: 31%
- Canada: 40%
US Export to Japan

• USA exports Douglas-fir to Japan (used to be Noble fir)

• Market price for Doug-fir in Japan is 2X the price in US

• Again, domestic market is almost non-existent – which is why family forests struggle to survive economically
Tajima Forestry

- Private forest company
- 3,200 acres 1,700 ha
- Every year, we are harvesting about 3,000 cubic meters
- We have held forest volunteer camps for 20 years
Japanese Forest Management
1~10 year
Japanese Forest Management

10~40 year
Japanese Forest Management

40~60 year
Harvesting
(ex. Tajima forestry)

• Forest management in Japan is 3x more expensive than in US.

If we cut 5 Japanese cedar trees which are 50 years old, the cost and profit will be

• Harvesting cost $50
• Trucking cost $25
• Market Price of cedar $105
• Profit $30

But we can get Government Subsidy for…

• Harvesting $10
• Trucking $10

So, our Total Profit is $50
Forest Volunteer Camp
(ex. Tajima Forestry)
Financial Aspects of the Camp
(ex. Tajima Forestry)

Instruction of Forest management
Activities

Instructor Fees

Join in our volunteer camp

Stimulus Money

Rival company
Profitability of Tajima Forestry

- Timber: $70,000
- Camps/Education: ($$) Almost no profit
  ⇒ Encouraging people to know the role of forest

- Long-term revenue needs to increase
What I discovered: Three Problems

1. In Japan the domestic market is bad b/c of low demand and high imports.

2. Because Japan imports so much logs/lumber, this possibly encourages illegal harvesting in some parts of the world.

3. In Japan, national forest and private forest are competing in the domestic market.
How to change Japanese Forestry

• Deal with the problem locally – make changes on my family farm. E.g. ideas
  – Christmas tree farm?
  – Rent out space for forest weddings?

• Deal with problem globally – make changes in the international market
  – Policy changes regarding import/export
  – Certification programs
  – Stop illegal harvesting
If Japanese domestic lumber become suitable for construction lumber, the demand for it will increase.

2010
The Ministry of Forestry Japan

When we construct a public building, at least 20% of the total lumber used must be domestic lumber. They are using the minimum of domestic lumber and get permission from government. Rest of them they are using imported lumber.

【Conclusion】
We don’t have enough ability to use domestic lumber.
Theory of change ②

If we stop importing lumber which came from illegal harvesting, the demand for domestic lumber will increase.

【WWF】
20% of imported lumber and logs by Japan ← ← illegal harvesting

【American exporting company】

Japan doesn’t check the way the logs and lumber are
If we stop importing lumber which came from illegal harvesting, the demand for domestic lumber will increase.

【Conclusion】

Japan is encouraging world illegal harvesting.

Source: Key Conservation Sites in the Philippines (Haribon and Birdlife International, 2001), citing ESSC booklet, "Decline of the Philippine Forest"
If we stop harvesting from national forest, we can preserve them. Price of domestic lumber will increase.

【Now】

national forest  private forest

【Experimentation】

2010

national forest stopped harvesting for about 2 months.

During that time, the market price increased.
Theory of change ③

If we stop harvesting from national forest, we can preserve them. Price of domestic lumber will increase.

【Oregon】
The state of Oregon has decreased harvesting from national forest. Now they harvest only 30% of 1990’s harvesting amount.

① Many people who worked at national forest lost their jobs.

② Rural communities suffer a lot.
If we stop harvesting from national forest, we can preserve them. Price of domestic lumber will be increase.

【My idea】

- National forest
- Subsidies: Protecting the national forest for the long term and replanting many kinds of trees
- Private forest: Create new jobs
Please help me!

I would welcome any feedback and suggestions for my research.

Thank You!
We welcome you to visit Japan!
WFI Fellowship Research

Goals for Fellowship:

–Sources of revenue on private forestland – aside from timber
  • Alternative crops
  • Education programs
  • Recreation opportunities

–Make Japanese forestry more fascinating for young people
Valuable Links and References

• The Ministry of Agriculture, Forestry and Fisheries of Japan:
  http://www.maff.go.jp/e/index.html

• Encyclopedia of the Nations:
  http://www.nationsencyclopedia.com/Asia-and-Oceania/Japan-FORESTRY.html

• Tajima Forestry:
  http://www.tajimaforest.co.jp/
① Solve the problem of Japanese Forestry
Stop the harvesting from national forest
Stop importing lumber which came from illegal harvesting
Make a system to use domestic lumber for construction

② Change the management of my tree farm
Christmas tree farm
Wedding held in the forest
Replant many kinds of trees
Government Study

- If we clear cut about 1 ha of land and sold it → profit will be $13,500

- If we replant new trees around there and raise them, after 5 years the cost will be $15,000

So, no profit with clearcutting, whereas thinning does not require replanting