

**KATALA INSTITUTE FOR ECOLOGY
AND BIODIVERSITY CONSERVATION (KIEBC)**

Progress Report



**Puerto Princesa City, Palawan, Philippines
December 2007**

**KATALA INSTITUTE FOR ECOLOGY AND BIODIVERSITY CONSERVATION
(KIEBC)**

GENERAL INFORMATION

Name: KATALA Institute for Ecology and Biodiversity Conservation (KIEBC)

Location: Narra, Palawan, Philippines

Proponent: KATALA Foundation, Inc., (KFI)

National Highway, San Jose, Puerto Princesa City 5300

Palawan, Philippines

Mailing address: P.O. Box 390, Puerto Princesa 5300

Phone: Tel. / Fax: +63 048 434 7693

Goal: Conservation of Palawan's biodiversity through establishment of an education, conservation and research institution in close vicinity to threatened target species and ecosystems.

Objectives:

- To serve as a venue for conservation education with local population, youth, national and international visitors as main target groups.
- To develop procedures for rescue, conservation breeding, habitat restoration and eventually re-introduction of selected highly threatened wild species of Palawan, like Philippine cockatoo and Philippine forest turtle.
- To establish an institution for research on applied ecology and biodiversity conservation, with focus on threatened species management, priority area conservation and restoration.

Time Frame: Preparatory Phase: August to November 2006

Operational Phase One: December 2006 to December 2008

Operational Phase Two: January 2009 to December 2010

Operational Phase Three: January 2011 to December 2012

Philippine Project Cooperators:

Department of Environment and Natural Resources (DENR)
Protected Areas and Wildlife Bureau (PAWB)
Palawan Wildlife Rescue and Conservation Center (PWRCC)
Palawan Council for Sustainable Development (PCSD)
Municipal Government of Narra, Palawan, Philippines
Concerned agencies and authorities

PROJECT DESCRIPTION

Rationale

The Palawan faunal region is of high species diversity, reminiscent of the close-by island of Borneo, but at the same time holds a high percentage of endemics, therefore resembling the Oceanic Philippines. Although still extensive areas of pristine forests, mangroves and coral reefs exist on Palawan, the rate of destruction, deterioration and fragmentation of these ecosystems is one of the highest in Southeast Asia.

Since 1998, KFI is implementing the Philippine Cockatoo Conservation Program (PCCP) in Narra, Palawan. It is one of the first community-based species conservation programs in the Philippines, and was deemed as one of the most successful of its kind. Within eight years, the population of the critically endangered Philippine cockatoo increased more than fourfold in a protected area specifically established for this species. Rasa Island is now the single-most important habitat for the Philippine cockatoo and is one of the most accessible wild places in the Philippines for a broader public to experience first-hand a rare and endemic species in its natural habitat.

In order to institutionalize this project and to broaden conservation efforts within southern Palawan, the establishment of the KATALA Institute for Ecology and Biodiversity Conservation (KIEBC) was envisioned by KFI and its local and international partners.

Project Location

The project site is located in Barangay Antipuluan, Narra, Palawan. It is situated about 1.5 km northeast of the Narra town proper in the coastal plain, only about 200 m away from the National Highway. Here the Katala Institute for Ecology and Biodiversity Conservation (KIEBC) will be established. The site encompasses a total land area of 2.18 ha donated by the municipal government of Narra. The area is surrounded by pastures and paddy fields, with the Victoria Range as spectacular backdrop.

Project Goal and Objectives

The goal of the KATALA Institute for Ecology and Biodiversity Conservation (KIEBC) can be summarized as follows:

Conservation of Palawan's biodiversity through establishment of an education, conservation and research institution in close vicinity to threatened target species and ecosystems.

Objective 1: To serve as a venue for conservation education with local population, youth, national and international visitors as target groups

Objective 2: To develop procedures for rescue, conservation breeding, habitat restoration and eventually re-introduction of selected highly threatened wild species of Palawan

Objective 3: To establish an institution for research on applied ecology and biodiversity conservation

Features of the KIEBC Facility

The area will be landscaped through excavation of ephemeral ponds. These types of wetlands once were typical for the coastal plain, before the onset of intensive rice cultivation. Excavated material will be used to backfill built-up areas, also in order to avoid flooding during the rainy season. Landscaping will include reconstruction of vegetation formations typical for the area, like lowland rainforest, ultramafic forest, wetland vegetation, which will give the area a park-like appearance (Fig. 1).

About one third of the area will be occupied by parking lot, arboretum and a conservation education center with exhibit, which is openly accessible during day-time. Almost two-thirds of the area will be open for the public through guided tours and eventually will accommodate enclosures for conservation breeding of selected species. About 2000m² will not be open to the public and will comprise a garden for growing feeds for the animals, 'off-show' enclosures and quarantine, as well as the administration building (see red rectangular in Fig. 1).

