

# Sustainable forest rehabilitation and management through community based approach: A case study in Northern Shan State, Myanmar

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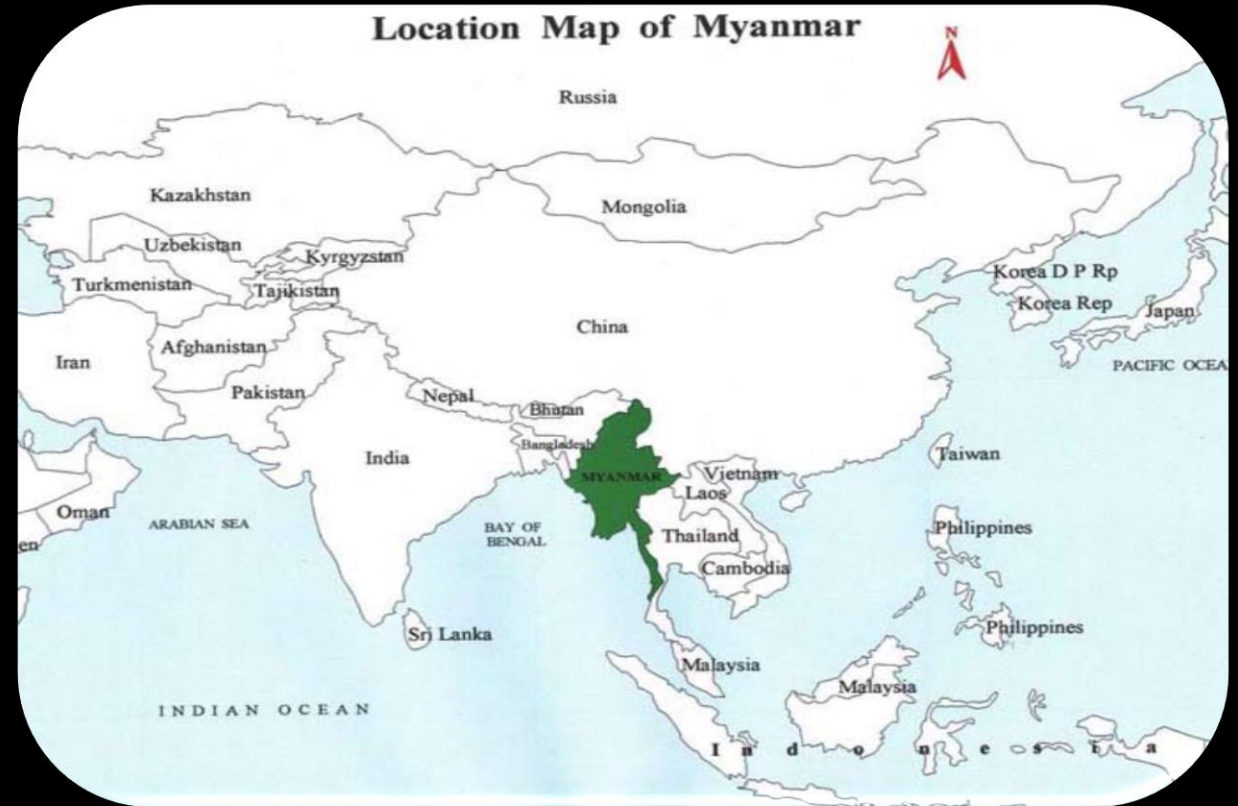
# Background Information of Myanmar

## ➤ Location

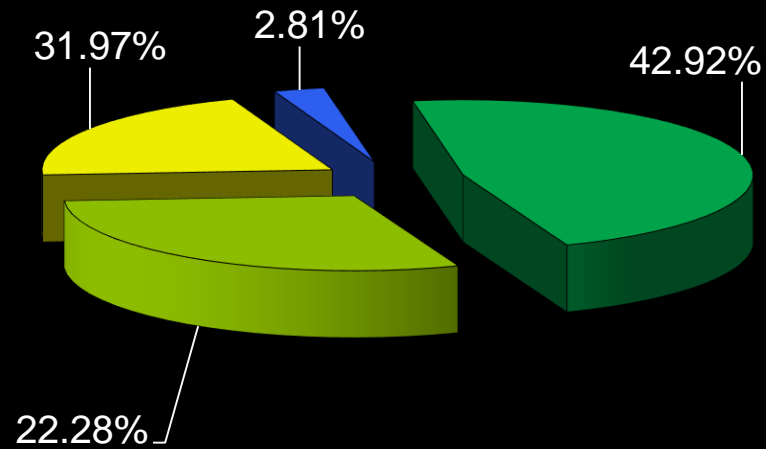
- Latitudes =  $9^{\circ} 58'$  to  $28^{\circ} 29'$  North
- Longitudes =  $92^{\circ} 10'$  to  $101^{\circ} 10'$  East

## ➤ Area

- Total land area =  $676,577 \text{ km}^2$
- Length (north to south) = 2,090 km
- Length (west to east) = 805 km



