

Analysis on National Policy for Sustainable Forest Management in Indonesia

INDONESIA - JAPAN 60th ANNIVERSARY SEMINAR FOR FOREST SECTOR
Changing Paradigm of Forestry Policy in Indonesia:
“Toward Promotion of Community-based Sustainable Forest Management”

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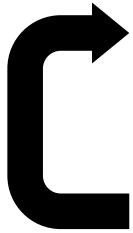


Sustainable management of forest and timber supply

Natural forest



Timber supply



Sustainable management of forest and timber supply

Natural forest



Timber supply



Forest degradation and deforestation



Forest fire



Sustainable management of forest and timber supply

Natural forest



Timber supply



Agriculture crop
(e.g. oil palm)



Forest degradation
and deforestation



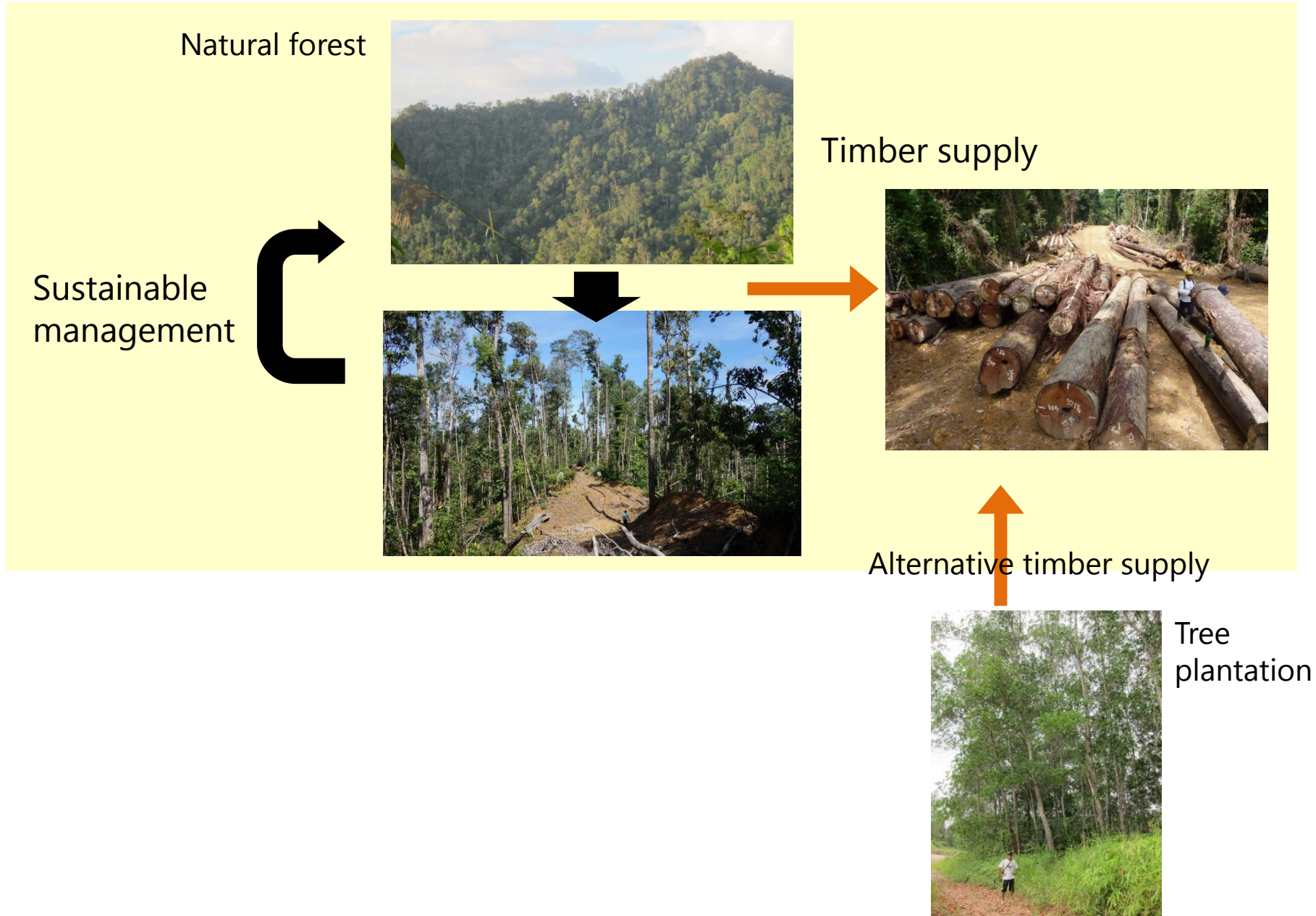
Tree
plantation



Demand
for land

Demand
for land

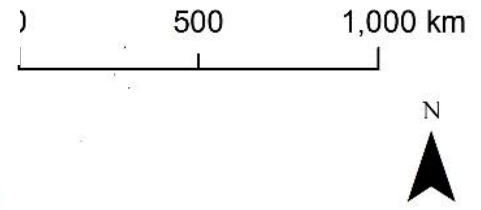
Sustainable management of forest and timber supply



Outline

- Overview of the 3 major **timber production** schemes in Indonesia and their sustainability in recent decades
 - ① **Logging concession of natural forest (IUPHHK-HA)**
 - ② **Industrial tree plantations (IUPHHK-HT)**
 - ③ **Tree-farming by small-holders**

Vegetation in Indonesia 2016

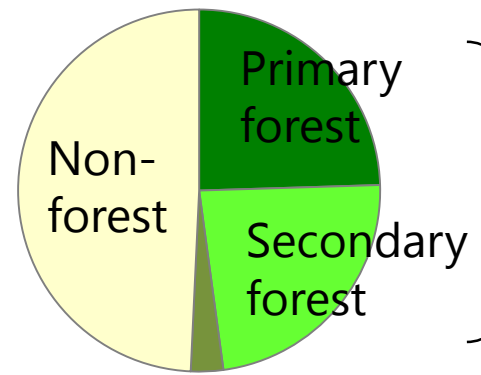


WEBGIS, MoEF
(<http://webgis.dephut.go.id>)

- Natural forest
- Primary dryland forest
- Secondary forest
- Primary peat forest
- Secondary peat forest
- Primary mangrove forest
- Secondary mangrove forest

- Semak/Belukar
- Semak/Belukar Rawa
- Savana
- Hutan Tanaman Industri (HTI)
- Planted forest
- Pertanian Lahan Kering
- Pertanian Lahan Kering Bercampur dgn Semak
- Transmigrasi
- Sawah
- Tambak
- Tanah Terbuka
- Pertambangan
- Permukiman
- Bandara/Pelabuhan
- Rawa
- Awan

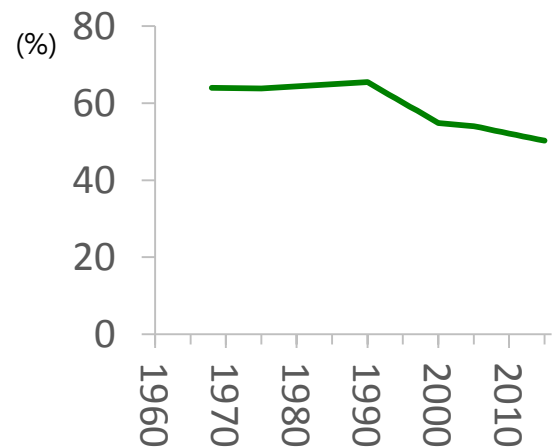
Total area of Indonesia
190 million ha



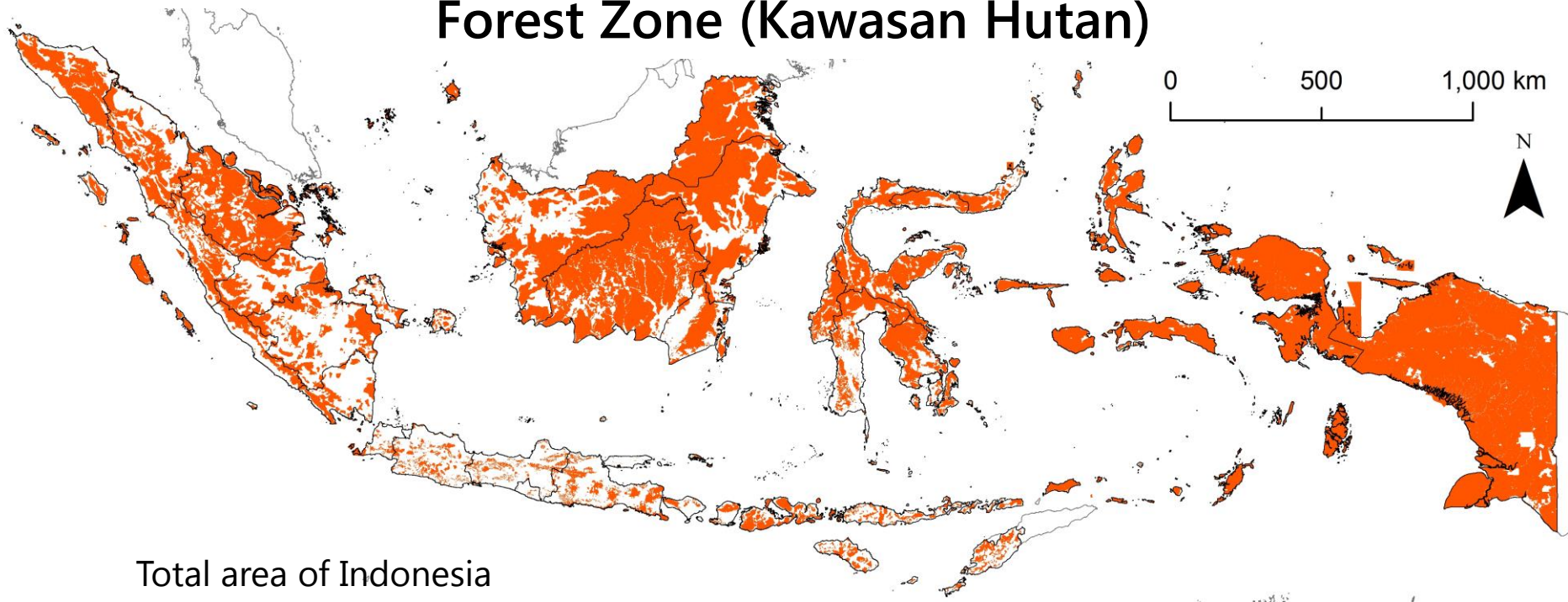
(MoEF 2016)

Forest
cover rate
51% (2016)

