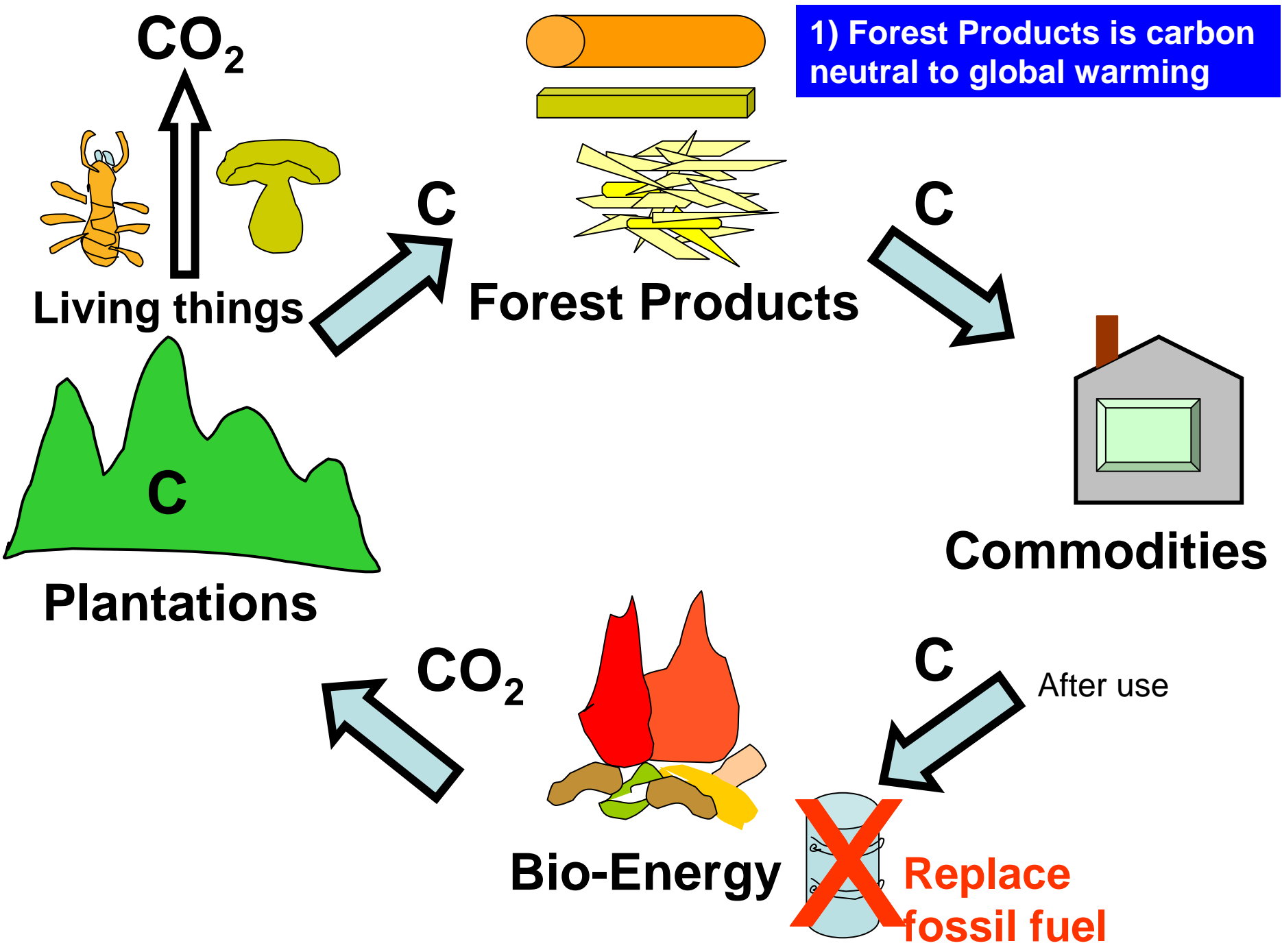


Importance of fast growing plantation resources for our sustainable life

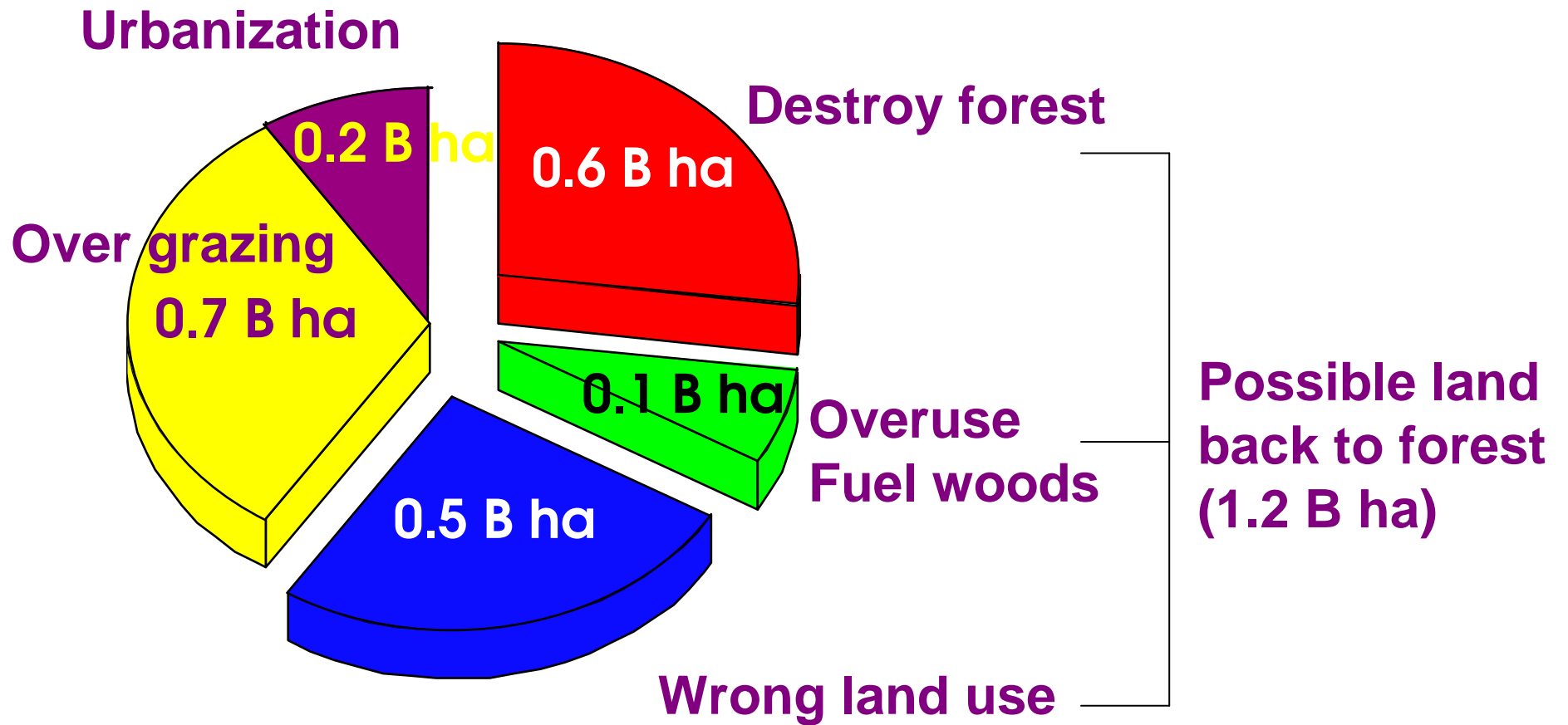
**Forestry and Forest Products Research Institute
Koichi YAMAMOTO (Biomass Research Coordinator**

Contents

- 1) Forest Products is carbon neutral to global warming**
- 2) Potential of forest plantations as carbon neutral resources**
- 3) Examples:
Use of plantation resources in Asia**
- 4) Future aspects
from utilization of wood**

