



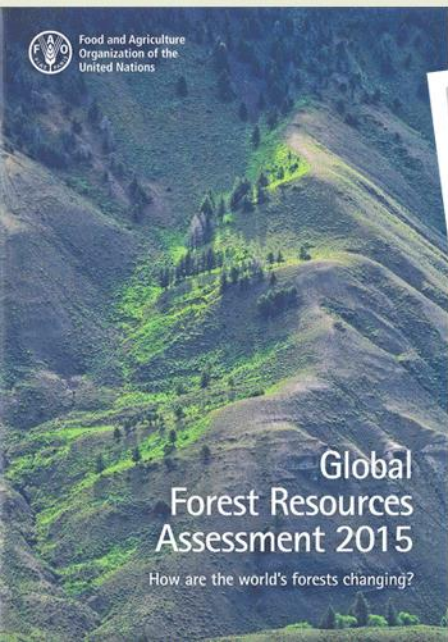
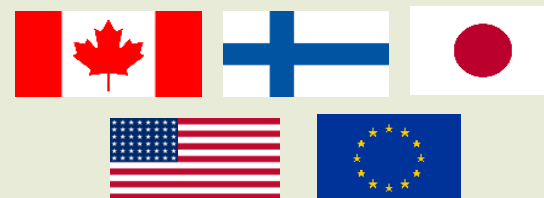
Food and Agriculture  
Organization of the  
United Nations

# How have forests changed?

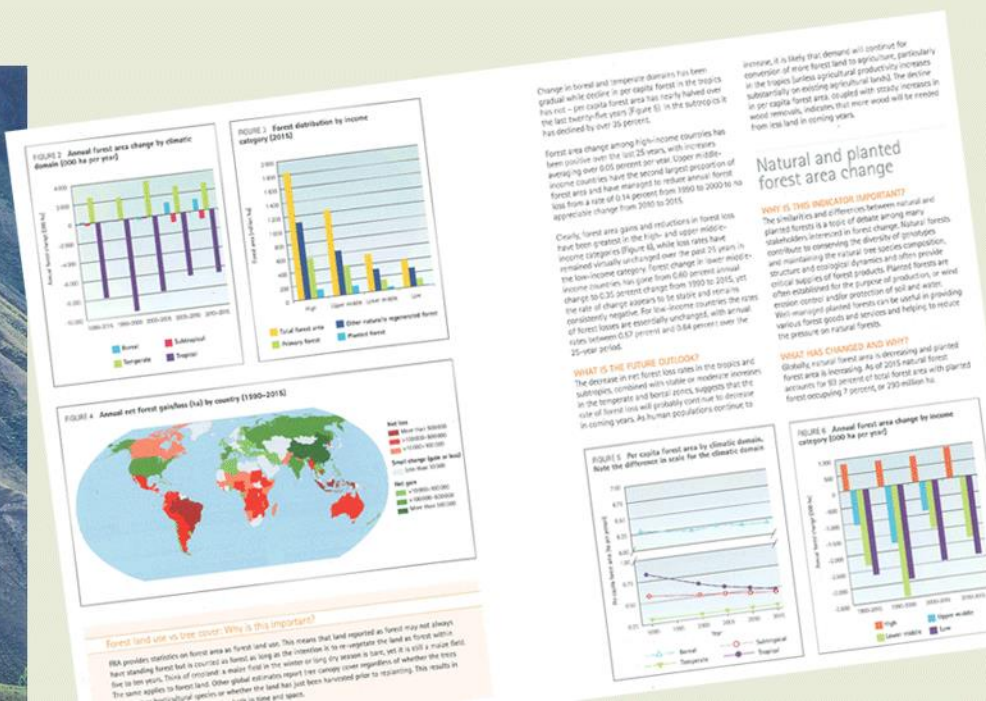
Results from FRA 2015

K. MacDicken, FAO Forestry





## How are the world's forests changing?



Volume 352 • 7 September 2015

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# FOREST ECOLOGY AND MANAGEMENT

SCIENCE TO SUSTAIN THE WORLD'S FORESTS

Special Issue: Changes in Global Forest Resources from 1990 to 2015  
Guest Editor: Kenneth MacDicken