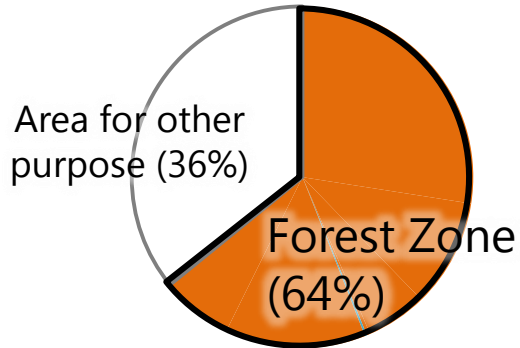
Change of forest cover rate



Forest Zone (Kawasan Hutan)



Total area of Indonesia
190 million ha

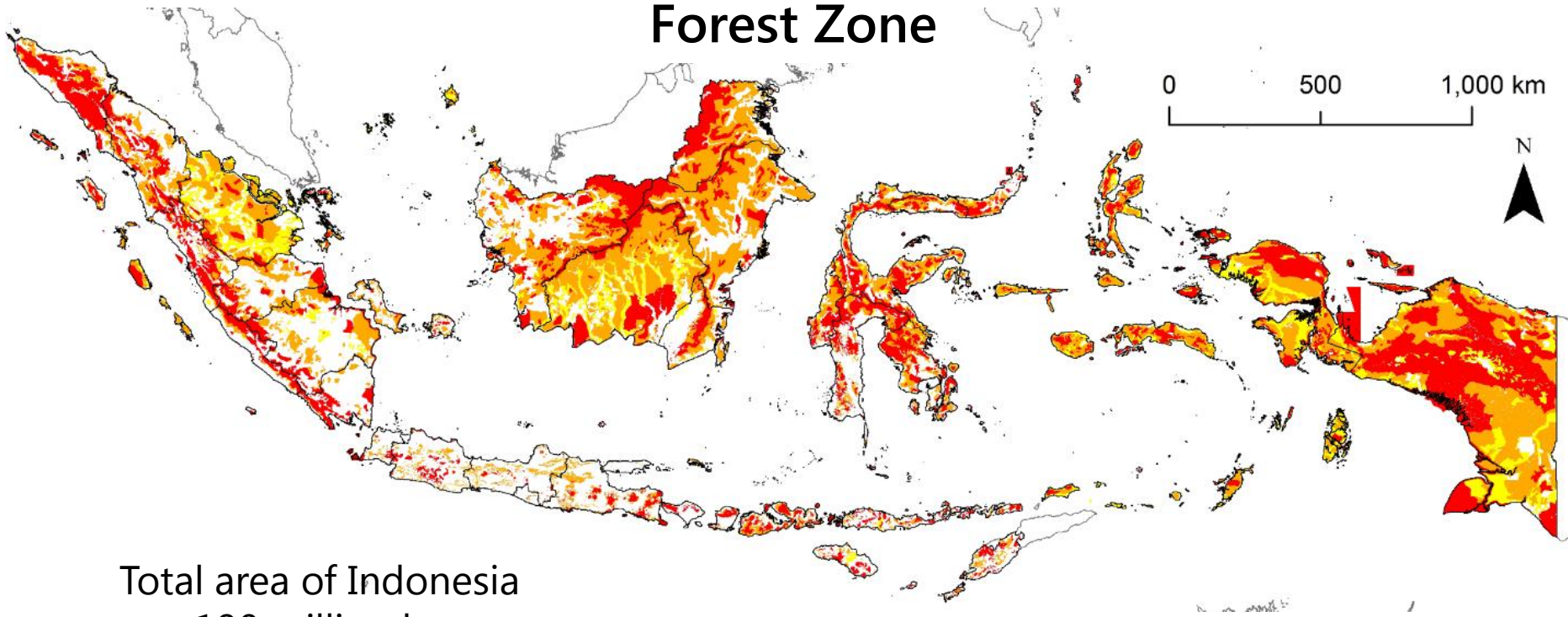


State-owned land under the jurisdiction of
Ministry of Environment and Forestry

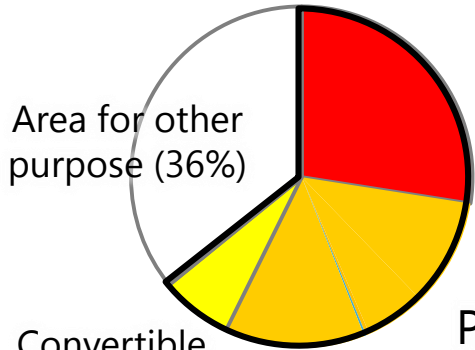
64% of total land in Indonesia

Supervised by Forest Management Unit (FMU)

Forest Zone



Total area of Indonesia
190 million ha



Area for other
purpose (36%)

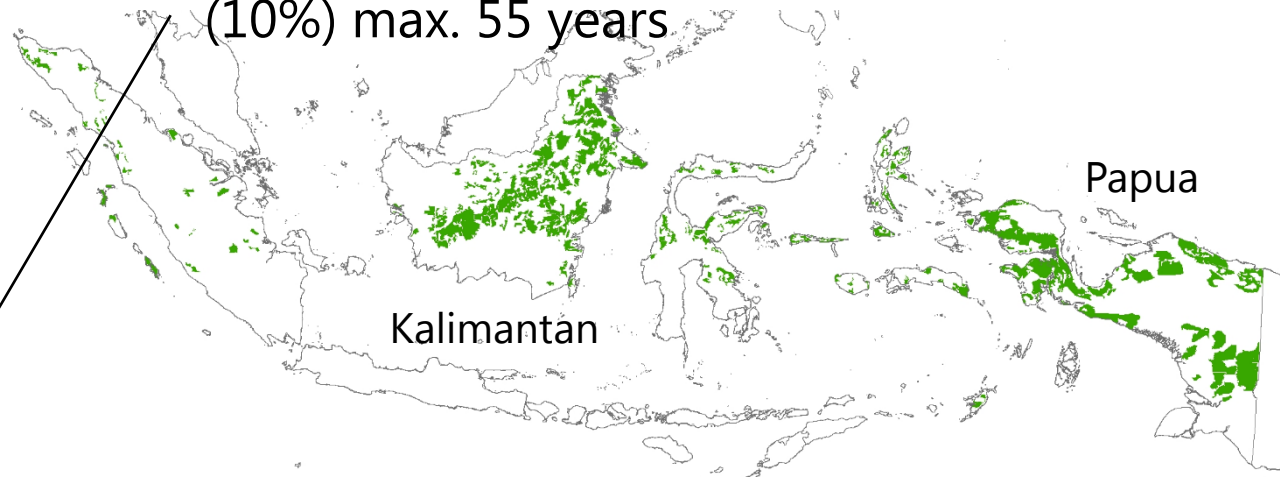
Conservation & Protected forest
(27%)

Convertible
production
forest (7%)

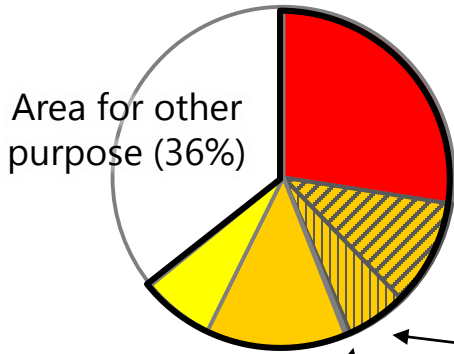
Production forest (30%)
Including Limited Production Forest

Forest Zone

Logging concessions in natural forest
(10%) max. 55 years



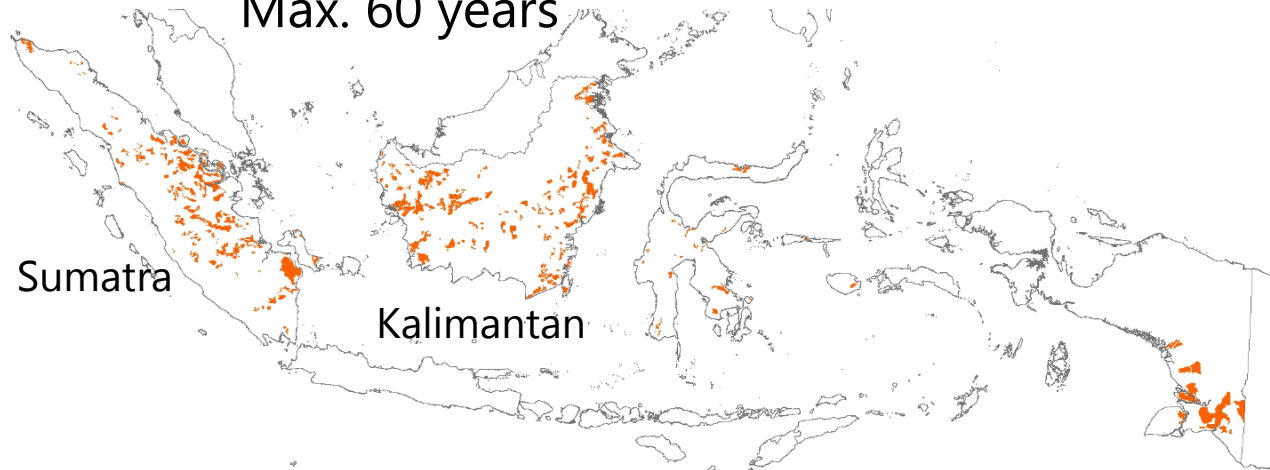
Total area of Indonesia
190 million ha



(MoEF 2016)