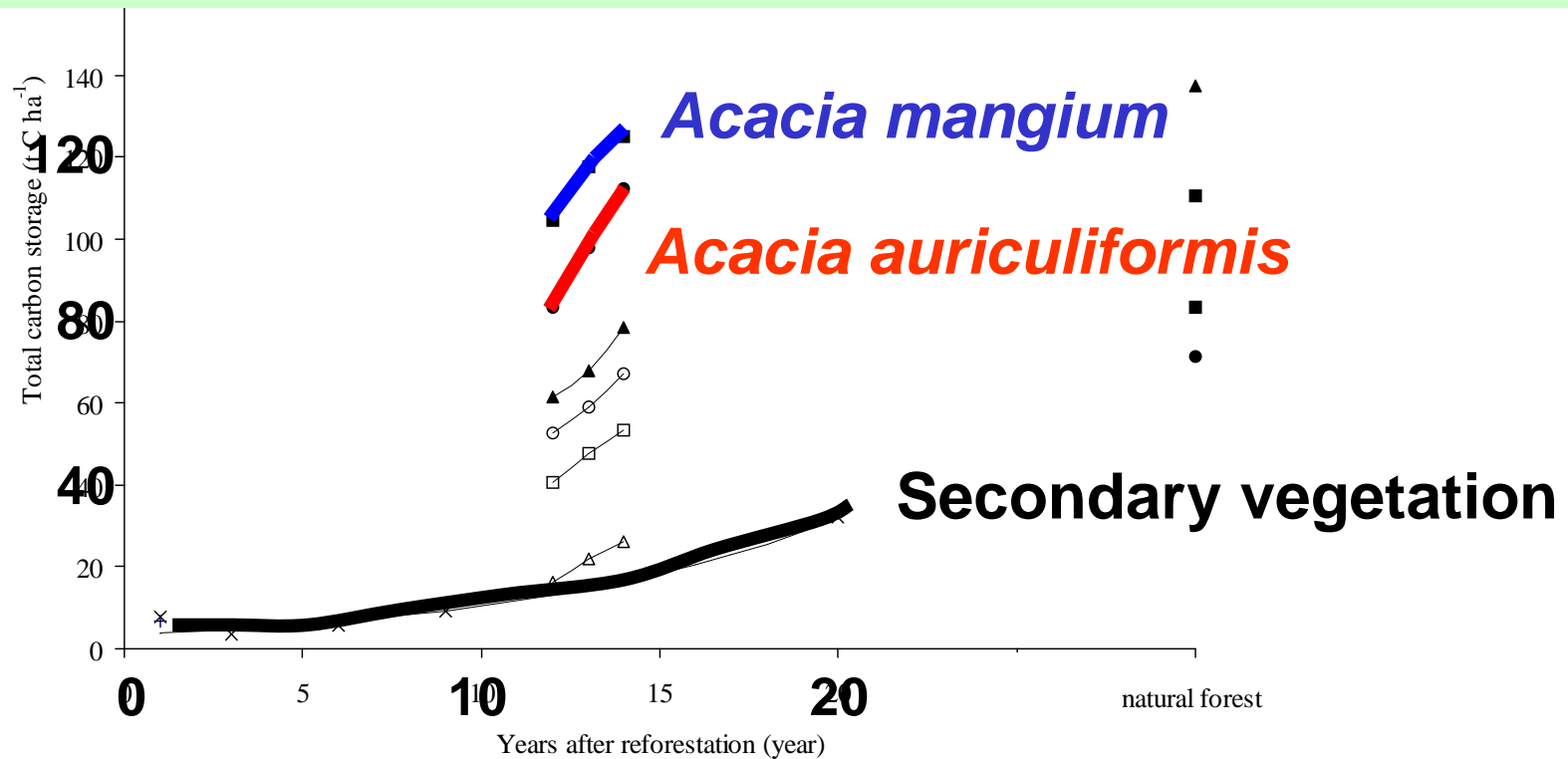


Cause of degradation of 2.1 billion ha of land



FAO(1996)

