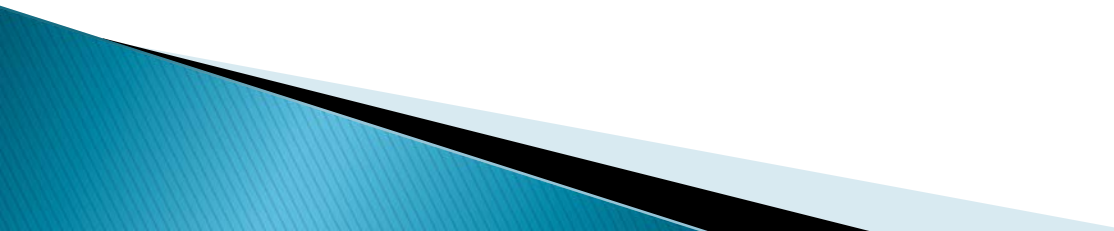





Enrichment of Pine Plantations of Sri Lanka with native species

Forest Department – Sri Lanka
Nishantha Edirisinghe

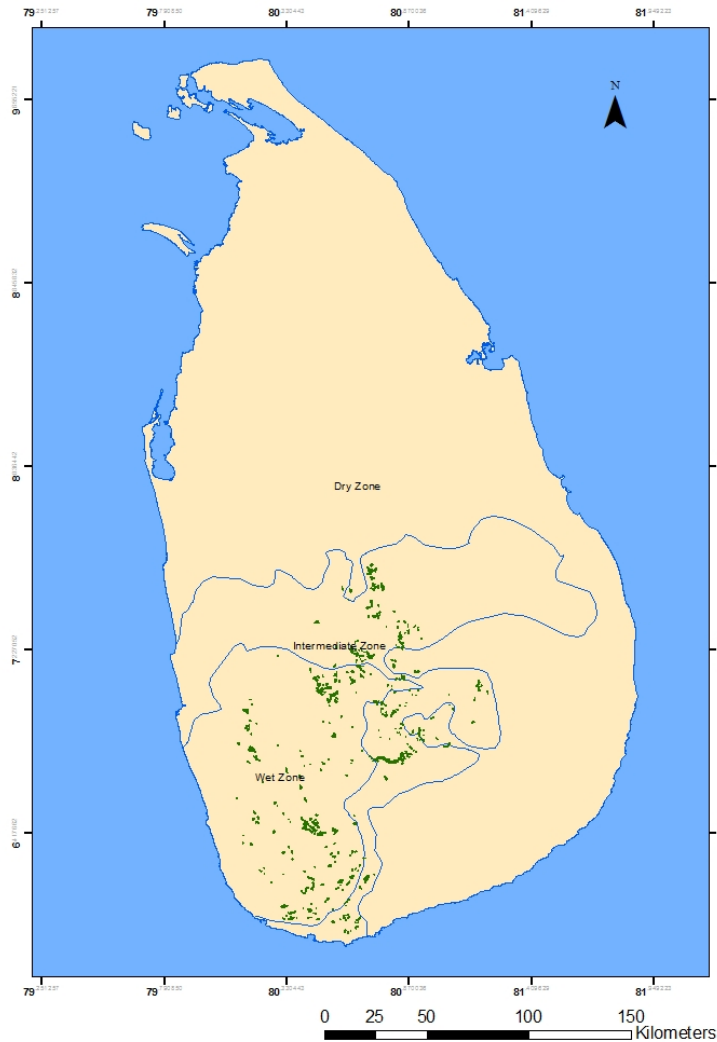
Outline

- ▶ History of pine plantations
 - ▶ Distribution of pine plantations
 - ▶ Existing management
 - ▶ The problem
 - ▶ APFNet support
 - ▶ Goals, objectives outputs and activities
- 

History of Pine Plantations in Sri Lanka

- ▶ Pine is an introduced species
 - ▶ Introduced in 1967 to produce pulp for paper industry
 - ▶ Pine pulp was not used in paper production due to technical problem in the industry
 - ▶ In 1980s pine plantations were established for watershed protection
 - ▶ Planting of pine stopped due to social pressure now
 - ▶ There are 16,000 ha of pine plantations
- 

Distribution of Pine Plantations



Distribution

- ▶ Located in Wet and Intermediate Zones
- ▶ Elevations from 100 m to 2000 m
- ▶ Located in slopes
- ▶ Established on heavily eroded degraded lands, where no other tree species can be established.