Ecosystem restoration
concessions (0.3%):
Max. 60 years

Industrial tree plantations (6%)
Max. 60 years

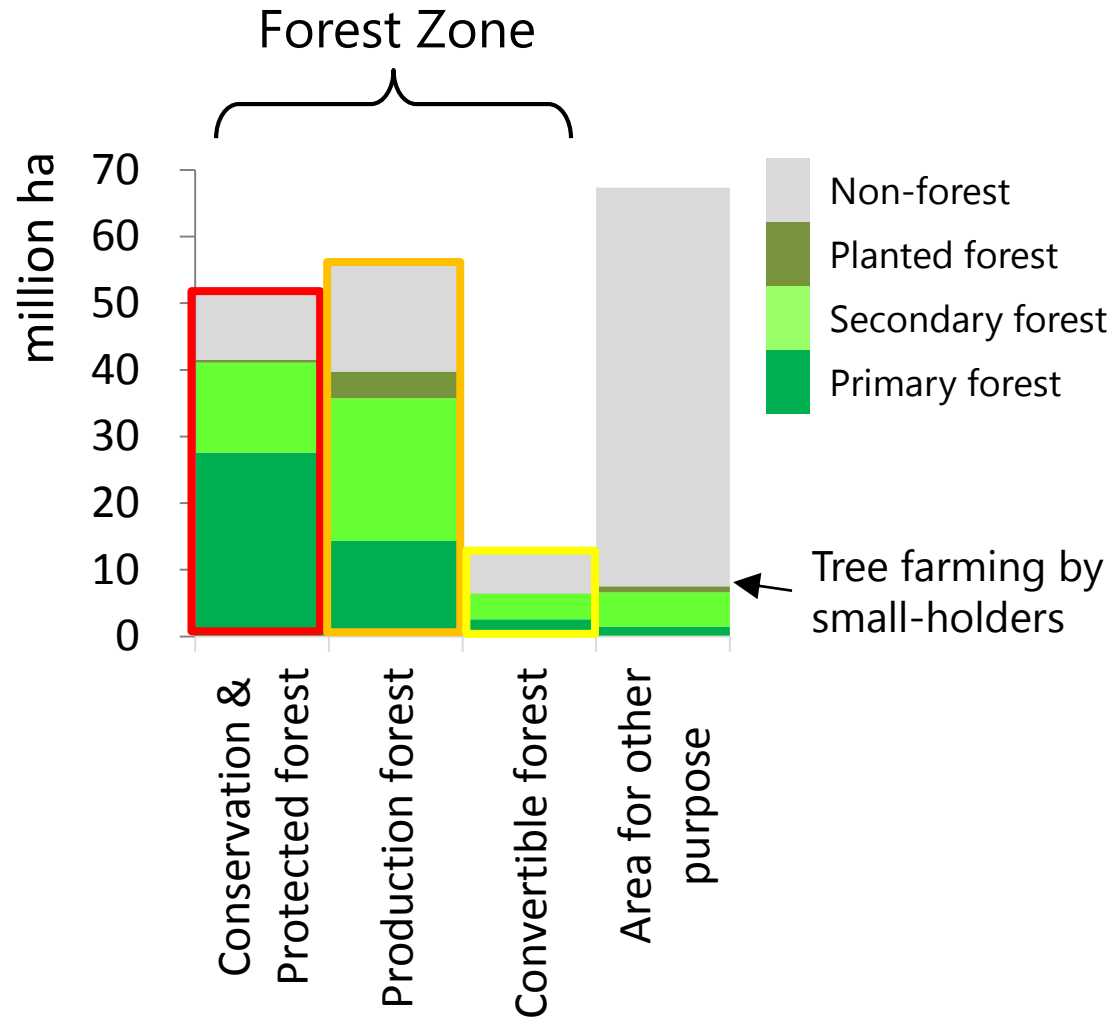
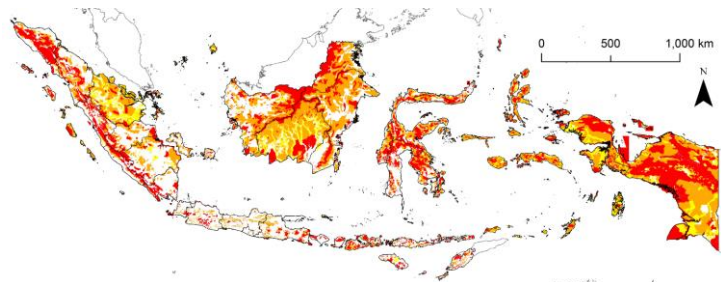


Forest cover rate of each functional zone

Forest cover



Forest Zone



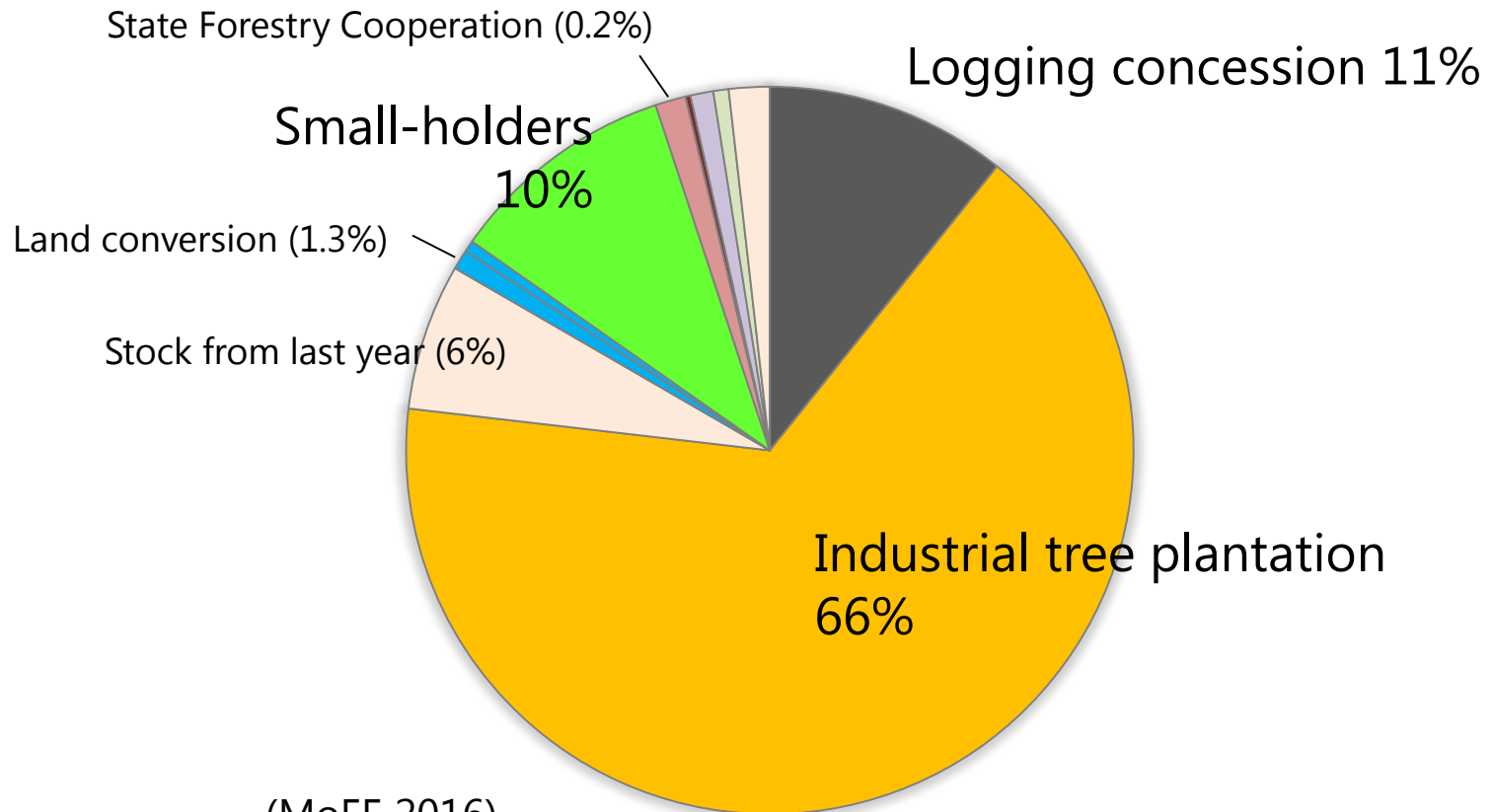
Forest cover rate 80% 71% 50% 11% (MoEF 2016)

Log production in Indonesia

Log supply to industry in 2016

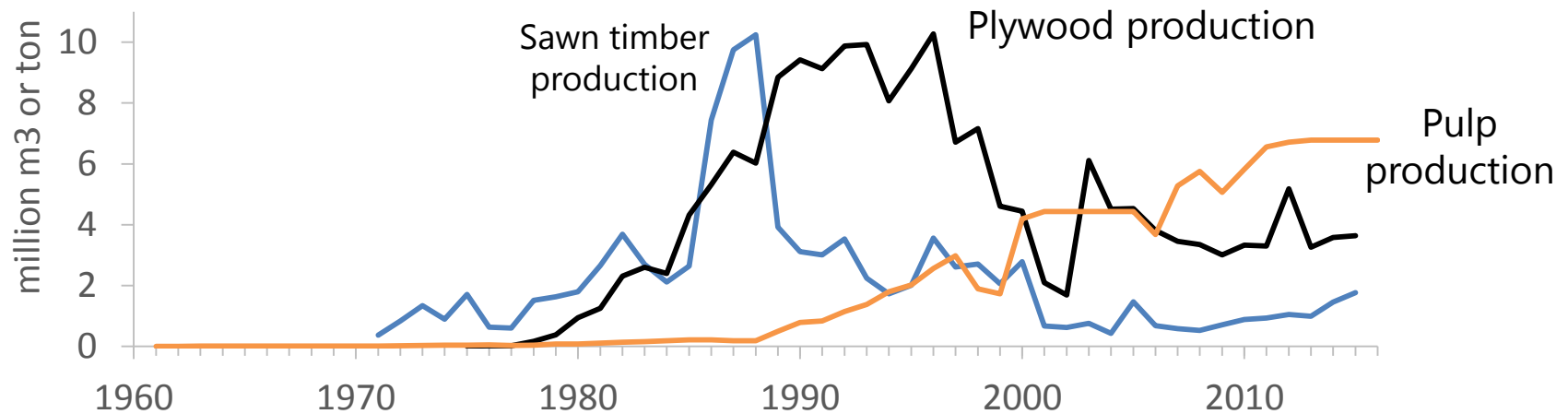
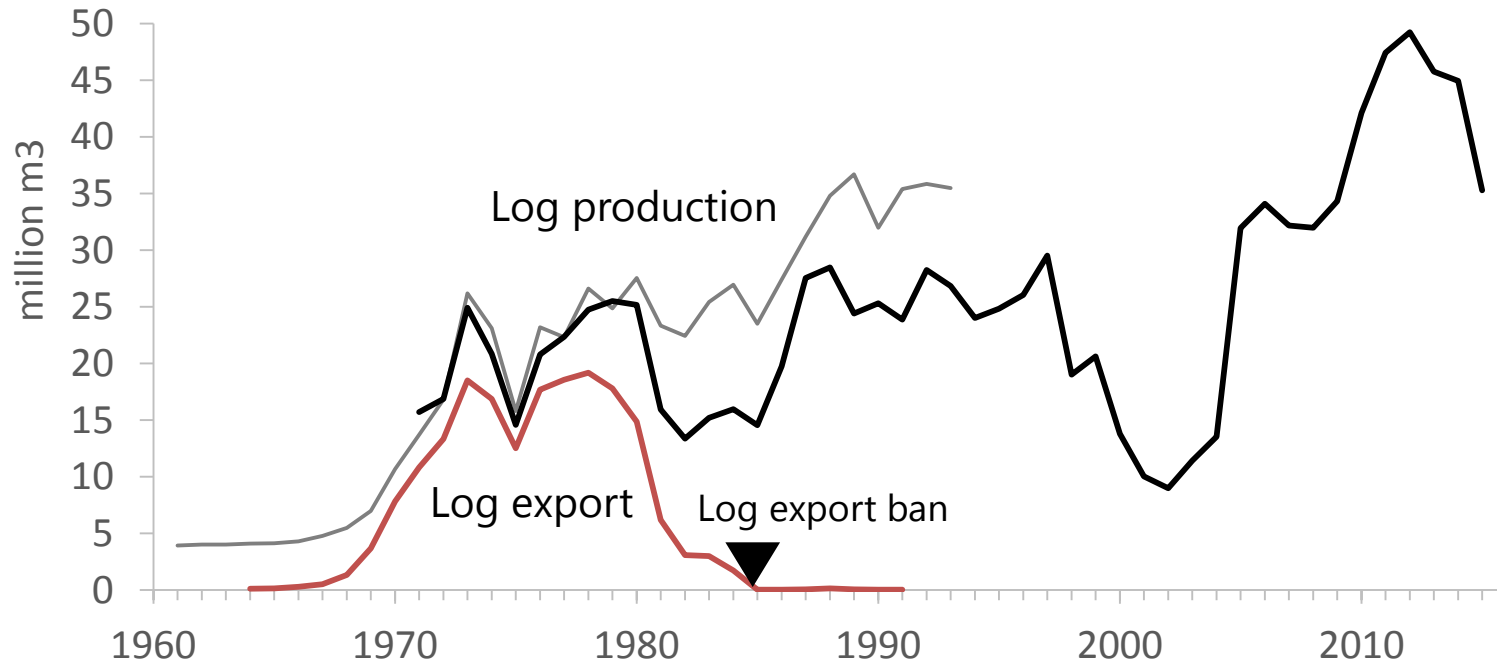
(annual capacity > 6,000m³)