Large carbon storage by plantations compared with natural 2ndary vegetations



3rd East Asia Summit, with climate change, energy, environment agenda

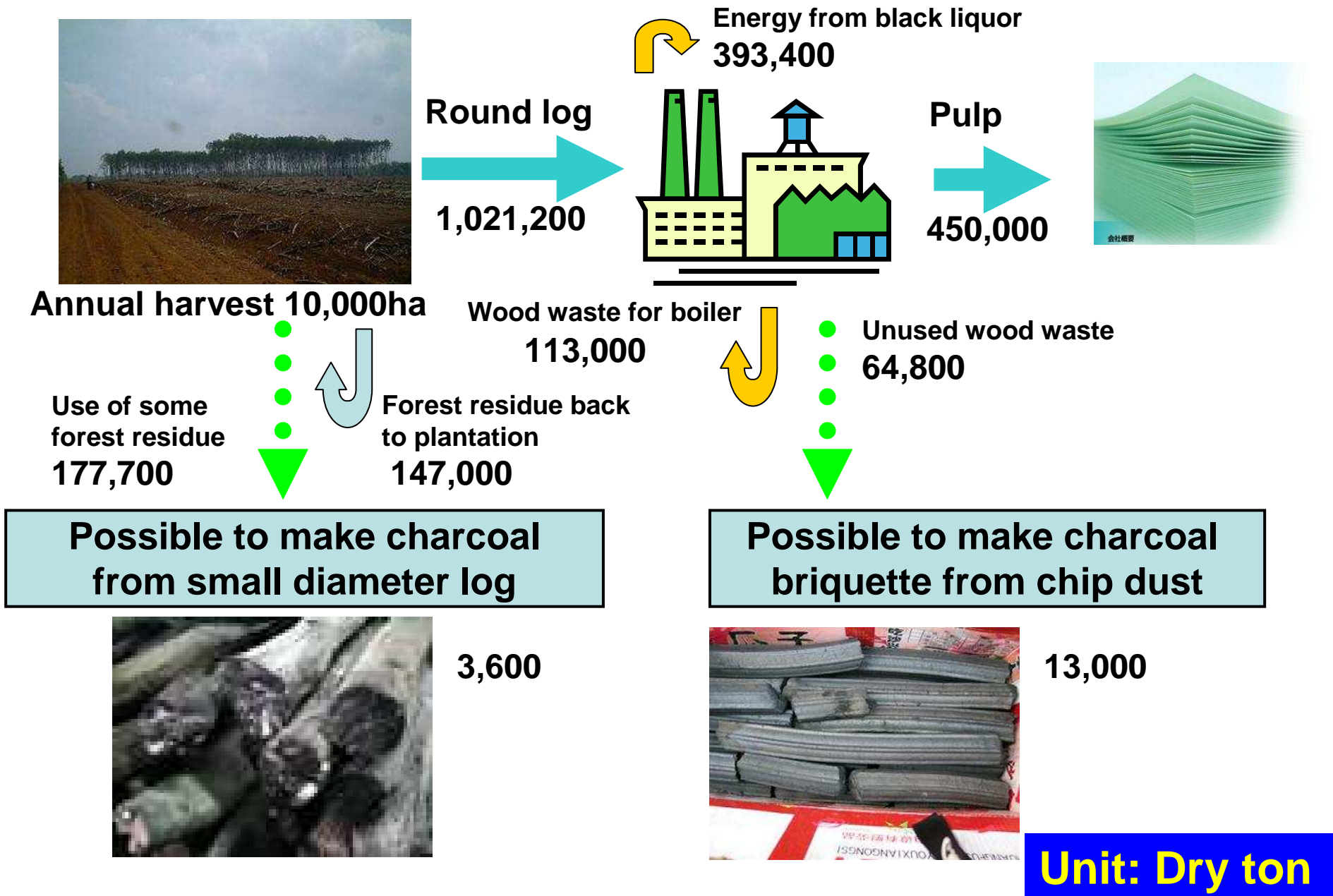


The leaders promised in the declaration to increase forest cover in the region, at least 15 million hectares of forests by 2020.

