Forestry and Forest Products Research Institute, REDD-plus and Overseas Forest Disaster Prevention Research and Development Center, 2022 International Seminar

Sharing F-DRR approaches and techniques with developing countries: Experiences, realities and opportunities of private sectors

13:00-17:00 (JST) on February 1, 2023

# Forest Restoration and Reducing Disaster Risks in the Philippines

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LOS BAÑOS

# Outline

1. Overview on disaster risks in the Philippines
2. Overview on the state of Philippine Forests
3. Roles of forest restoration on DRR in the Philippines
4. Opportunities, challenges and roles of private sector, national government, local governments and communities, and academe in forest restoration in the Philippines



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# Philippines at Risk

| Rank | Country | WorldRiskIndex | Exposure | Vulnerability | Susceptibility | Lack of Coping Capacities | Lack of Adaptive Capacities |
|---|---|---|---|---|---|---|---|
| 1. | Philippines | 46.82 | 39.99 | 54.81 | 51.35 | 57.81 | 55.48 |
| 2. | India | 42.31 | 35.99 | 49.75 | 39.50 | 55.38 | 56.29 |
| 3. | Indonesia | 41.46 | 39.89 | 43.10 | 33.48 | 50.67 | 47.19 |
| 4. | Colombia | 38.37 | 31.54 | 46.69 | 47.84 | 48.23 | 44.11 |
| 5. | Mexico | 37.55 | 50.08 | 28.16 | 37.26 | 12.09 | 49.55 |
| 6. | Myanmar | 35.49 | 22.43 | 56.14 | 53.39 | 58.85 | 56.30 |
| 7. | Mozambique | 34.37 | 18.10 | 65.28 | 64.57 | 64.54 | 66.76 |
| 8. | China | 28.70 | 64.59 | 12.75 | 15.78 | 12.11 | 10.84 |
| 9. | Bangladesh | 27.90 | 16.57 | 46.97 | 36.81 | 59.18 | 47.58 |
| 10. | Pakistan | 26.75 | 13.11 | 54.58 | 41.42 | 60.96 | 64.41 |

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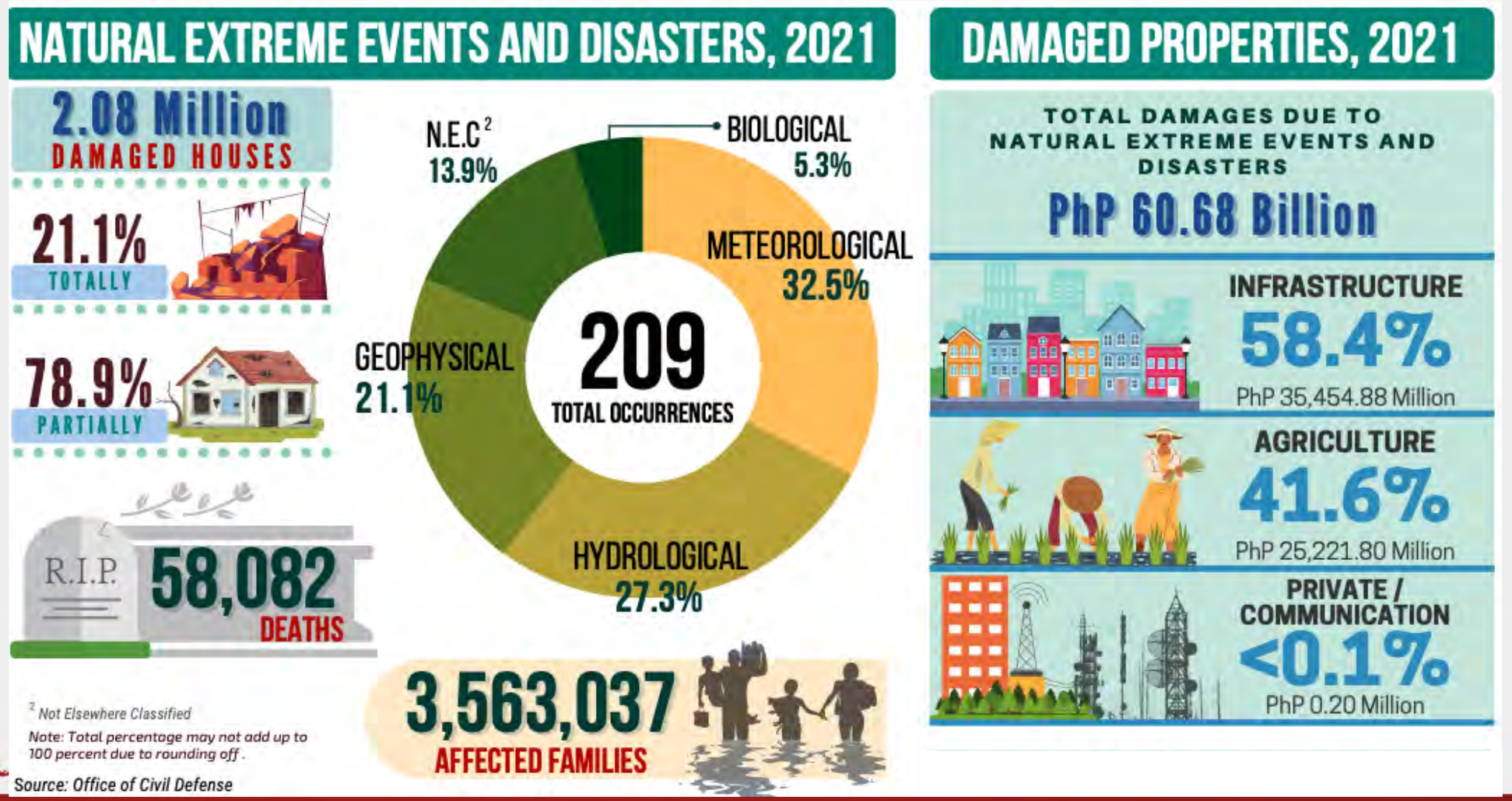
# Philippines at Risk



# Key impacts of climate change on ecosystems in PH

# Philippine Land Area

## 30 Million ha

**FORESTLAND**
**15.8 M ha (52.7%)**

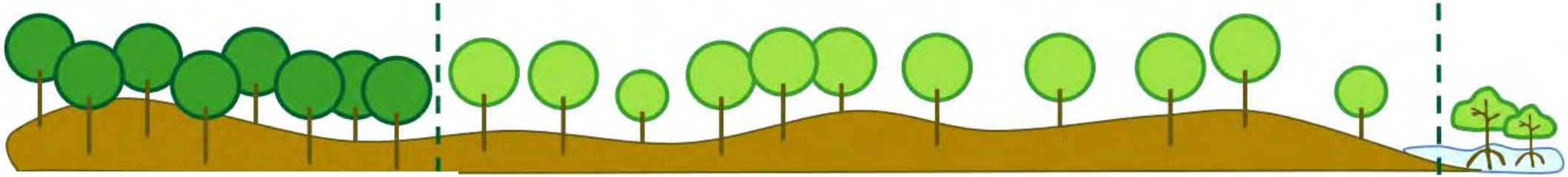
Includes public forest, permanent forest or forest reserves, and forest reservations.