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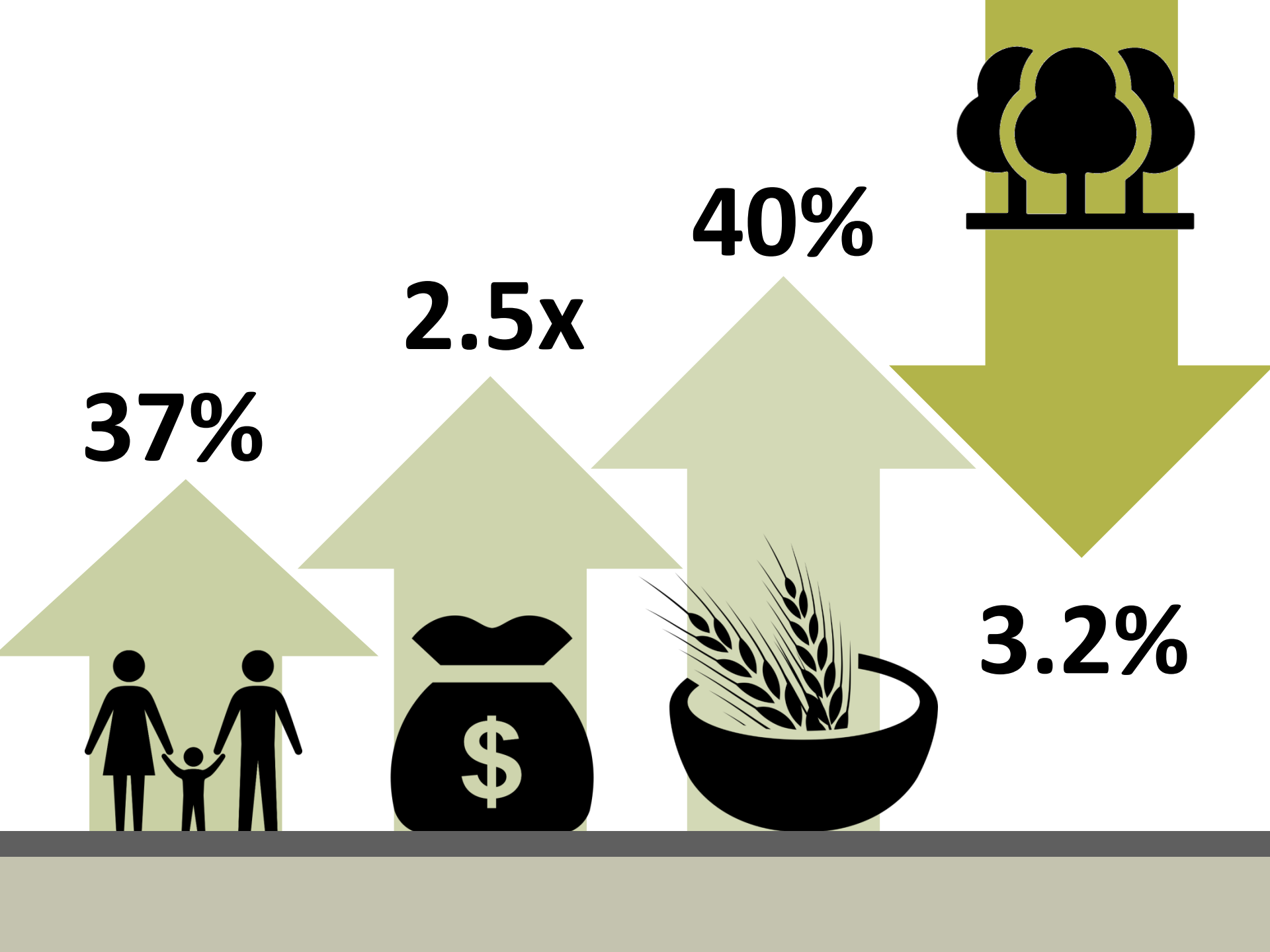
# The Collaborative Forest Resources Questionnaire: Making Joint Data Collection Work





**How have forests changed?**

**But first, how have we  
changed in the past 25 years?**



**37%**



**2.5x**



**40%**

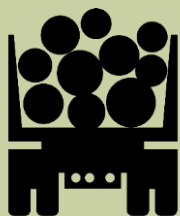


**3.2%**

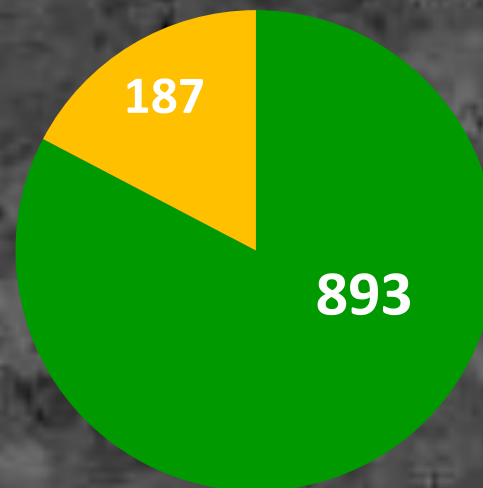


**200  
million  
m<sup>3</sup>**

Annual wood  
removal



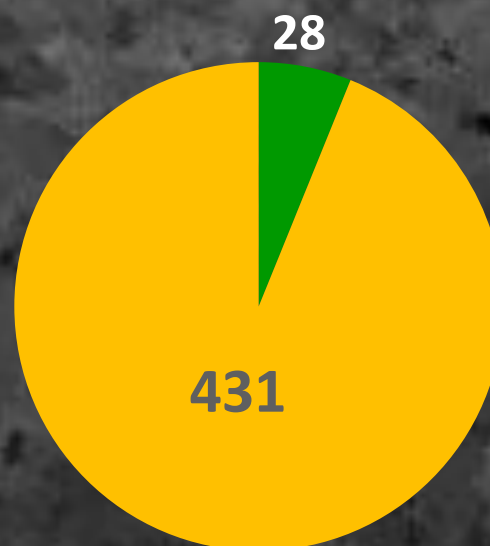
## High income countries



(million m<sup>3</sup>)

■ Industrial  
■ Woodfuel

## Low income countries



(million m<sup>3</sup>)

