



# **DEFORESTATION & FOREST AREA CHANGE:**

## **HISTORICAL TRENDS & UNDERLYING CAUSES**

**Petteri Vuorinen  
&  
Mette L. Wilkie**

1946

TIMBER



1980

DEFORESTATION



2000

CONSERVATION



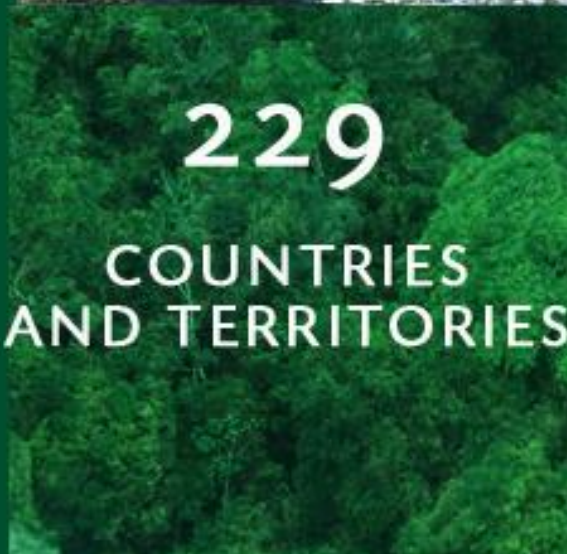
# Global Forest Resources Assessment 2005

Progress towards sustainable forest management



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Progress towards sustainable forest management

