RBG Kew’s restoration work in Madagascar

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Food shapes the landscape

Fires >1000 m²
Oct-Dec 2013
Engaging communities to put trees back into the landscape

Agroforestry
Rehabilitation
Restoration

Madagascar Agroforestry Livelihoods Project
2013-2016
Support for protected areas

New protected areas system:
• covers 10% of land surface
• collaboration with communities

Project partners:
• Kew Madagascar Conservation Centre
• Ny Tanintsika (development NGO)
• SNGF (National Seed Bank)
Itremo Massif Protected Area
250 km², 500+ plant species
Conservation International - 2,800 km² humid forests
Slash and burn agriculture - forest loss 0.25% per year
Aim is to establish static cultivation around communities
Community associations (30)
Community training
## Surveys and monitoring

| family          | species                  | habit | height (m) | COFAV | Itremo | J | F | M | A | M | J | J | A | S | O | N | D |
|-----------------|--------------------------|-------|------------|-------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cannabaceae     | Trema orientalis         | Tree  | 20         | occurs| occurs |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabaceae        | Adenanthera mantaraoa    | Tree  | 30         | possible|        |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabaceae        | Albizia adiantifolia     | Tree  | 35         | occurs |        |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabaceae        | Albizia gummifera        | Tree  | 25         | occurs |        |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabaceae        | Albizia mainae           | Tree  | 15         | possible|        |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabaceae        | Albizia perrieri         | Tree  |            |        |        |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabaceae        | Albizia viridis          | Tree  | 20         | possible|        |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabaceae        | Cadia pubescens         | Shrub | 4          | occurs |        |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabaceae        | Cynometa commersoniana  | Tree  | 12         | E (low alt) |      |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabaceae        | Dalbergia emirnensis    | Tree  | 15         | occurs |        |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabaceae        | Dalbergia monticola     | Tree  | 20         | occurs |        |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabaceae        | Dalbergia orientalis    | Tree  | 12         | occurs |        |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabaceae        | Dichrostachys tenuifolia| Shrub | 4          | possible|        |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabaceae        | Entada chrysostachys     | Tree  | 10         | occurs |        |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabaceae        | Entada louvelii         | Tree  | 10         | occurs |        |   |   |   |   |   |   |   |   |   |   |   |   |
Itremo – silk production
COFAV – vanilla & essential oils

Itremo (10 communities):
10 tree nurseries
seedlings - 35% of target
harvesting of silk

COFAV (20 communities):
20 tree nurseries
seedlings - 28-44% of target
production of vanilla & essential oils

Some problems encountered:
Low seed supply
Low germination and seedling survival
Long distances to planting sites
Over-estimate of capacity
Preference for *Eucalyptus*

Success: enthusiasm of communities
Future plans

Fire ecology (central highlands)
5 sites (semi-arid, dry, humid, upland, littoral)
Weston Foundation Tree Conservation Project
IUCN red list assessments – 4000 species
Seed banking – 500 most threatened species

Ecological profiles:
• Regeneration characteristics (pioneer, light-demander, shade tolerant, nitrogen fixing)
• Niche modelling (climate, geology)
• Germination protocols
• Seed dispersal mechanisms

Identification tools & data portal

Ecological Restoration Alliance
Madagascar Restoration Network