**ALIENABLE & DISPOSABLE LAND**
**14.2 M ha (47.3%)**

Land of the public domain, which has been classified declared as such and available for disposition

# 2020 Forest Cover

# 7,226,394 ha

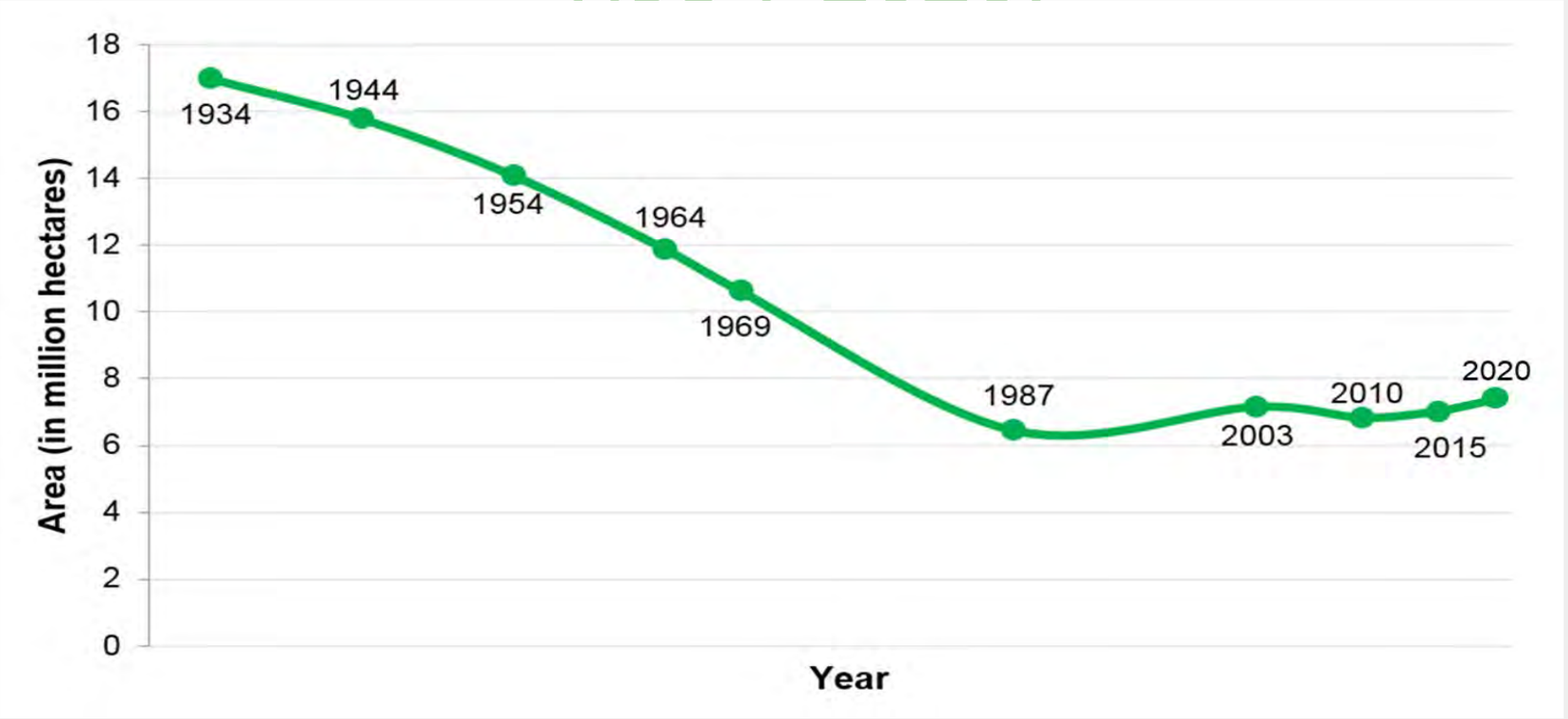


30.7% (2,221,173 ha)
**Closed Forest**

65.0% (4,693,821 ha)
**Open Forest**

4.3% (311,400 ha)
**Mangrove Forest**

# Forest Cover Trend in the Philippines (1934-2020)

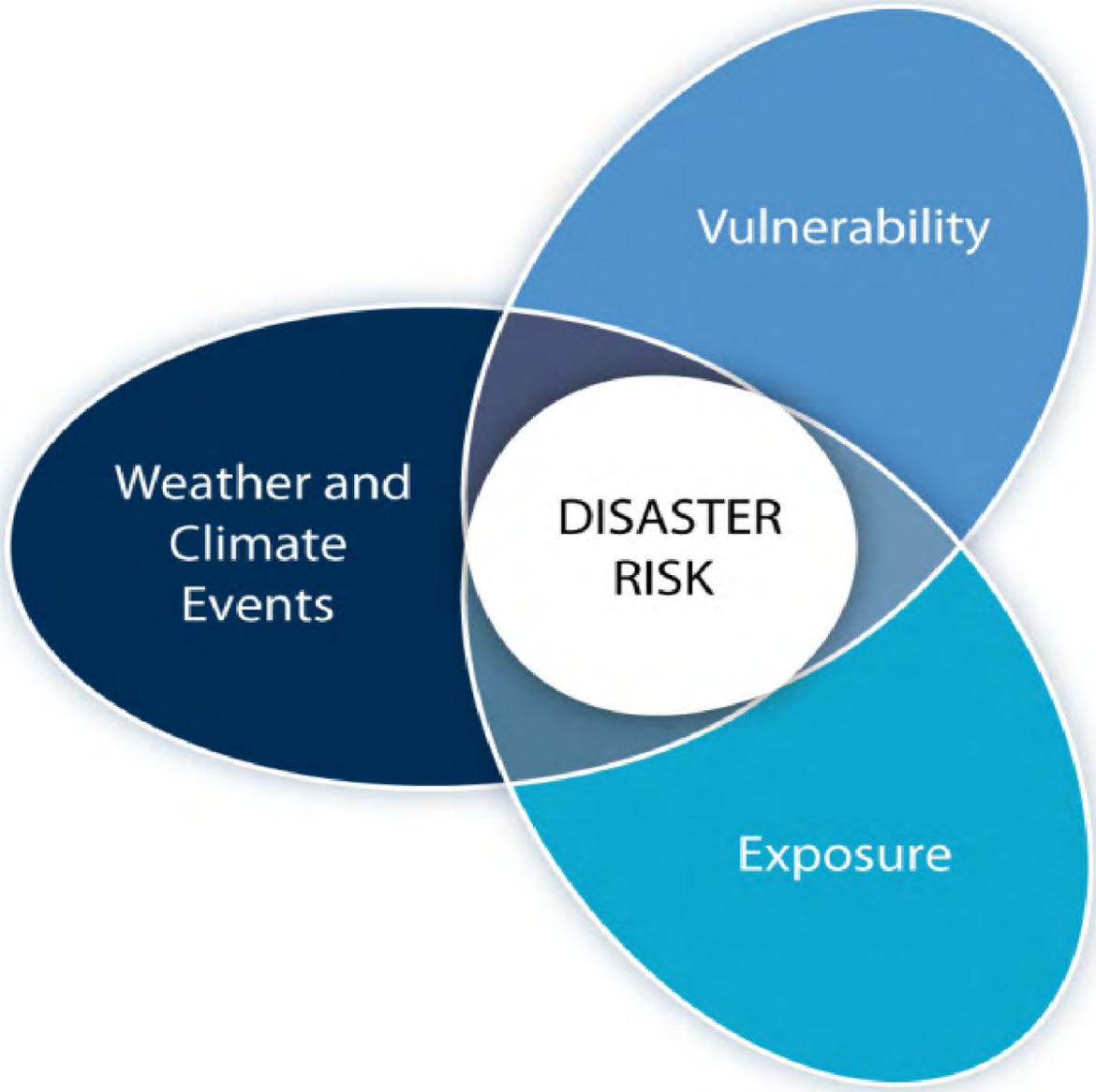



Forest cover had increased from 7.01 million hectares in 2015 to 7.22 million hectares in 2020 (an increase of  more than 200,000 hectares)

# Deforestation and Forest Degradation Exacerbate Disaster Risks

**Enhance CLIMATE HAZARDS**

- Surface soil erosion
