

Proposed Forest Carbon Development Project at Arakan Forest Corridor

Raquel C. Lopez, Jayson C. Ibañez*, Rodel D. Lasco

BACKGROUND

PROJECT SITE DESCRIPTION

Arakan is composed of 28 municipalities populated by ethno-linguistic groups, predominantly of the Manobo-Kulamanon and Manobo-Tinananon tribes. The Manobo tribes are considered the original settlers. Total land area is 69 432.79 ha. Classified agricultural land comprises about 14%, however, about 24% is used for crops, while forest is only 4%.

After commercial logging (1960s-1980s) and agriculture encroaching the logged-over areas, only isolated fragments of forest cover remain in the mountain ranges of Sinaka, Mahuson and Kabalantian-Binoongan-Kulaman (KABIKU), which are home to important wildlife species such as the IUCN "critically endangered" Philippine eagle and the "vulnerable" Philippine hawk eagle *Spizaetus philippensis*.

Though relatively small, Sinaka is regarded as one of the world's important bird areas because of the relatively high proportion of unique and threatened species it contains. Mahuson has also a unique mammalian population, exemplified by a new species of fruit bat, the Philippine large-headed fruit bat. Since at least 1992, two wild pairs of Philippine eagles have been breeding on mountains Sinaka and in Mahuson. In 1993, the Philippine eagle "Kahayag" was retrieved from an old nest tree at the KABIKU forest.

RATIONALE

Under the umbrella of the Arakan Forest Corridor Development Program (AFCDP), forest carbon development is being considered as one mechanism to restore forest habitats between Sinaka, Mahuson and KABIKU. While protecting the remaining forest fragments, the project aims to

- re-establish forest on grasslands along the forest corridor route between the mountains of Mahuson, Sinaka and KABIKU;
- rehabilitate degraded lands, which are fallowed and abandoned farms close to habitats of threatened wildlife and critical watersheds, the source of the headwaters of the Napungan River that supplies the city of Arakan;
- participate in carbon markets to generate supplementary income for upland communities who restore degraded habitats; and
- provide incentives to both indigenous and non-indigenous community partners, particularly land owners, claimants and tenure holders who allotted land for "rainforestation farming".

FOREST CARBON DEVELOPMENT STRATEGY

The project will use an agroforestation scheme and specifically employ "rainforestation" farming, which will be tree establishment starting with pioneer tree species then introducing long-term shadow species under the canopy of grown pioneers.

Table 1 - Pioneer species (sun-loving species) for Arakan Forest Corridor Rainforestation farming!

Tree species	Local name	Scientific name	Fruit tree species	Local name	Scientific name
Mindanao gum	Encalyptus deyiata	Mussaenda	Zizyphus jujuba		
Anahong	Terna orientalis	Langka (jackfruit)	Artocarpus heterophyllus		
Dapdap	Erythrina variegata	Santol	Artocarpus koeppelii		
Biyanite	Macaranga bicolor	Mango (mango)	Mangifera indica		
Anapog	Macaranga cantingii	Rambutan	Nephelium lappaceum		
Balele (Bayani)	Ficus benjamina	Avocado	Persea americana		
Alin	Melanospiza multiglandulosa	Bapbas (Native Guava)	Psidium guajava		
Inyam (black carant tree)	Antidesma phaeosimbula				
Hagmit	Ficus minabassae				
Nan (Bulobunkal)	Nasuta jingibani	Lakhan (Pomelo)	Citrus grandis		
Dia	Alstonia scholaris	Cainito (Star apple)	Cryosophyllum cainito		
Tigolo	Artocarpus blancii	Nyog (Cecamat)	Coccoloba		
Kahampit	Terminalia edulis	Tambes	Strychnium samarangense		
Binanga	Macaranga tanarius	Kamansi	Artocarpus caninus		
Taisay	Terminalia catappa	Chico	Achras zapota		
Molave	Vitex parviflora	Bread fruit (Kalo)	Artocarpus altilis		
Narra	Pterocarpus indicus	Sampalok (Tamarind)	Tamarindus indica		
Makapaya	Polyscias indusa	Duhar (Java plum)	Strychnium cumini		
Agallo	Cassipouira espositifolia				

Table 2 - Shade-loving species for Arakan Forest Corridor Rainforestation farming

