Scientists
Can change
Tropical forest fates

Francis E. “Jack” Putz

Professor, University of Florida

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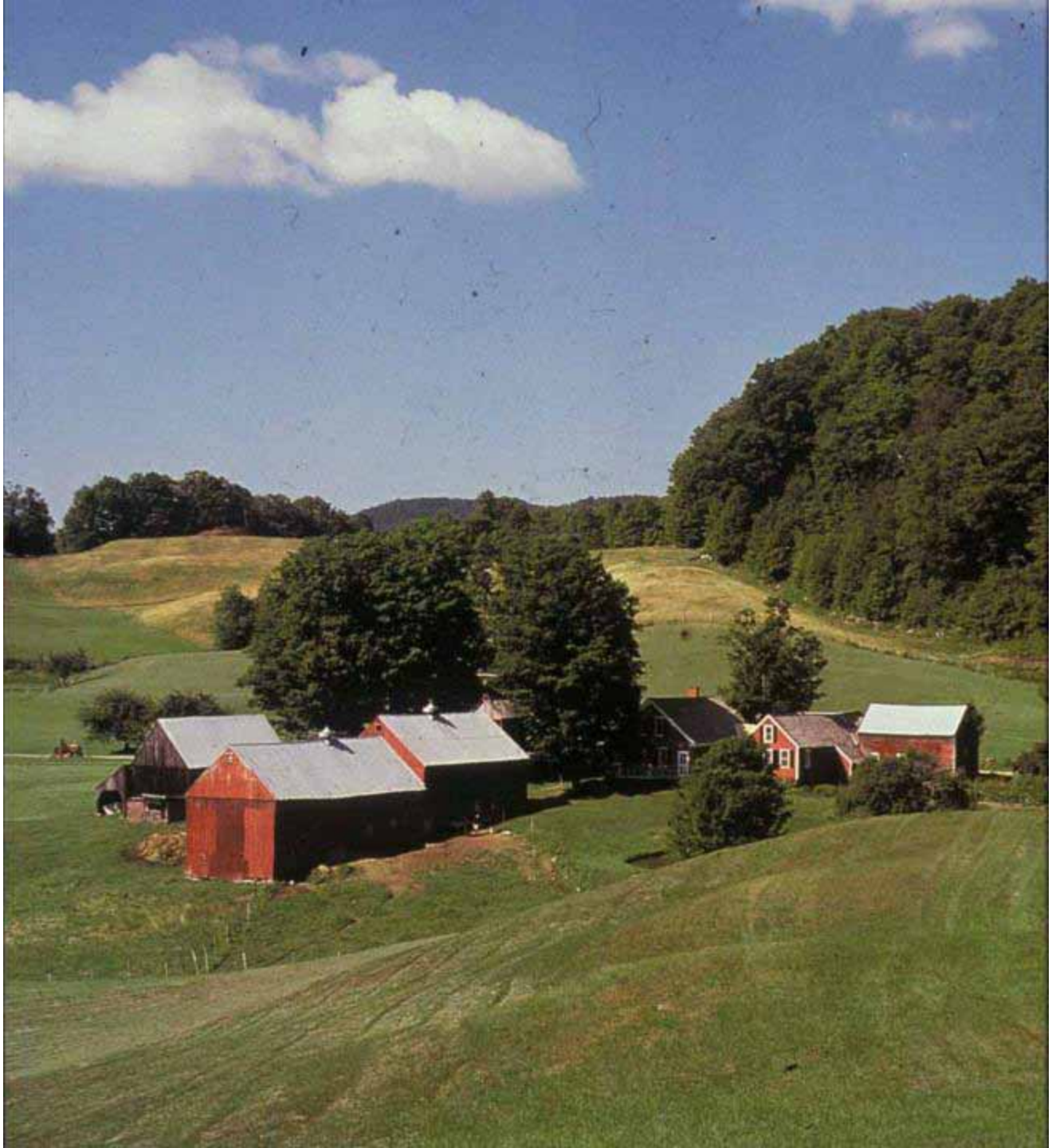