- Landslides
- Coastal erosion
- Enhance surface runoff
- Riverine and coastal flooding




**Increase VULNERABILITY**

- Loss of livelihoods and income
- Reduce ability to adapt and cope with extreme events
- Reduce access to social services

**Increase EXPOSURE**

- Increase in areas affected by floods
- Increase number of people potentially at risk
- Increase properties and infrastructures at risk

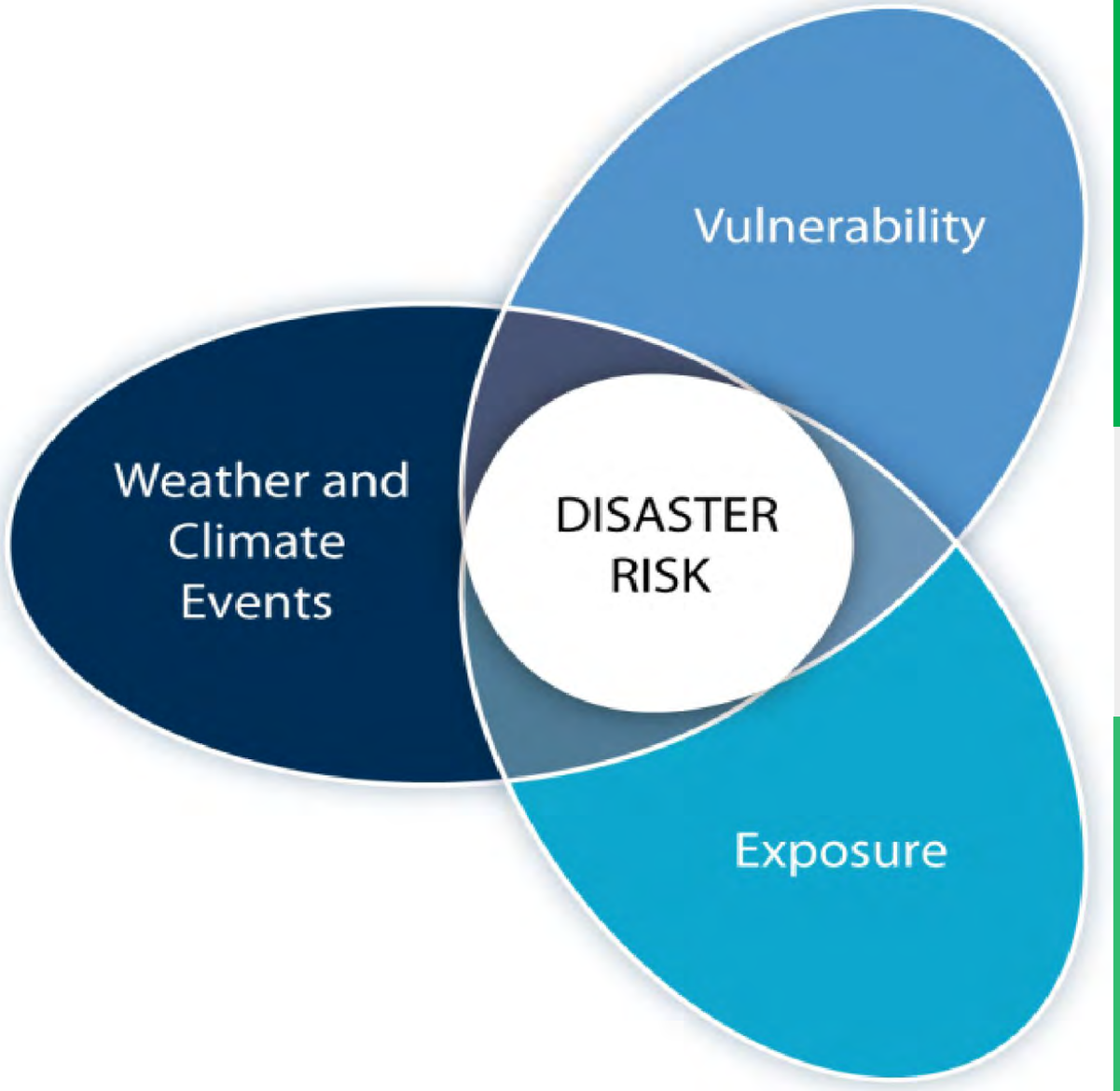


Adapted from IPCC.CH

# Disaster Risks Reduction through Forestry

## REDUCING CLIMATE HAZARDS

- CC mitigation
- Improve soil stability
- Increase soil infiltration capacity
- Reduce surface runoff
- Regulate streamflow
- Reduce wind and wave velocity