The drafted plan with the location of the different project components (Fig. 1) is not to scale but provides an overview of the relative proportions of the different areas. The following components are envisioned as part of the project. The sequence of listing is in line with the legend of Figure 1.

- 1. Ephemeral pond** (about 5000m²) – this area will serve as a habitat for aquatic species that are endemic to Palawan which may include the Philippine discoglossid frog (*Barbourula busuangensis*), the Palawan horned frog (*Megophrys ligayae*) and fresh water fishes (*Puntius* spp., *Hito* spp.).
- 2. & 4. Aviaries** (about 1000m²) – these are allocated for endemic birds such as the Palawan hornbill (*Anthracoceros marchei*), the Philippine cockatoo (*Cacatua haematuropygia*), Blue-headed racquet-tail (*Prioniturus platenae*), and Blue-naped parrot (*Tanygnathus lucionensis*).
- 3 & 6. Mammals** (about 3000m²) – specific areas for each endemic species will be allocated in the project site such as for the Palawan pangolin (*Manis culionensis*), Palawan flying fox (*Acerodon leucotis*), Balabac mouse-deer (*Tragululus nigricans*), and Palawan porcupine (*Thecurus pumilus*).
- 5. Garden** (about 600m²) - This will be considered as the source of feeds for the different species in the center.
- 7. Turtle pond** (about 500m²) – this will showcase the endemic Philippine forest turtle (*Siebenrockiella leytensis*) and other freshwater turtles.
- 8. Administration and quarantine area** (about 2000m²) – this will cater all transactions of KIEBC and also serve as a data bank for baseline information generated. Likewise, the quarantine area will serve as the entry point and disinfectant for the different animal species to be introduced in the center.
- 9. Ultramafic forest** (about 2000m²) – this area is a demonstration of a rare forest type. It is found in areas with dark-colored soil that contains a high level of heavy metal compounds.
- 10. Conservation Education Center** (about 500m²) – this will be the area for training and center for information dissemination of all the knowledge products developed.
- 11. Arboretum** (about 2000m²) – this area will showcase the endemic tree species of Palawan, which are grown based on the concept of rainforestation farming.
- 12. Parking lot** (about 500m²) – parking area for staff and visitors of the center.