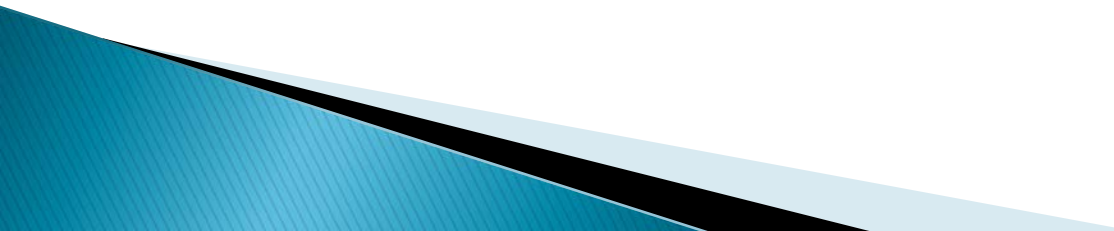
Main Features

- ▶ Most Pine plantations remains as monoculture pine plantations
- ▶ Undergrowth is absent in intermediate zone pine plantations
- ▶ Undergrowth is present in wet zone plantations .





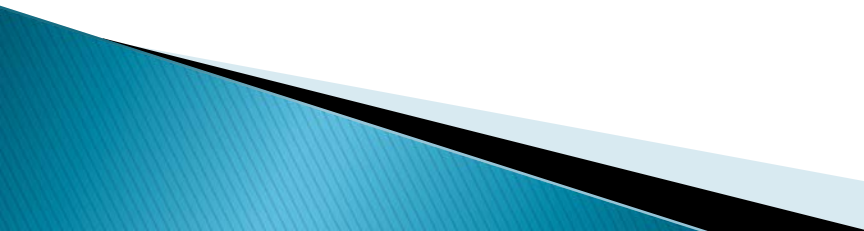
Pine plantations remain as monoculture plantations because of :

- ▶ Forest Fires:
 - ▶ Poor water availability
 - ▶ Poor light intensity
 - ▶ Poor Nutrient composition in soil
 - ▶ Limited Bird comings
 - ▶ Presence of thick leaf litter.
- 

Management of Existing Pine Plantations

- ▶ Three main working circles
 - Protection Working Circle:
Manage for soil and water conservation
 - Timber Working Circle:
Manage for timber production. Felling is done at the rotation age and re-planted
 - Timber and resin tapping working circles
Resin extraction is done. After resin tapping is completed trees are felled and replanted.

The problem

- ▶ Fire susceptible vegetation
 - ▶ Poor structure without different strata
 - ▶ Poor bio diversity
Increases the soil erosion and reduce water absorption to the soil.
 - ▶ So monoculture pine plantation can not contribute to conserve watershed areas.
 - ▶ Pine plantations do not contribute to rural economy
 - ▶ There is a negative attitude towards pine plantations.
- 

- ▶ In line with these problems, together with APFNet, we are to launch a project entitled **‘Enrichment of Pine Plantations of Sri Lanka with native species’**
 - ▶ **Supervisory agency:** Ministry of Mahaweli Development and Environment
 - ▶ **Executing agency & Implementation agency:** Forest Department
 - ▶ **Project implementation duration:** [05/2017 to 05/20 36 months]
 - ▶ **Progress:** The project proposal has been approved, and the preparation of the Project documents and first annual work plan are under way.
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Goal and Objective of the Project