## REDUCING VULNERABILITY

- Enhanced ecosystem services e.g., water, regulate pest/disease outbreaks
- Increased opportunities for forest-based livelihoods
- Improvement of local economy and services

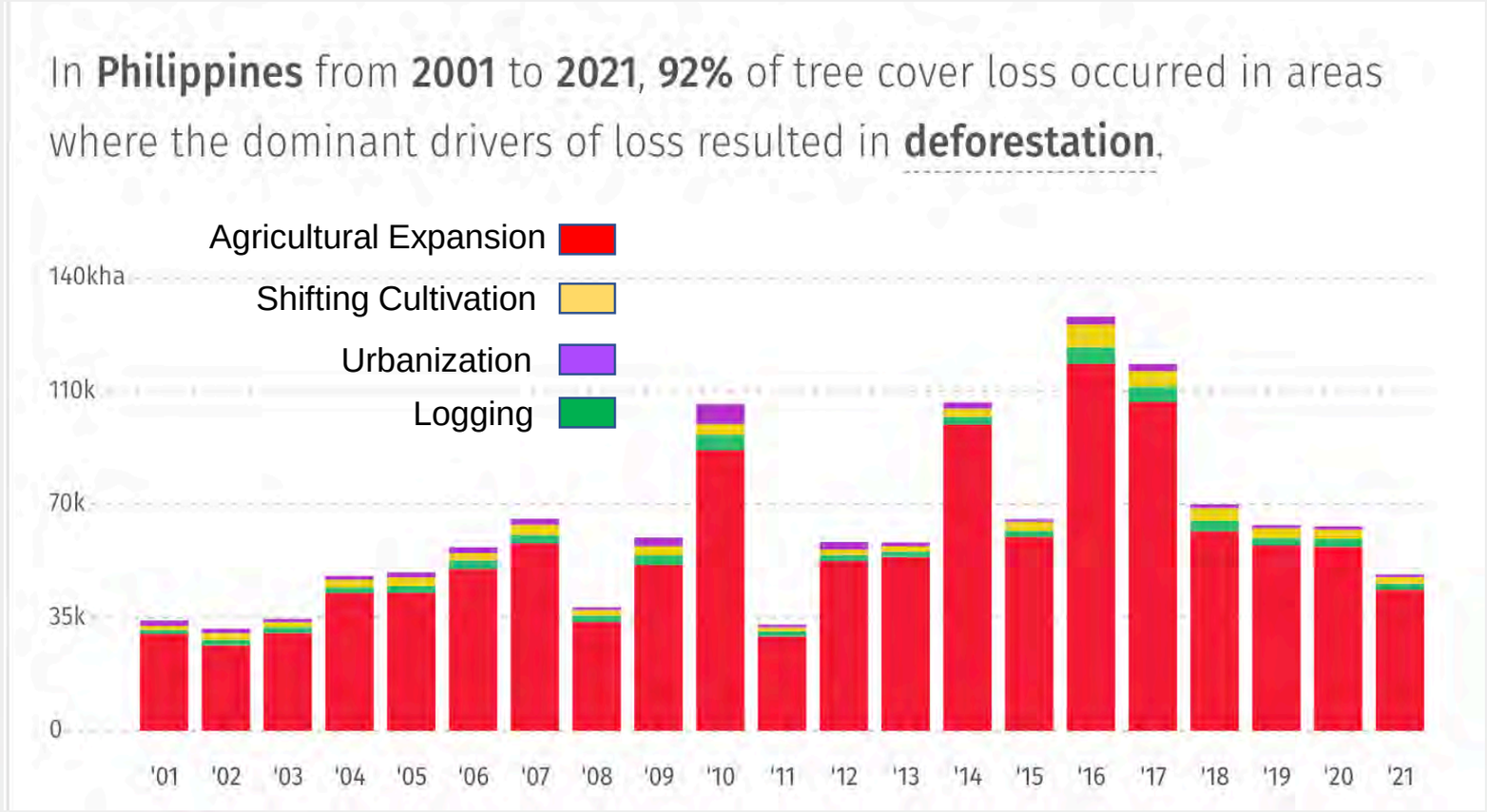
## REDUCING EXPOSURE

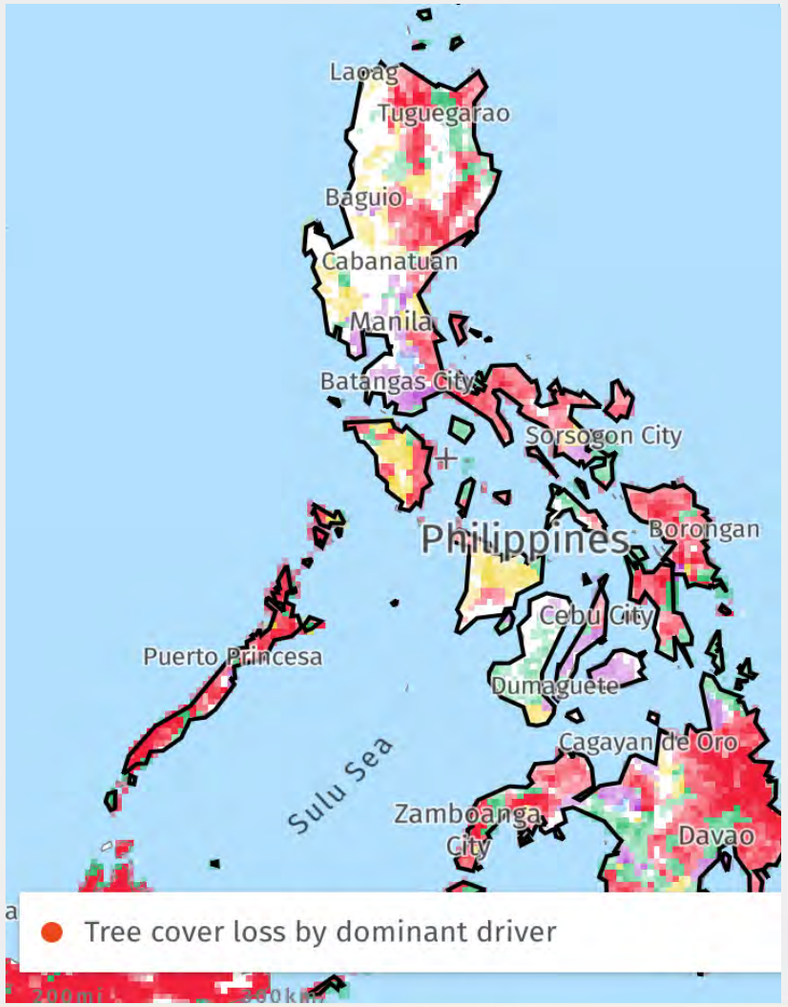
- Reduce occupation of high-risk areas
- Reducing potential damage due to reduced hazards