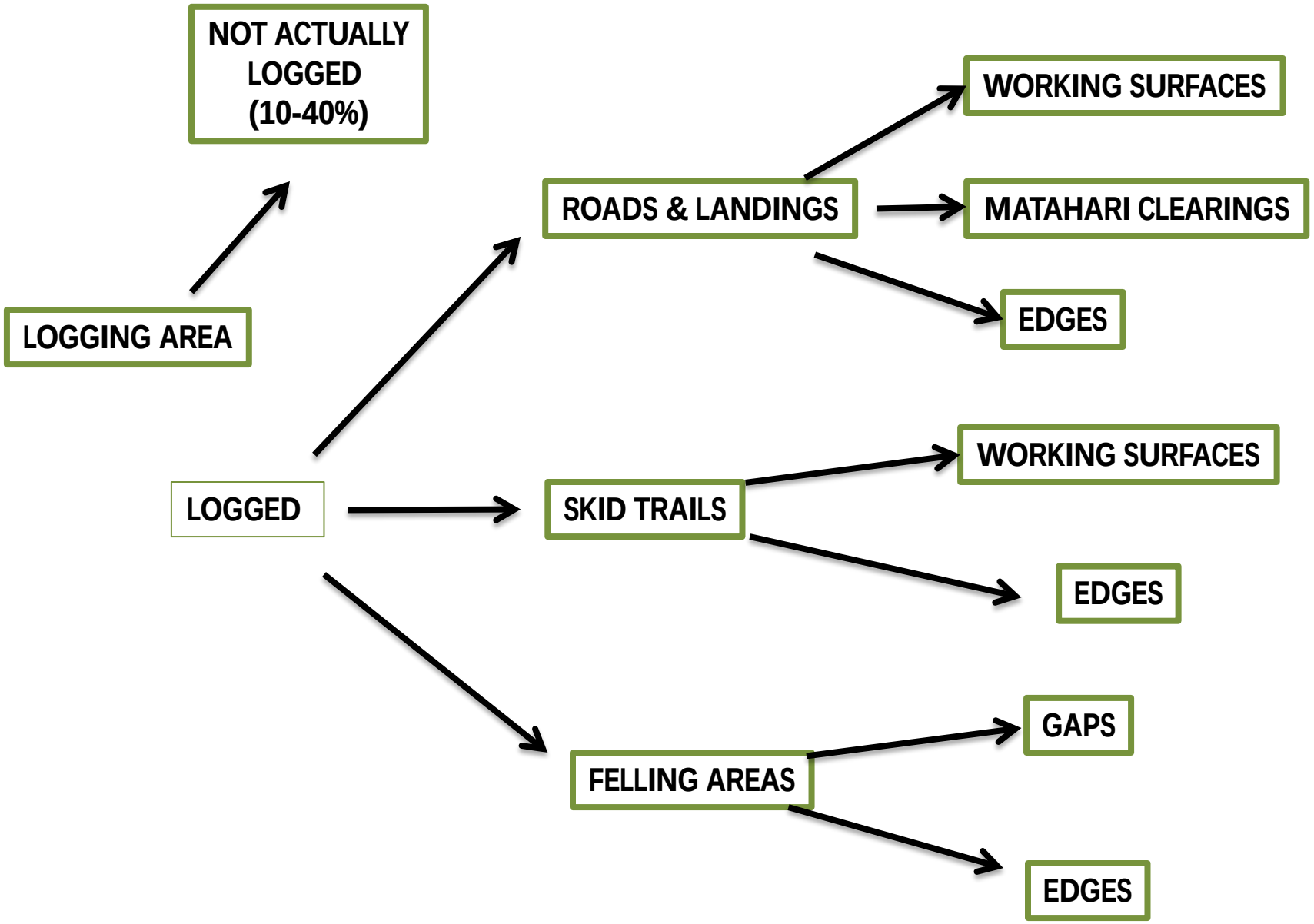
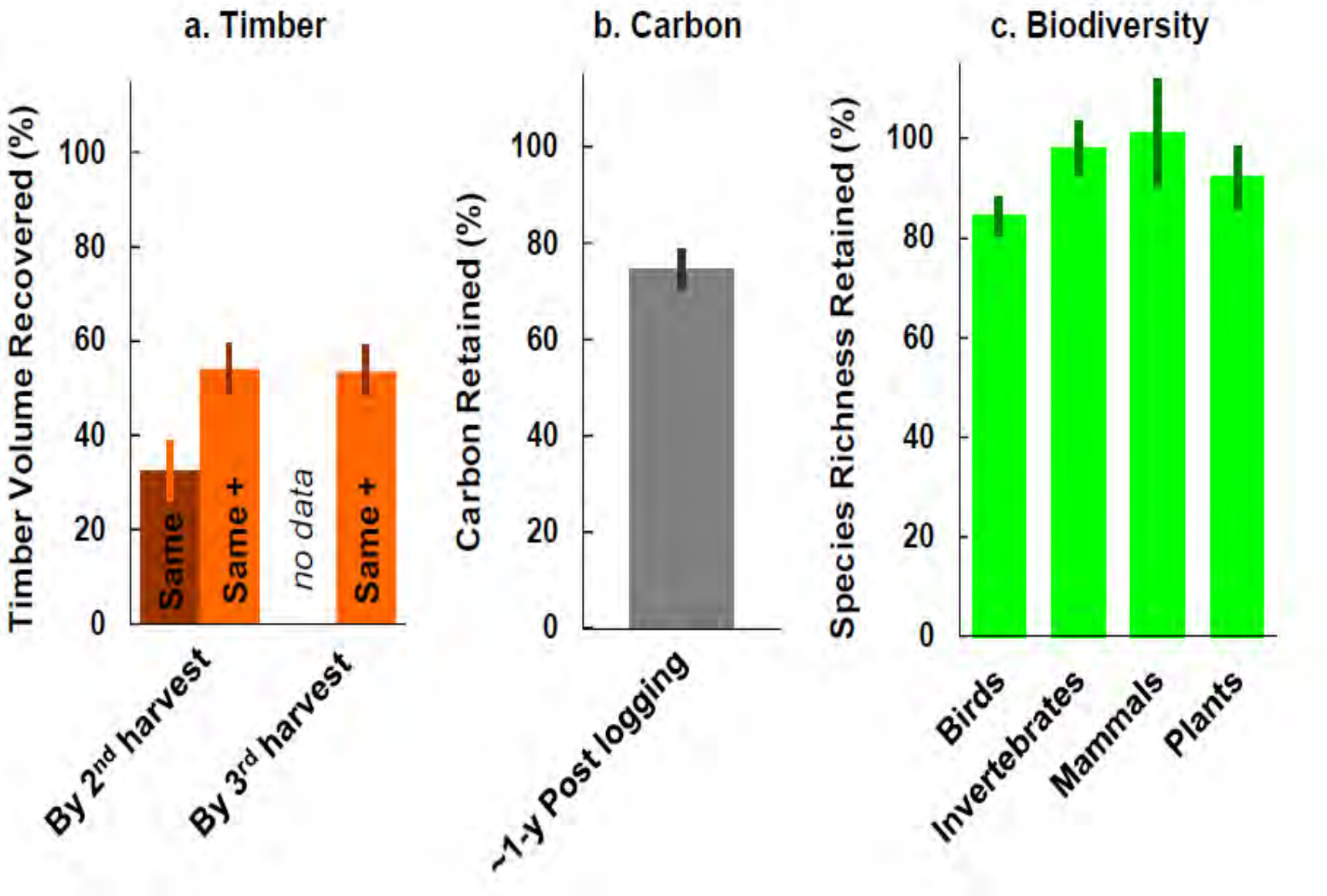
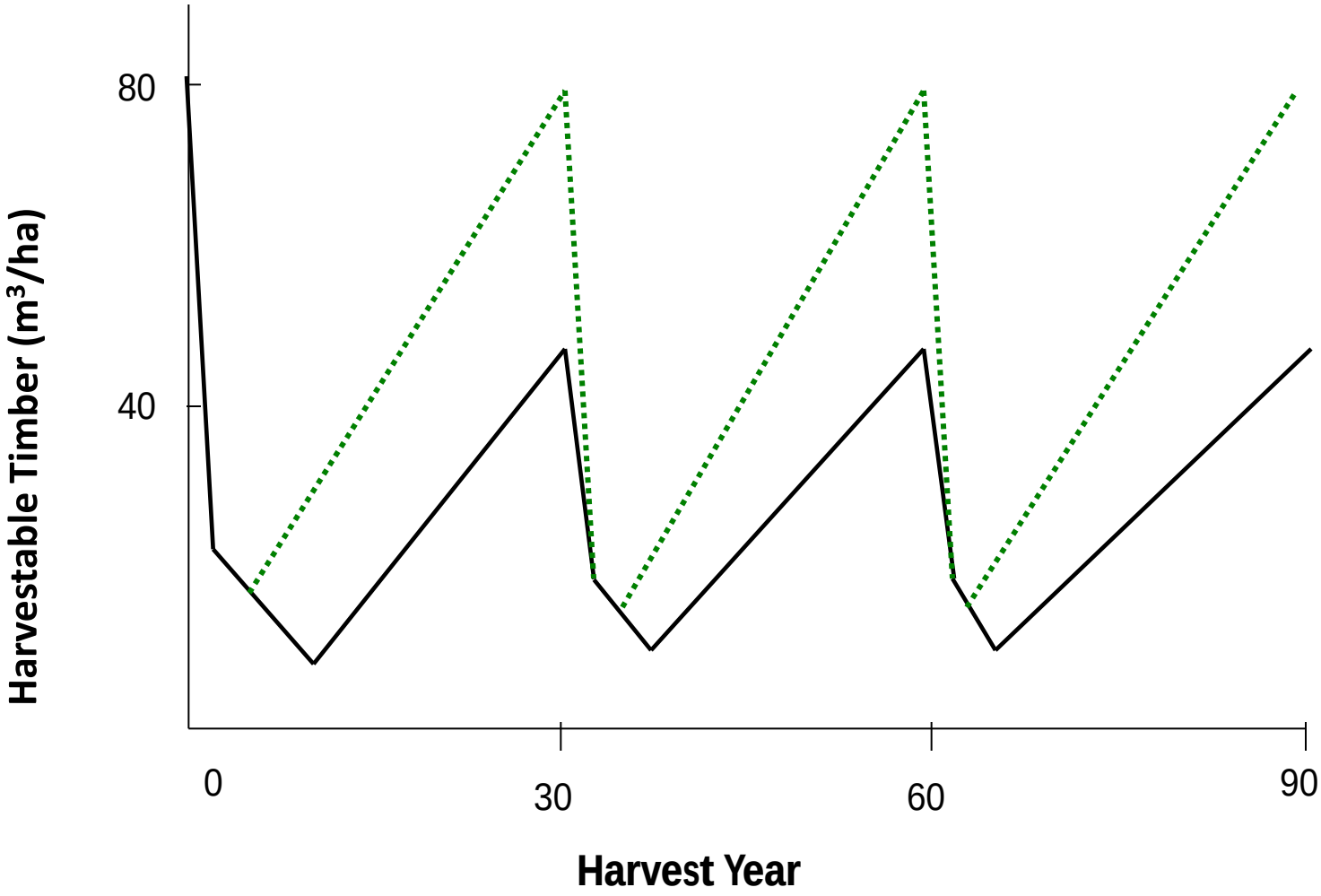