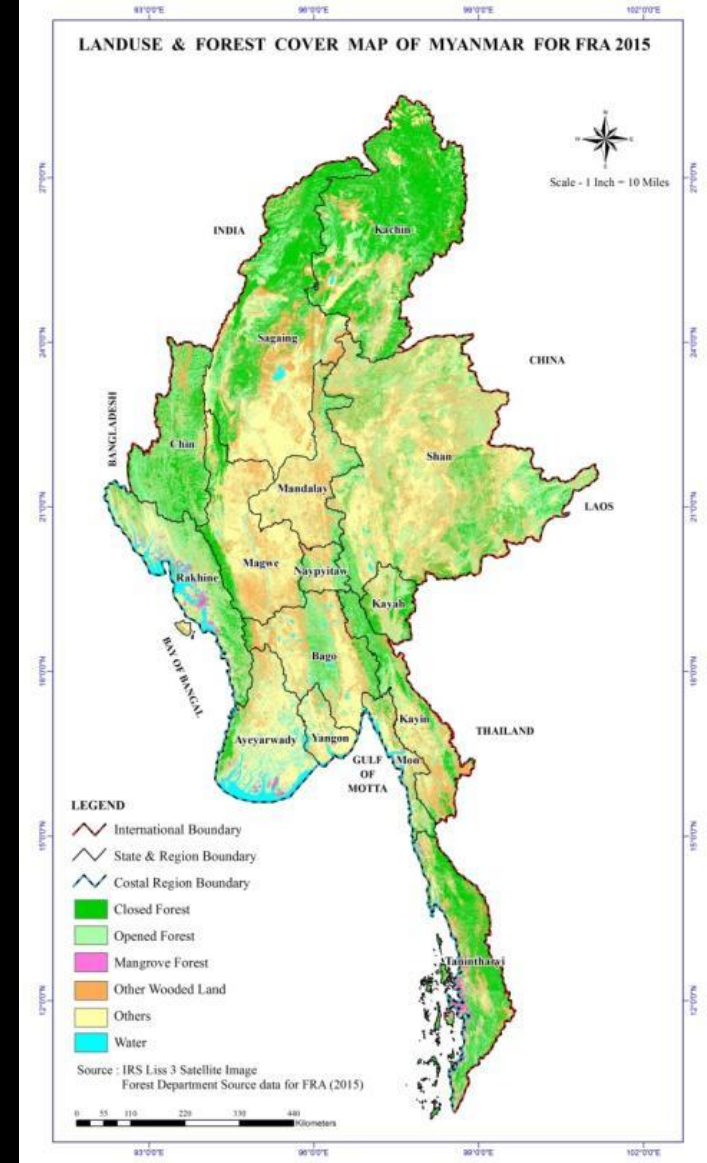
# Forest Cover Status of Myanmar (FRA 2015)



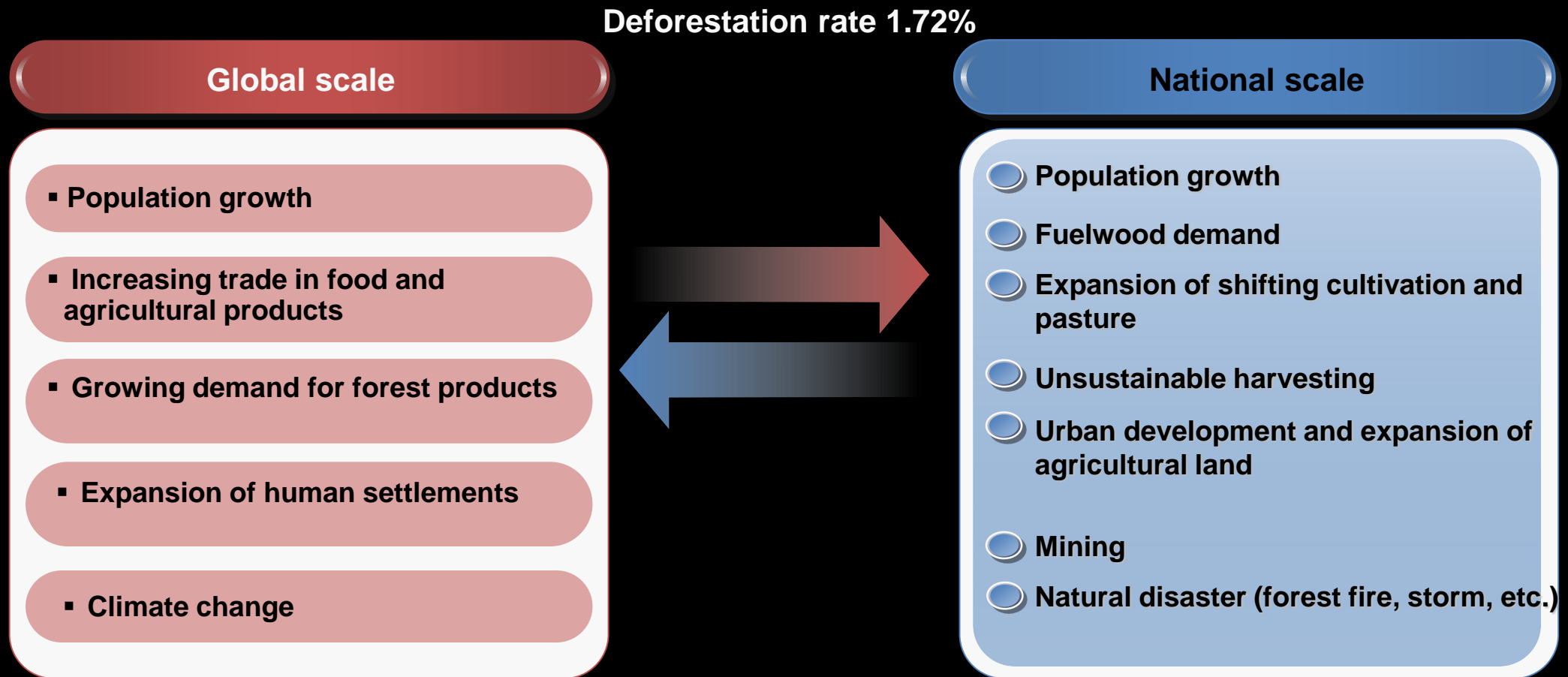
- Forests
- Other Wooded land
- Other land
- Inland water bodies