Adapted from IPCC.CH

# Challenges to Forest Restoration



# Challenges to Forest Restoration

## Interconnected Problems in a Landscape

- Poor governance
- Poor planning
- Weak law enforcement
- Lack of incentives to investors
- Land conversion

**DEFORESTATION/DEGRADATION**

**Expansion**

**Expansion and Relocation**

- High risk to multiple hazards
- Poor planning
- Suboptimal use of urban areas
- Poor enforcement of development controls
- Poor access to basic services

**UNSUSTAINABLE URBANIZATION**

**UNSUSTAINABLE AGRICULTURE**

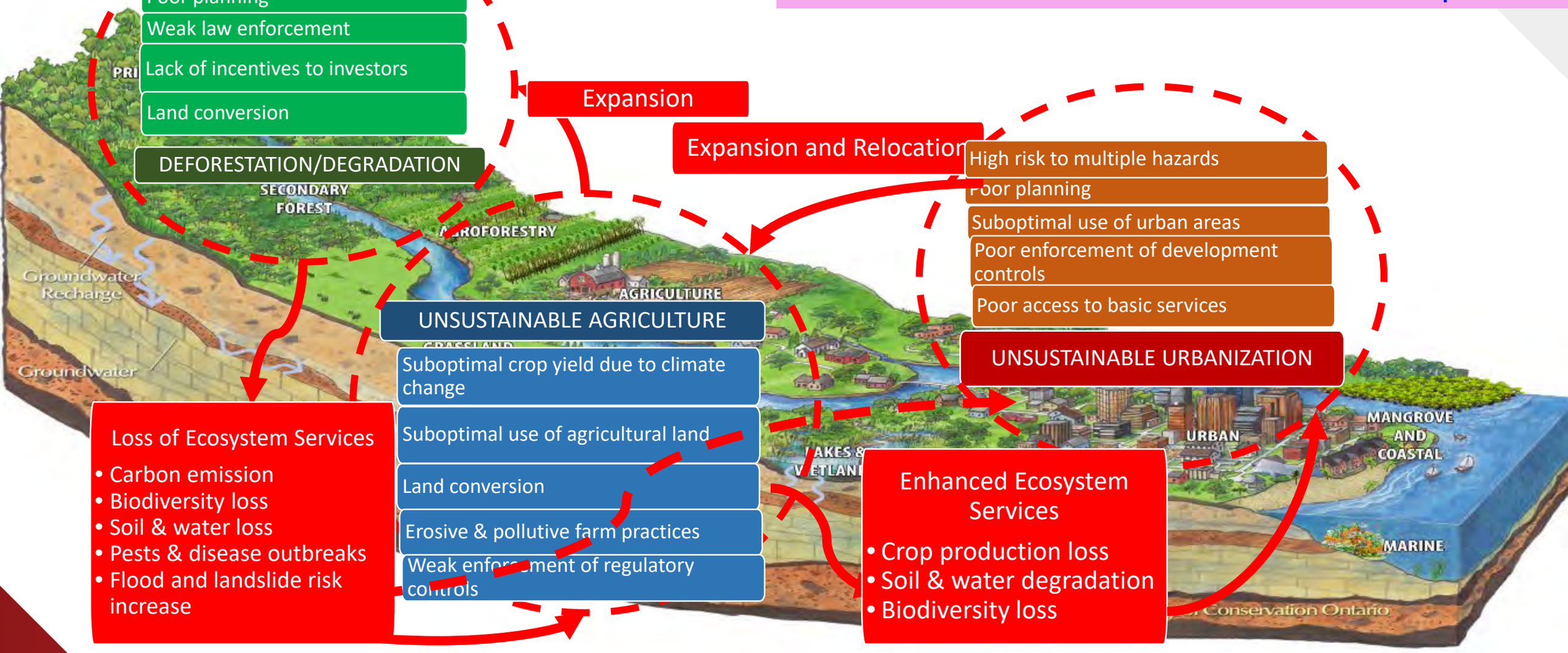
- Suboptimal crop yield due to climate change
- Suboptimal use of agricultural land
- Land conversion
- Erosive & pollutive farm practices
- Weak enforcement of regulatory controls

**Loss of Ecosystem Services**

- Carbon emission
- Biodiversity loss
- Soil & water loss
- Pests & disease outbreaks
- Flood and landslide risk increase

**Enhanced Ecosystem Services**

- Crop production loss
- Soil & water degradation
- Biodiversity loss



| 2028 Targets | Opportunities |
| --- | --- |
| Protection of 6.8 million ha of existing forests protected, conserved and sustainably managed | REDD Plus |
| 50% increase in average annual income of upland communities | Partnership with local governments and local communities |
| Existing plantations protected and maintained | Tree plantation/carbon forest development |
| 75% of open access forestlands placed under appropriate management arrangements | REDD Plus and carbon offset projects |

## 2028 Targets

111,000 hectares of grazing lands sustainably managed

Forest-based industries with sustainable source of raw materials established

REDD+ Implemented

1.4 Million Hectares of commercial forest plantation established

## Opportunities

Livestock and dairy industry

Tree plantation development and wood products development

REDD+ / Carbon offset projects

Tree plantation and wood products development

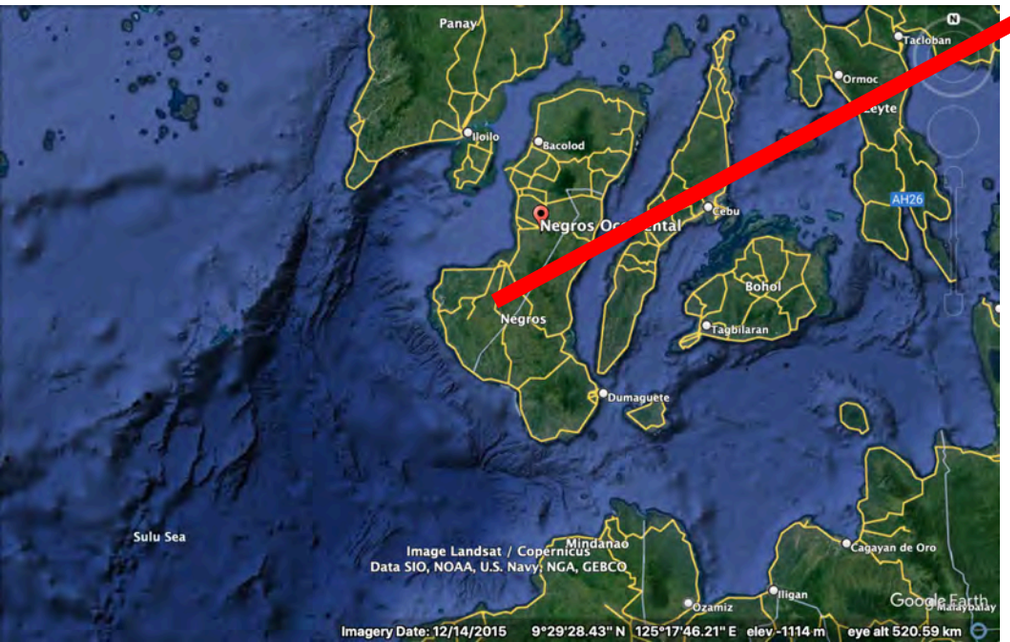
# Private Sector as Key Investor in Forest Restoration