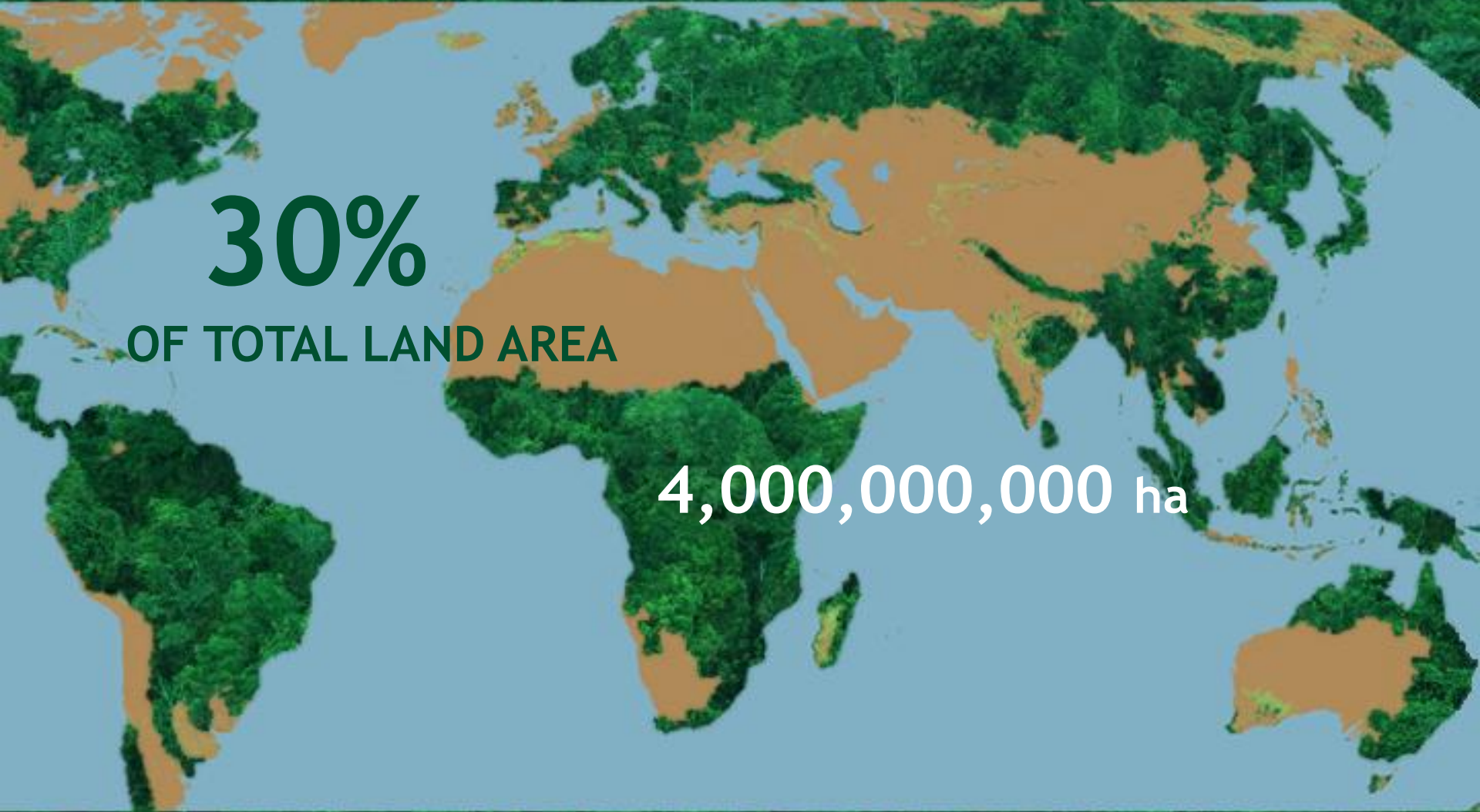


# THE WORLD'S FORESTS

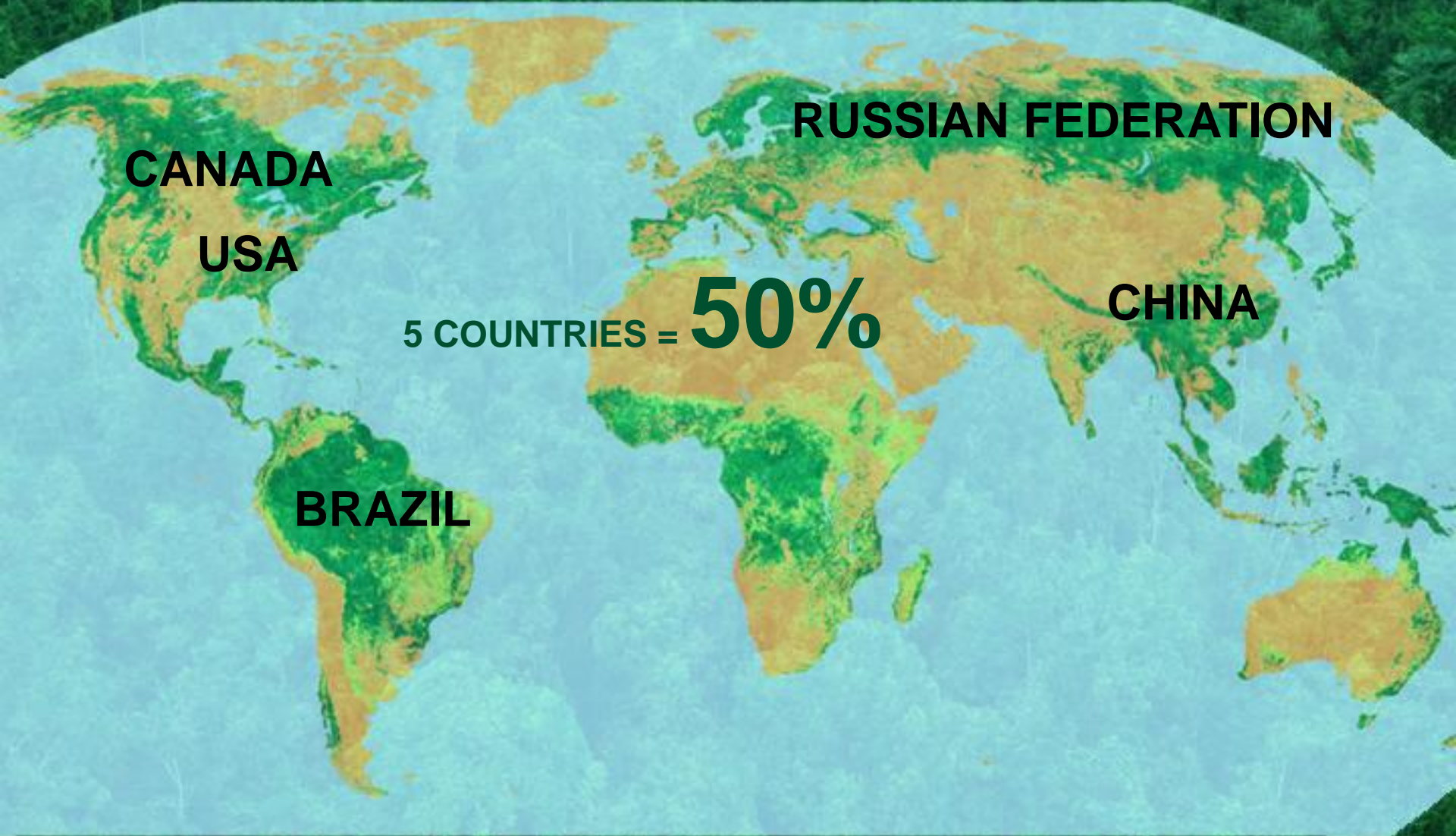
**30%**

**OF TOTAL LAND AREA**

**4,000,000,000 ha**



# THE WORLD'S FORESTS



# THE FORESTS OF ASIA & THE PACIFIC

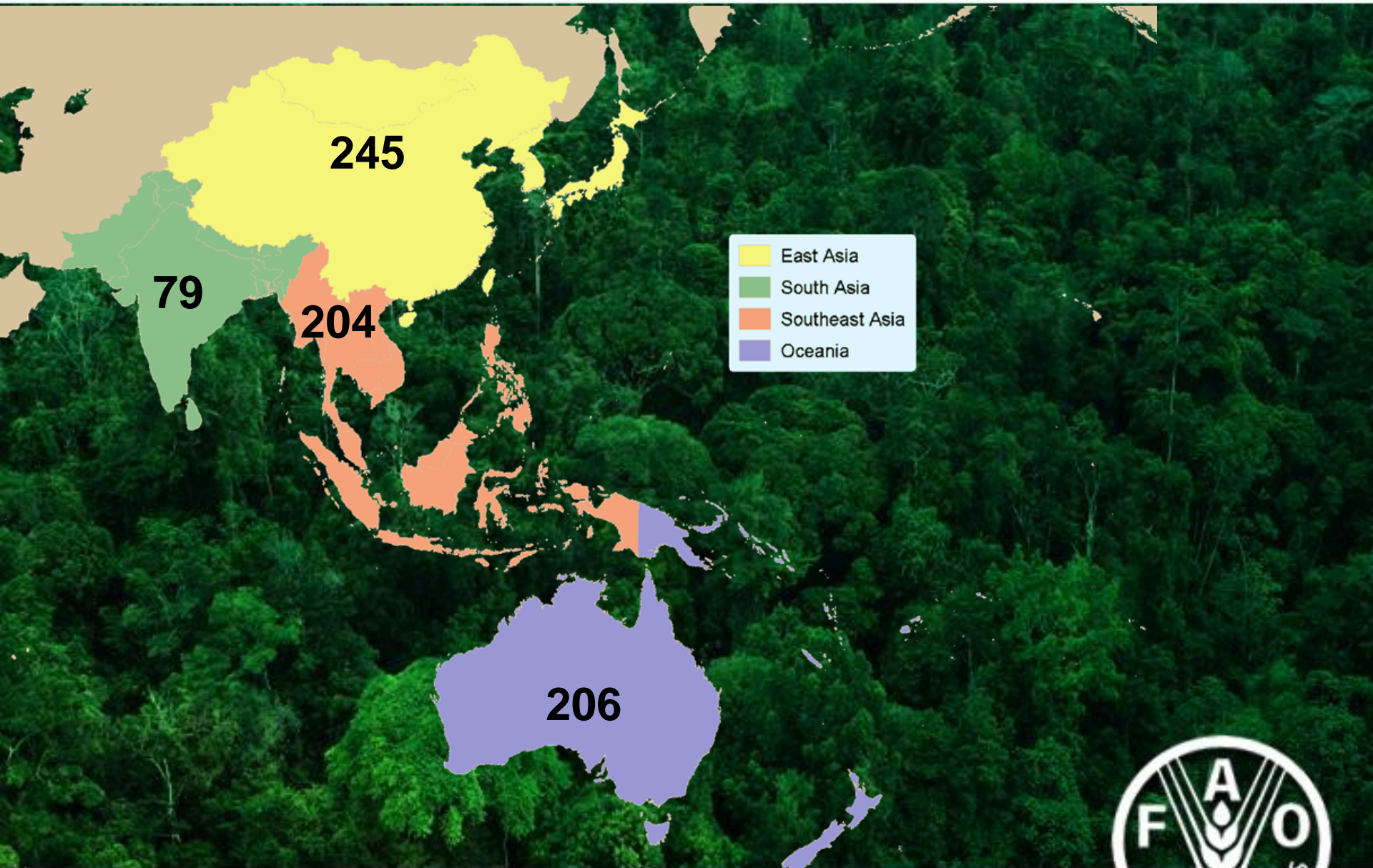


**26%**

**OF TOTAL LAND AREA**

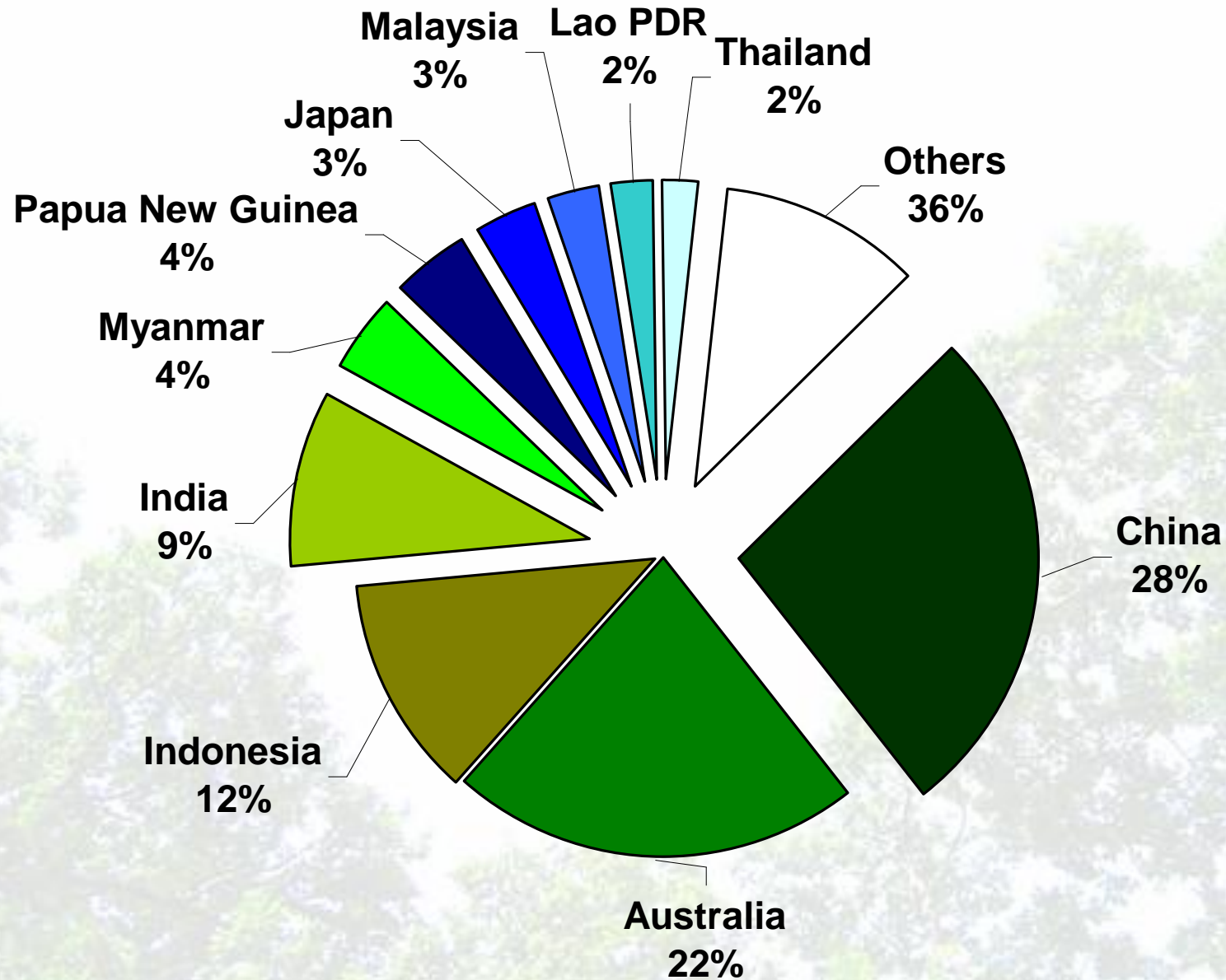
**734,000,000 ha**

# FOREST AREA BY SUBREGION, 2005 (million ha)





# FOREST AREA BY COUNTRY, 2005 (%)



# CHANGE IN FOREST AREA 1990-2005

DEFORESTATION **13** million ha/yr