## Policy target

- ❖ RF+PPF – 30% of total country's area
- ❖ PAS – 10% of total country's area

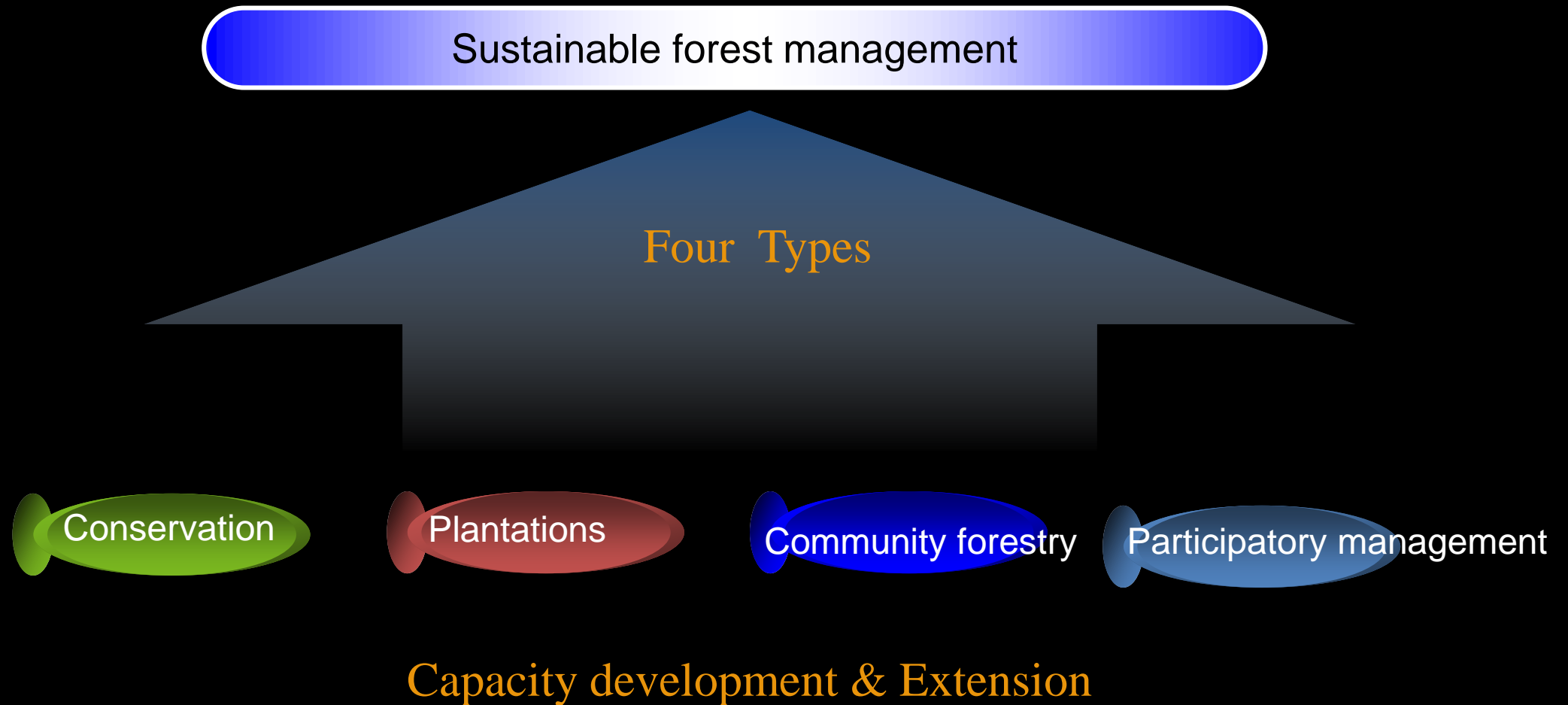


## ❖ Major drivers of deforestation in Myanmar



## Forest management in Myanmar

### Policy, rules and regulations since 1991



# In montane forests in Northern Shan State, Myanmar: Fund supported by APFNet

## Goals

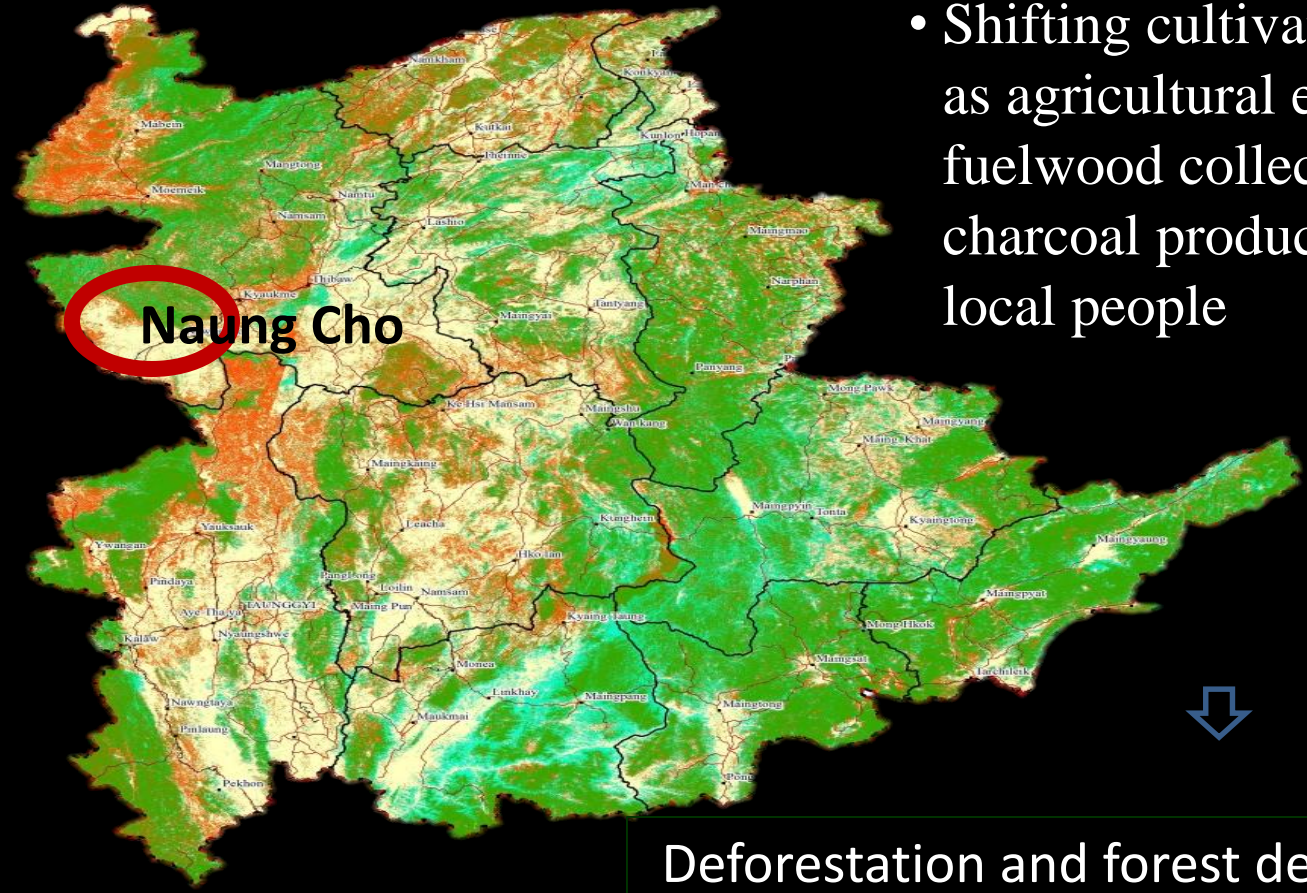
- To create new knowledge and alternative options for community-based sustainable forest rehabilitation and management