■ Industrial  
■ Woodfuel

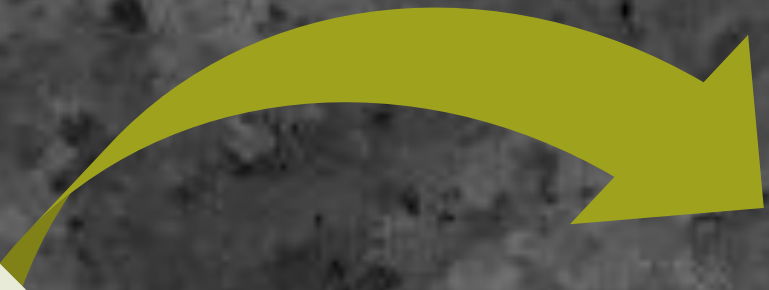
**129  
million ha**

Land  
conversion

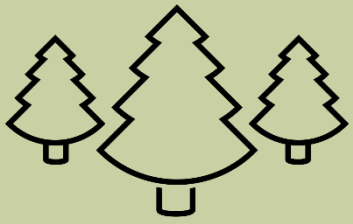


**CO<sub>2</sub>**  
Net  
emissions  
from forests

**1.5 Gt  
CO<sub>2</sub> per  
year**







Natural  
forest

**239  
million ha**

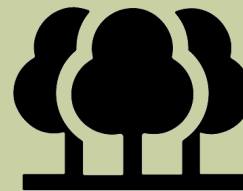
**110  
million ha**

Planted  
forest



**200  
million ha**

Protected  
area



**150  
million ha**

Biodiversity  
conservation





**...and we changed the extent  
of global forest area**



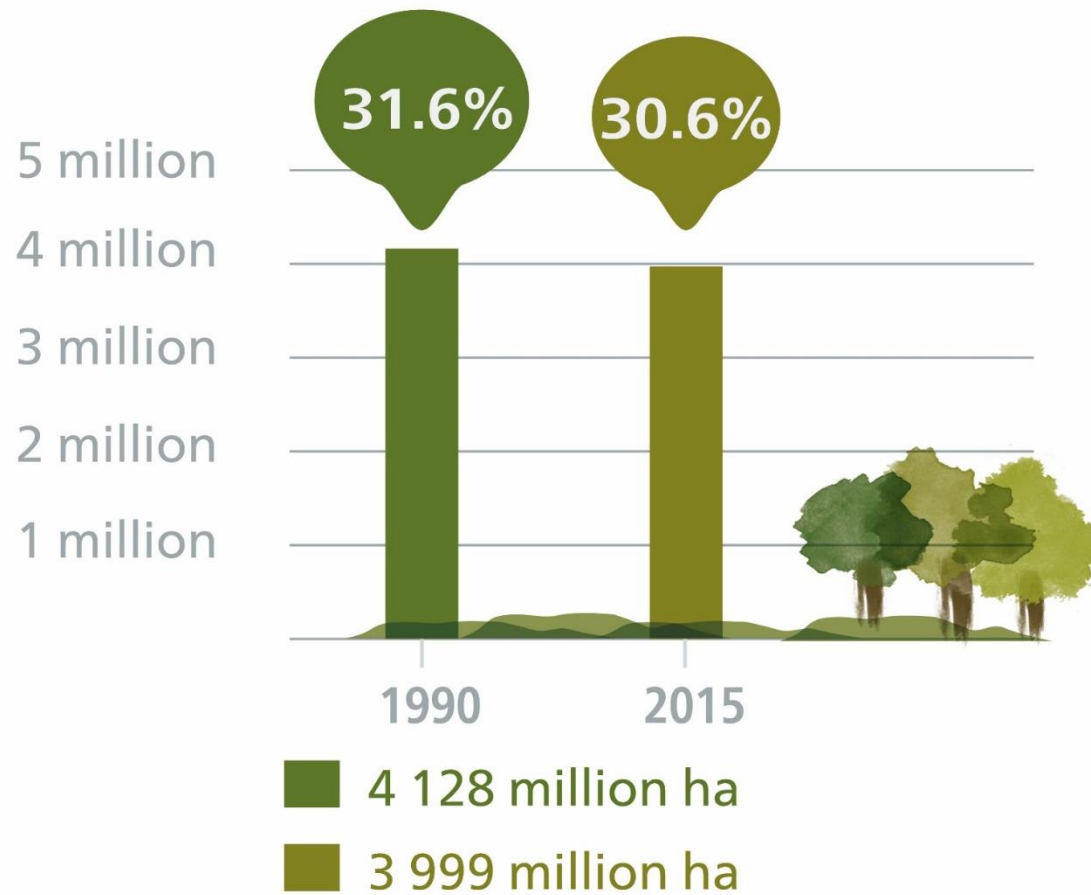
# 1

Forest area loss  
has been cut in half  
and is now less  
than one-tenth the rate  
of human population growth

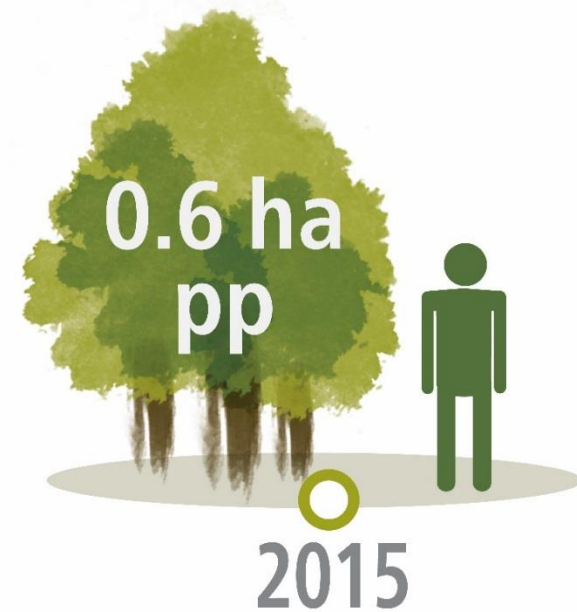
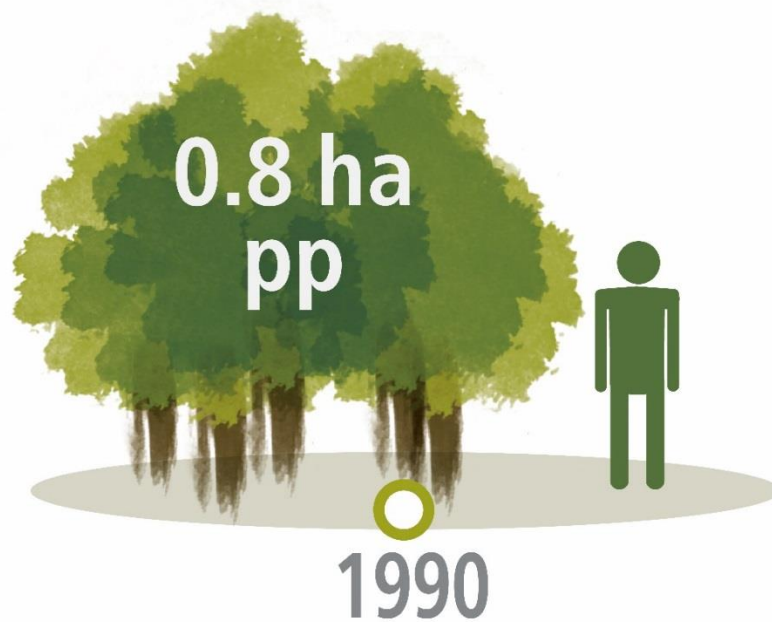




# Percentage of land area



... and in forest area per capita





# Lost or burned: which is more important?



Nearly 7 million ha of natural forest lost per year from 2010-2015.

compared to

An average of over 50 million ha of forest land burned every year.