NET FOREST LOSS

1990-2000 **8.9** million ha/yr

2000-2005 **7.3** million ha/yr

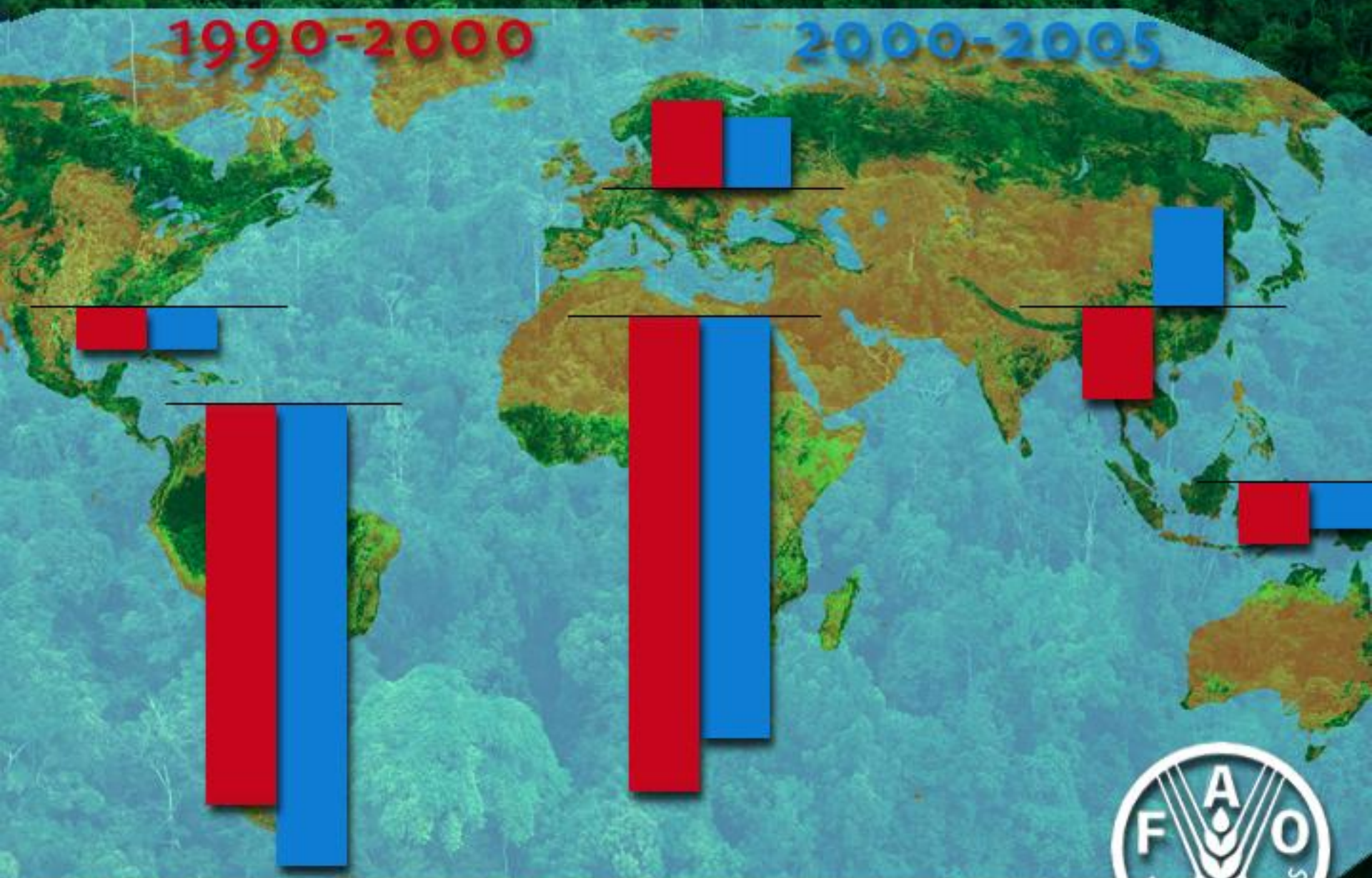
**200** KM<sup>2</sup> PER DAY



# ANNUAL NET CHANGE IN FOREST AREA

1990-2000

2000-2005

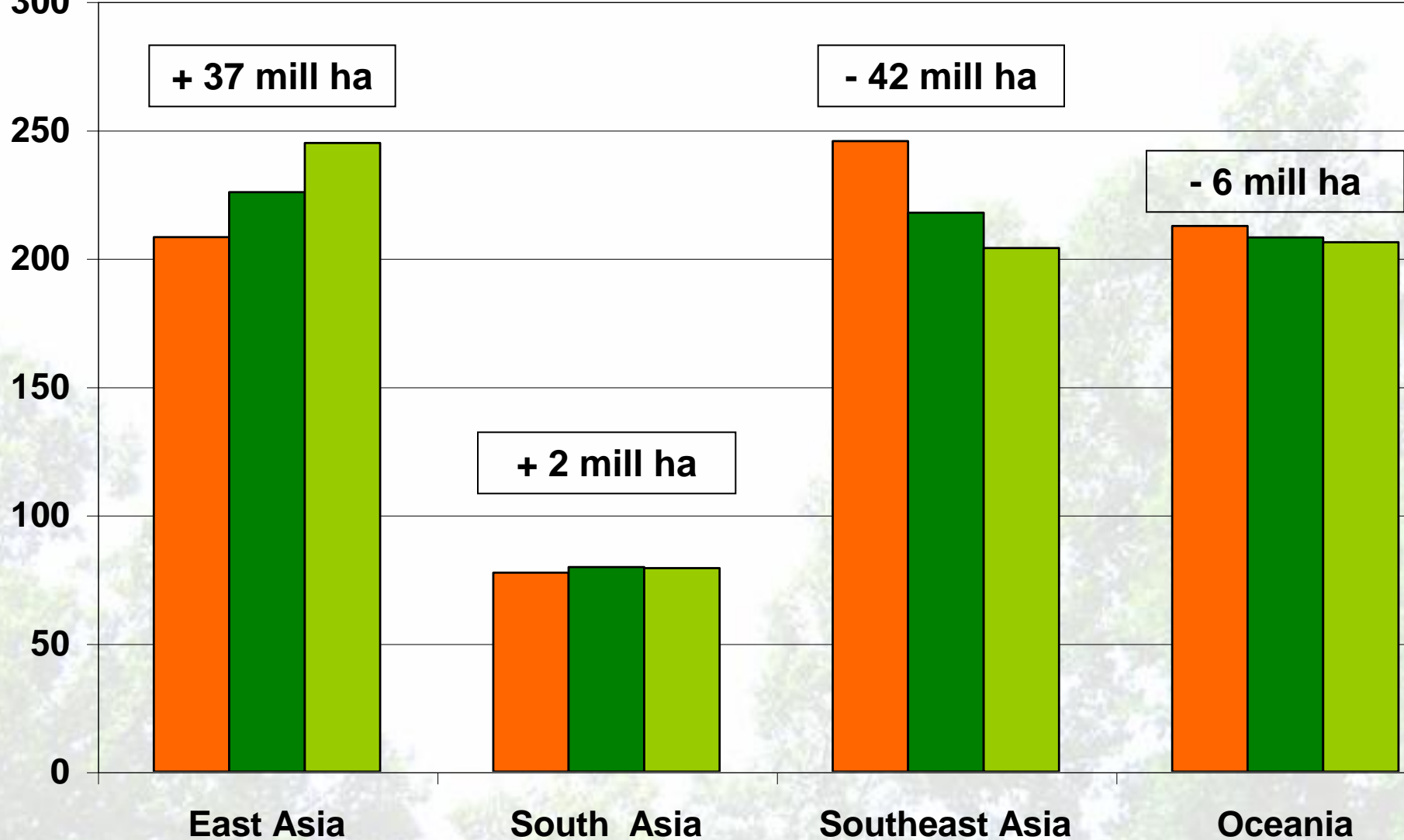


# FOREST AREA CHANGES, 1990-2000-2005

(million ha)  
300

1990: 744 million ha

2005: 734 million ha



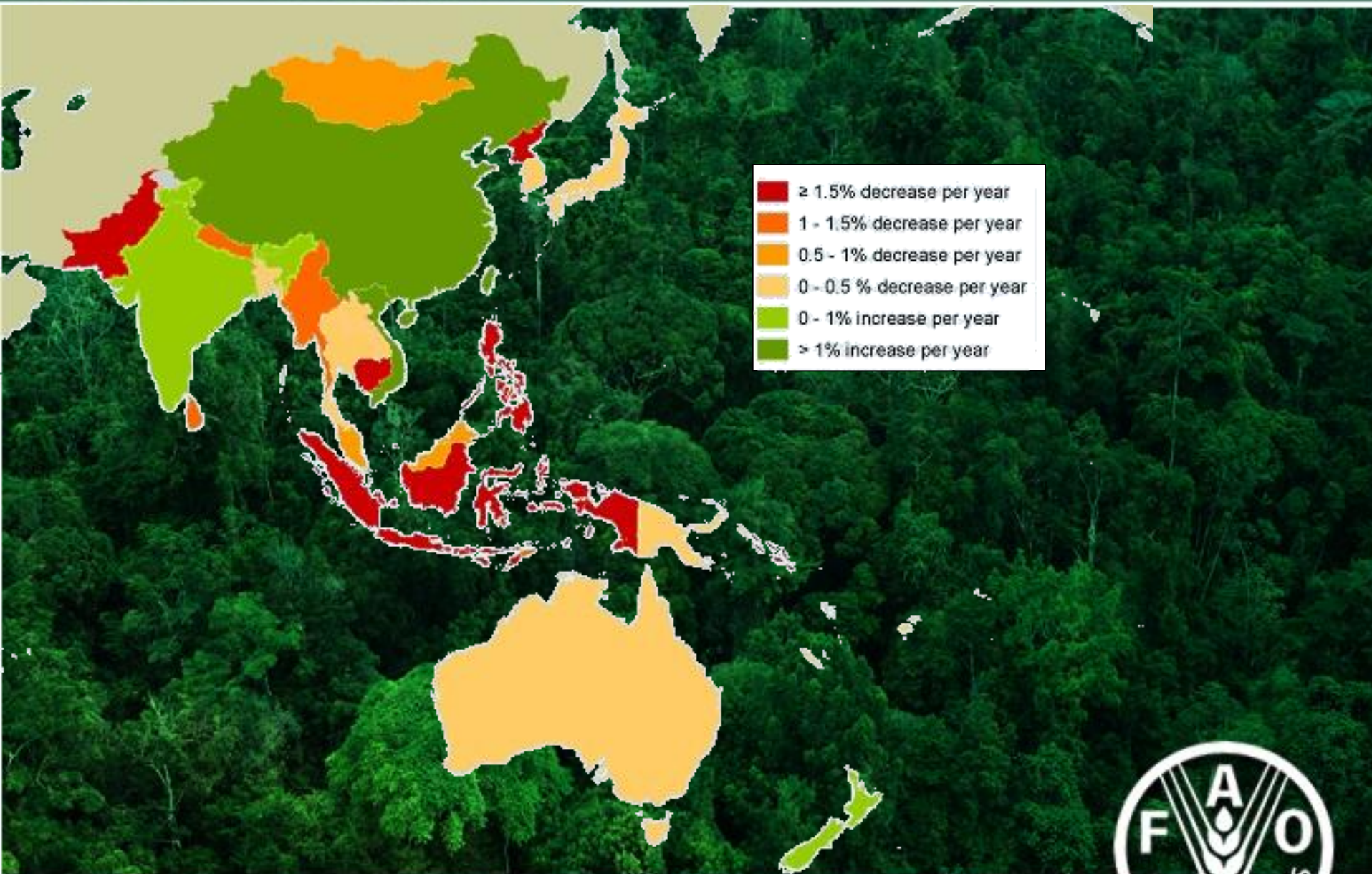
1990

2000

2005