# Area Profile

- Logging practices (both legally and illegally)
- Shifting cultivation as well as agricultural expansion, fuelwood collection and charcoal production by local people

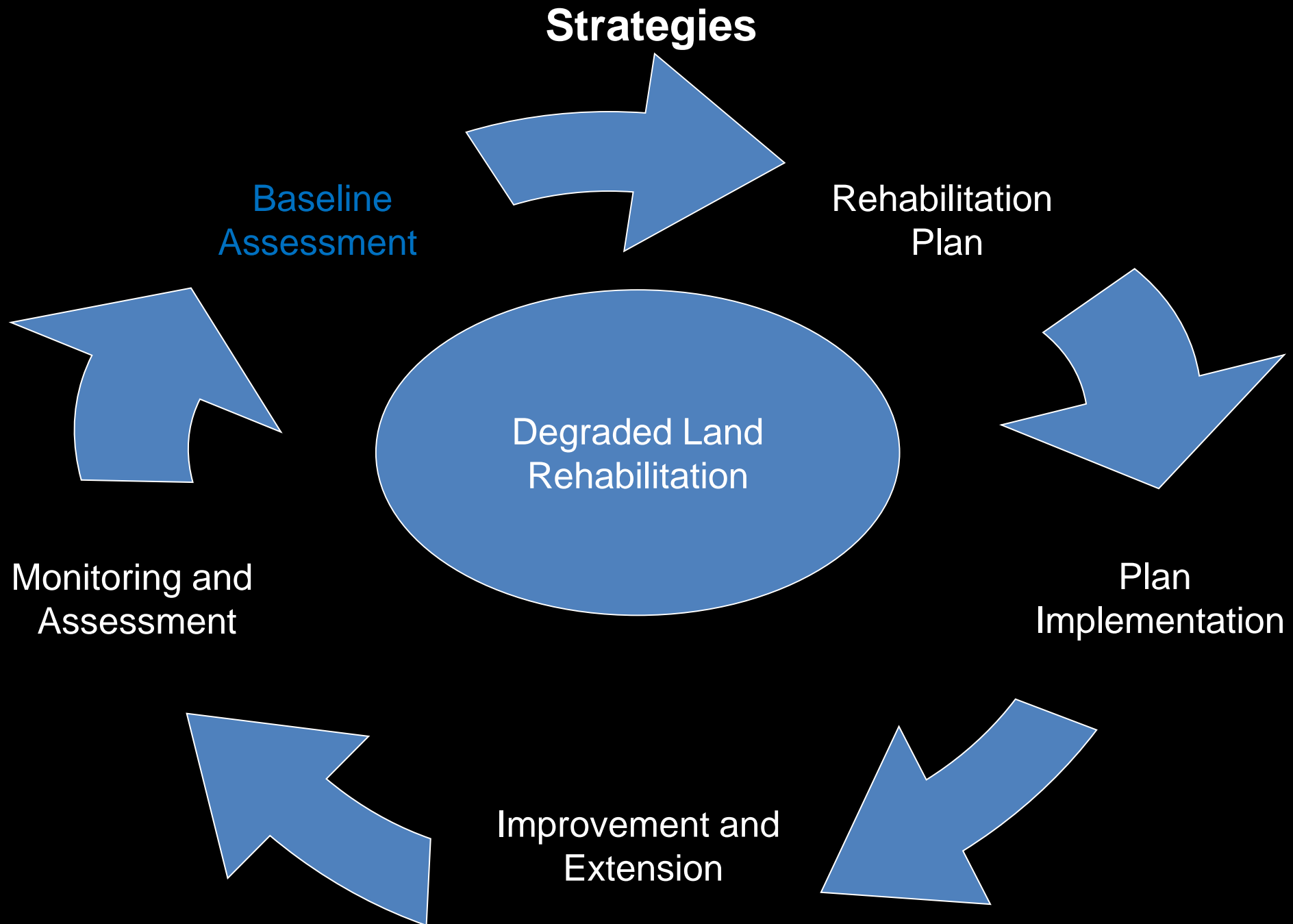


Deforestation and forest degradation



Agricultural land - 59.03%





## Participatory Planning process

- Resource mapping
- Wealth ranking
- Village mapping
- Village meetings
- Focus group discussions
- Key informants interviews
- Semi-structured interviews



## Land use zoning

No	Class name	Area (ha)	Percentage
1	Closed Forest	655.21751	5.95
2	Open Forest	218.95894	1.99
3	Agricultural Land	6501.1813	59.03
4	Water body	8.8863044	0.08
5	Scrub Land	1512.411	13.73
6	Bare Land	2061.5701	18.72
7	Mining	4.8429859	0.04
8	Village	49.664346	0.45
		11012.733	100

- Existence of village – Over 100 years ago
- Household – 220
- Population – 800
- Majority ethnic – Shan/Danu (87% of Total population)
- Major Livelihood – Agriculture



# Changes of priority of income sources

20 years ago	10 years ago	At present
Cutting <b>timber</b> & Selling	Agriculture	Agriculture
Charcoal making (commercial)	Charcoal & fuelwood	Lime baking
Agriculture	Casual labour	Casual labour
Casual labour		Charcoal (subsistence)
		Fuelwood
		Making bricks



# Customary forest classification



Forest conserved for water spring sources



Forest safeguarded by spiritual belief



Shifting cultivated area



Secondary Forest



Sedentary farm



Home garden



# Planting in Community Forest



Planting of *Sterculia versicolor* in CF



*Sterculia versicolor* and Peanut in CF

- Willingness to develop community forestry near the village
- provided **rare and preferable species** for them.