49.3 million m³

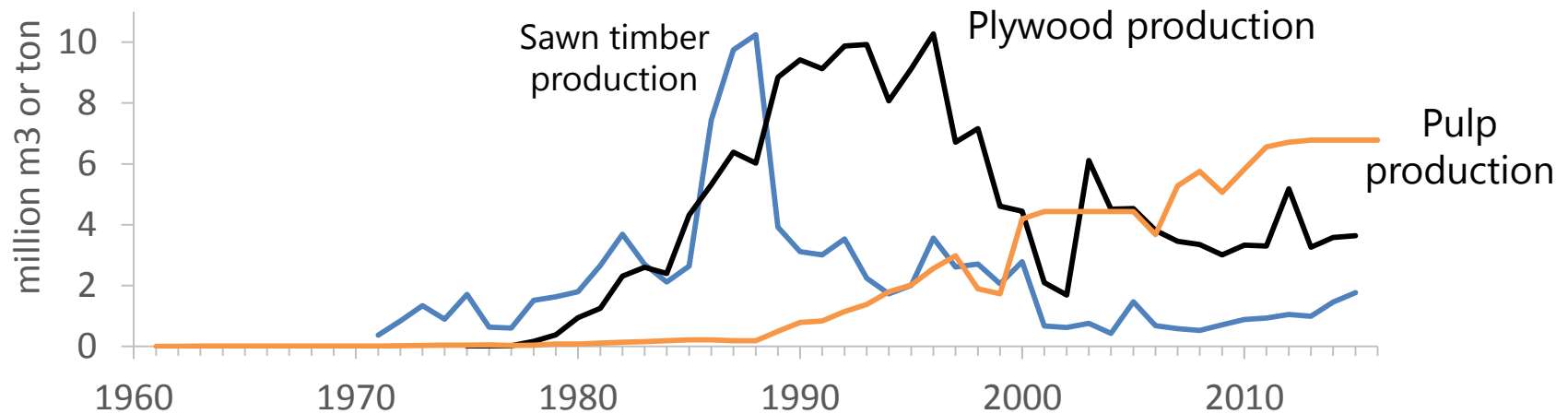
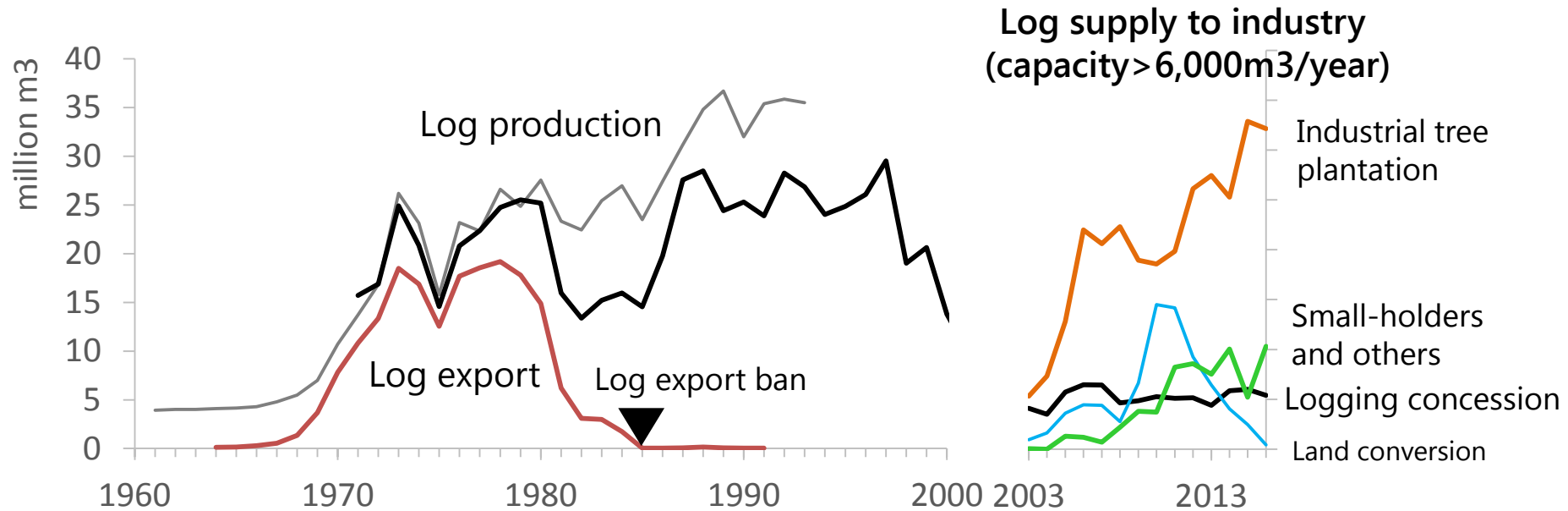


(MoEF 2016)