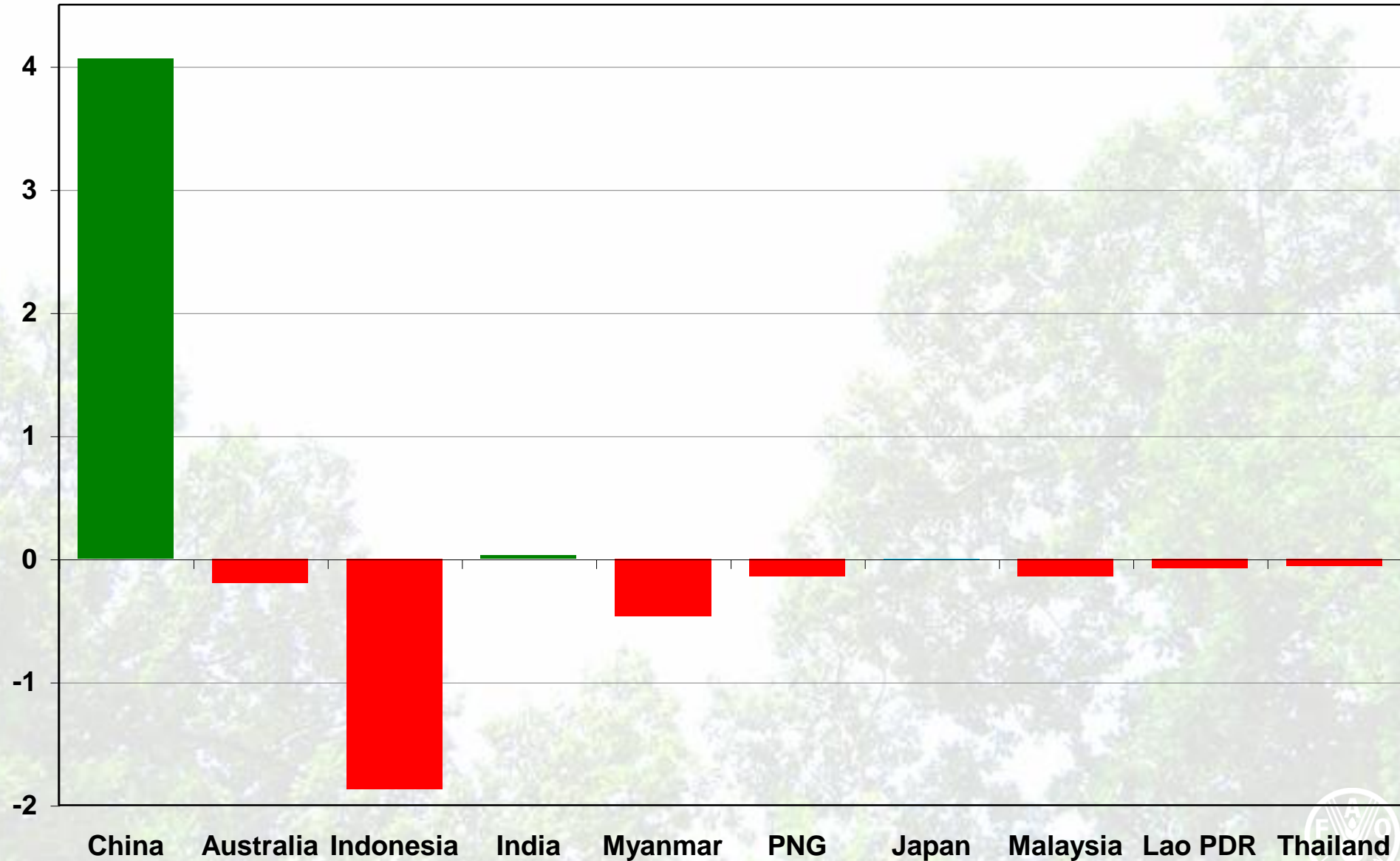


# FOREST AREA CHANGES, 2000-2005



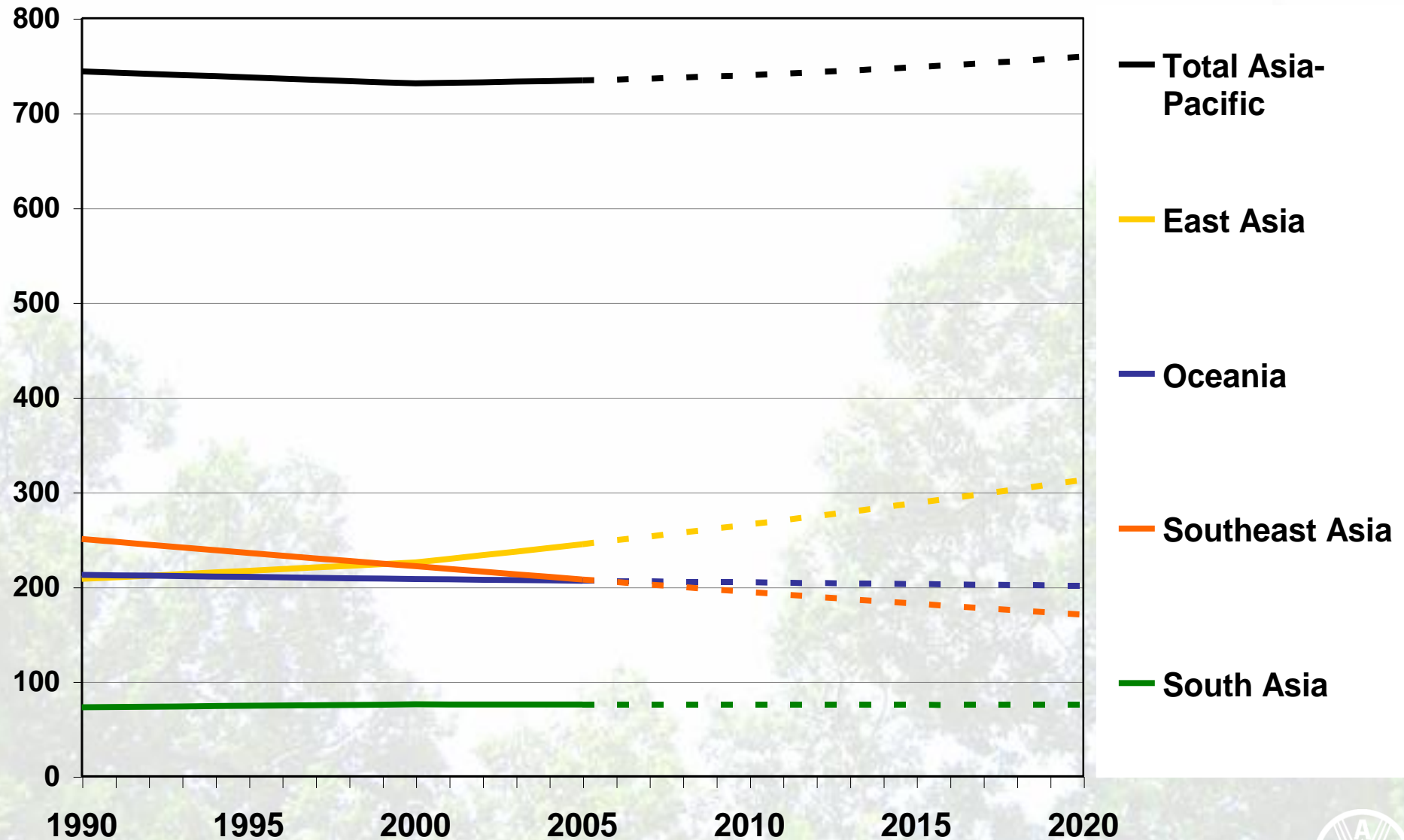
# FOREST AREA CHANGES, TOP 10 COUNTRIES

million ha/yr (2000-2005)



# FOREST AREA 2020, SCENARIO 1

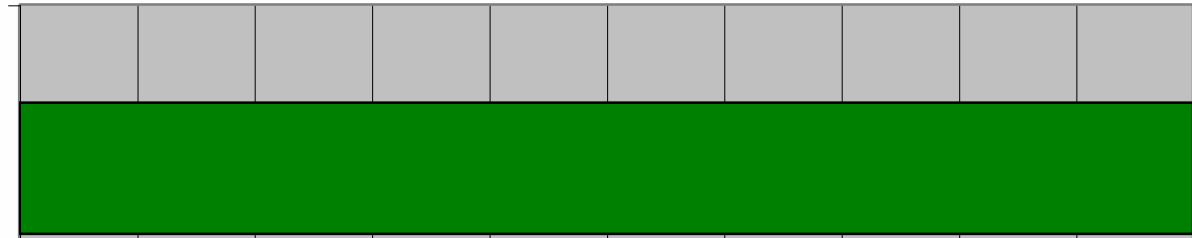
million ha



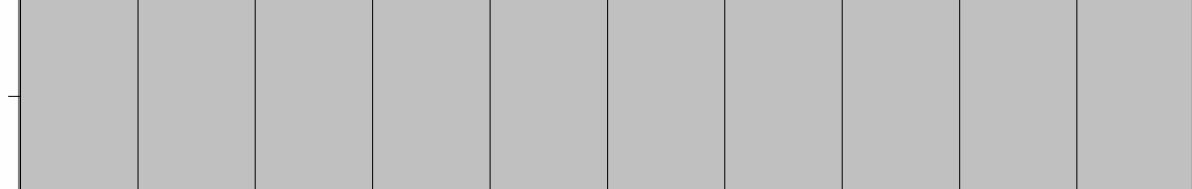
# FOREST AREA DATA SOURCES

■ Forest inventory ■ Remote sensing ■ Expert estimate

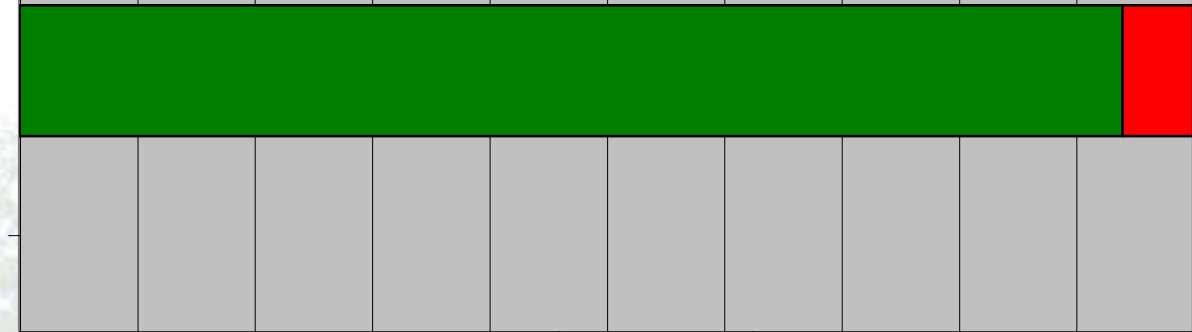
East Asia



South and Southeast Asia