# Agroforestry practice





# Community Forest (Degraded Natural Forest)



*Pterocarpus macrocarpus* in Rocky Land



*Pterocarpus macrocarpus*  
in Transplanting plot



*Pterocarpus macrocarpus* in  
Seed sowing plot



# Community Forest (Degraded Natural Forest)



*Xylia xylocarpa* in Transplanting plot



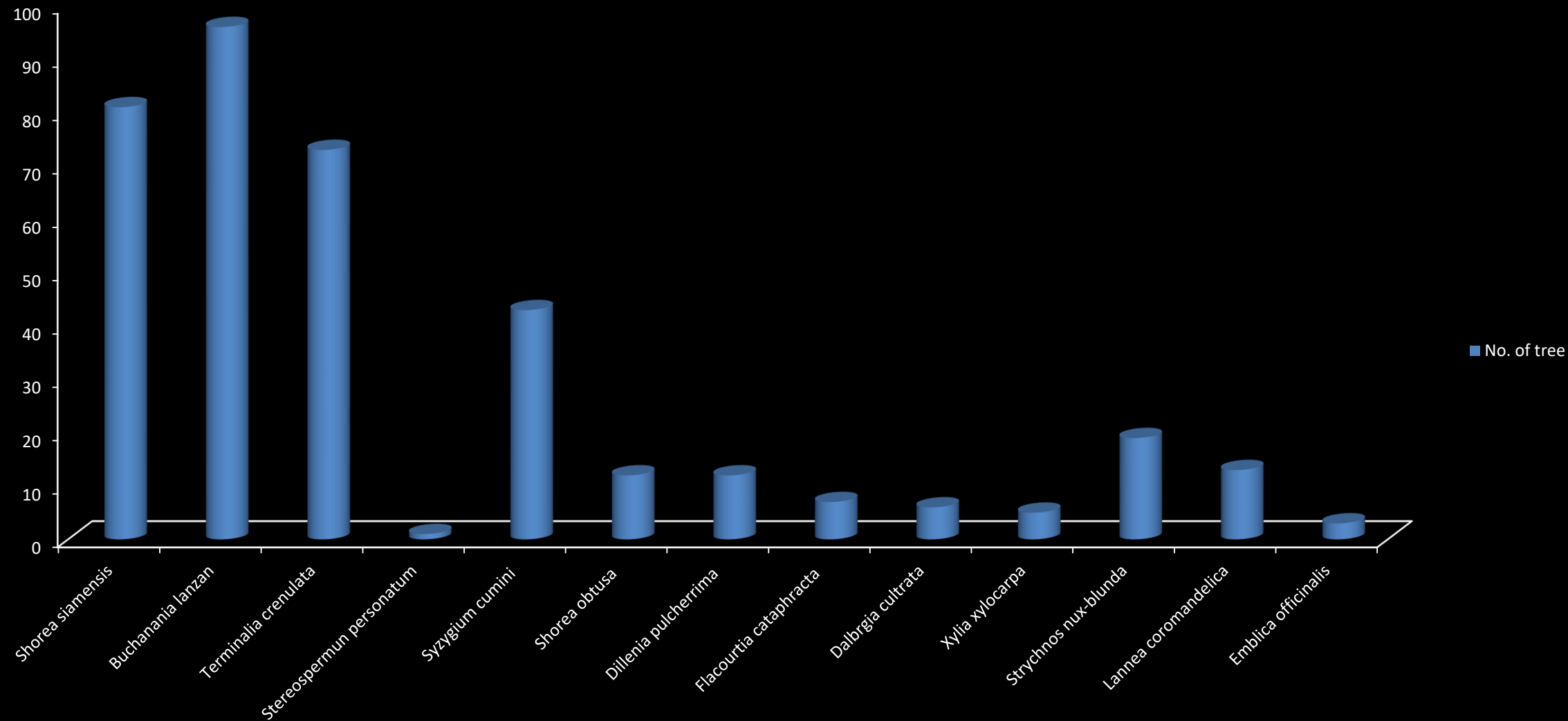
, *Melina arborea* in transplanting and seed sowing (1 ft. to 2.6ft)



# Measurement of trees in sample plots



Measuring the tree with filed staff and local farmers





# Weeding for fire protection









# Demonstration plots conducting assisted natural regeneration activities

- Enrichment planting of Padauk (*Pterocarpus macrocarpus*), Pyinkado (*Xylia xylocarpa*), Thinwin (*Millettia pendula*) and Thamalan (*Delbergia Oliveri*)
- Gap planting of Teak
- Fire Protection
- Measuring the tree growth in assisted natural regeneration area and control areas