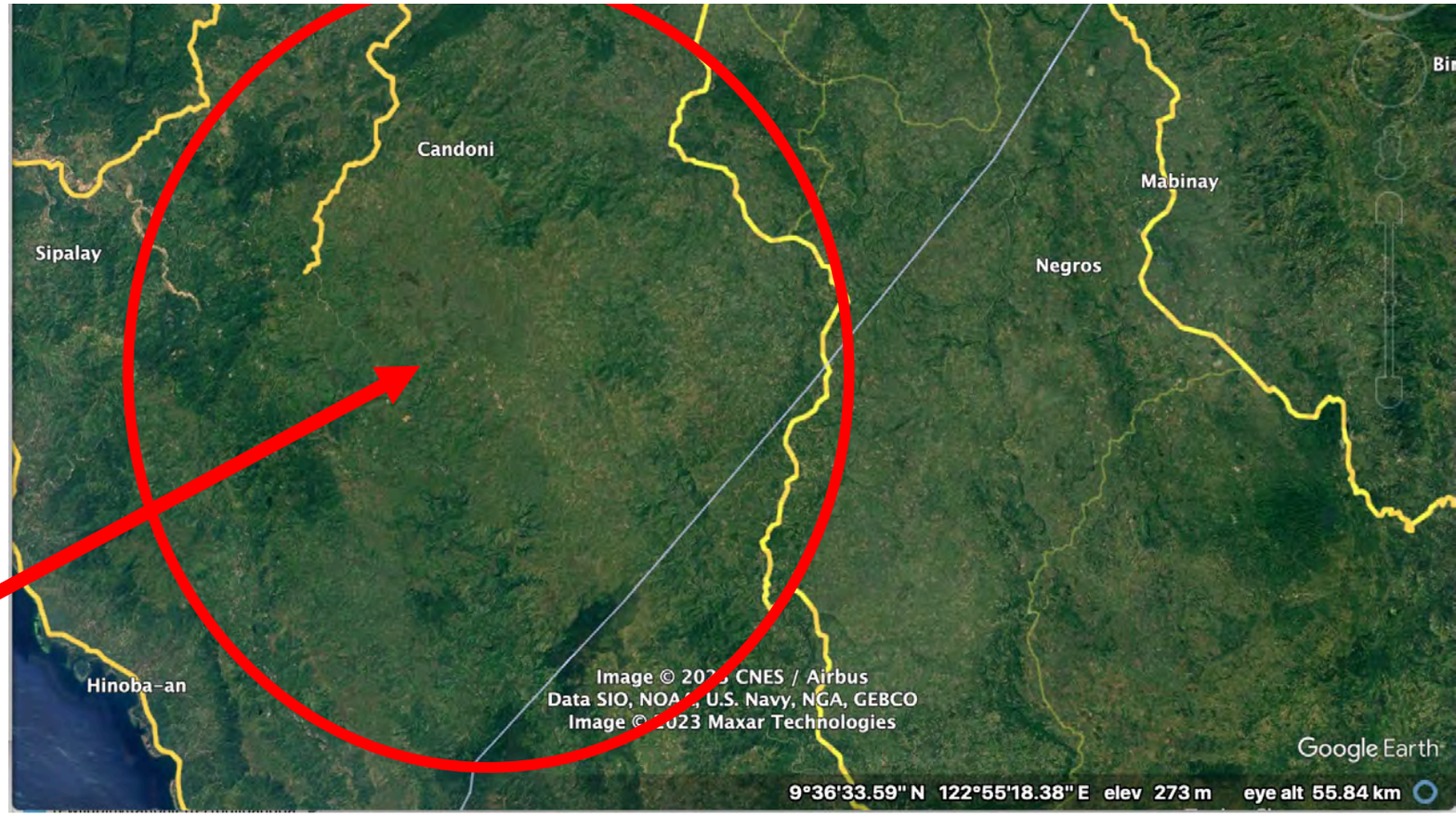
## Timber-Carbon Corridor

Carbon Forest Program
*KLIMA-Ayala Energy*

# Private Sector as Key Investor in Forest Restoration

## Timber-Carbon Corridor




Carbon Forest Program
*Marubeni-DMCI*

# National Government as Facilitator of Forest Restoration

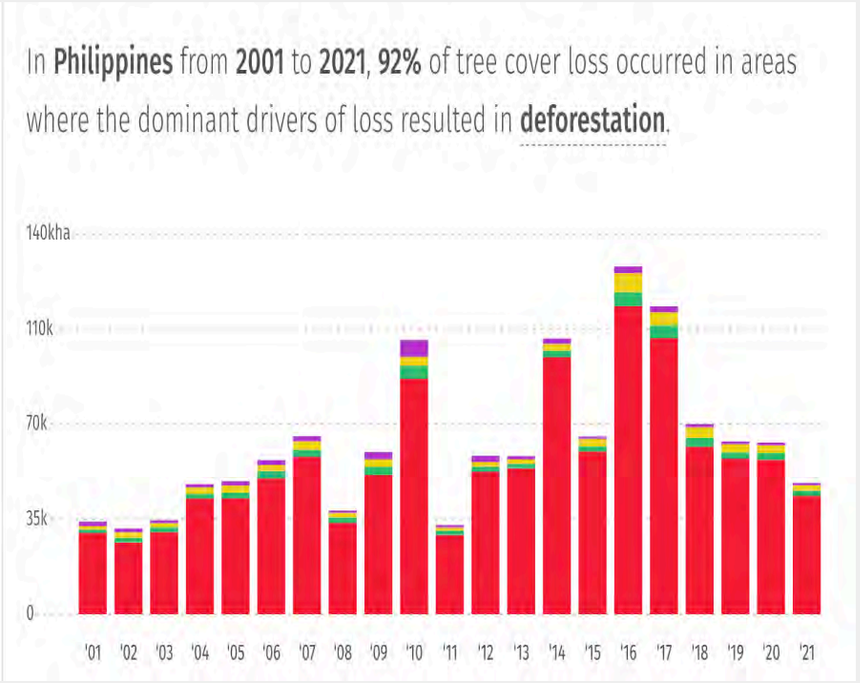
## Policy Challenges

- Tax incentives for forest investments
- Establishment of Forest Industrial Economic Zones (FIEZ)
- More stability to policies on private sector investments
- Minimizing transaction costs
- Resolving conflicts on land rights and ownership
- Robust balance between production and protection goals