Log supply in Indonesia and production of wood products

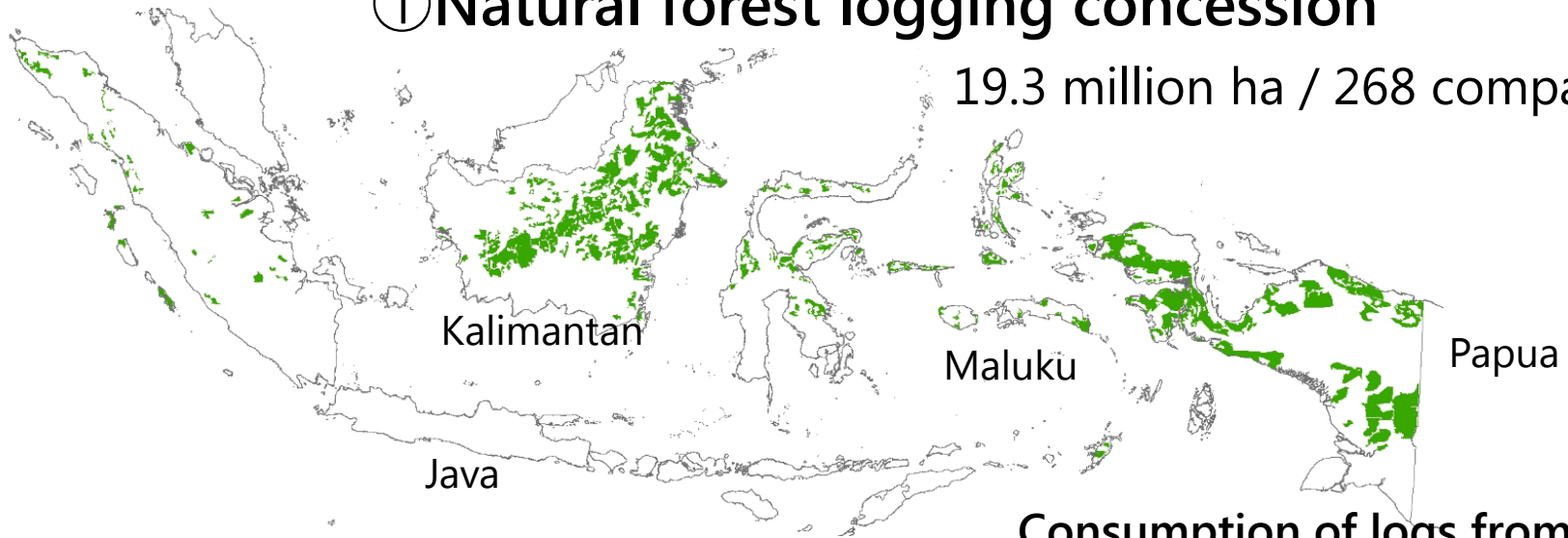


Log supply in Indonesia and production of wood products

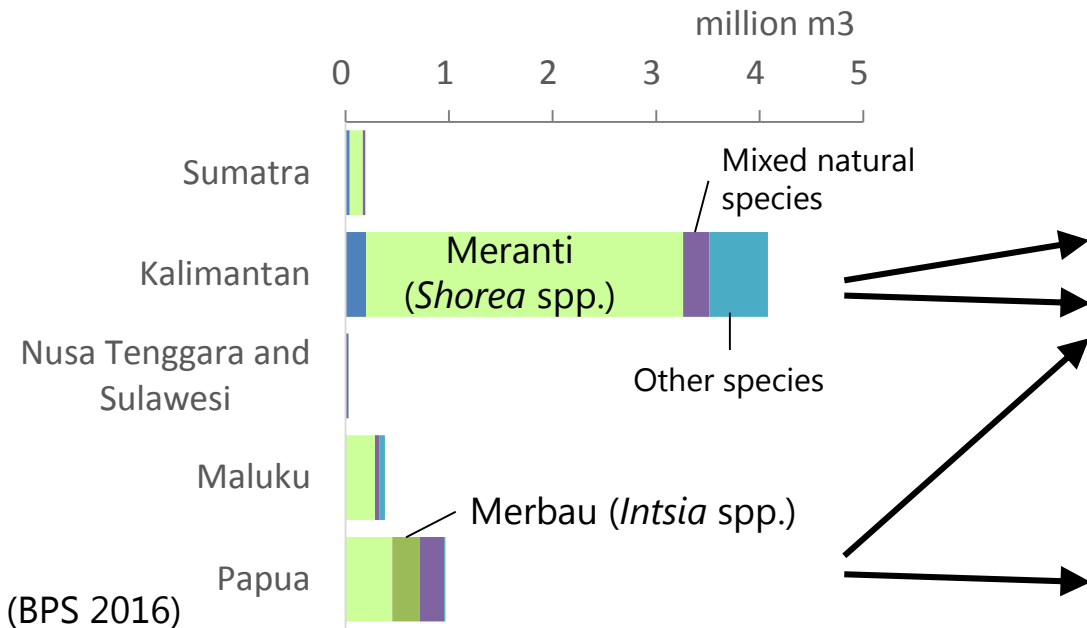


① Natural forest logging concession

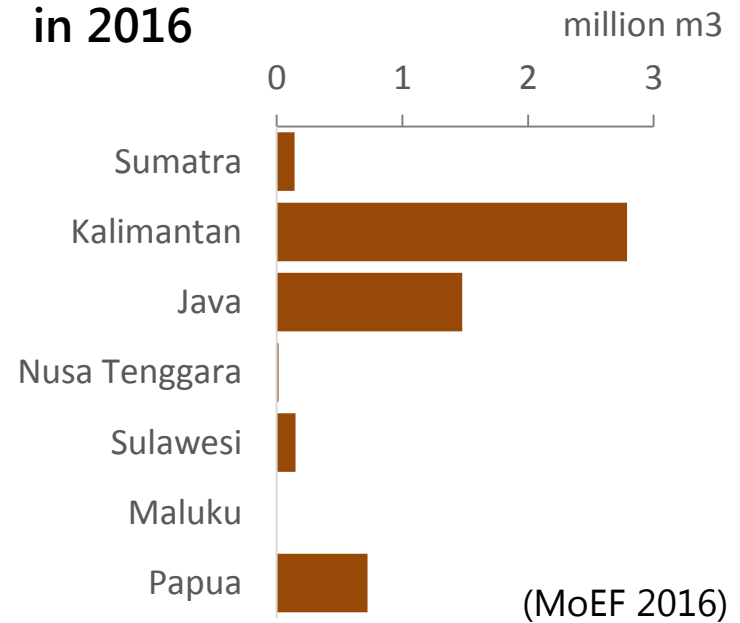
19.3 million ha / 268 companies



Log production from logging concessions in 2016

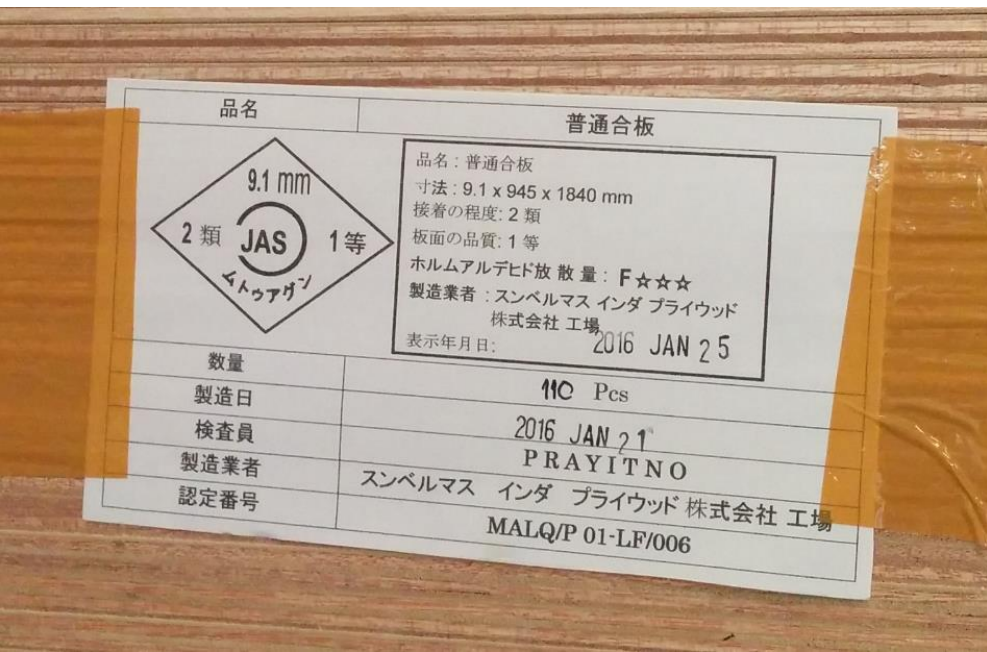


Consumption of logs from logging concessions by industry (capacity > 6,000m³/year) in 2016









Forest just after logging



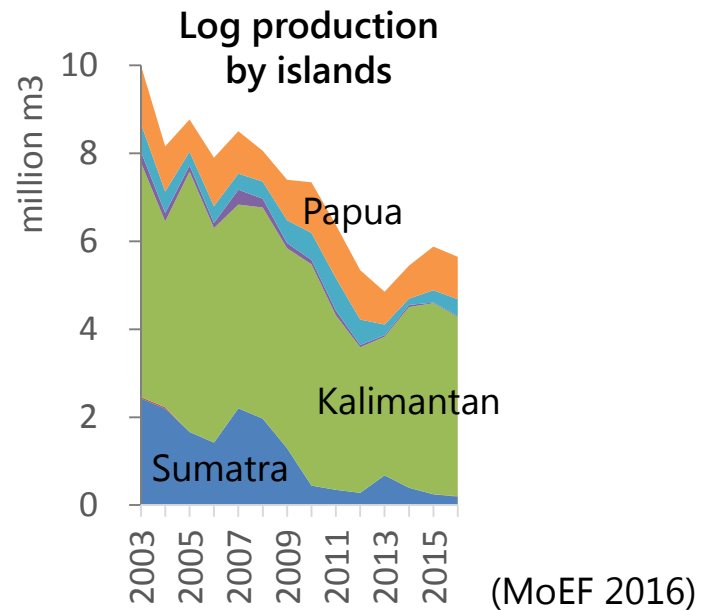
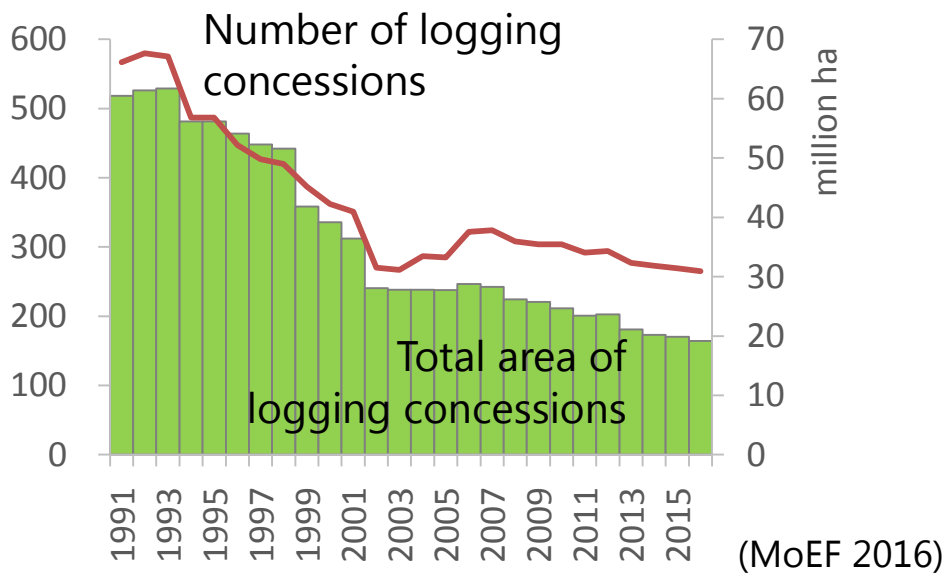
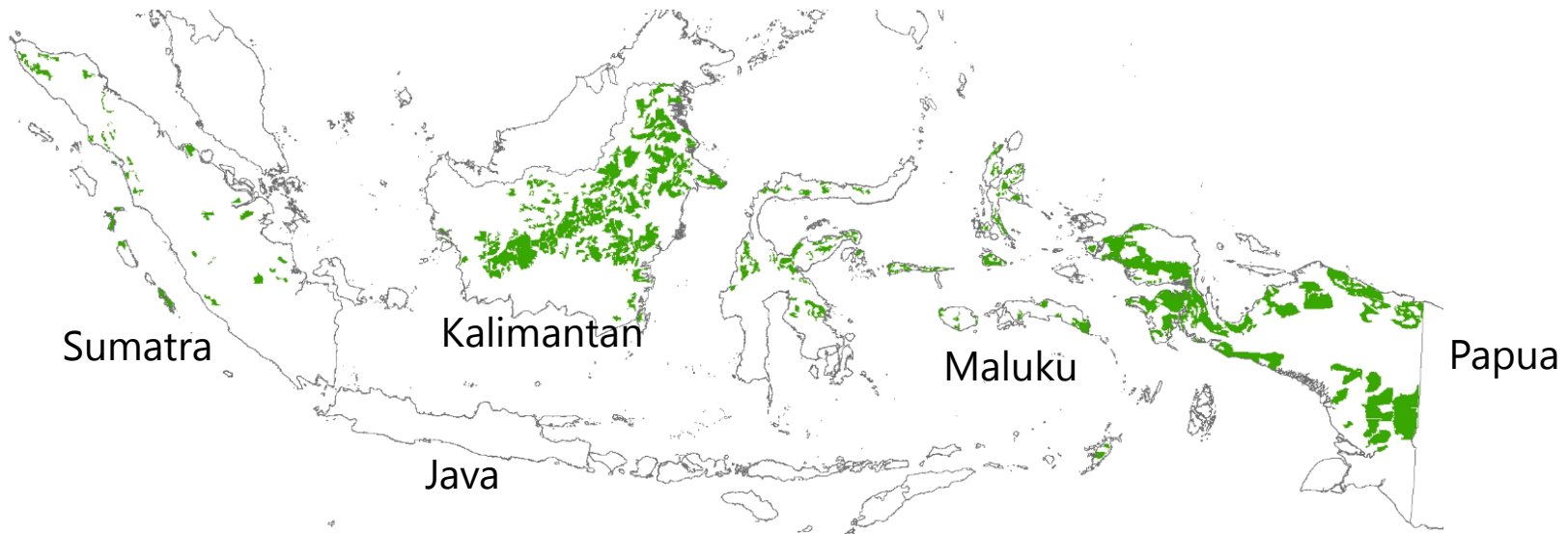
Forest a few years after logging