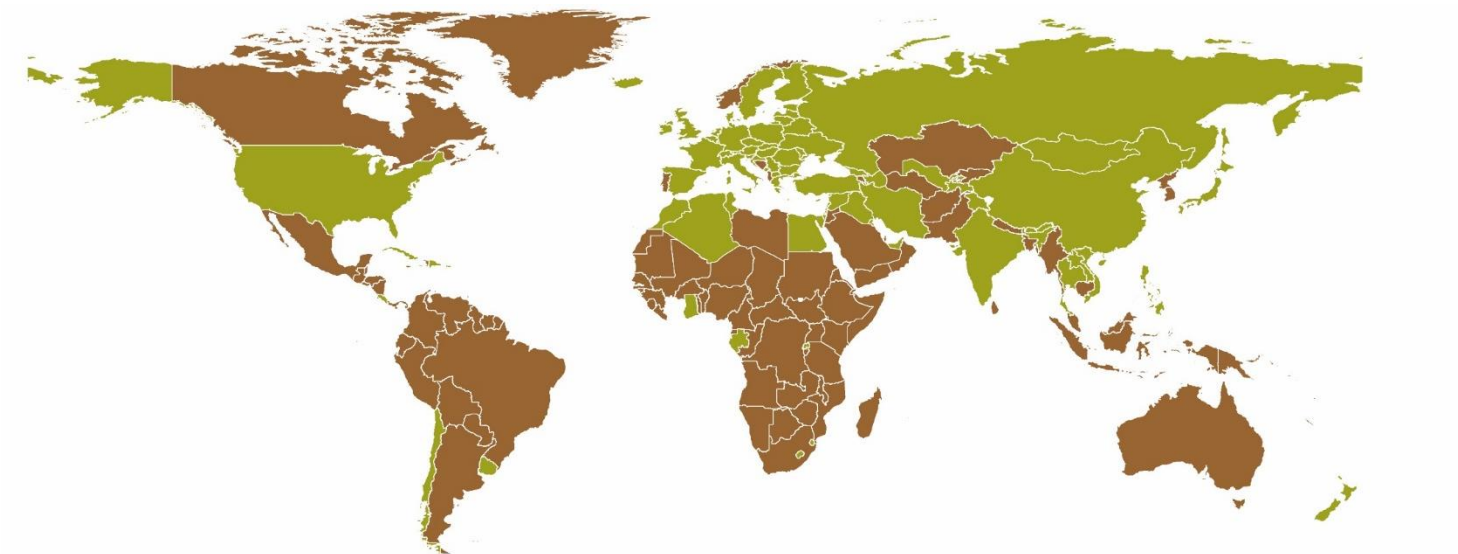


# 2

Forest area continues  
to expand in the temperate  
and boreal zones  
and contract in the tropics



# Forest area gains and losses



- **The biggest loss** has been in the tropics, particularly in Africa and South America.
- **Net forest area has increased** in over 60 countries and territories, most of which are in the temperate and boreal zones.