# Spring water resources

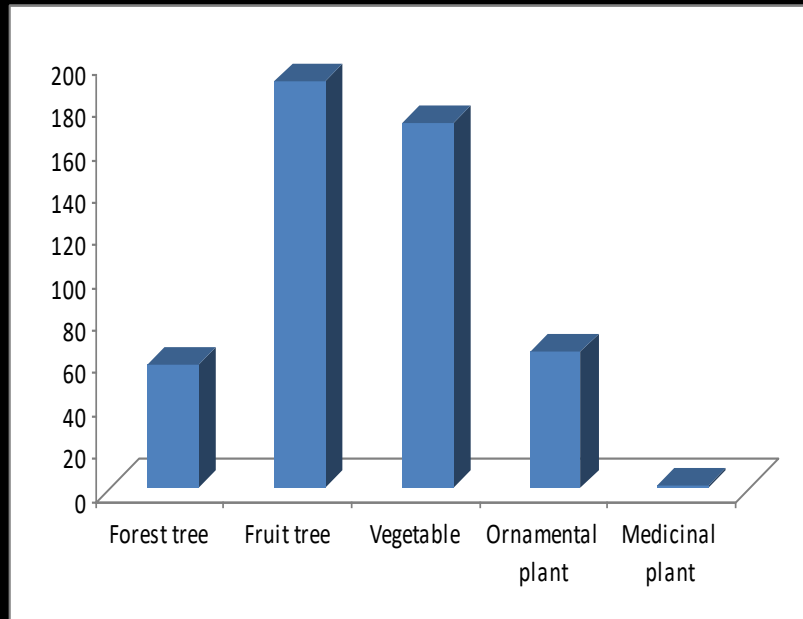


- Understory cultivation of Yam under the woody trees
- Demonstration of soil erosion control because trees roots are exposed due to the heavy and frequent rain
- Boundary planting of trees to demarcate farm boundary and spring water resources





# Homegarden improvement



- Households were randomly selected and surveyed the planted species (in figure)
- Local farmers are using homegarden products not only for self-consumption but also for subsistence income
- 350 mangoes *Mangifra indica*, 85 hybrid jack fruits, 72 lemon, 5 viss of Horlan flowers, 30 avocados and 20 danyin *Archidendron jiringa* were distributed



# Alternative rural energy



- The practice of burning agro-residues was widespread
- Extension activities about using A-stove which can be reduced 40 % fuelwood consumption compared to traditional way of cooking
- Distribution of A1- stove to every household
- Sharing bamboo charcoal making





# Giving Training to local farmers about nursery techniques



Number of participants (Women micro-financed group, User Group member, Farmers)



# Soil improvement techniques in degraded areas for tree planting

- ❖ Document traditional practices of soil improvement
- ❖ Compost making using agro-waste
- ❖ Deliver 50 pieces of pamphlet about compost making
- ❖ Demonstrate vegetative conservation techniques in spring water resources
- ❖ Demonstrate techniques of land preparation before planting and mulching





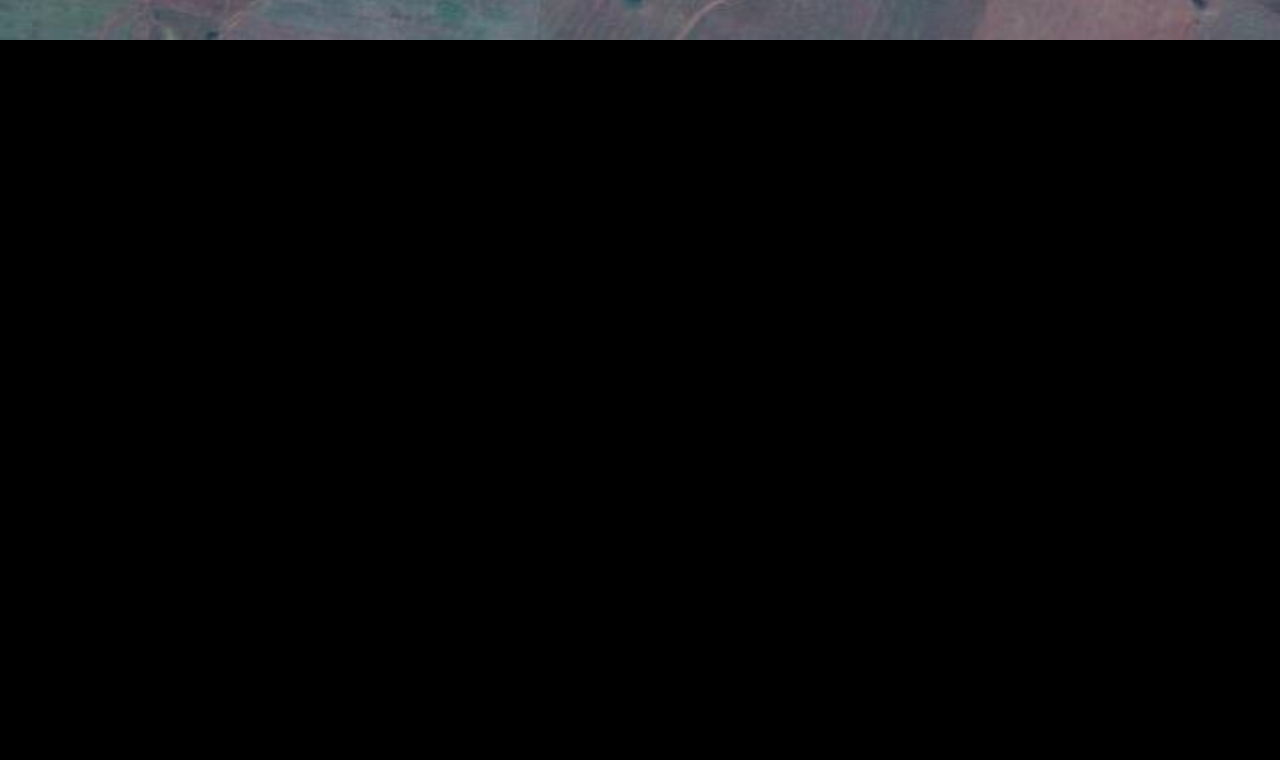
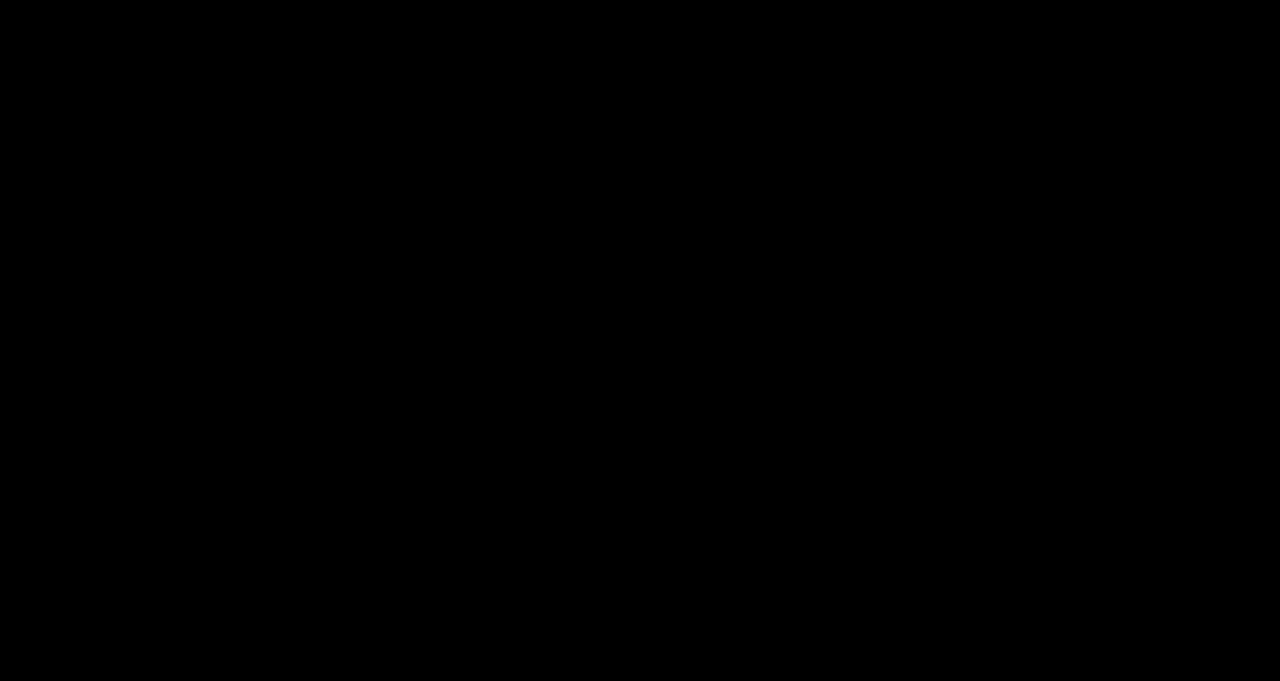
# Facilitation for social fencing of assisted natural regeneration