Tree species	Local name	Scientific name	Fruit tree species	Local name	Scientific name
Lans		Dipterocarpaceae	Durian	Durio zibethinus	
		Shorea contorta, Shorea negrosensis			
Mayapis		Shorea squamata	Lanzones	Lansium domesticum	
Tangle		Shorea polyserpa	Mangosteen	Garcinia mangostana	
Bagikan		Parashorea plicata	Marang (Tamp, Pus-puso)	Artocarpus odoratissimus	
Apling		Dipterocarpus grandiflorus	Pili nut	Canarium luzonicum	
Uyayon		Lithocarpus banosii			
Dao		Dacrydium dao	Catmon	Dillenia indica	
Inam		Dacrydium imbricatum	Talpo-talpo (Baturo)	Guettarda speciosa	
Bawan		Garcinia binocata	Makapung-kalabou (Makappa)	Strychnium malaccense	
			Tisa		
			Gayabano	Annona muricata	

- 2004:** The Philippine Eagle Foundation (PEF) started the Arakan Forest Corridor Development Program (AFCDP) to particularly benefit the "critically endangered" Philippine Eagle (*Pitheophaga jefferyi*) and other wildlife that shares the forest.
- 2005:** Delineation of the project started but there was no plan to undertake forest carbon development for climate change mitigation.
- 2007:** The Foundation for Philippines Environment (FPE) introduced the idea of clean development mechanism forestry (A/R) in the Arakan Forest Corridor and facilitated the preparation of a project design document (PDD) by consultants hired through the World Bank carbon fund.
- 2008:** Establishment of satellite nurseries and seedling production started. Draft PDD was scheduled for submission for validation by the third quarter of 2009.
- 2009:** There was no final PDD. PEF were informed by FPE that the World Bank consultants opted for voluntary carbon market standards instead of clean development mechanism standards. Case study assessment conducted in July 2009 with reference to the draft PDD. Field investigation, observations, interviews and mini-workshops and writeshops were conducted. Towards the end of 2009, corrective actions were undertaken by the PEF, including community consultations, mapping of individual land parcels and organizing. Planning for the forest carbon development conducted in the field in consultation with the community.
- 2010:** Proposed area and plan for the forest carbon development project finalised. The project plan is drafted with the technical guidance of the World Agroforestry Centre (Philippines). FPE facilitated the revision of the draft PDD with reference to the project development plan.