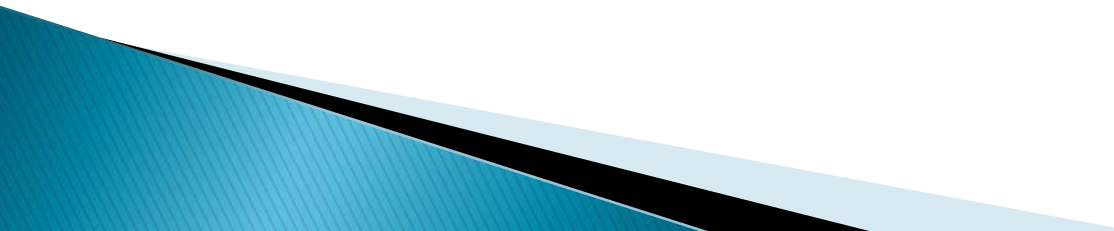
Goal

The goal of the project is to enhance ecosystem services provided by existing pine plantations.

Objective

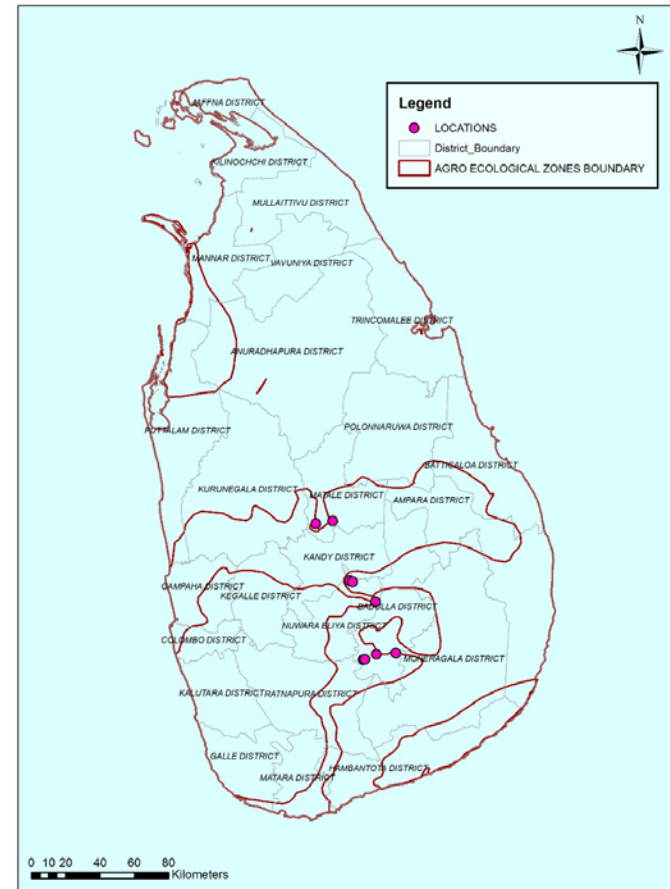
To enrich 350 ha of pine plantations in intermediate zone of Sri Lanka with multiple species to obtain multi functional benefits

Expected Outputs

- ▶ 350 ha monoculture pine plantations converted into multi species forests
 - ▶ NTFP composition of above 350 ha of forests improved
 - ▶ 500 families permitted to collect NTFPs.
 - ▶ A Community based ecotourism programme established
- 

Project Location

- Project will be implemented in Intermediate Zone of Sri Lanka.
- Pine plantation of Protection working circles will be enriched.
- Ten locations were selected



Outputs and Activities

Output 1. 350 ha monoculture pine plantations converted into multi species forests

- 1.1 Selection of pine plantations for conversion
- 1.2 Establish the baseline of the plantations
- 1.3 Validation of methods for rehabilitation for specific sites
- 1.4 Forest Fire Control
- 1.5 Canopy Opening
- 1.6 Under planting
- 1.7 Promotion of natural regeneration
- 1.8 Continuous management
- 1.9 Performance Assessment
- 1.10 Seedling Production

