Project Title	Overcoming Barriers to Smallholder Carbon Forestry Development in the Philippines
Project Contact and contact information	Raquel C. Lopez Post Doctoral Fellow/ Researcher E-mail: rlopez@uni-bonn.de
Timeframe	Jan 2009-Dec 2010
Research Institution/Country	World Agroforestry Centre (ICRAF-Philippines)
Funding	Center for Development Research (ZEF) Bonn, Germany
Budget	Field operation: 12,500 USD
Activities	1. Undertake project case assessment to find out the constraints hindering the full implementation of carbon forestry projects in the Philippines; 2. Propose methodology for carbon forestry projects implementation in the Philippines. Develop handbook for smallholder carbon forestry project development. 3. To complement the above, undertake assessment of the potential of REDD mechanism in the Philippines. Identify constraint of the Philippines to participate in such mechanisms. 4. Provide technical assistance to carbon forestry project developers in the Philippines; and 5. Conduct other activities
Location and partners	Case study sites: ▪ Ikalahan Ancestral Domain: KEF ▪ Sierra Madre Biodiversity Corridor: CI-Philippines ▪ Laguna de Bay Watershed: LLDA ▪ Arakan Forest Corridor: PEF ▪ Other potencial sites identified : Mount Kitanglad Range Natural Park: PASu Office/PENRO Claveria, CDO: ICRAF-Mindanao Malitbog/Lake Sebu, Bukidnion: LGU Bukidnon

BACKGROUND

Climate change and variability are the most important challenges that beset developing countries like the Philippines due to its strong reliance to the natural resources, the forests especially, and on the agricultural activities therein.

The 1997 Kyoto Protocol to the UN Framework Convention on Climate Change established an international policy to address climate change. Although developing countries have no obligations to constrain GHG emissions, on a voluntary basis, are still able to contribute to global emission reductions by hosting projects under the Clean Development Mechanism (CDM).

The CDM offers developed countries to offset some of their GHG emissions reductions by funding carbon projects that would contribute to the sustainable development in the developing countries. The emerging market potentially offer opportunities for developing countries, like the Philippines to finance good forestry, sustainable agriculture and other sustainable measures on the use and management of natural resources.

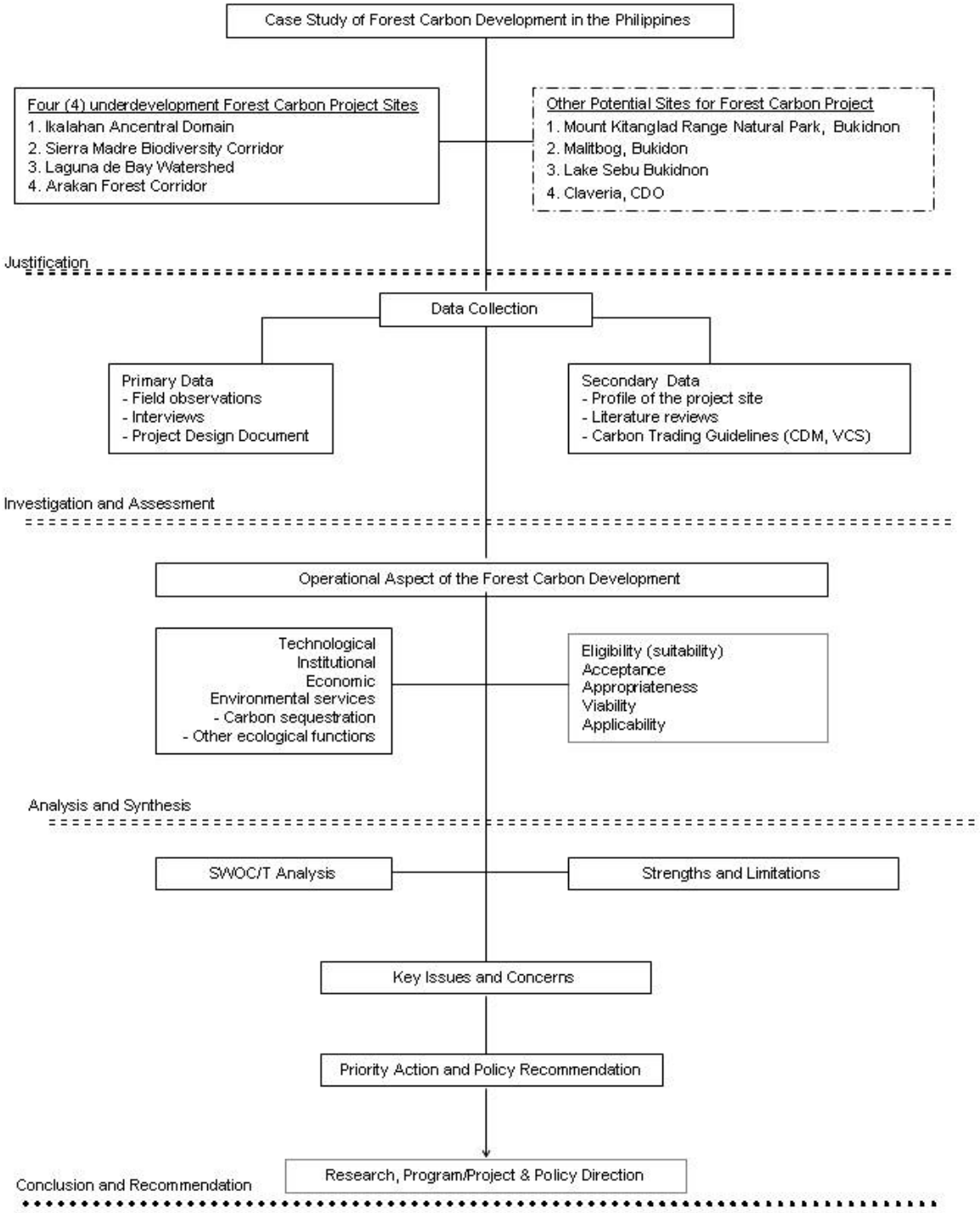
For the smallholder farmers, this carbon markets could potentially support them to adopt a wide range of sustainable land management practices that would enable them respond to the climate variability while contributing to climate change mitigation.