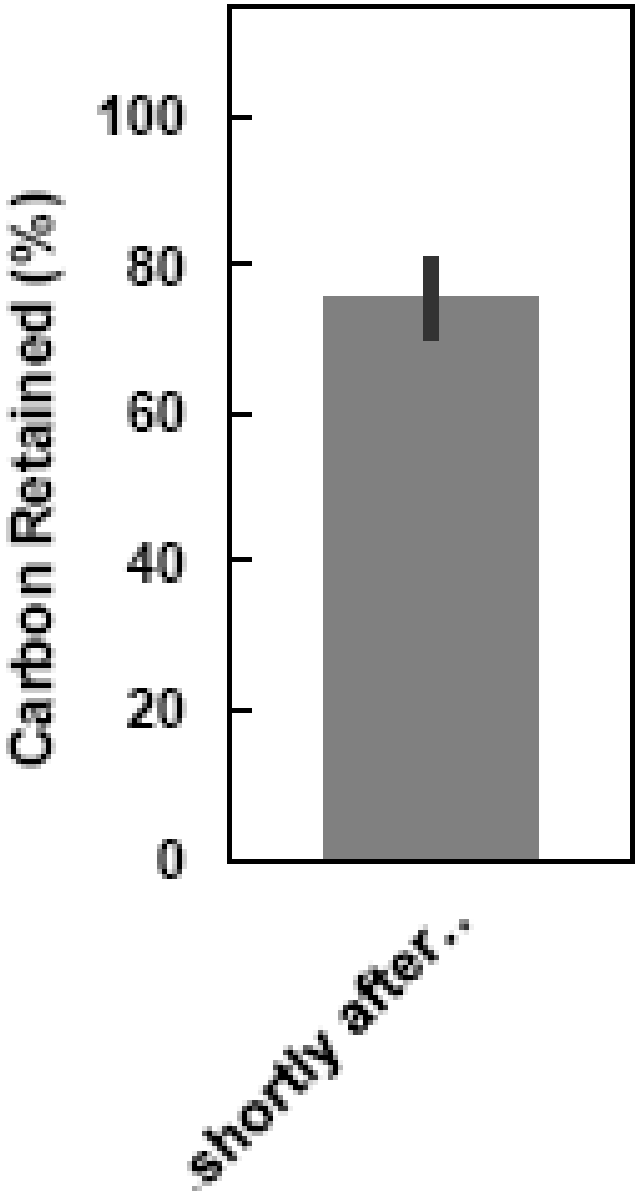
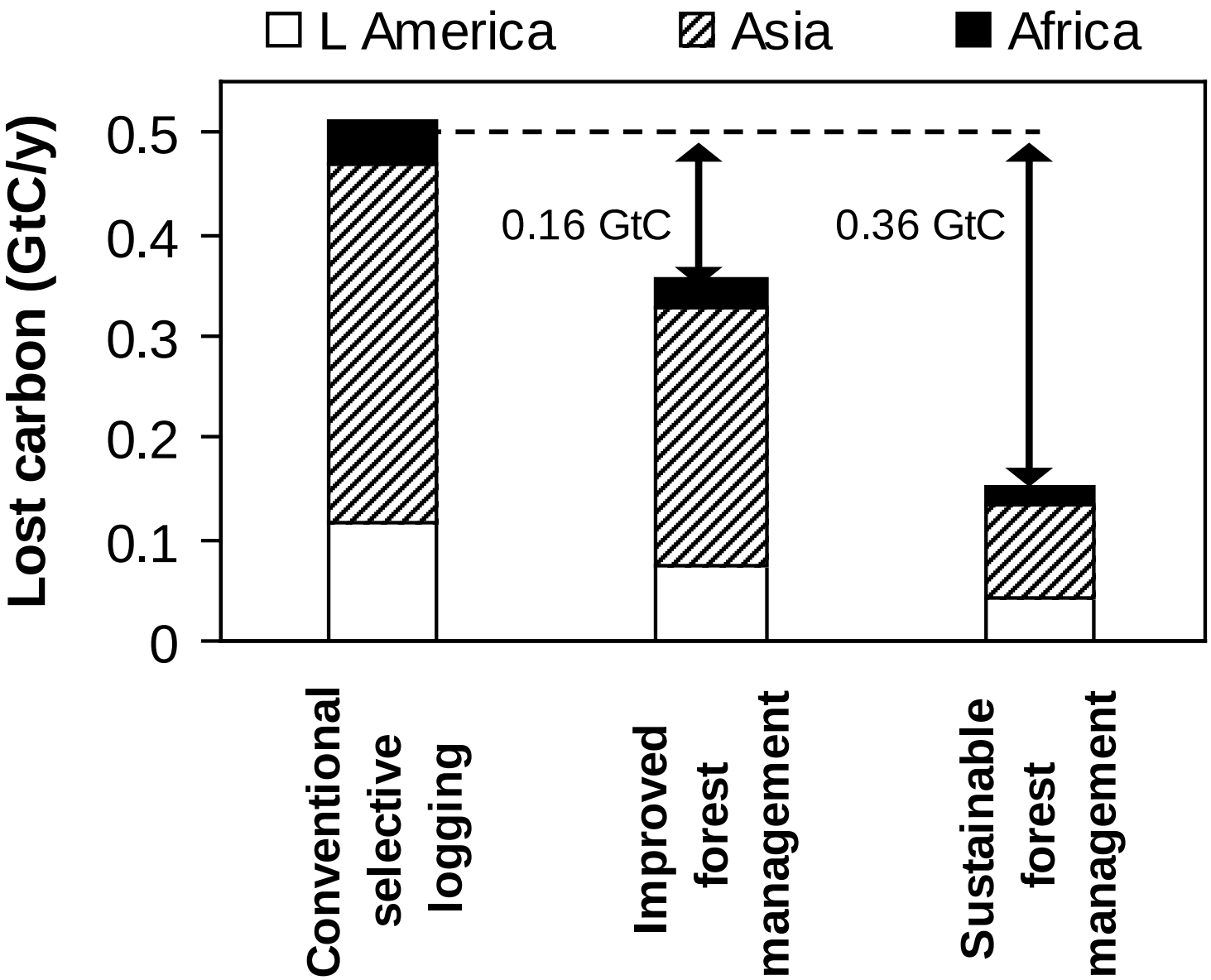