3) Examples: Use of plantation resources in Asia

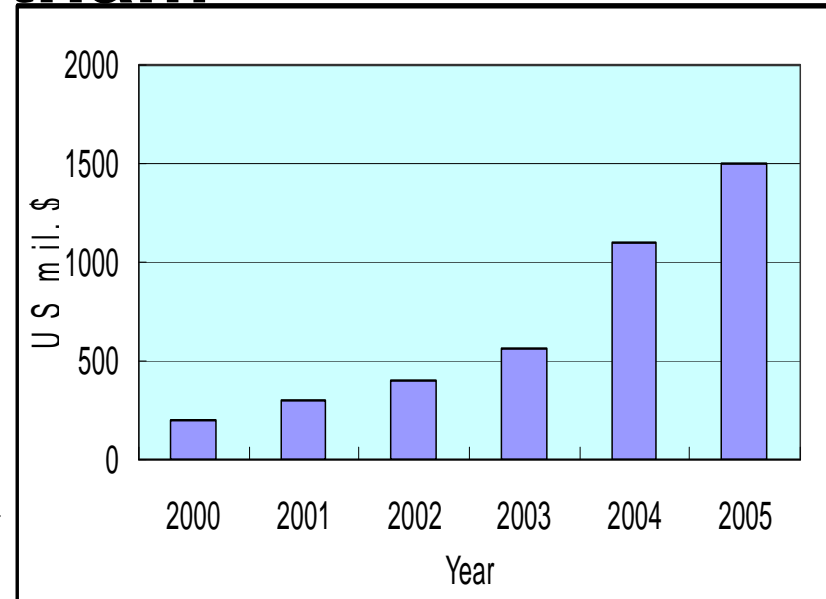
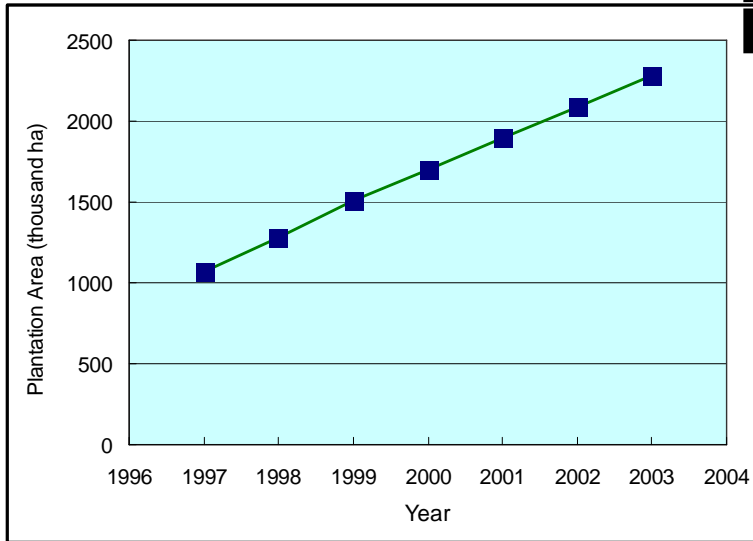
Species	Nation	Scale m³	Production
<i>Acacia</i>	Indonesia	Large 1,000,000	Pulp & paper
<i>Acacia</i>	Vietnam	Medium 13,000	Furniture
Rubber wood	Cambodia	Small 5,000	Sawn timber
<i>Gmelina</i>	Philippines	Small 6,000	Pallet

Wood flow of Acacia industrial plantation in a pulp mill in Sumatra



Increase of plantation area (500 Mil ha plan)

in Vietnam

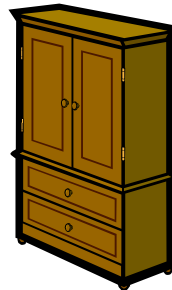
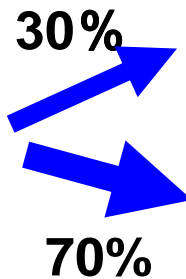