**6.6  
million ha  
per year**

Agricultural  
expansion in  
the tropics

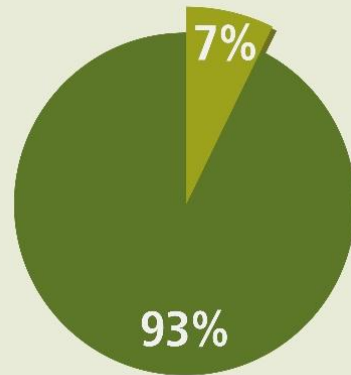


Tropical  
forest loss

**7.2  
million ha  
per year**

**Tropics: 2000-2010**

# The bulk of the world's forest is natural forest.



Global forest area, 2015

■ Planted forest area

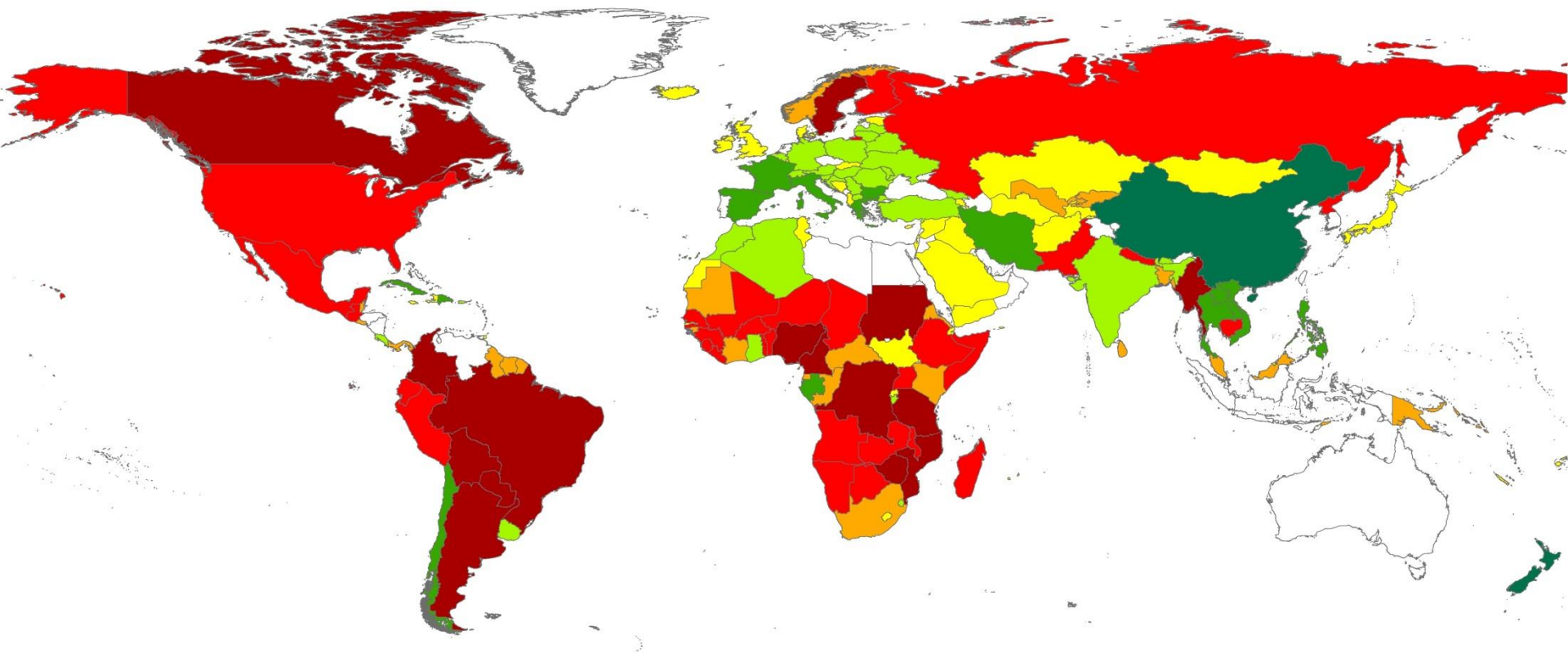
■ Natural forest area

## But the share of planted forest is increasing.

Year	Natural forest (%)	Planted forest (%)
1990	96	4
2005	94	6
2015	93	7



# Natural forest change (1990-2015)



(1000 ha)

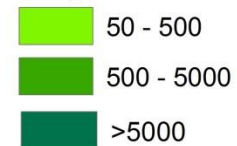
Net loss



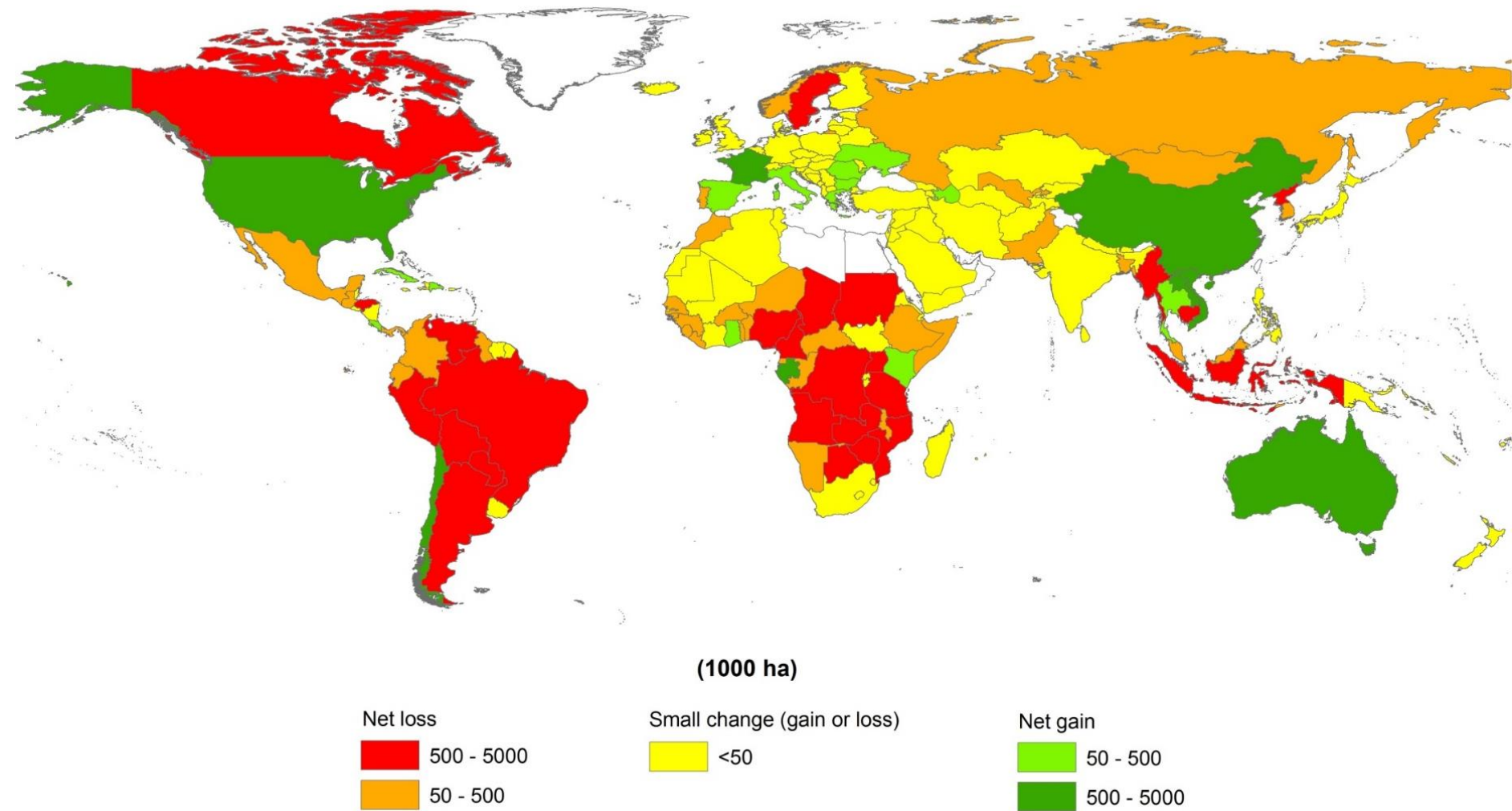
Small change (gain or loss)