## Institutional Challenges

- Competence in using management decision support systems and tools
- Natural capital accounting system
- Carbon management
- National Forest Certification and Monitoring System
- Public-private-community partnerships
- Integration of FR in local and regional development planning
- Enhanced portfolio approach on investments

# Local and National Government as Land Development Coordinators




Addressing fundamental drivers of deforestation and forest degradation

Landscape and ecosystem-based land use and development planning

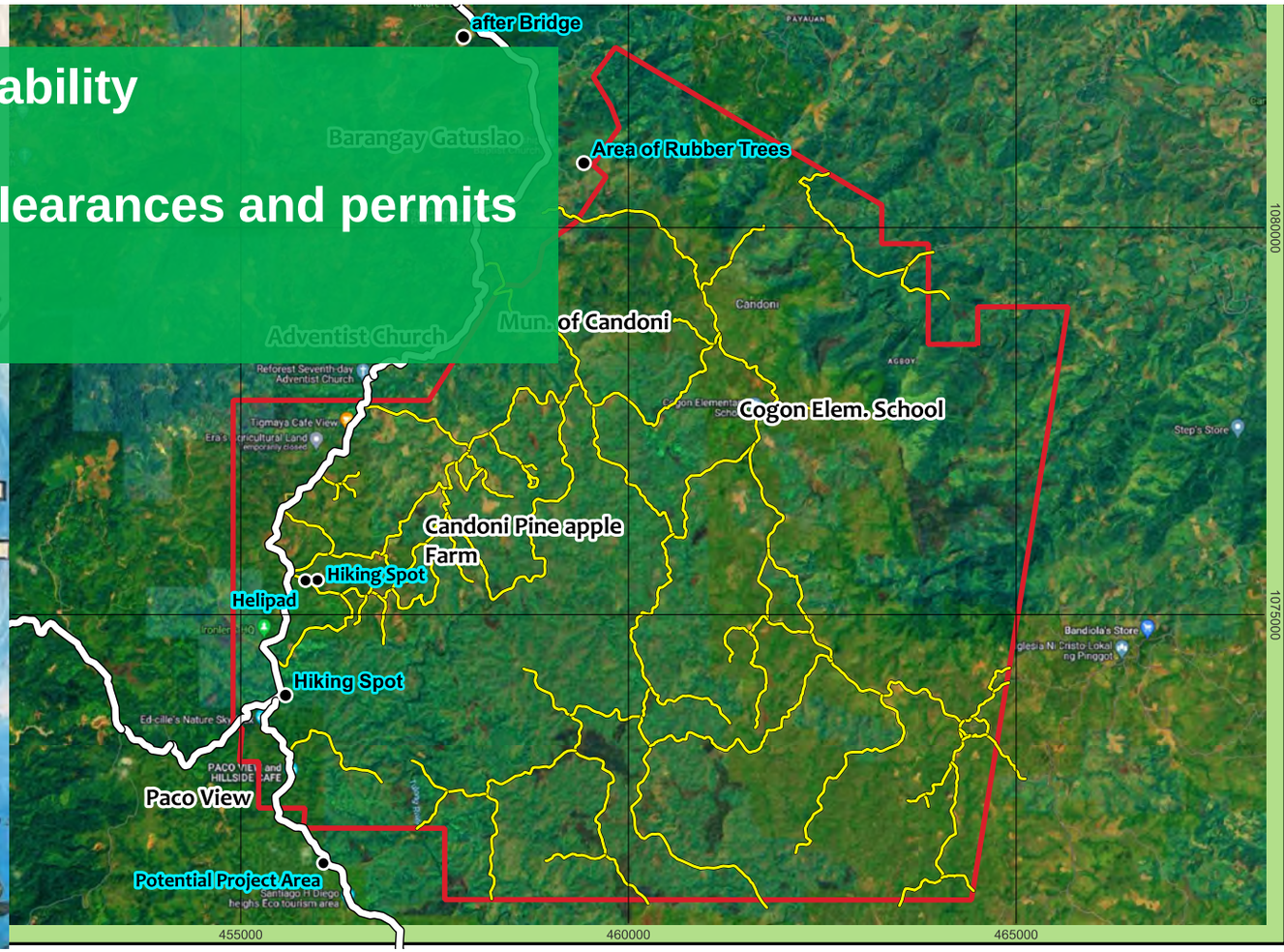
Sustainable lowland and upland agriculture

Enforcement of land development controls

Forest law enforcement

# Local Governments as Organizers of Local Stakeholders

- **Promote social acceptability**
- **Resolve land conflicts**
- **Facilitate granting of clearances and permits**
- **Security**
- **Support services**