The research is undertaken based on the rationale that in the Philippines, agriculture is the most important sector in the economies and integral part of the forests. In 2005, 38% of its total population are living in the rural areas and derived their livelihood from land-based activities. Majority of these lands are considered public lands, and of marginal productivity.

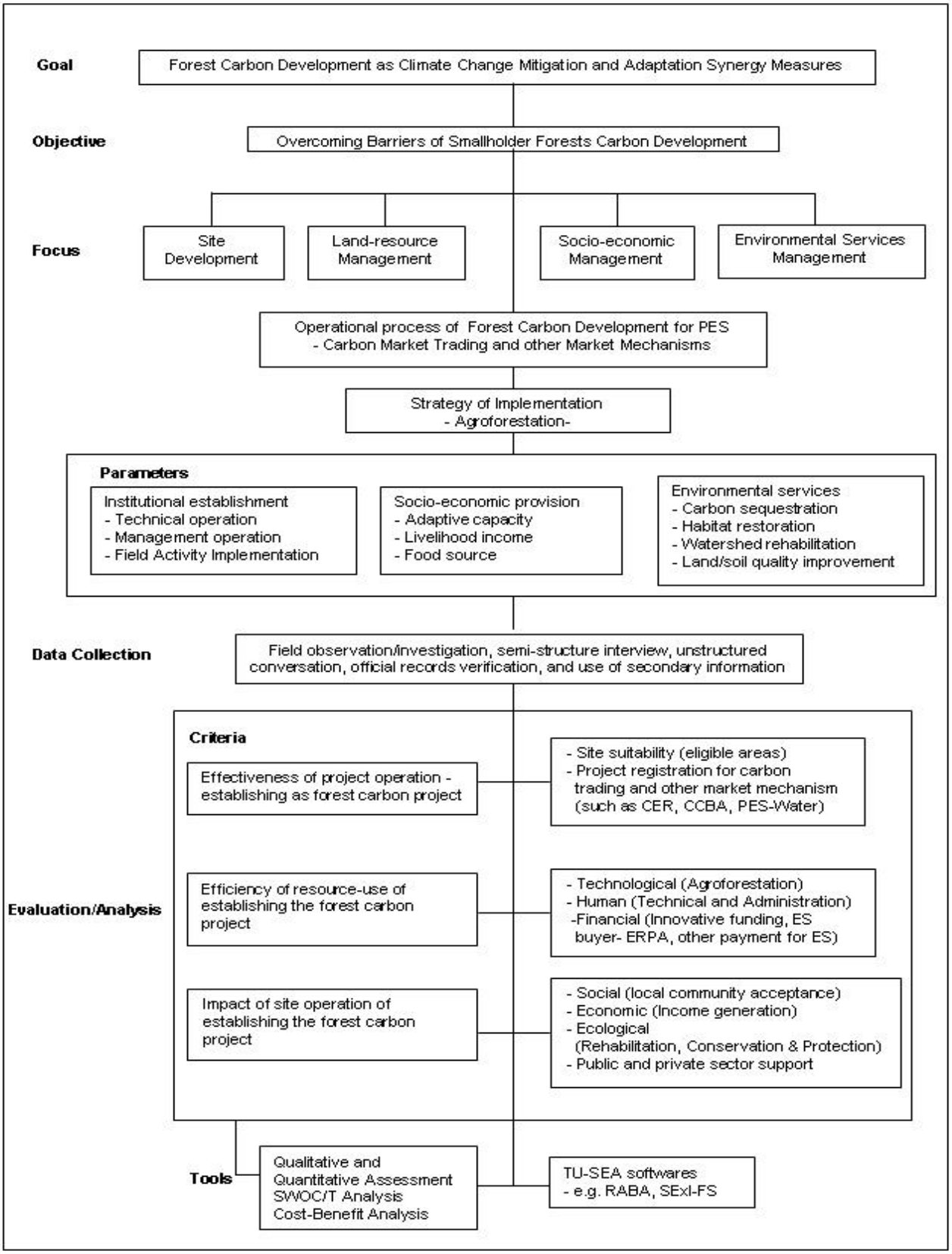
For countries that are depending on agricultural production, to achieve food security for the increasing population means intensifying production on existing and/or expanding agricultural lands or croplands both in the lowlands and uplands . However, while efforts are directed towards improvement in the productivity and the sustainability of the production systems of the people directly dependent agricultural activity for their livelihood, environmental considerations should also be taken into account.