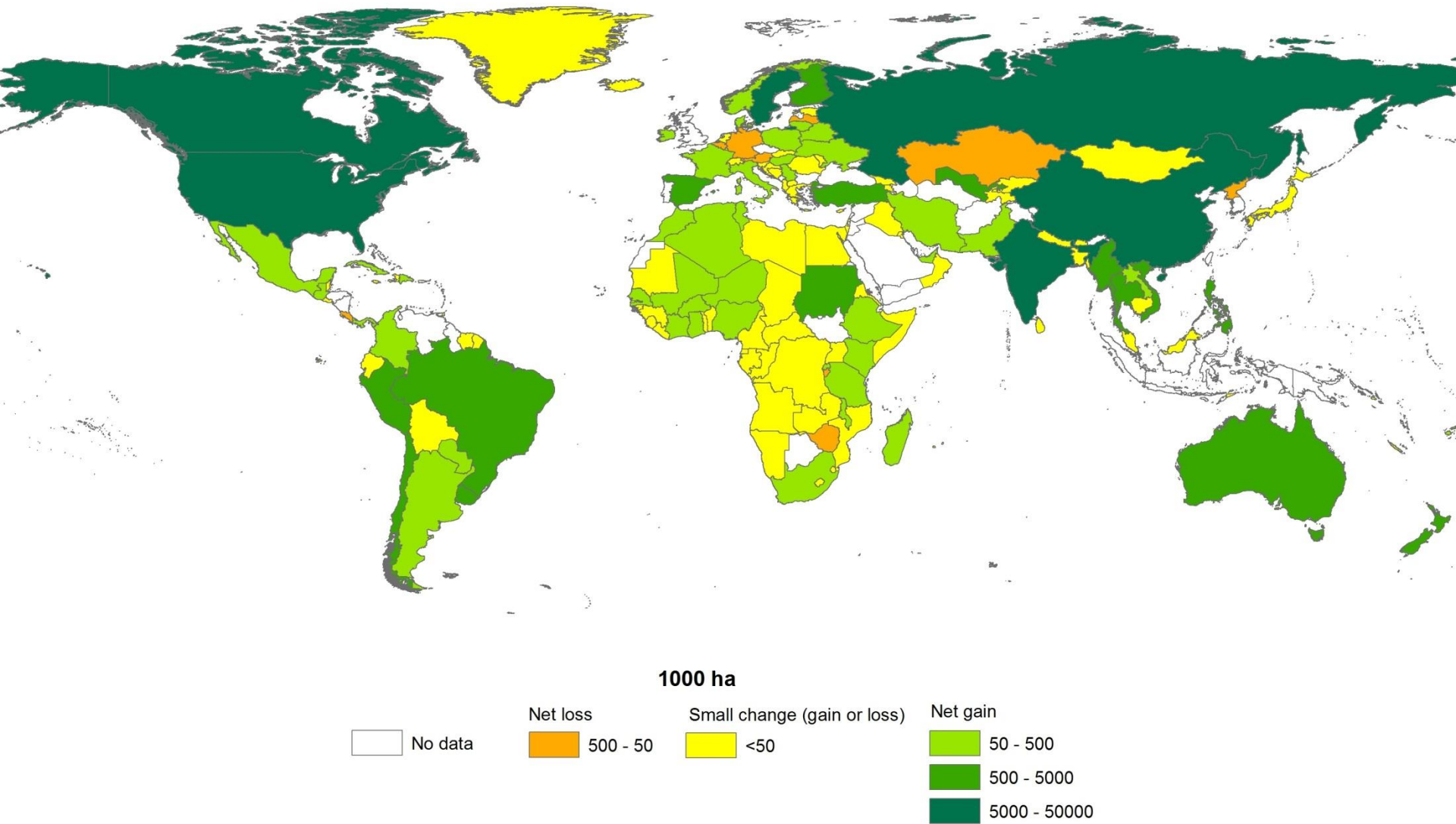
Net gain



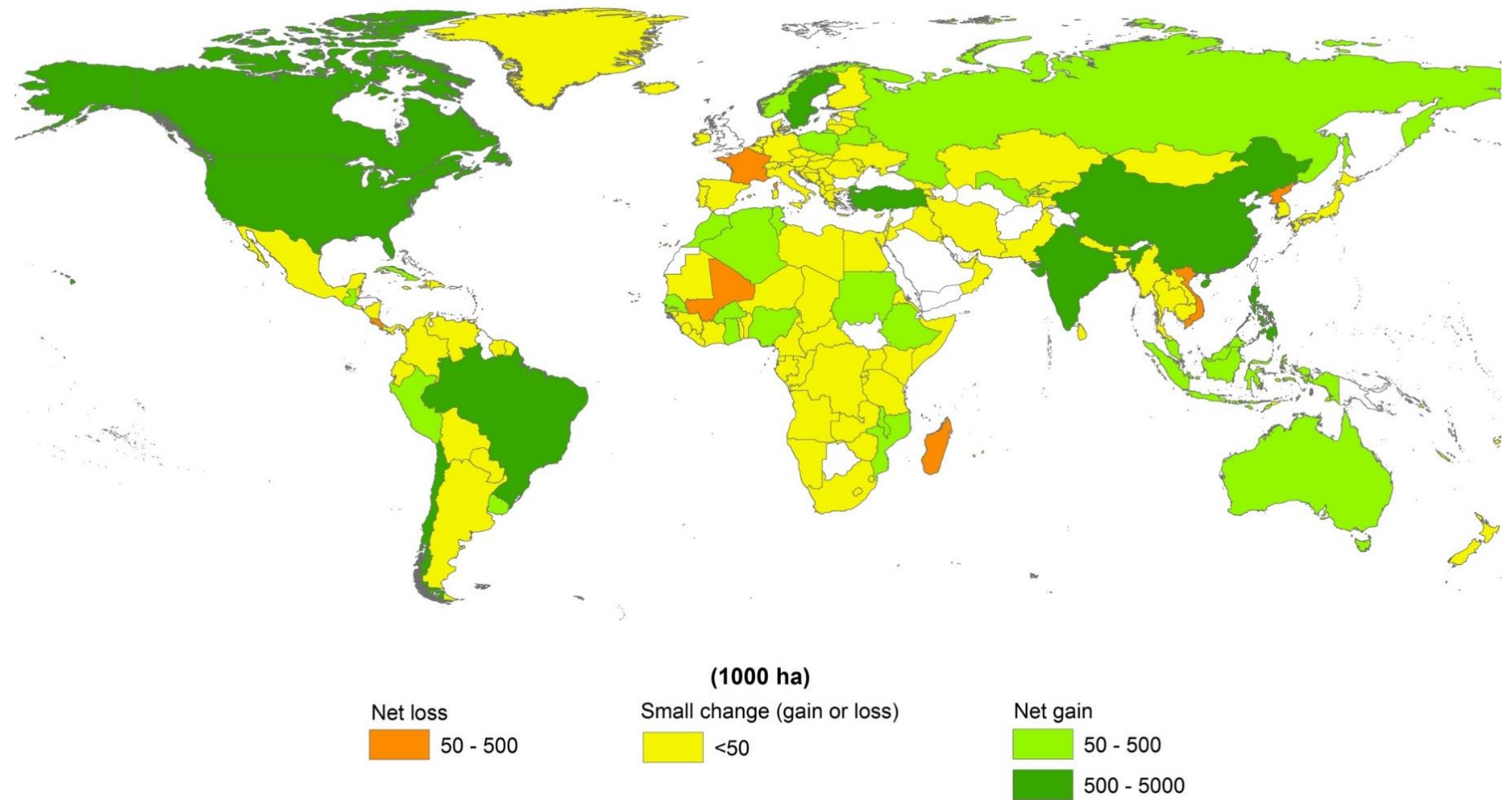
# Natural forest change (2010-2015)