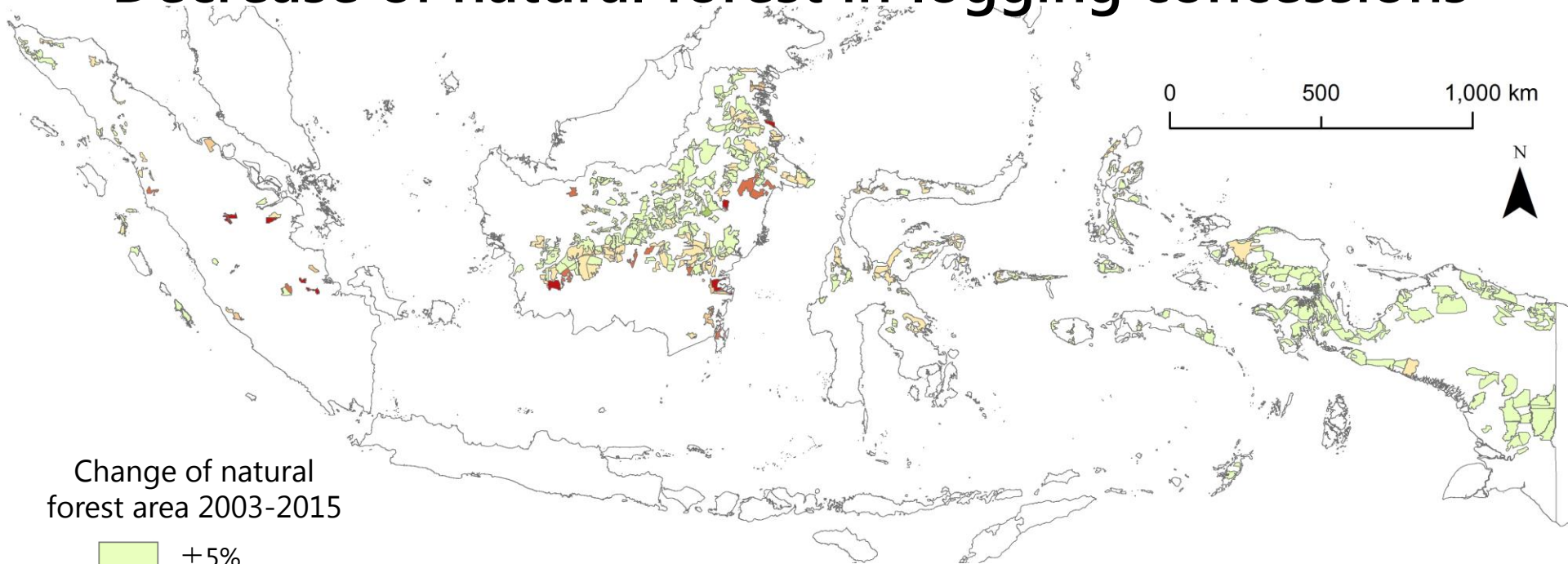
Rich biodiversity and ecosystem services can be maintained in natural forestlogging concessions



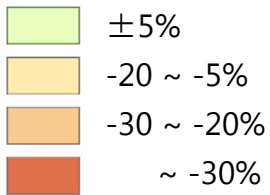
Decrease of natural forest logging concessions



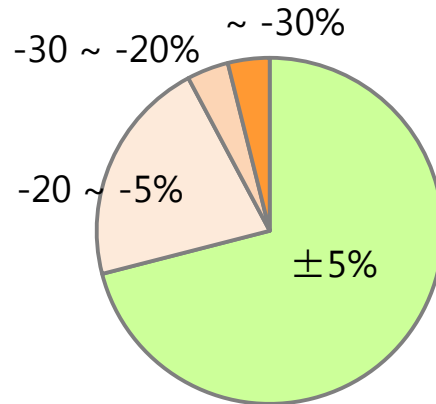
Decrease of natural forest in logging concessions



Change of natural forest area 2003-2015

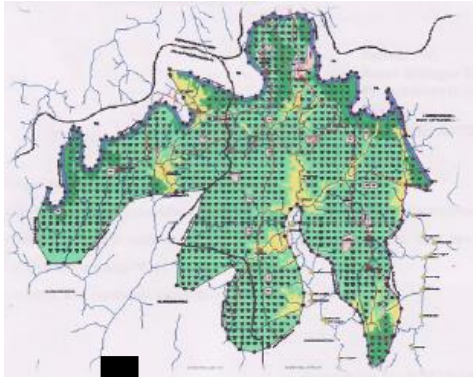


Proportion of logging concessions with change of natural forest 2003-2015

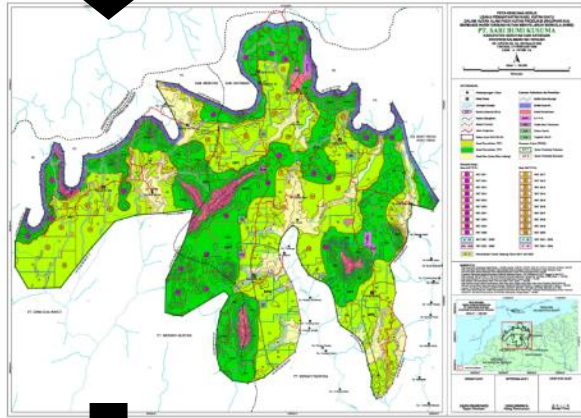


N=231

Improvement of sustainability of logging concessions



(1) Whole area resource survey every 10 years (IHMB)



(2) Long-term (10 years) management plan (RKU)

Harvesting plan 2011-2020



(3) Reduced impact logging

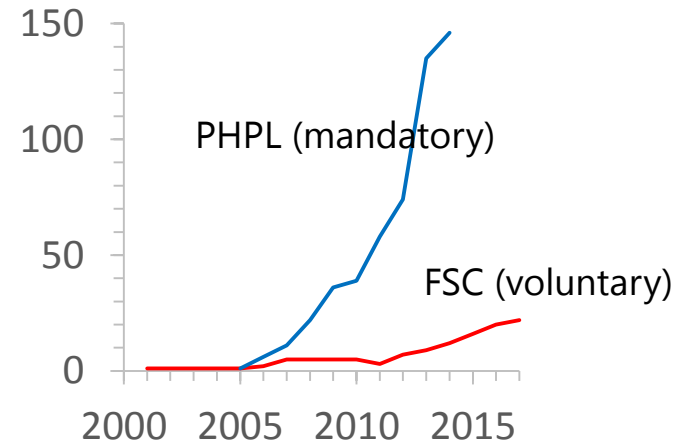
Annual harvesting plan (RKT)
Mapping of all harvestable trees



Mono-cable harvesting (TNC 2009)
Reduce forest floor destruction by bulldozers

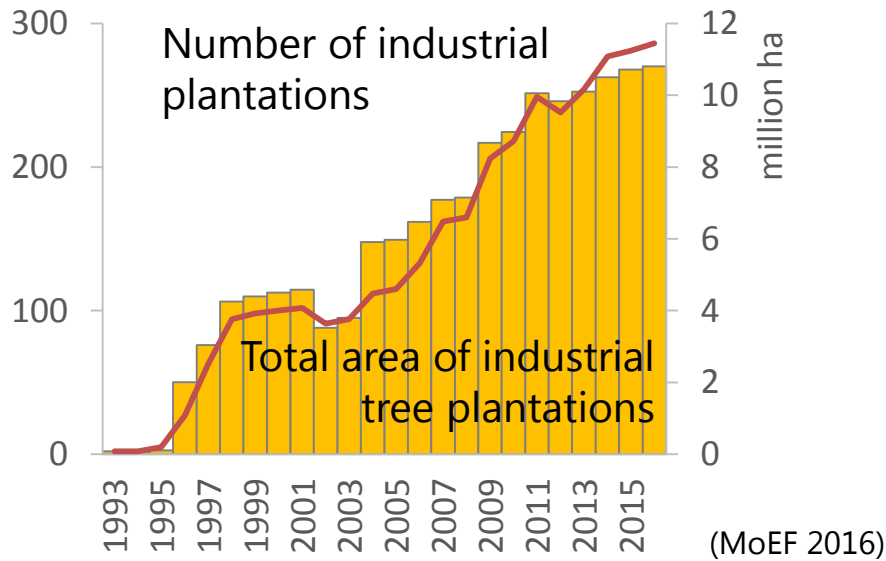
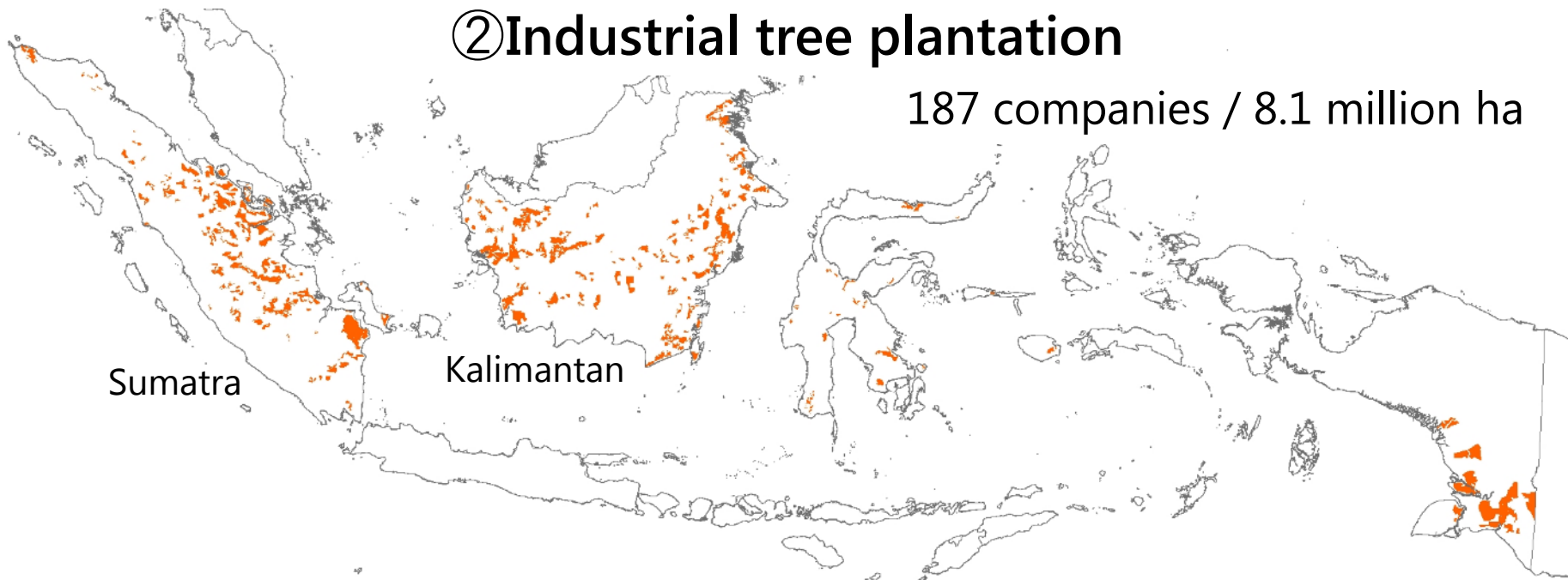
(4) Forestry certification by third-party