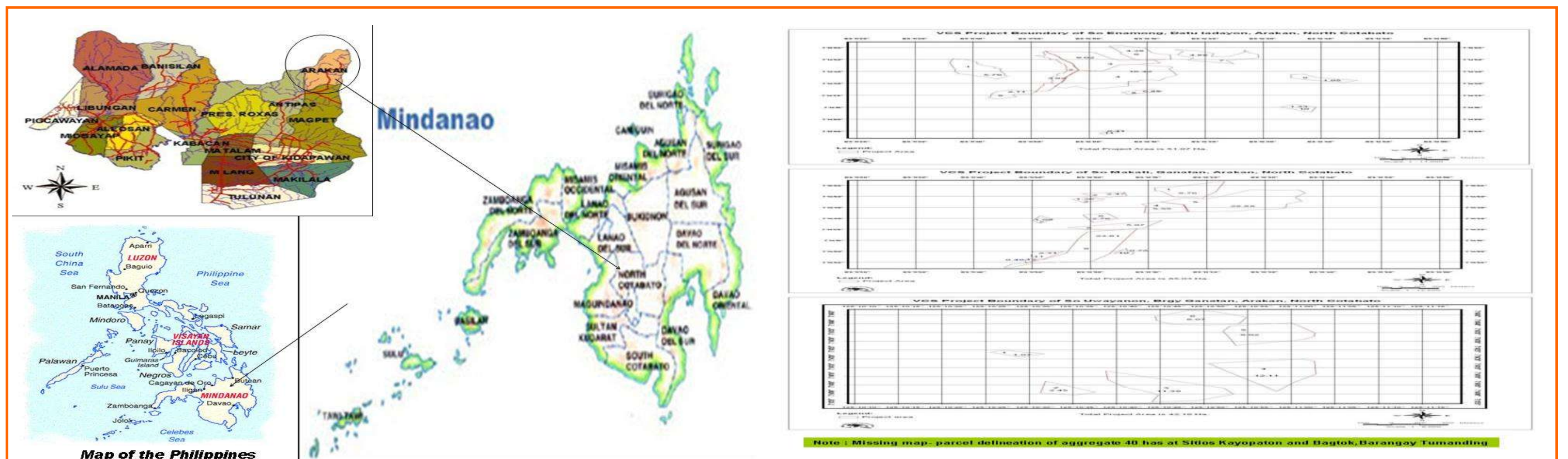


Figure 1. FCD project area with an aggregate total of 216 has consisting of 29 parcels within the three communities. All parcels are covered by either a Certificate of Ancestral Domain Claim (CADC) or a Certificate of Stewardship Contract (CSC).

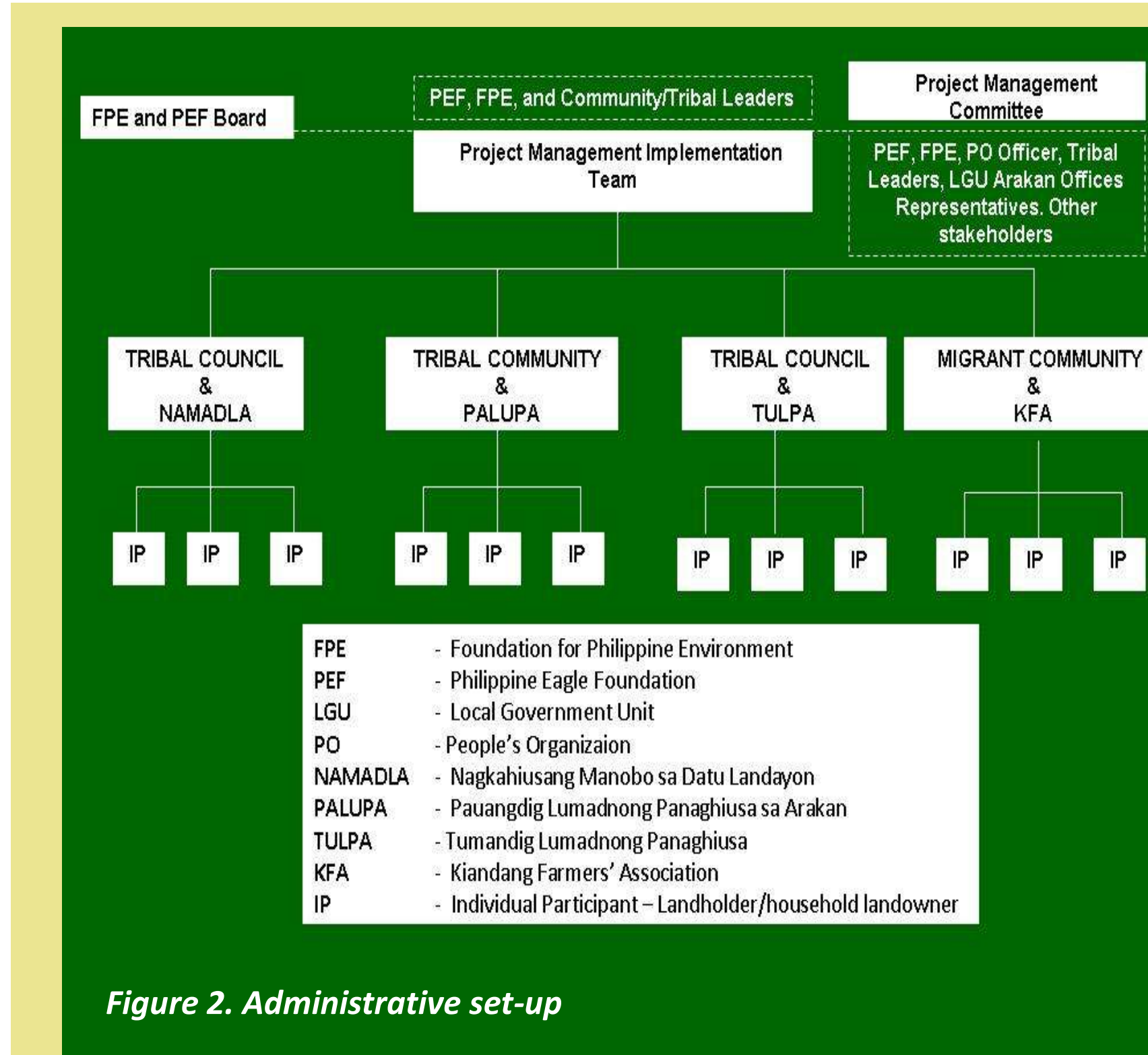


Figure 2. Administrative set-up

Table 3. Costing of incentive payment to each landholder participants for the 0.25 ha area allotted for the FCD project