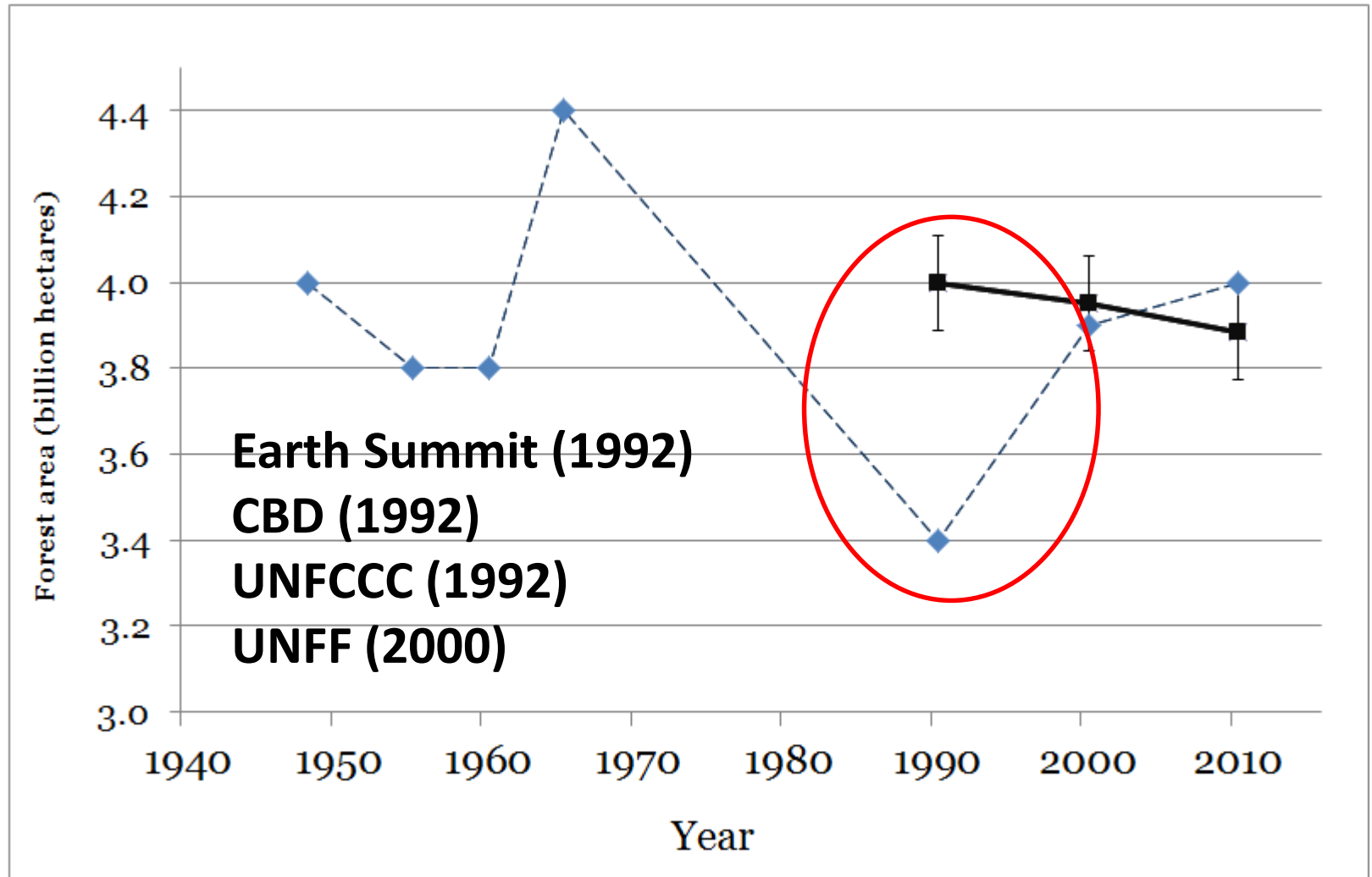
# Planted forest change (1990-2015)