Outputs and Activities

Output 4. Community based ecotourism programme established

4.1. Formulation of ecotourism plan

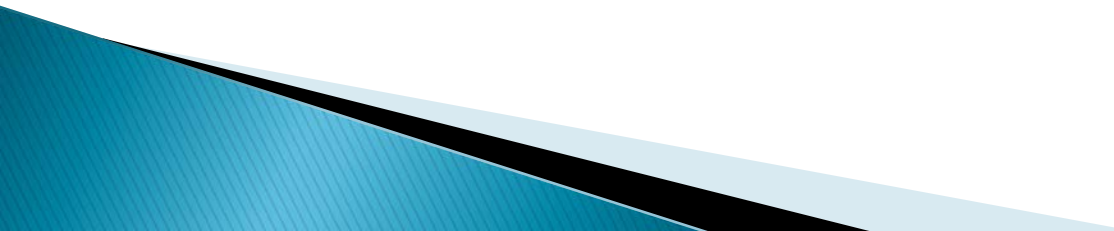
4.2. Formulation of the group and signing agreement

4.3. Implementation of the plan

4.4 Benefit sharing

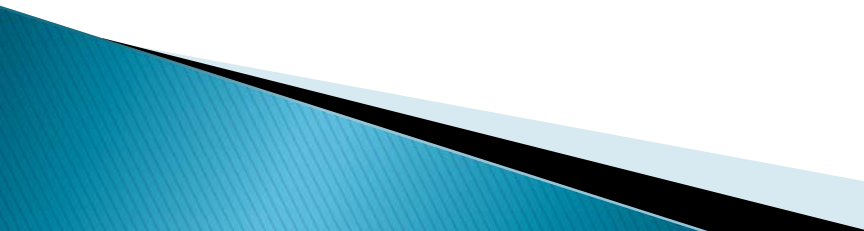
Outputs and Activities

Output 2. NTFP composition of 350 ha of pine plantations improved

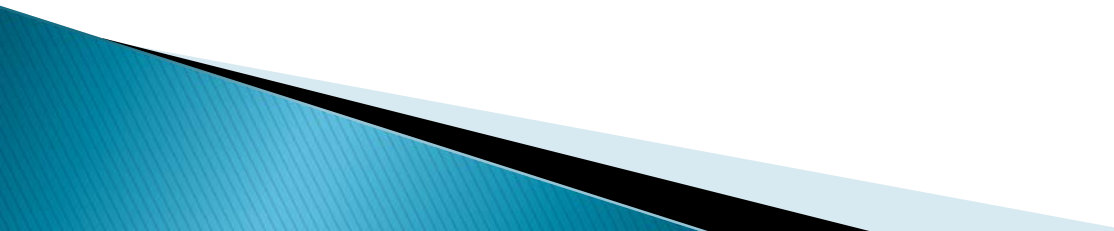
- 2.1 Identification of NTFPs species which are suitable for the area**
 - 2.2 Seedling Production and Planting**
 - 2.3 Tending and Management**
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Outputs and Activities