Carbon Forest Program *KLIMA-Ayala Energy*

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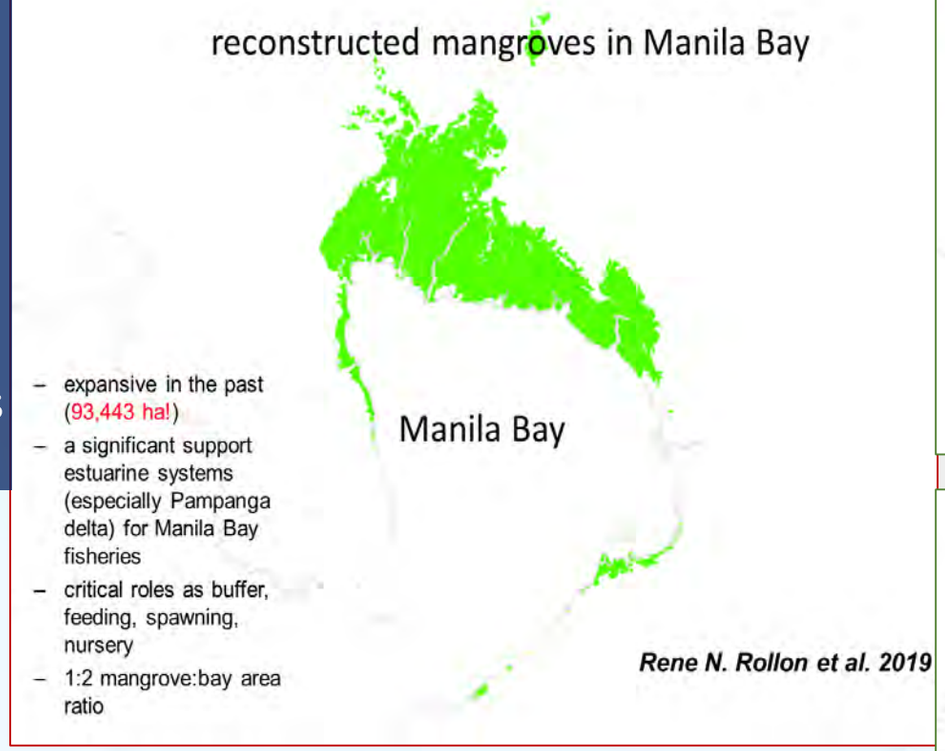
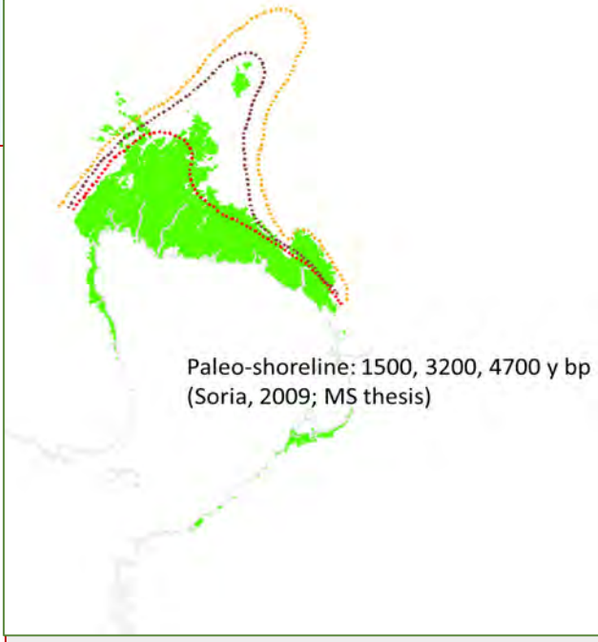
# Academe as Technical Service Providers

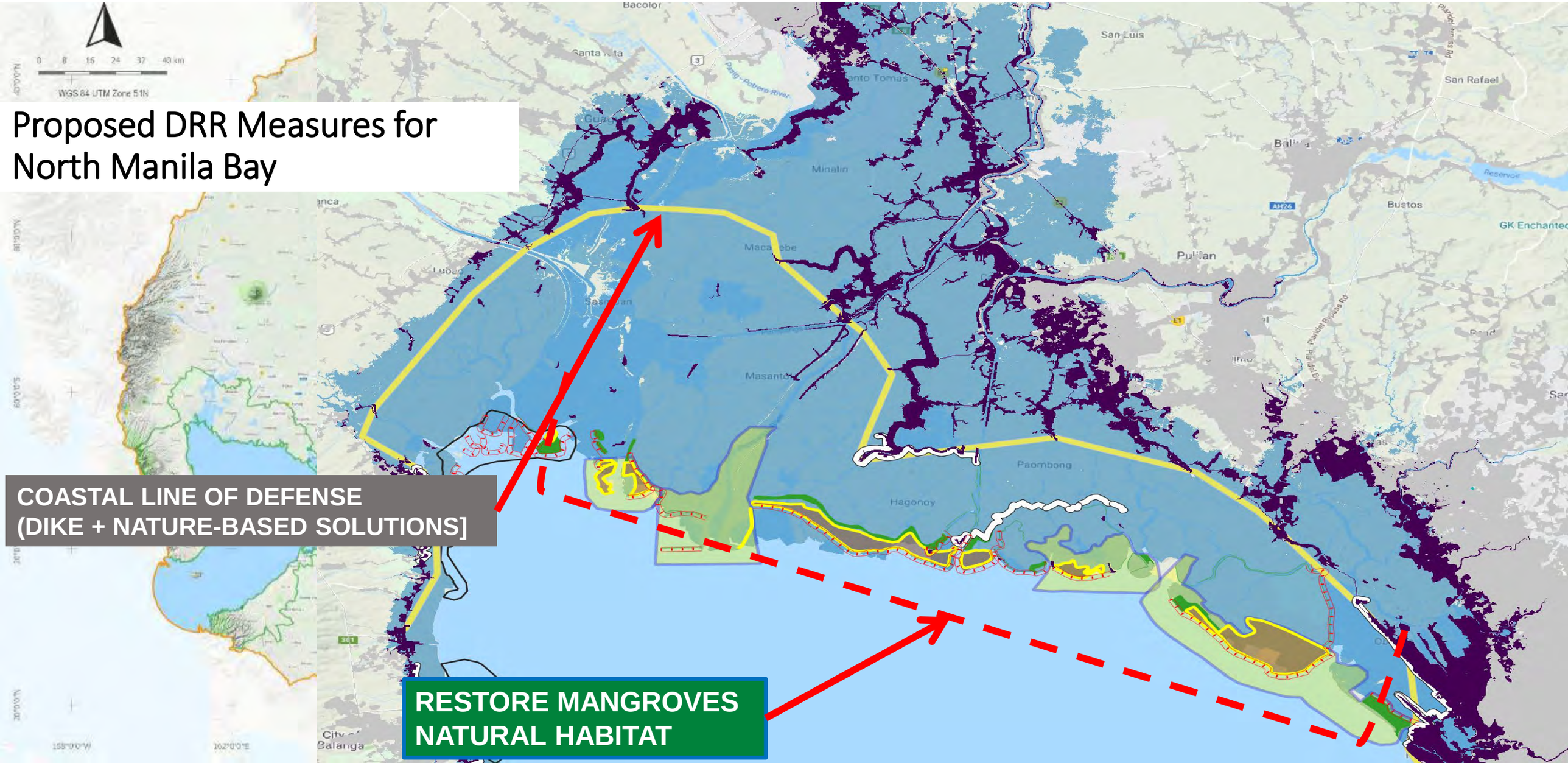
- Precision species selection based on site and market suitability
- Availability of quality planting materials
- Sustainable and adequate sources of germplasms
- Identification and management of sources of seeds and planting materials
- Genetic and tree improvement research
- Design and planning of forest restoration, carbon forests and other nature-based solutions
- Policy studies

## Restoration of Mangroves




# Academe as Technical Service Providers



# Thank you