Number of concessions



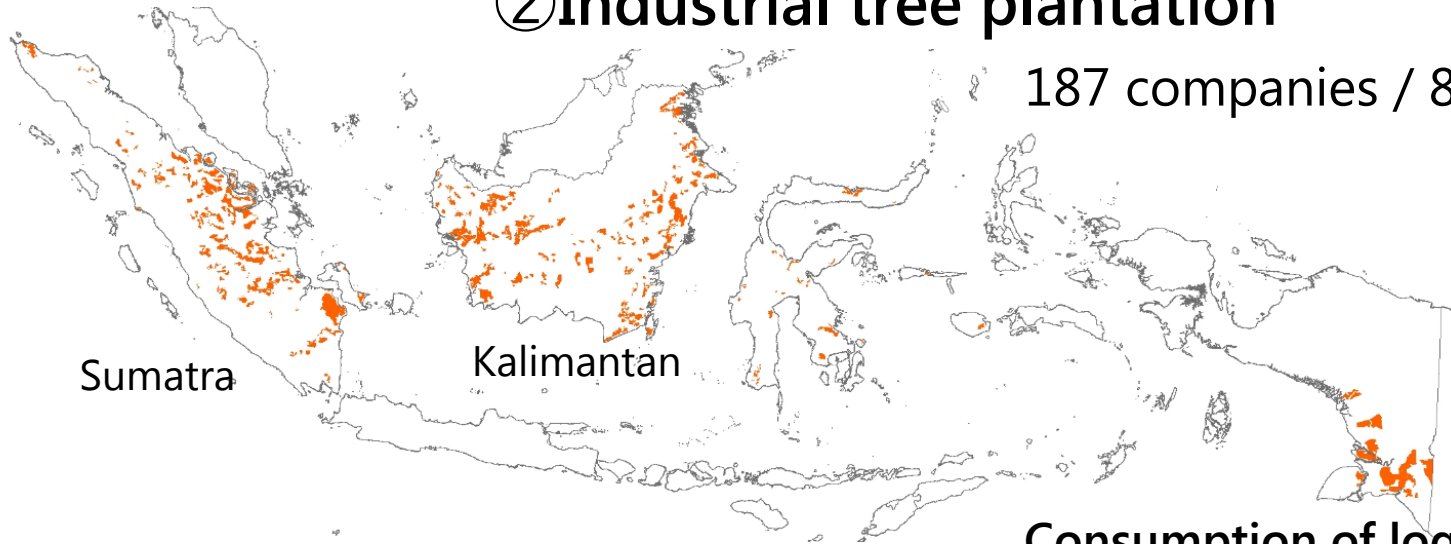
② Industrial tree plantation

187 companies / 8.1 million ha



② Industrial tree plantation

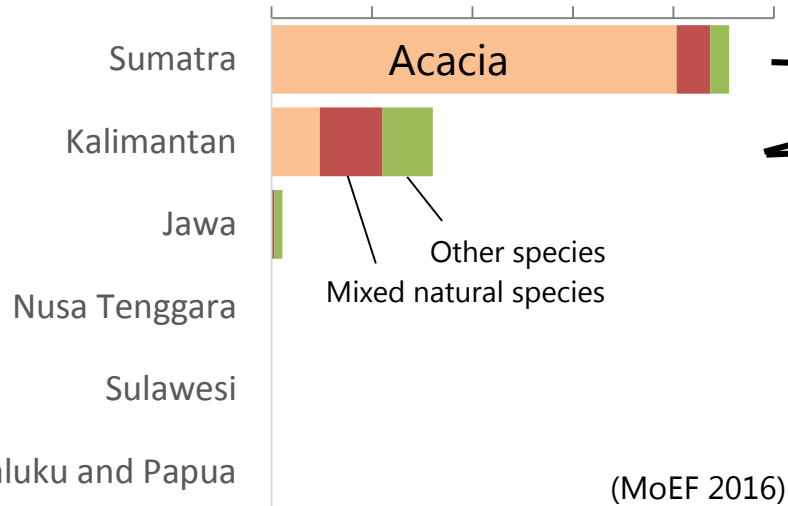
187 companies / 8.1 million ha



Log production from Industrial tree plantations in 2016

million m³

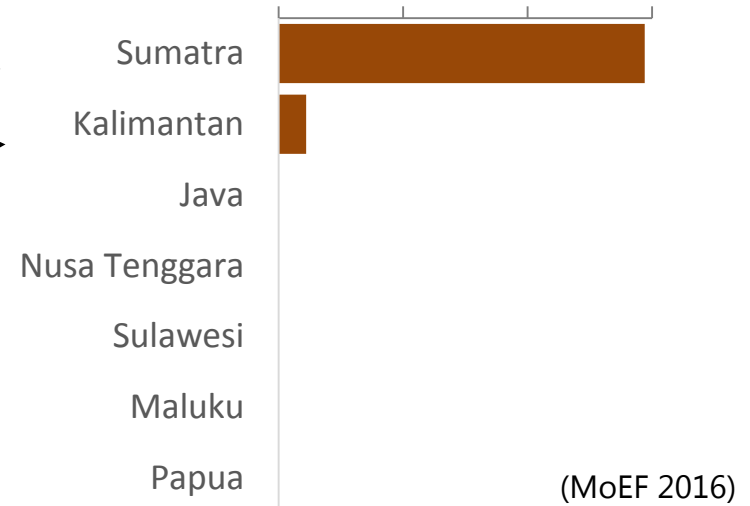
0 5 10 15 20 25



Consumption of logs from industrial tree plantations by industry (capacity > 6,000 m³/year) in 2016

million m³

0 10 20 30



Monoculture plantations of fast-growing tree species

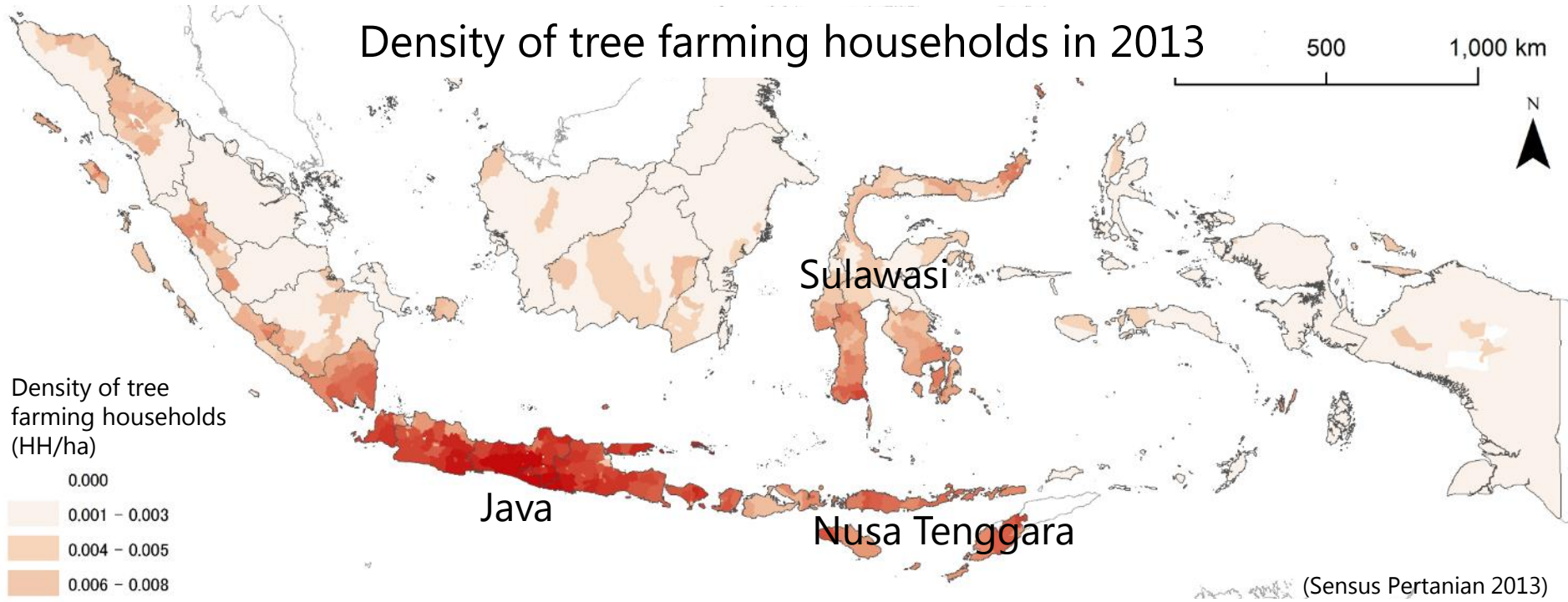


Development of an industrial tree plantation

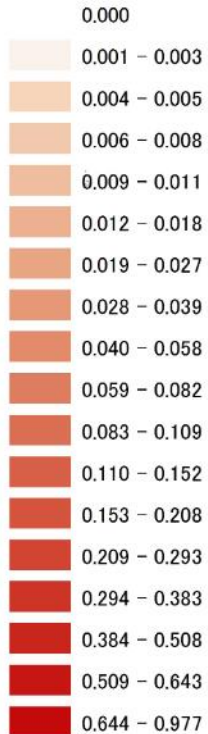


③ Tree farming by small-holders

Density of tree farming households in 2013



Density of tree farming households (HH/ha)