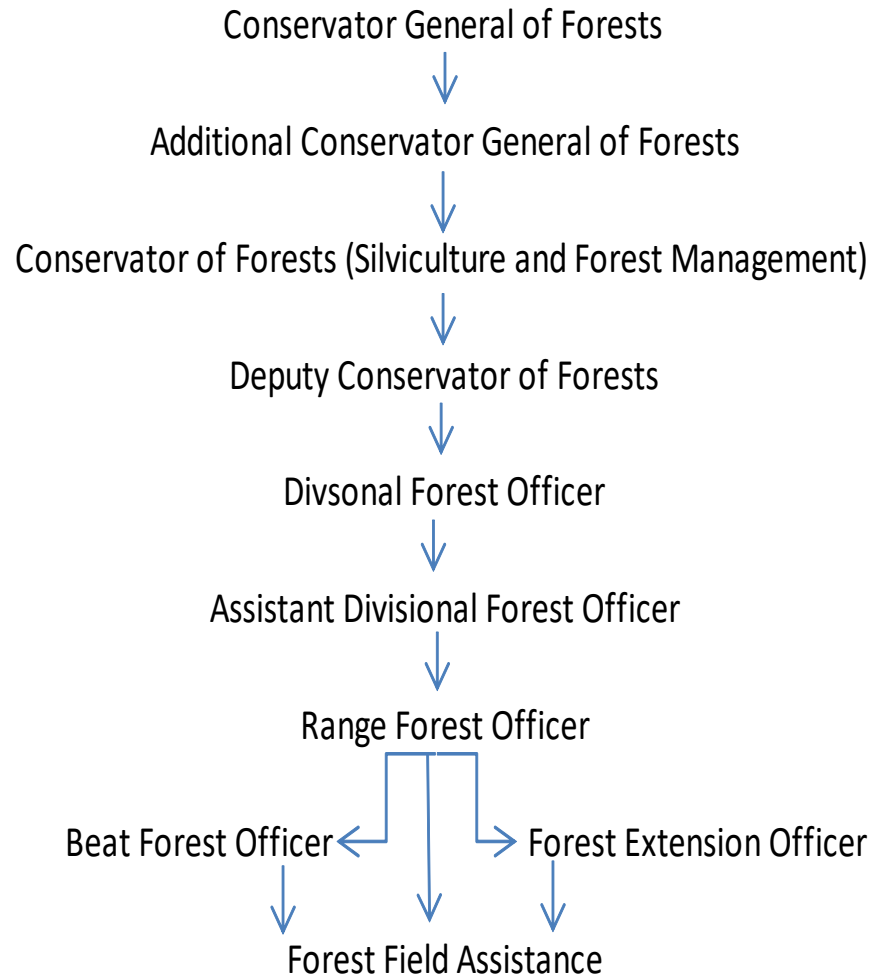
Output 3. 500 Families are permitted to collect NTFP

- 3.1 Identification of beneficiaries for NTFP collection and group formation**
 - 3.2 Oleo resin extraction (Training, Link to markets)**
 - 3.3 Preparation of NTFP collection plan**
 - 3.4 Issue permits to community members for NTFP collection**
 - 3.5 NTFP collection and monitoring**
 - 3.6 Benefit sharing**
- 

Beneficiaries

- ▶ Forest Department
 - ▶ Adjoining communities
 - ▶ Industries (Tourism and resin production)
 - ▶ Downstream irrigation users
- 

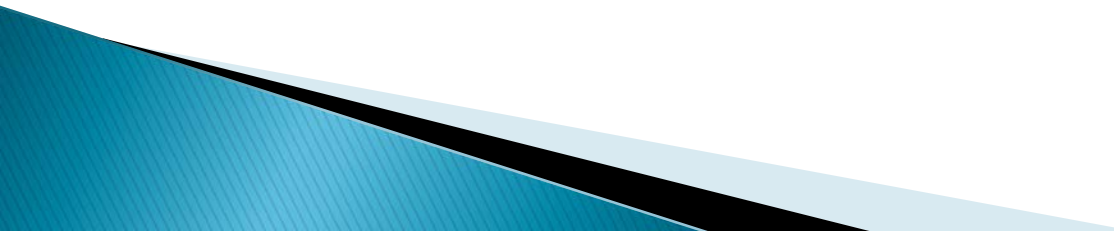
Project Management Chart



Budget in US\$

	2017	2018	2019	Total
APFNet	125,611	206,760	144,929	477,300
Host Country	39,850	43,350	36,300	119,500
Total	165,461	250,110	181,229	596,800

We hope

- ▶ The project will demonstrate the strategy to improve monoculture Pine plantations in to multiple species forest.
 - ▶ Ecosystem services provided by pine plantations will be enhanced.
 - ▶ Livelihood local communities will be improved
- 

THANKS!





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