The **project** explores the potential of forest carbon development as carbon sequestration projects to be viable for carbon emission reduction credits. This explores the way in which smallholder agroforestation (land rehabilitation by tree establishment and agroforestry farm development) project participation can be facilitated and benefited in the carbon markets.

RESEARCH DESIGN



RESEARCH FRAMEWORK



Case Study Assessment of the 4 Carbon Forestry Projects under Development in the Philippines

1 – Ikalahan Ancestral Domain

The Ikalahan Ancestral Domain covers 58,000 hectares of mountainous forests and farmlands, located in the provinces of Pangasinan, Nueva Ecija, and Nueva Vizcaya, in northern Luzon of Philippines. In 2003, selected as a pilot site by the World Agroforestry Centre's (ICRAF) Rewarding the Upland Poor for Environmental Services (RUPES). The focus is on carbon storage of the area as the key environmental service, and a case site for the development of a carbon sequestration payment mechanism.

Kalahan Carbon Project

Objective: The project aims to tap the carbon market by producing Emission Reduction (ER) credits. Agroforestation will be conducted on marginal and long abandoned agricultural land cultivations. It also aims to conserve and protect the watershed, enhance the biodiversity, and improve the aesthetic value of the landscape while enhancing livelihood of the people.

Proposed area: 900 hectares. It estimated that this will be able to sequester 89,776 t CO2-e for 20 years (Lasco and Pulhin, 2003)

Implementers and proponent: Indigenous people (Ikalahan-Kalanguya) through the Kalahan Educational Foundation (KEF).

Target carbon buyers: through CDM and Voluntary market

Current Status: After PIN, no progress yet has been done.

3 – Conservation International (CI) Philippines Sierra Madre Biodiversity Corridor

Sierra Madre spans nine provinces in three administrative regions (on the eastern side of Luzon in the Philippines. These regions hold an important role to maintain the complex ecosystem in the Sierra Madre Biodiversity Corridor (SMBC). The SMBC encompasses 1.4 million hectares of land, where the country's remaining old-growth forests can be found. It is the longest mountain range (~ 500 km) in the country. Agricultural expansion, logging, mining and uncertain land tenure are the primary threats to the Corridor's old-growth forests. Many poor people living in the area rely on the forests and its natural resources, conducting farming as source of food and means

of livelihood. About 10 M people, including 11 indigenous groups of people like the Dumagats, Kalingas, Gaddangs, and Bugkalots, are living in Sierra Madre.

CI-Philippines Forest Carbon Development Project in Sierra Madre are being established at 2 locations- Project 1 located within *Quirino Protected Landscape* at Quirino province and Project 2 located within *Peñablanca Protected Landscape* at Cagayan province. These two provinces form part of the Sierra Madre Biodiversity Corridor.

Project 1: Quirino Protected Landscape and Seascape (PPLS) at Quirino, Province

Proposed area: 177 hectares, and is estimated that will be able to sequester 42,915 CO2-e for 20 years.

Implementers: Divisorla Sur Agroforestry Farmers Association (DSAFA) and Sto. Niño Integrated Social Forestry Association (STISFA)

Carbon Buyer: Voluntary market

"MoreTrees"[1] has signified interest in supporting the Project by providing financing through CI-Philippines as the proponent for implementation of the project. According to the terms of the agreement entered into between MoreTrees and CI, funds provided are for the initial 41 hectares carbon development, 26 hectares of forests tree plantation and 15 hectares agroforestry farm development. This is to produce Voluntary Carbon Unit (VCUs) under the Voluntary Carbon Standards (VCS).