NOT ACTUALLY LOGGED (10-40%)
LOGGING AREA
LOGGED
ROADS & LANDINGS
WORKING SURFACES
MATAHARI CLEARINGS
EDGES
SKID TRAILS
WORKING SURFACES
EDGES
FELLING AREAS
GAPS
EDGES


a. Timber
Timber Volume Recovered (%)
100
80
60
40
20
0
Same
Same +
no data
Same +
By 2nd harvest
By 3rd harvest
b. Carbon
Carbon Retained (%)
100
80
60
40
20
0
~1-y Post logging
c. Biodiversity
Species Richness Retained (%)
100
80
60
40
20
0
Birds
Invertebrates
Mammals
Plants


80
40
Harvestable Timber (m³/ha)
0
30
60
90
Harvest Year


Carbon Retained (%)
100
80
60
40
20
0
shortly after ..


L America
Asia
Africa
Lost carbon (GtC/y)
0.5
0.4
0.3
0.2
0.1
0
0.16 GtC
0.36 GtC
Conventional selective logging
Improved forest management
Sustainable forest management

MESSAGES

Selective logging isn't so bad in terms of:

1. Timber yields

(sustained with a '*Primary Forest Premium*')

2. Carbon retention and recovery

3. Biodiversity

(at least if expressed as species richness)

Synergistic Improvements (timber/carbon/biodiversity)

Lengthen Cutting Cycles

and/or

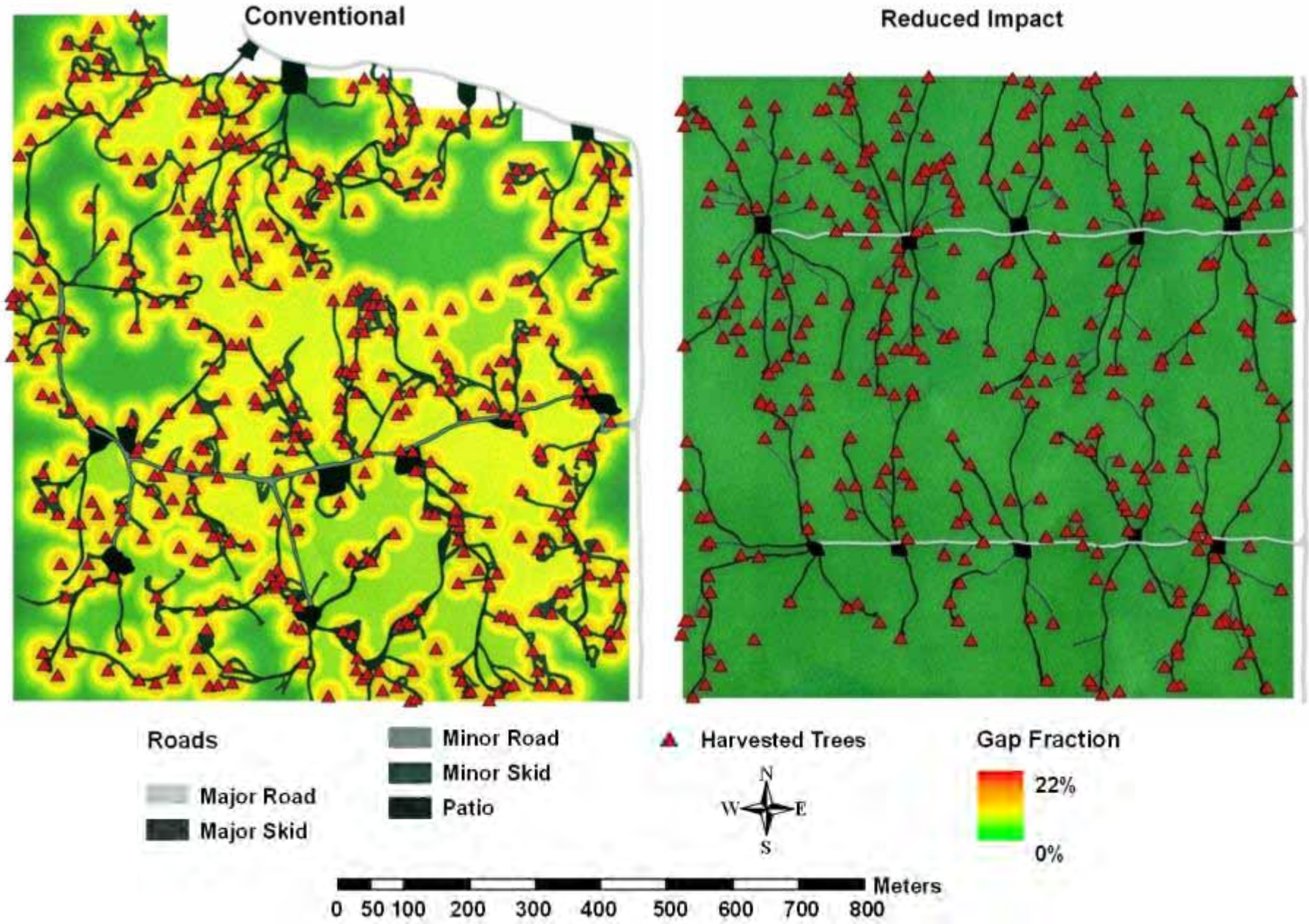
Reduce Harvest Intensity (m^3/ha)