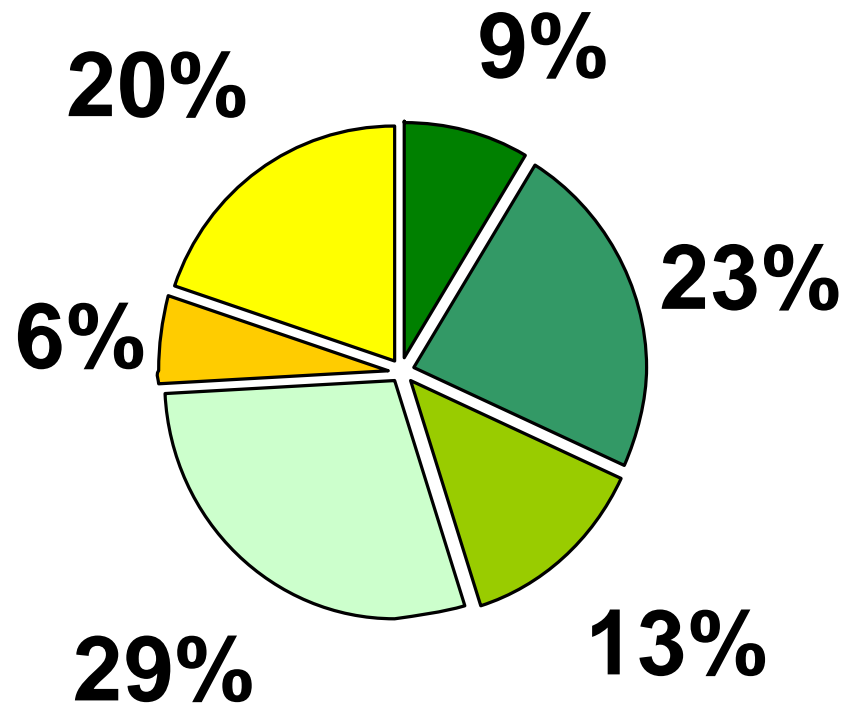
Oceania



0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%



# CAUSES OF FOREST AREA CHANGE 1990-2000



- Expansion of shifting cultivation into undisturbed forests
- Intensification of agriculture in shifting cultivation areas
- Direct conversion of forest area to small-scale permanent agriculture
- Direct conversion of forest area to large-scale permanent agriculture
- Gains in forest area and canopy cover
- Other