- Through consultation meeting with use group members, internal rules and regulations regarding access, utilization of forest products, management and exclusion of non-users are formulated
- Traditional unwritten rules for protection of traditional forest management were documented





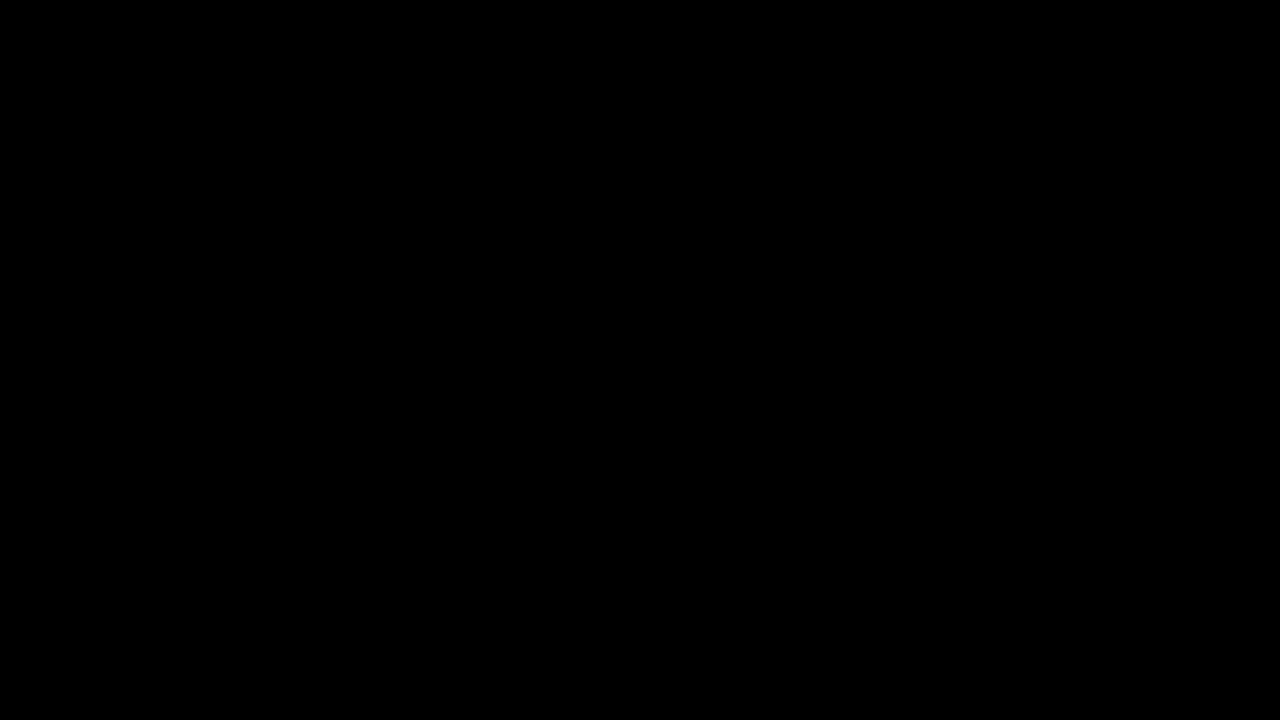
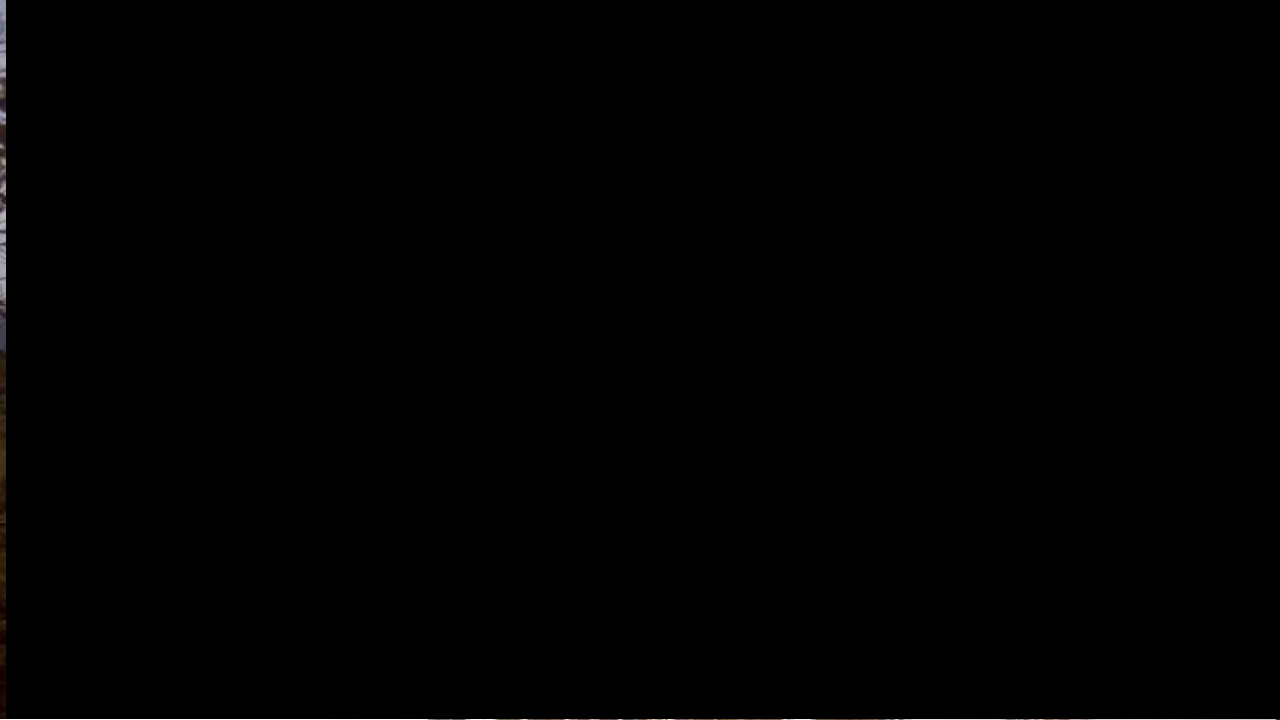