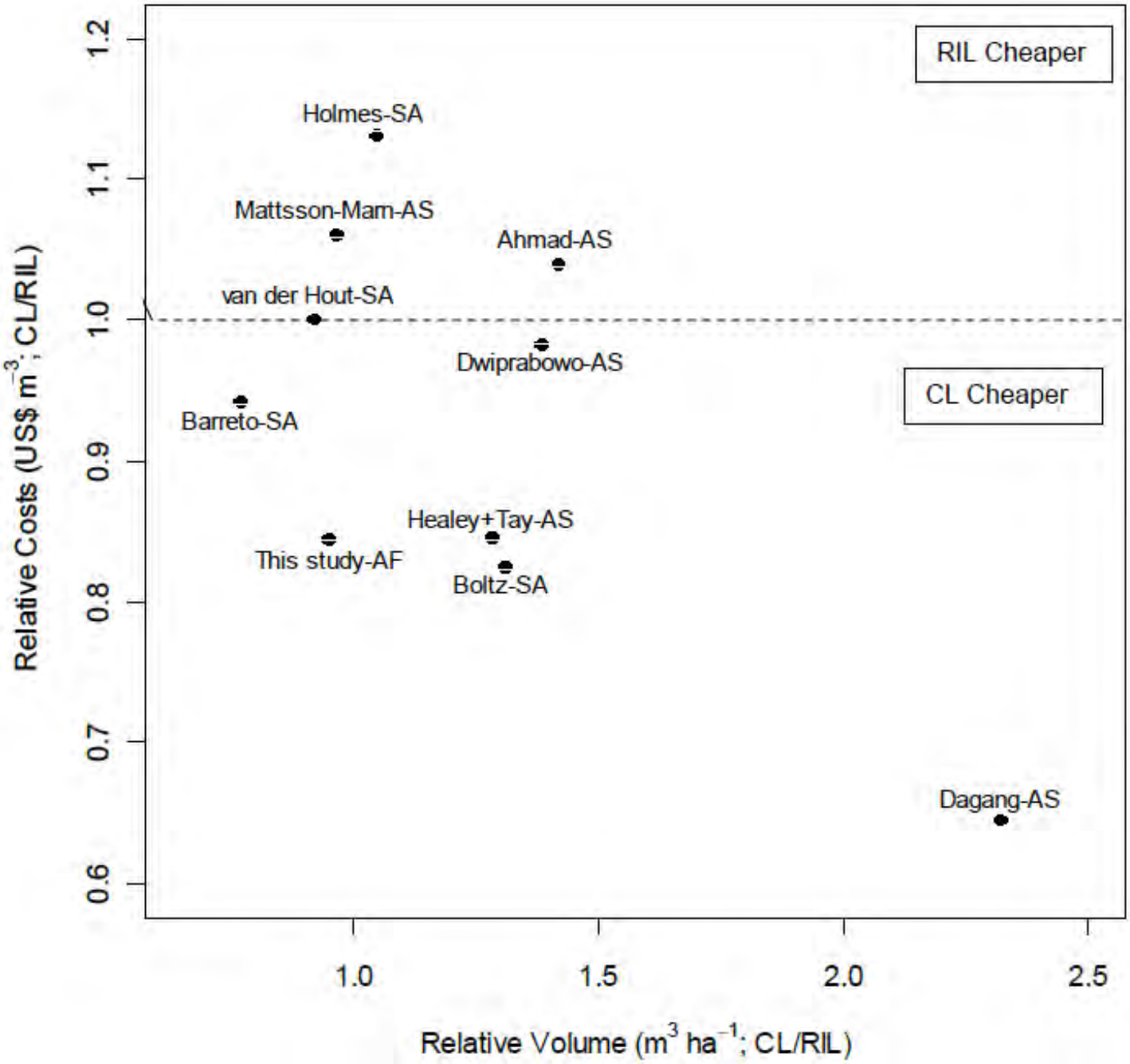
while always

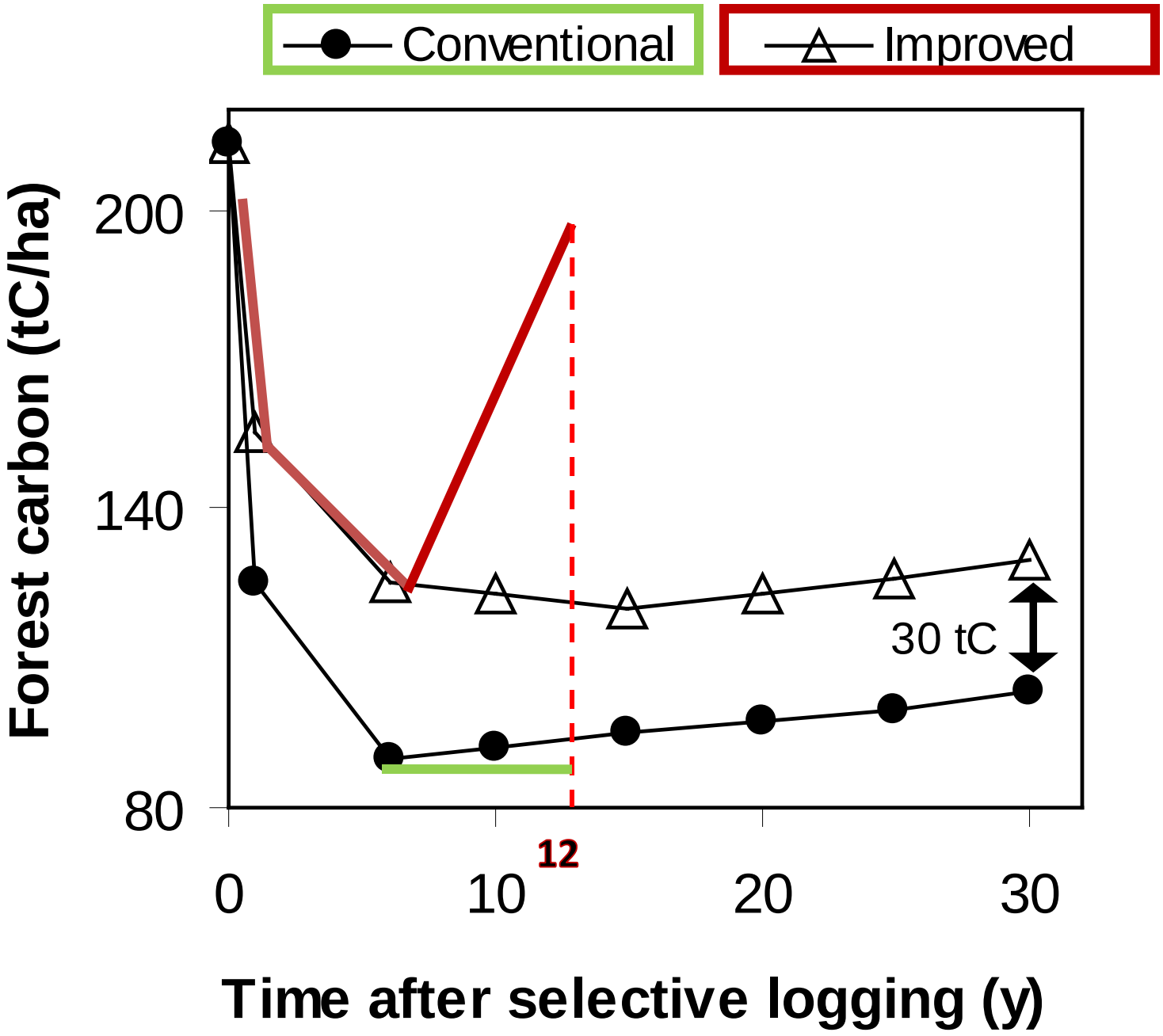
Employing Reduced-Impact Logging (RIL)