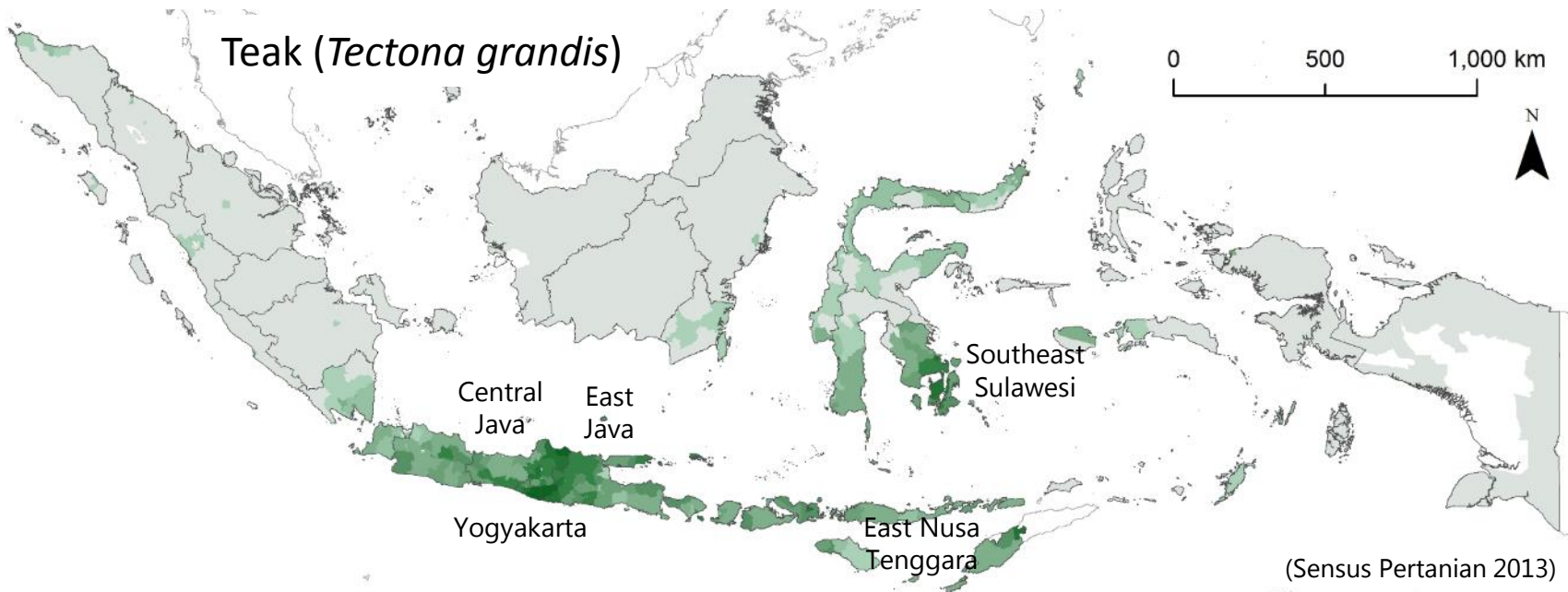
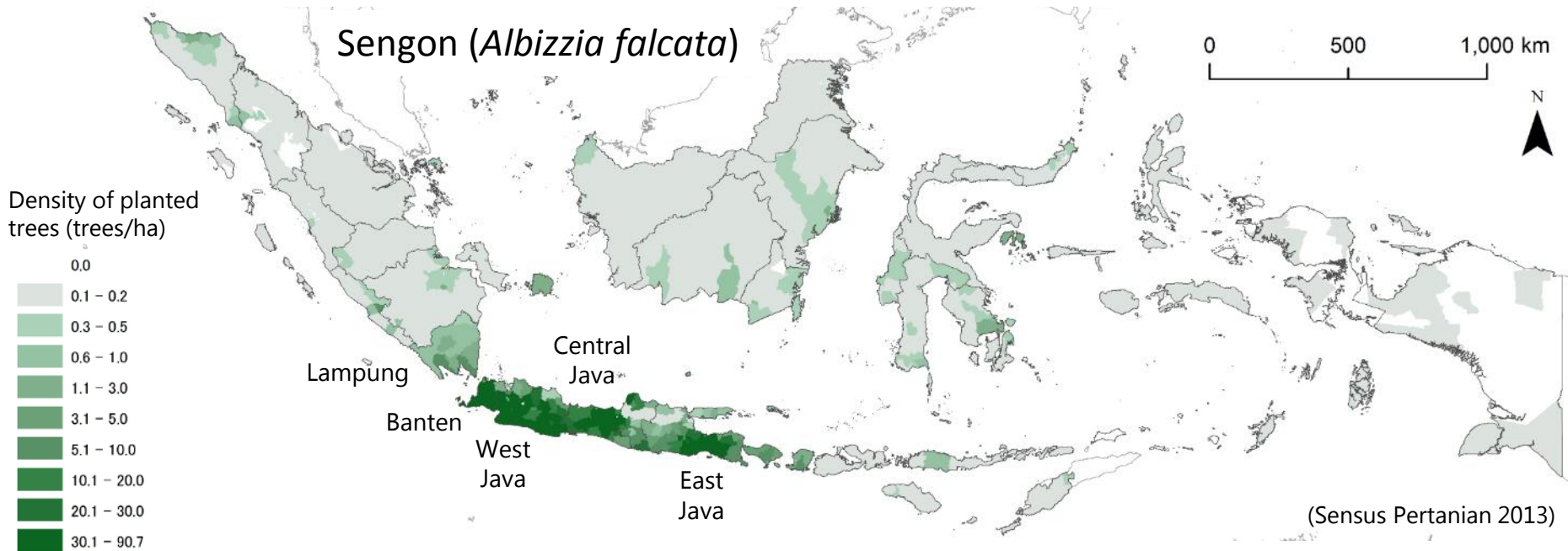


Tree farming households / Land-owning farm households
 3.4 million / 24.1 million (2003) ➡ 6.4 million / 25.8 million (2013)

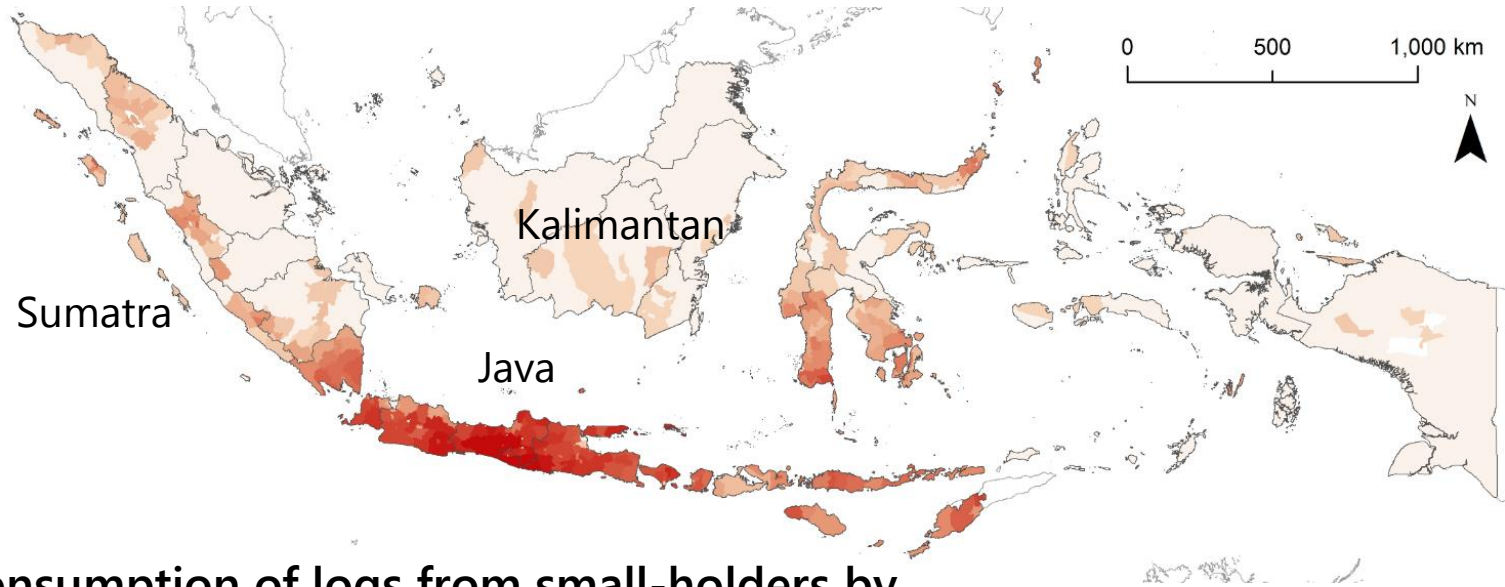
Plannted tree species	No. of trees planted by farming households (million trees)
Sengon (<i>Albizzia falcata</i>)	328.8
Teak (<i>Tectona grandis</i>)	167.4
Mahogani (<i>Swietenia macrophylla</i>)	71.5
Akasia (<i>Acacia mangium</i> etc.)	46.9

(Sensus Pertanian 2013)

Density of planted trees by farming households

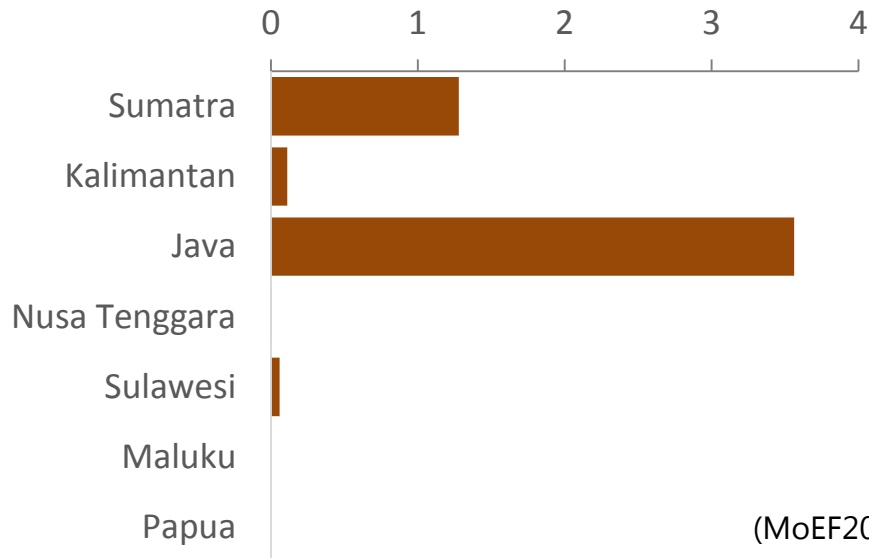


③ Tree farming by small-holders



Consumption of logs from small-holders by industry (capacity > 6,000 m³/year) in 2016

million m³



(MoEF2016)









Conclusion

- Major source of log production in Indonesia has shifted from logging concession (mainly Meranti) to industrial tree plantations (mainly Acacia) and tree-farming (mainly Sengon) in past two decades.
- Natural forest logging concession can produce valuable logs and maintain high levels of biodiversity. Continued efforts are needed to achieve sustainability.
- Industrial tree plantations are highly productive by volume, but this wood is mostly for chip and pulp and cannot substitute for the high-value timber from natural forest.
- Tree-farming by small-holders outside the Forest Zone has become an alternative source for sawn-wood and plywood, and is growing.