Project 2: Peñablanca Protected Landscape and Seascape (PPLS) at Cagayan province

Proposed area: 2,500 hectares and it is estimated that from 117, 349 tC in Year 1, the total carbon stock without the project based on current land use is expected to become 102921 tC at year 30. The carbon buyer or fund donor: the TOYOTA Motor Corporation of Japan.

Implementers: Forest occupants/settlers and migrants (ISF-CSC)

Carbon Buyer: Voluntary market

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[1] **MORETREES, INC.**, a Japanese Entity organized and existing under the laws of Japan, with its principal office at 1-9-11 Sendagaya, #103,Shibuya-ku, Tokyo 151-0013, Japan, represented herein by its Director, Shinkichi Mizutani

CI Philippines encourage total community participation, particularly the upland farmers in the project implementation, and assess project impacts on biodiversity and socio-economic conditions of the local communities together with the project fund donor, the TOYOTA Motor Corporation of Japan through a joint research and development component of the project.

Status: CI-Philippines has submitted their PDD and CCBA for evaluation and validation

3 – Laguna Lake Development Authtority (LLDA) Laguna de Bay Watershed Rehabilitation

The Laguna de Bay is one of the most vital inland bodies of water in the Philippines. The total surface area of this lake is around 900 km^2, surrounded by 24 sub-watersheds having an aggregate area of 2,920 km^2, encompassing provinces of Laguna, Rizal, portions of Metropolitan Manila, Cavite, Batangas and Quezon. These sub-watersheds are traversed by more than 100 streams that drain their waters towards the Laguna Lake.

Currently, the watershed contains many grasslands, brush lands and abandoned agricultural areas that have less than 10 percent tree cover. Many of these areas are expected to remain as non-forest area as they have for decades due to a combination of social pressures (i.e., charcoal making, grazing, timber collection for fuelwood, poles and other uses; and slash and burn agriculture) and environmental conditions (existence of pervasive grass and other weed species).

Laguna Lake Development Authtority (LLDA) Laguna de Bay carbon development is conducted at 4 project sites location - Site 1: Tanay, Rizal = 52 has; Site 2: Sto Tomas, Batangas = 9 has; Site 3: San Pablo, Laguna = 151 has; Site 4: Siniloan, Laguna = 5 has

Project area is expected to eventually cover 1,000 ha and is estimated to sequester 10,000 to 20,000 tons of CO2 (t CO2-e) from the atmosphere in 20 years.

Status: LLDA has submitted their PDD for evaluation and validation

4 – Arakan Forest Corridor

Arakan, North Cotabato Mindanao, Philippines is basically a terriotry of a number of ethno-linguistic groups, predominantly the Manobo-Kulamanon and Manobo-Tinananon tribes. The Manobos are considered the original settlers of the place. Majority of the population derive their income from agricultural activities, particularly upland farming as the dominant source of livelihood.

Arakan has a total land are of about 69,432.79 hectares, only 4% (~2,452.98 hectares) is considered with forests cover. After years (1960s-1980s) of commercial logging, what remains of the forest cover of Arakan are only isolated forest fragments, which are found at the mountains ranges of Mahuson, Sinaka and Kabiku, where the Philippines Eagle "Kahayag" was retrieved in 1993. In these mountains progressing *Imperata* grasses are also prevalent.

The Philippines Eagle Foundation (PEF) with funding support from Foundation for Philippine Environment (FPE) embarked the "forest corridor concept"[2] which aimed to enhance, improve and rehabilitate critically degraded forest ecosystems in the mountain ranges.

Arakan Forest Corridor Rainforestaton

Objective: The target of the development effort is to protect the remaining forest fragments by rehabilitating degraded grasslands, re-establishing the forest stock cover of open forests along the corridor route and other degraded/marginal areas fallowed/abandoned farm lots adjacent.

Proposed area: 1,000 hectares and is estimated that will be able to sequester 18,542 t CO2-e for 30 years

Implementers and proponent: Indigenous people (Manobo) through the Philippine Eagle Foundation (PEF)

Target carbon buyers: either under the CDM and Voluntary market

Status: FPE is drafting the Project Document Design (PDD) of this project

[2] "Forest corridor concept" is an artificial and man-made strip of forests to connect patches of forests between three or more patches of forests in nearby mountain ecosystem, providing migration passageways and preventing isolation and in-breeding of wildlife species.