FSC-Certified vs Conventional Logging in Gabon

1996 Logging Plots




RIL Cheaper
CL Cheaper
Holmes-SA
Mattsson-Marn-AS
Ahmad-AS
van der Hout-SA
Dwiprabowo-AS
Barreto-SA
Healey+Tay-AS
This study-AF
Boltz-SA
Dagang-AS
Relative Costs (US$ m^{-3}; CL/RIL)
Relative Volume (m^3 ha^{-1}; CL/RIL)
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.0
1.5
2.0
2.5


Conventional
Improved
Forest carbon (tC/ha)
200
140
80
0
10
12
20
30
30 tC
Time after selective logging (y)

But why are these improvements more likely than ever before?

1. Emphasis on **Legality** (FLEGT & Lacey Act).
2. Forest Product **Certification**.
3. Forest **Carbon** Valuation through REDD+.
4. Increased **Community** Control.

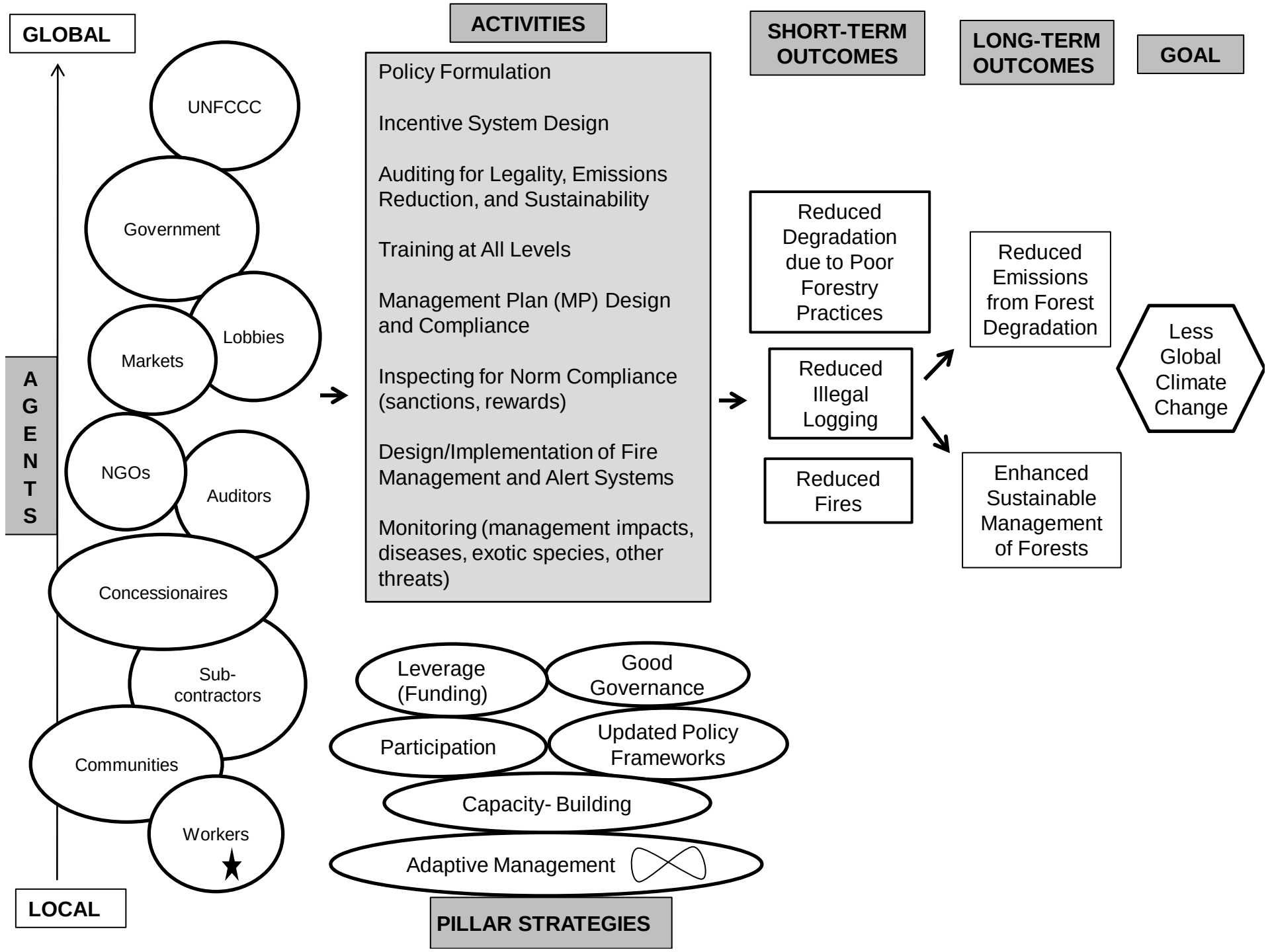
SUSTAINABILITY

Longer Cutting Cycles | Silvicultural Treatments | Lower Intensity

FLEGT | FSC | REDD+ | Community

Lacey Act | Certification | VCS | Control

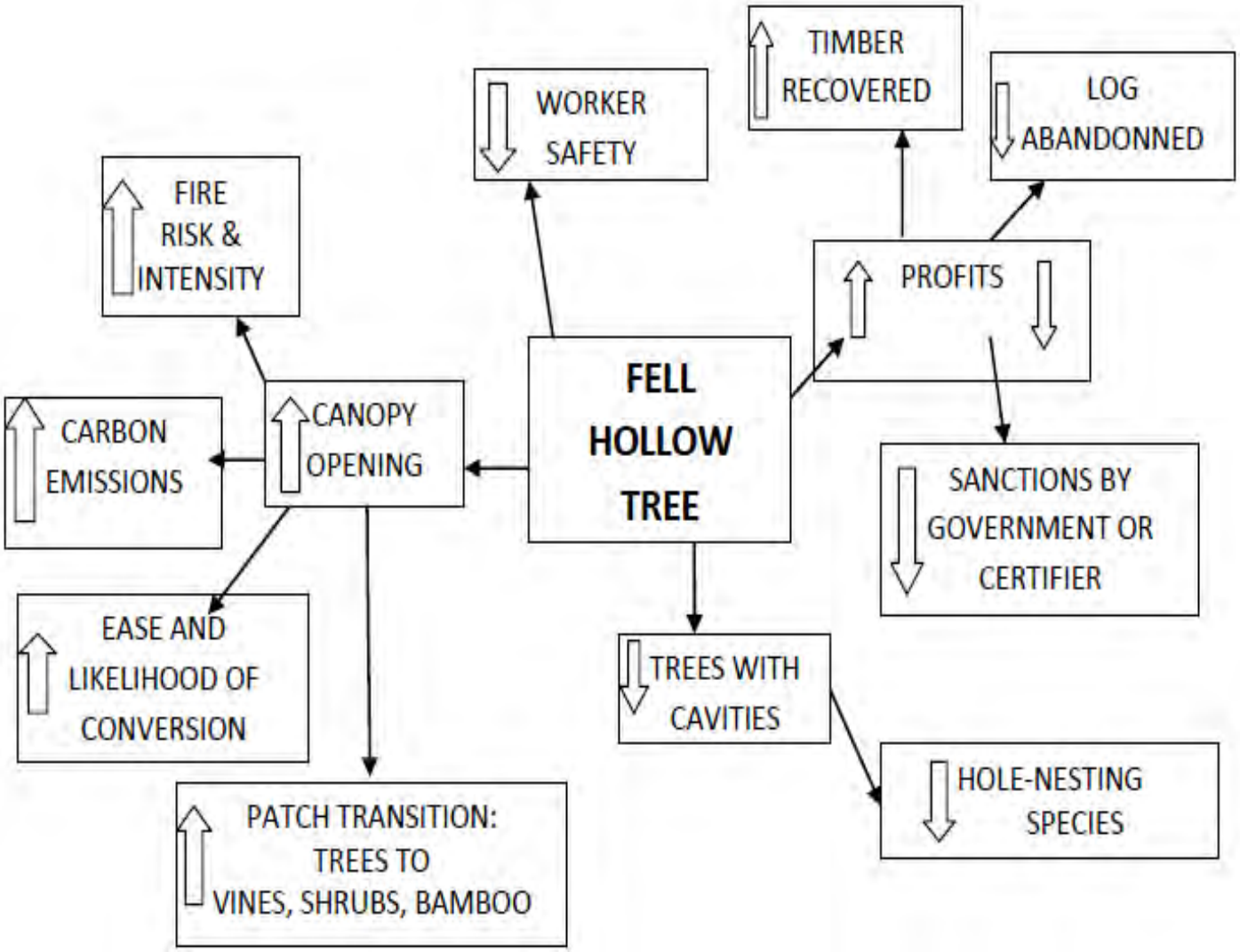
REDUCED-IMPACT LOGGING


GLOBAL
ACTIVITIES
SHORT-TERM OUTCOMES
LONG-TERM OUTCOMES
GOAL
UNFCCC
Government
Lobbies
Markets
NGOs
Auditors
Concessionaires
Sub-contractors
Communities
Workers
AGENTS
LOCAL
Policy Formulation
Incentive System Design
Auditing for Legality, Emissions Reduction, and Sustainability
Training at All Levels
Management Plan (MP) Design and Compliance
Inspecting for Norm Compliance (sanctions, rewards)
Design/Implementation of Fire Management and Alert Systems
Monitoring (management impacts, diseases, exotic species, other threats)
Reduced Degradation due to Poor Forestry Practices
Reduced Illegal Logging
Reduced Fires
Reduced Emissions from Forest Degradation
Enhanced Sustainable Management of Forests
Less Global Climate Change
Leverage (Funding)
Good Governance
Participation
Updated Policy Frameworks
Capacity- Building
Adaptive Management
PILLAR STRATEGIES


M 0500
BTU
NG 5062

In Kalimantan,
if avoid felling defective trees
that yield no timber,
carbon emissions
decline by **8 Mg/ha**

Ecological, Social, and Economic Impacts of Felling Hollow Trees



Hierarchy of Agents with Interest in Hollow Trees and Potential Influence on the Feller