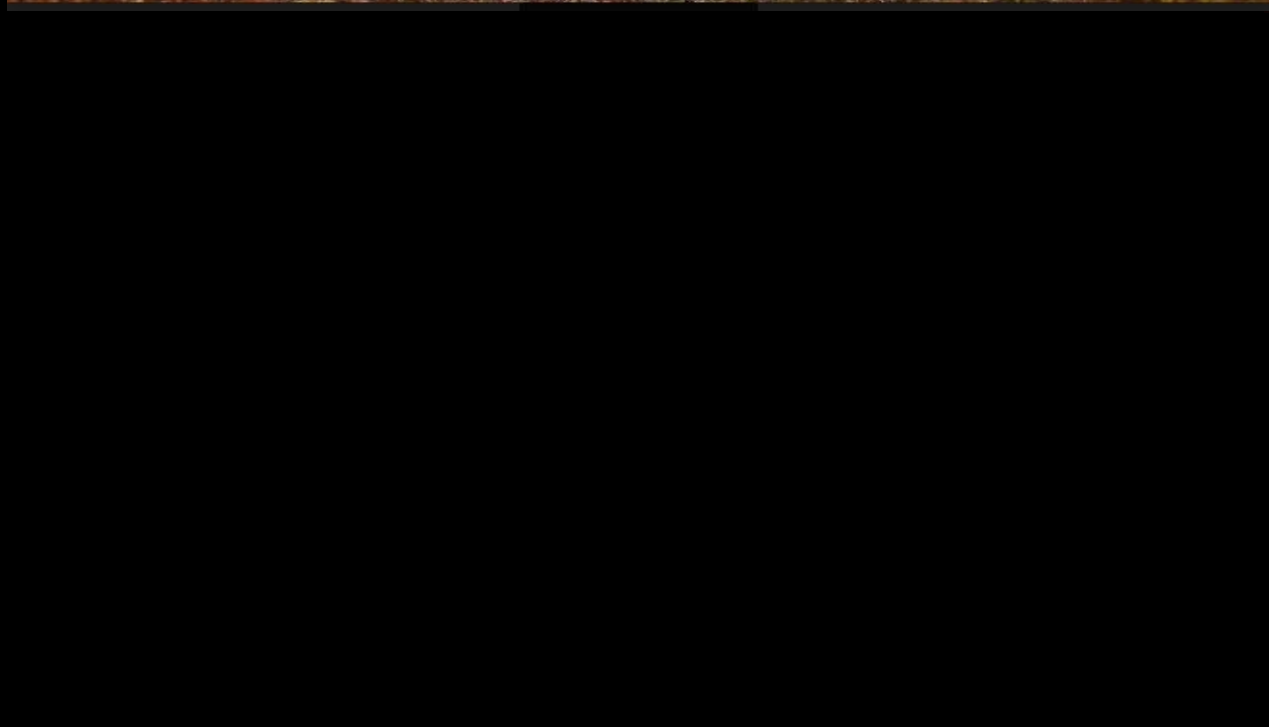












## Challenges and lesson learnt

- Participation of local communities
  - Trust building with local communities
  - Local farmers are more concerned with immediate income
  - Locally preferable species are likely to acceptable for local farmers
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- Demonstration site should be more accessible areas
  - Two-way communication and participatory consultation of rehabilitation design
  - Supporting existing needs of communities based on village landscape



**Thank you very much!**