Nature/activities	Amount per 0.25 ha area per landholder (Php)
Land preparation (strip brushing, hole digging and staking) and planting (250 seedlings)	1,750.00
Planting area maintenance (round weeding and strip brushing planted area)	2,400.00
Basic assistance (to support any small project of the household)	1,000.00
Total per year (2009-2010) =	5,150.00

Individual/Household Participant

- Participating landholder shall be provided with at least 36 grafted fruit trees and 36 seedlings of agroforestry crops (e.g. coffee, rubber, and others).
- The land-owner has the sole harvesting rights to any produce from the agroforestry trees and crops as well as the usable materials from silvicultural practices.
- Expected benefits and sharing scheme from carbon payments is yet to be determined. It could be that amount or percentage sharing will be divided among following the partners namely PEF, FPE, the community PO and the individual land-owners. The design of benefit sharing we will leave to the WB and FPE.

People's Organization (PO)

- The respective POs take charge the nursery operation, such as soil bagging (Php 0.25 for every plastic bag and Php 1.00 for potted wildling), maintaining the wildlings survival (Php 1.75) in the nursery.
- The POs gets a total of 3.00 Php for each seedling that survives. For example for 6,000 seedlings raised, the PO will receive 18,000.00 Php, which they can use for any project.
- The PO will also receive 10% of the total nursery budget as management fee upon delivering the required number of seedlings during the initial year.

The whole community will benefit through the annual provision of basic services by PEF and corporate partners

Example:

- The water system that has been provided by PLDT and PEF at Datu Ladayon
- From the propose construction of a day care center and hiring of full time teacher
- Installation of clean toilets
- Capacity building to PO officers

PROJECT DEVELOPMENT APPROACH

The project will use the "community-based conservation" approach.

Technical Arrangements The representative people's organizations (NAMADLA, PALUPA, TULPA and KFA) in the four community locations will enter a binding contract called a Conservation Agreement for partnership with PEF. A separate Reforestation Agreement will be made with the land-holders/owners who have allotted portions of their land to the project.

Socio-economic Arrangements Incentives will be provided to each landholder and household participating in "rainforestation" farming. Owing to budget limitations, and to accommodate as many households as possible, for CY 2009-2010 only 0.25 ha (2500 m²) for each landholder receive the equivalent of Php 5,150 (~USD 113) per year.

The primary fundraising vehicle is the "Adopt a Parcel of Hope" campaign, which asks for grants for every hectare (or parcel) within the proposed forest corridor.

Funding will also come from the commercial sector through their corporate social responsibility schemes, other concerned sectors and environmental services (carbon credits/offset) buyers.

KEY ISSUES AND CONCERNS

Site development

- Project site includes steep slopes that are poorly accessible and land and soil are highly degraded. Need to characterize the soil conditions on the area to be planted.
- No access to baseline (e.g. 1990, 2000, 2005) maps for land-use/cover change assessment.
- Some current holders of tenure instruments are not the original stewards. Some of the landholders prefer commercial tree species.

Resource use/mobilization

- For the Certificate of Ancestral Domain Claim areas, there are two indigenous people's federations that have to be consulted before any decisions are made.
- High turn-over of PEF personnel who are working directly with the community. PEF is not at the forefront of resource mobilization. In the project design there was no proper consultation conducted. FPE facilitated by hiring consultants to prepare the PDD for clean development mechanism A/R project submission.

Socio-economic management

- No realistic budget for the forestland rehabilitation program. Need to institutionalize payments for environmental services schemes.

Environmental services

- Ensuring proper valuation of environmental services for appropriate payments. Need to learn cost-effective measurement and valuation methodology (e.g. carbon stock calculation, land-cover and land-use changes impact assessment, land and soil quality analysis, water quality measurements, biodiversity monitoring).