Acacia logs
13,000m³ /Year

100%



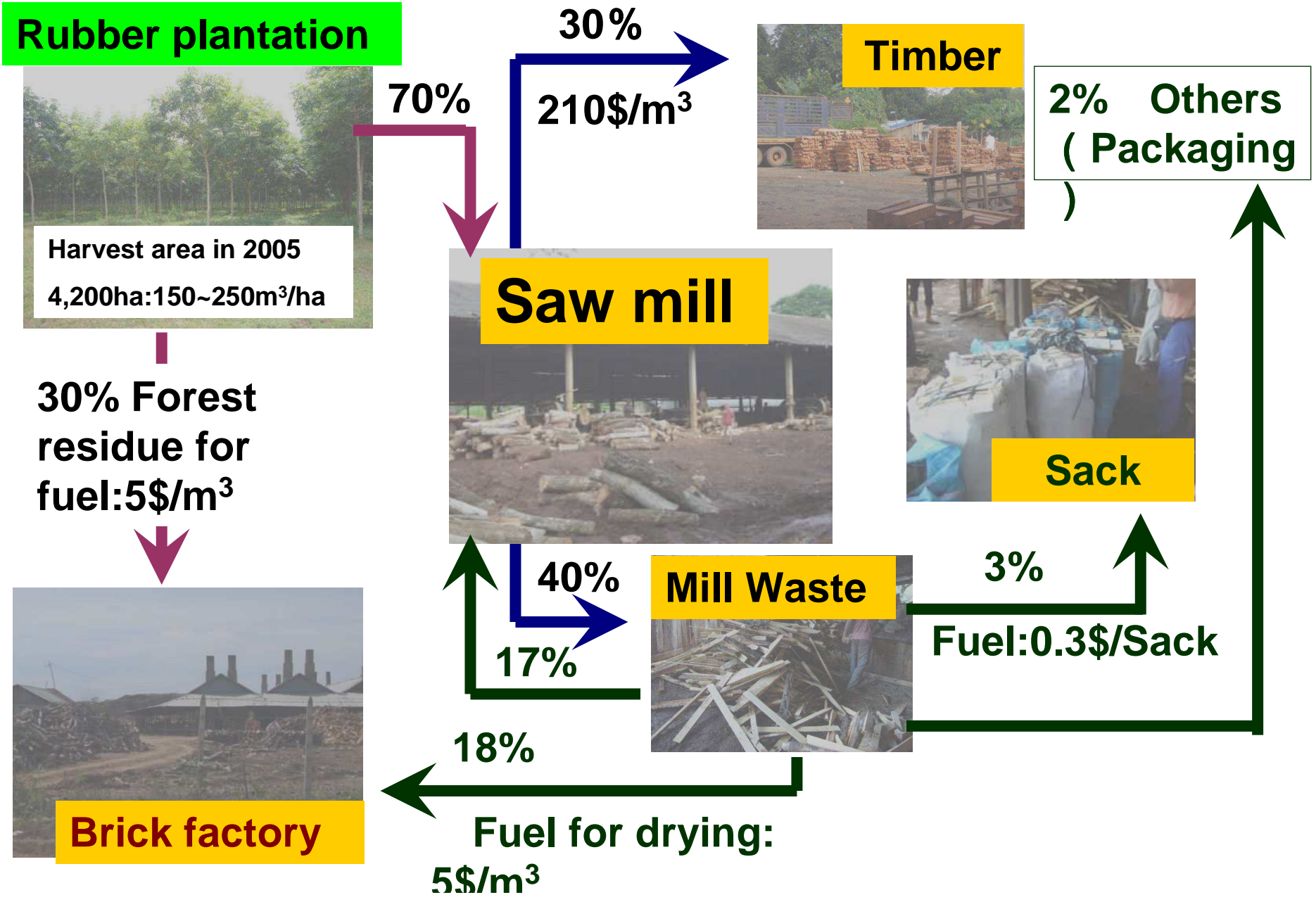
A Furniture factory
in Ho Chi Min City



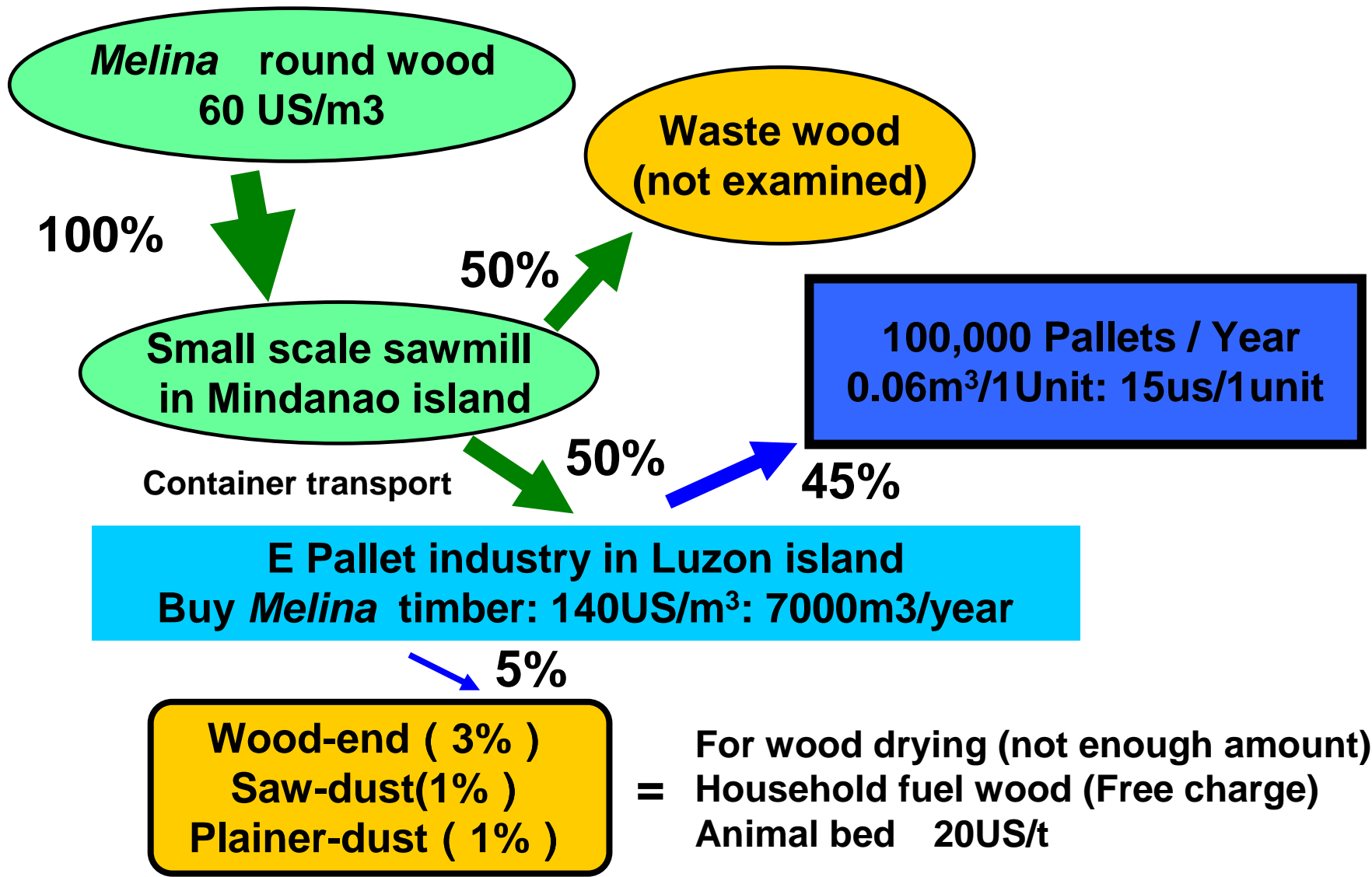
Increase of furniture production

Waste: Log ends (30%) -Go to another factory
Side ends (30%) -Fuel for wood drying boiler
Dust (10%) -Household fuel wood

Rubber wood use in Cambodia



Pallet Production using Plantation *Melina* in the Philippines



Improvement of 4 Examples:

Species	Nation	Production	Improvement
<i>Acacia</i>	Indonesia	Pulp & paper	➔ Better use of waste wood Decrease transportation energy
<i>Acacia</i>	Vietnam	Furniture	➔ Higher recovery Better use of waste wood
Rubber wood	Cambodia	Sawn timber	➔ Value added production Increase plantation resources
<i>Gmelina</i>	Philippines	Pallet	➔ Value added production Increase plantation resources

Conclusions

1. Even biodiversity of plantations is low, Higher carbon fixation of the plantations compared with natural secondary vegetations is a strong benefit.
2. Increasing plantations is of important.
3. Technology for better utilization of plantation resources should be developed. (ITTO project on the way with FRIM, TRTTC, FRC in Malaysia)

Acknowledgment

Asia biomass research group:

Harada, T., Anatomy, Y., Juniata, M., Kubota, M., Miyamoto, M., Suzuki, H., Tanaka, R., Tanaka, Y., Ottawa, E., Tome, T., Tanoak, M., and Yoshida, T.

Biomass in a grassland, Thailand :

Kato, K.

Degraded land :

Tanouch, H.