# DRIVERS OF FOREST AREA CHANGE

POPULATION PRESSURE

PROSPERITY

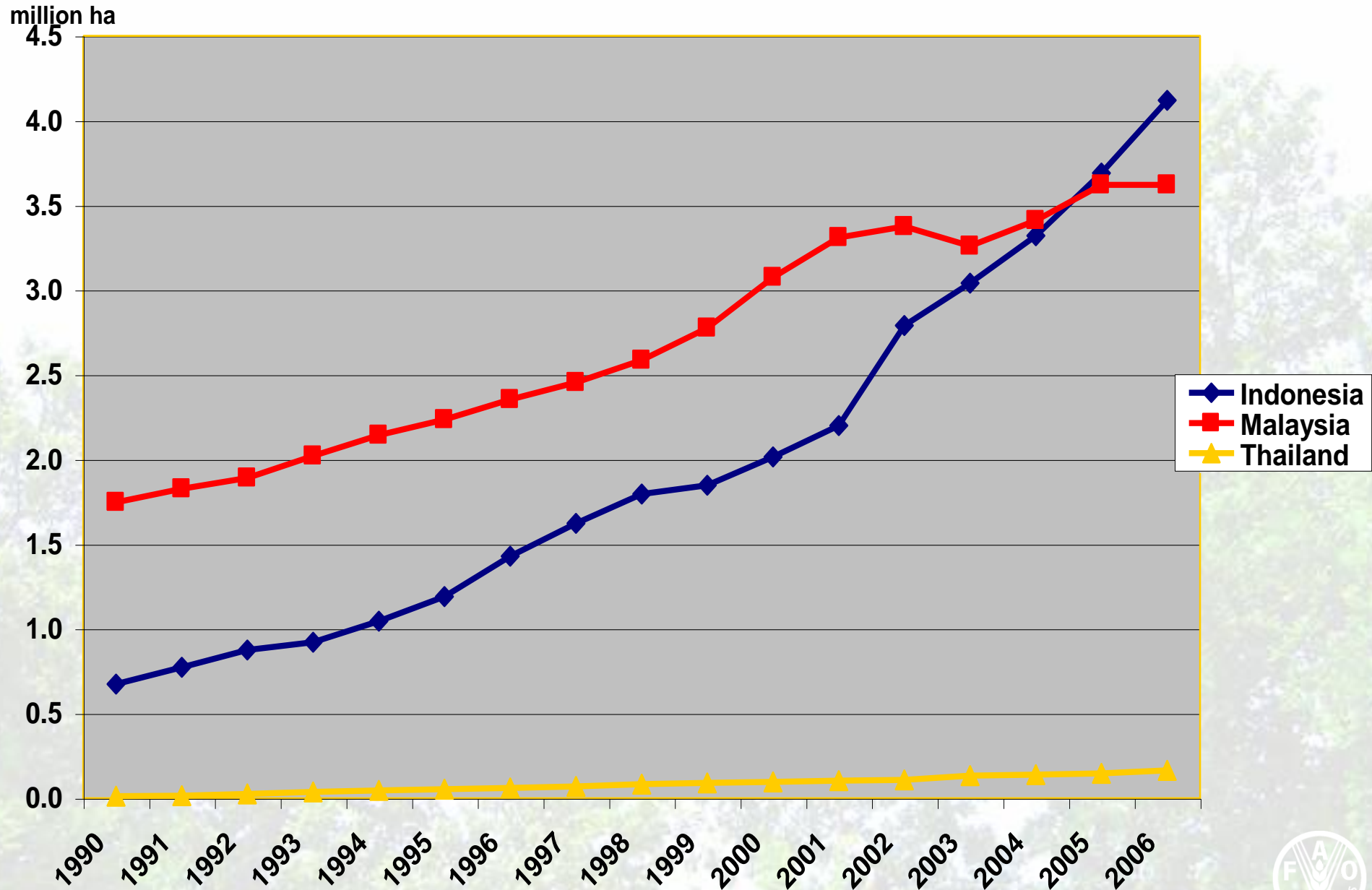
PROFITS

PRODUCTIVITY

POLICIES & POLITICS



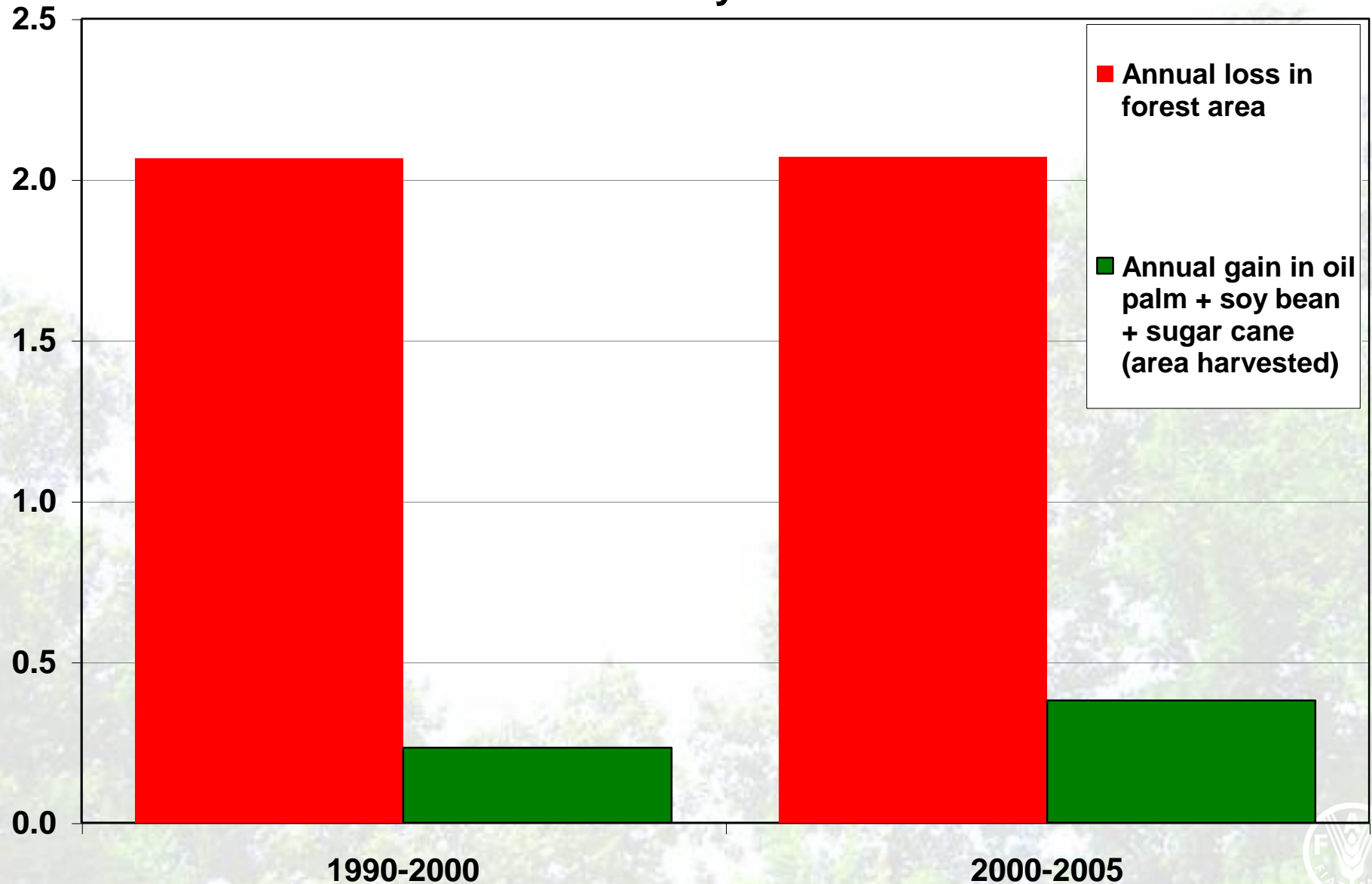
# OIL PALM PRODUCTION (Harvested area)