# Planted forest change (2010-2015)



# Do FRA results have global implications?



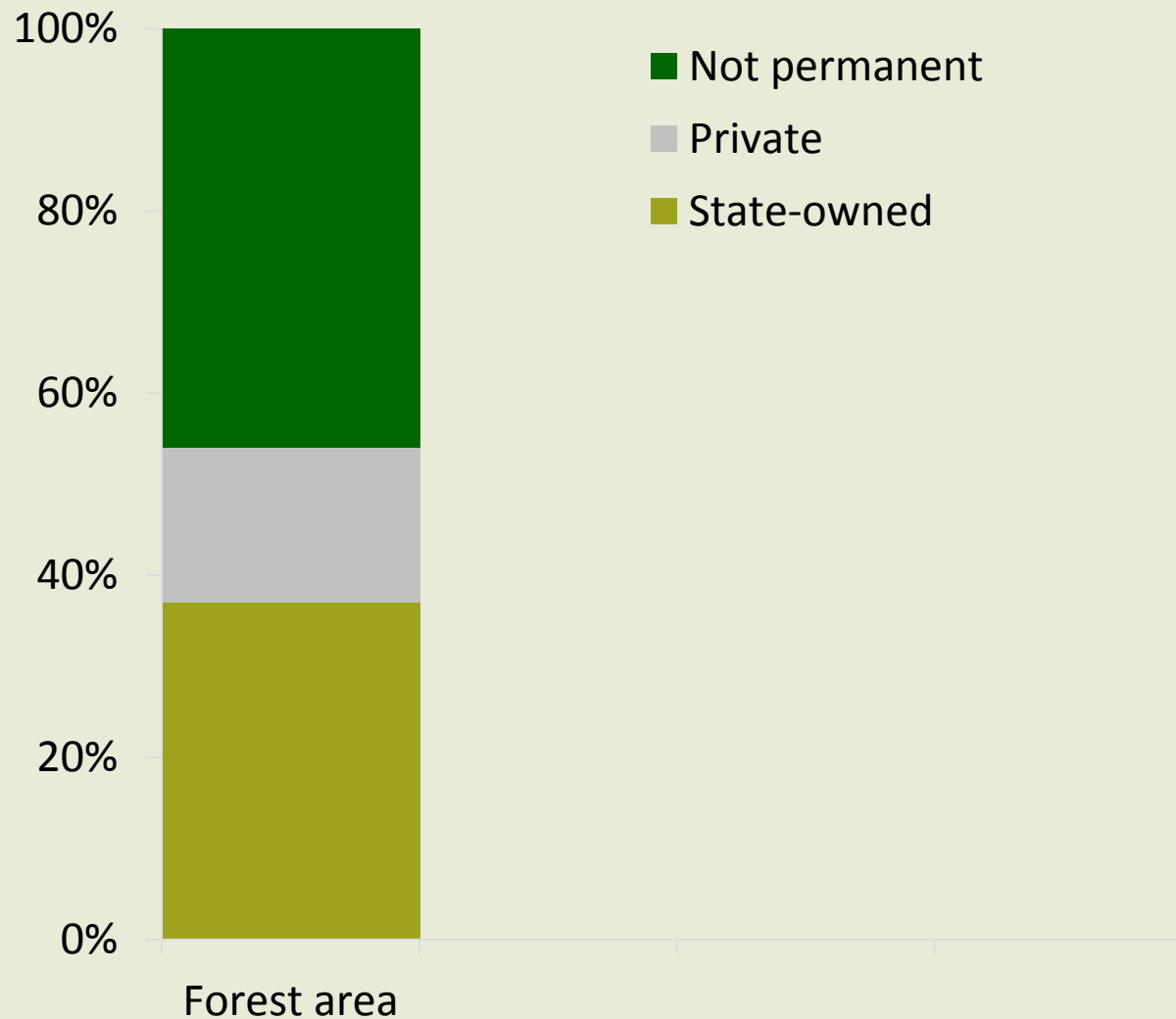


# 3

Our capacity  
to manage forests  
for the long-term  
has never been  
stronger.



# More than half of all forest is permanent forest



**UP**

SFM  
supportive  
policies and  
legislation



**UP**

Management  
Planning



**UP**

Forest  
monitoring  
through  
inventories

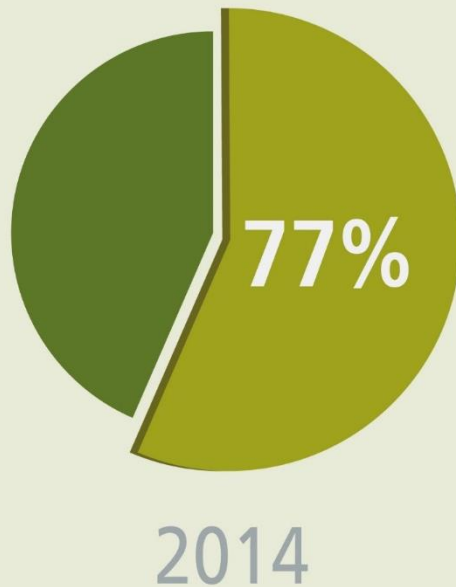


**UP**

Forest  
management  
certification



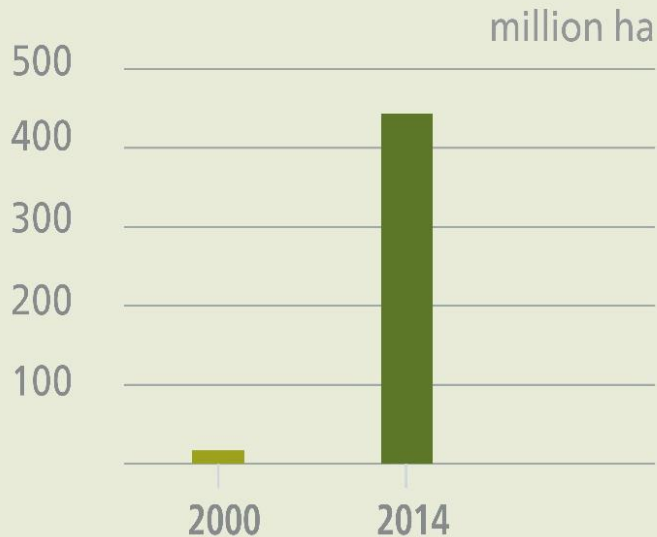
## More measurements, monitoring, and reporting



World's forest area in  
112 countries covered  
by national inventories  
completed or initiated  
since 2010

# Forest area certified as sustainably managed increased everywhere

Forests under internationally  
verified certifications



■ 18 million ha  
■ 438 million ha



More forest area is under management plans

The majority of these plans require  
**social and community involvement.**





# The Future



Food and Agriculture  
Organization of the  
United Nations

# What do countries think will happen to their forest area by 2030?

- Some countries expect it will decrease (27%)
- 21 countries expect a decrease of 65 million ha or 6% of their forest area

- Some think it will increase (73%)
- 52 countries expect a total increase of 144 million ha or 10% of their forest area



# Three important take-aways

1

Forest area loss has been cut in half and is now less than one-tenth the rate of human population growth

2

Forest area continues to expand in the temperate and boreal zones and contract in the tropics

3

Our capacity to manage forests for the long-term has never been stronger.





Explore these resources:

- How are forests changing?
- Special Issue of Forest Ecology and Management
- Desk Reference
- Country Reports
- Forest Land Use Data Explorer

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

Forest resource information without investment  
and action is just interesting history...

Let us put this information to use  
for present and future generations...



Thank you.



Food and Agriculture  
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United Nations