# FORESTS, OIL PALMS, SOY BEANS & SUGAR CANE

million ha/yr

## Indonesia + Malaysia + Thailand



# FOREST AREA TARGETS (Examples)

**CHINA: 23% FOREST COVER BY 2020**

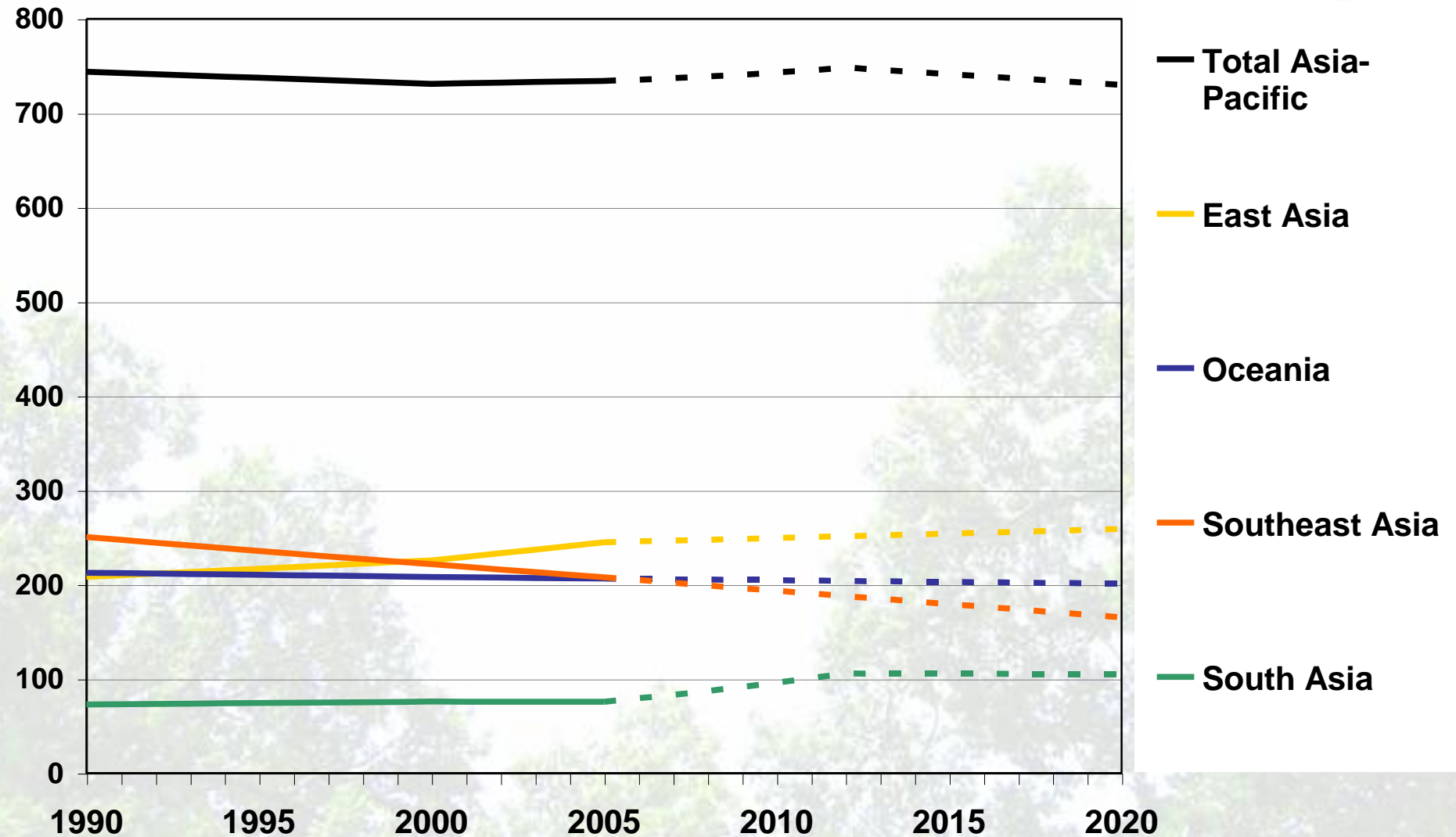
**INDIA: 33% FOREST COVER BY 2012**

**VIETNAM: 43% FOREST COVER BY 2010**



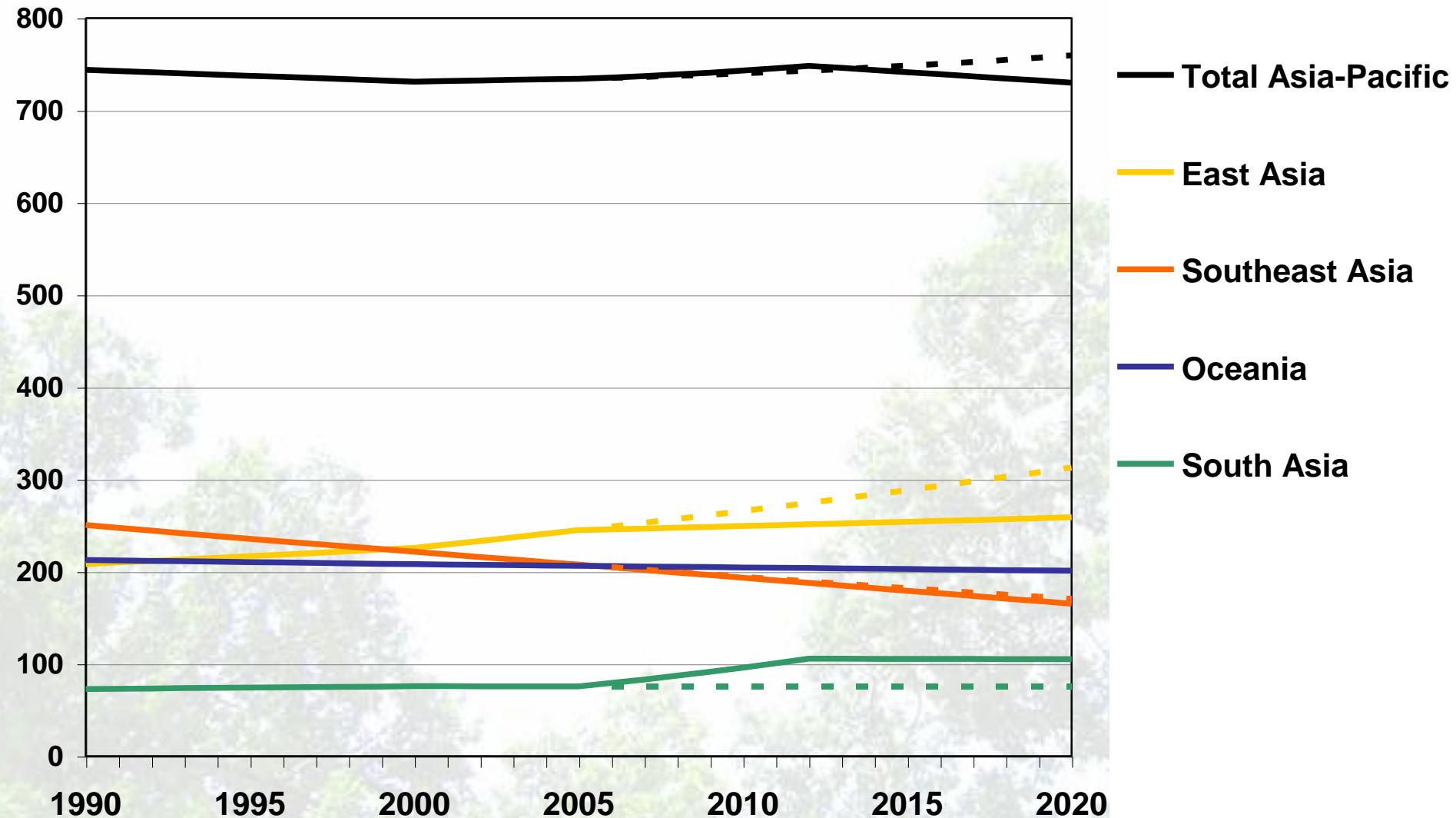
# FOREST AREA 2020, SCENARIO 2

million ha

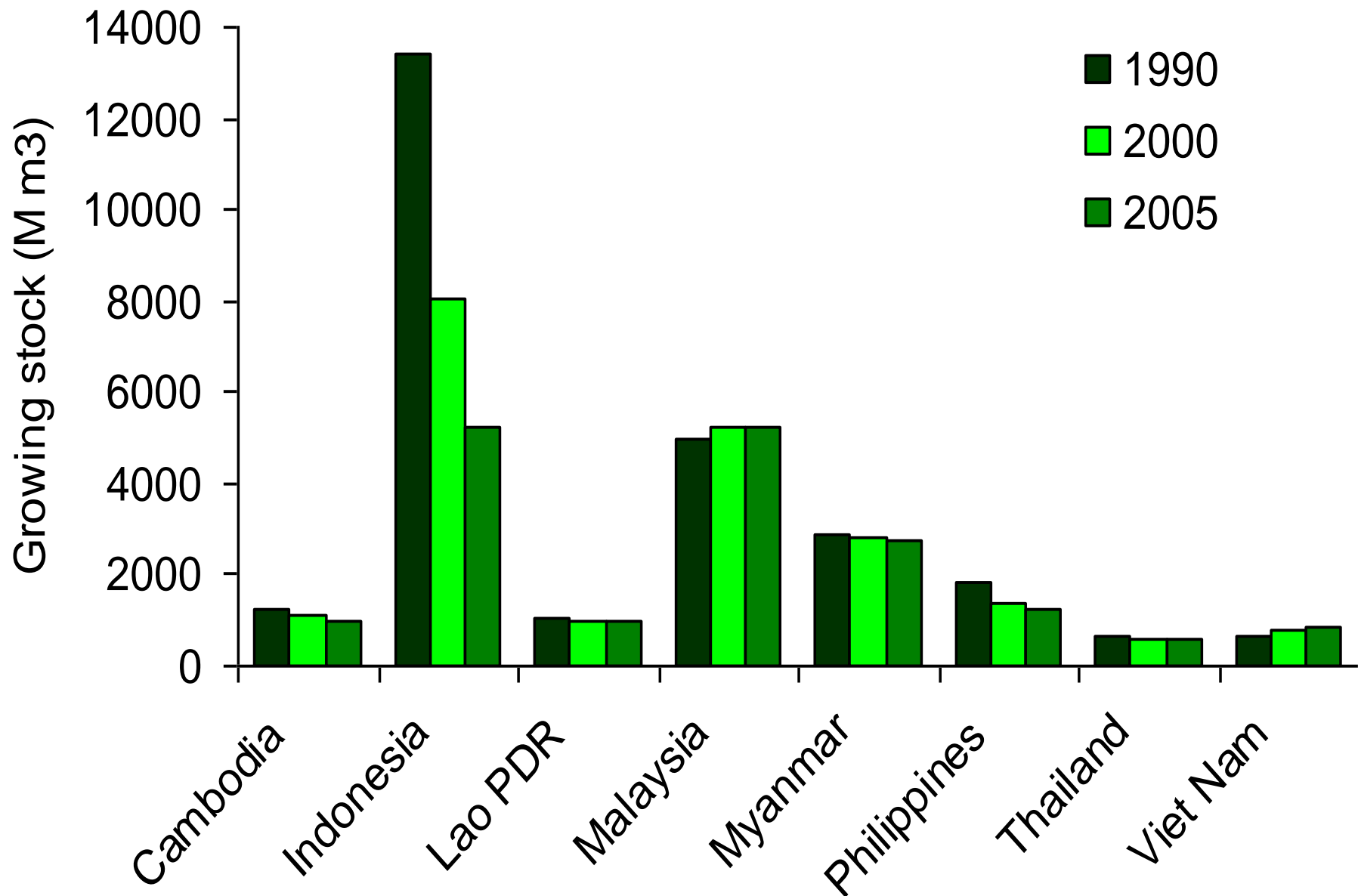


# FOREST AREA 2020, SCENARIO 1 & 2

million ha

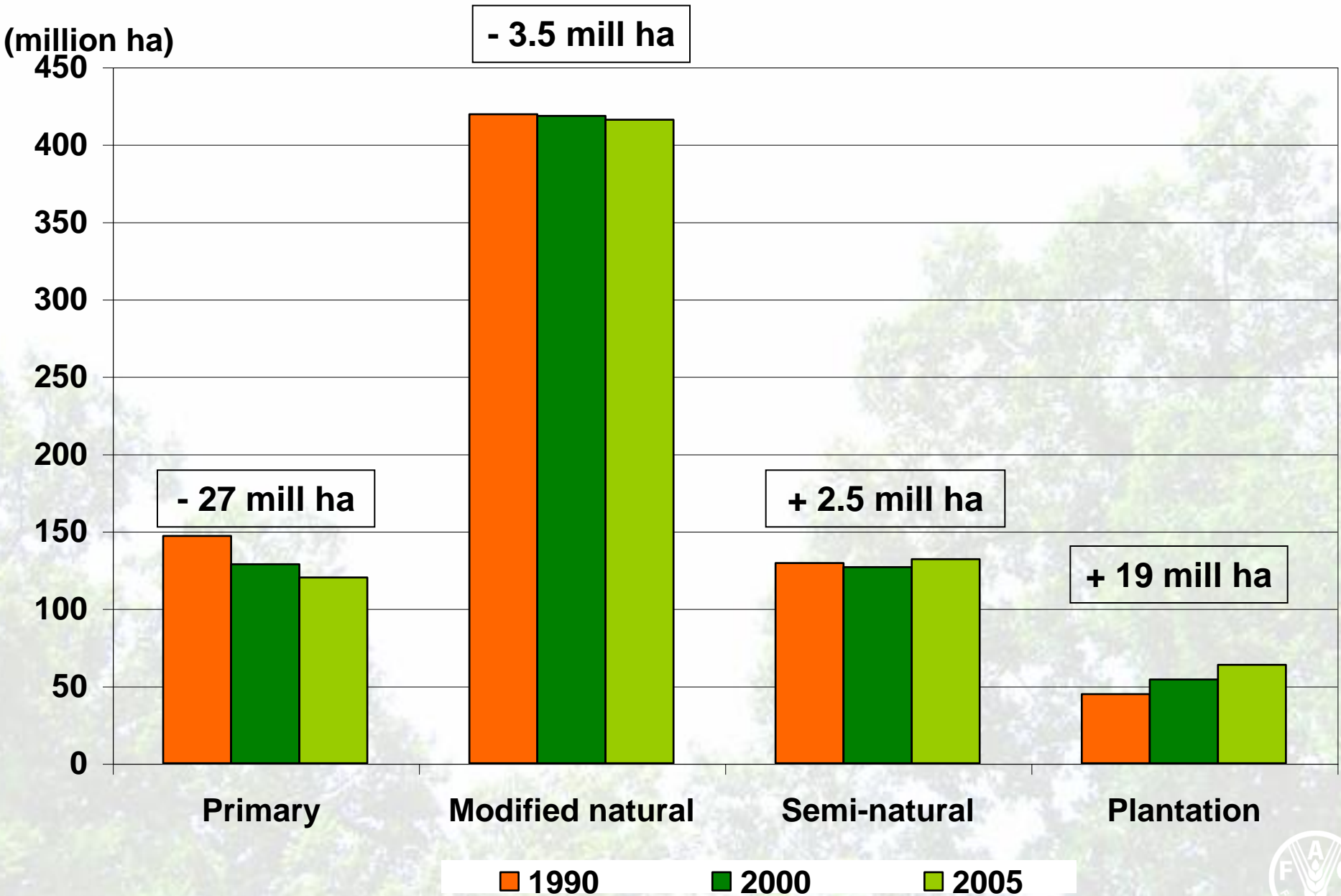


# GROWING STOCK SINCE 1990





# CHANGES IN FOREST CHARACTERISTICS



# CONCLUSIONS

**FOREST AREA 2020 ~ FOREST AREA 1990,  
BUT LARGE VARIATION BETWEEN COUNTRIES**

**FOREST COMPOSITION 2020: DRAMATIC  
CHANGES**

**DATA AVAILABILITY AND QUALITY ON  
DEFORESTATION RATES ARE STILL POOR**



**THANK YOU !!!**

**[www.fao.org/forestry/fra](http://www.fao.org/forestry/fra)**