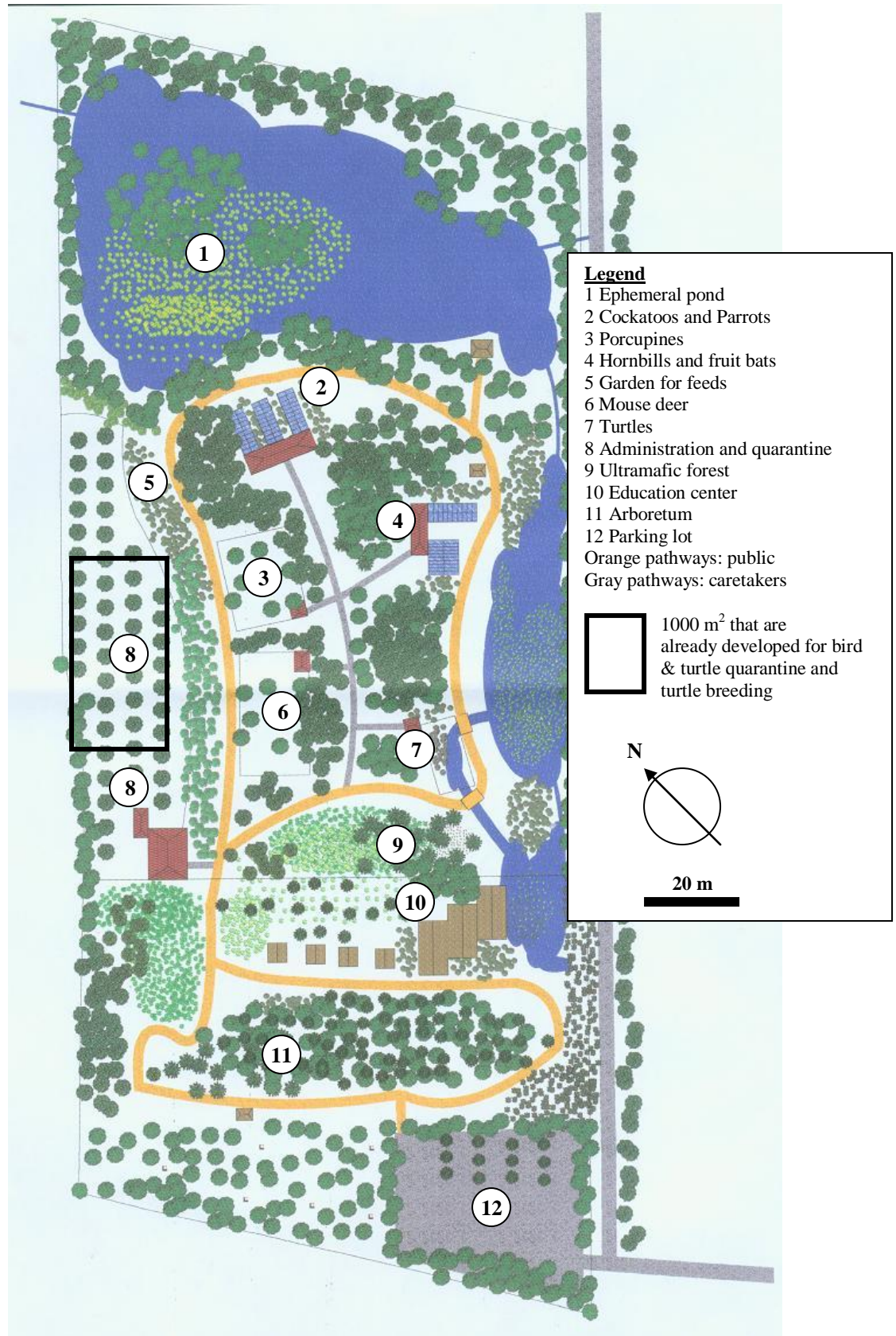


Figure 1: Draft plan of the Katala Institute for Ecology and Biodiversity Conservation.

Description of Project Phases

Preparatory Phase: August to November 2006

- Proposals for funding of the different components/phases of the project.
- Rehabilitation of access road.
- Landscaping through excavation of ephemeral ponds.
- Backfilling for built-up areas to avoid flooding during the rainy season.
- Establishment of plant nursery.
- Planting with mainly indigenous tree species.

Operational Phase

Activities during the operational phase are limited to the three main objectives of KIEBC. The operational phase includes construction of the facilities. Constructions and operations are divided into three phases the division of which is in line with the working plan of Katala Foundation Inc. and the possible acquisition of funding:

Phase I: December 2006 to December 2008

Phase II: January 2009 to December 2010

Phase III: January 2011 to December 2012

Phase I focuses on the establishment of facilities for the captive management of Philippine freshwater turtles, and rescued Philippine cockatoos from Rasa Island.

Phase II and III will focus on Conservation Education and Research.

With the Conservation Education building in place it is possible to cater for two groups of up to 25 participants in weeklong courses (e.g. ecosystem exposures), which would give the center a capacity of 600 in-house students per year. Until now 150 registered guests per year are visiting Rasa, with increasing tendency. The visitor/education center will be open during daytime without entrance fee. The animal enclosures are only accessible through guided tours.

Katala Foundation receives requests for cooperation of about 20 students (BS and MS) yearly, of which roughly half are foreigners. So far, most of these had to be turned down in the past, since they involved activities during the breeding season, where access to Rasa is restricted. With mores species being involved and an existing infrastructure, 10 to 15 students or researchers could be accommodated.

Other local or foreign visitors will arrive in a common visitors' parking area, and make their way to the training and viewing areas by foot. Once inside, they will pay an entrance fee (except residents of Narra) that would allow them to use or interact with the training, conservation, and research facilities.

PROJECT STATUS AS OF DECEMBER 2007

In line with the different project phases of KIEBC the following activities were conducted so far:

An Environmental Impact Assessment (EIA) was done by students from the School of Environmental Science and Management (SESAM) of the University of the Philippines at Los Baños (UPLB) in April 2006.

A Special Environmental Plan (SEP) clearance was secured from the Palawan Council for Sustainable Development Staff (PCSDS) on 15 December 2006.

KFI had signed a Memorandum of Agreement with DENR-PAWB for the Philippine Freshwater Turtle Conservation on 27 December 2006. The said MOA facilitates among others the loan of endangered freshwater turtles from PWRCC.

The Initial Environmental Examination (IEE), endorsement from Barangay Antipuluan, and the SB of Narra, zoning clearance, site development plan, SEP clearance and location/vicinity map were submitted to DENR-EMB on 23 January 2007. Suggestions of DENR-EMB from 19 February 2007 were considered and a revised ECC was submitted on 26 March 2007.

The Environmental Compliance Certificate (ECC) was issued on 19 April 2007; copies of which were distributed to PCSDS and DENR PENRO and CENRO on 30 May 2007. An amendment was requested on 28 May 2007 and issued on 12 June 2007 (Annex 1). The ECC was posted at the bulletin boards of the Municipality of Narra and Barangay Antipuluan and two signboards that inform about the project were hung at the entrance of the project site on 28 May 2007.

First steps towards the establishment of a Multipartite Monitoring Team (MMT) and the membership in the ECC Holders Association were undertaken on 29 May 2007. After various discussions with PENRO and CENRO and other ECC holders in Narra, KFI was able to join the Narra Mining Concessionaires Association (NAMICA), an association of ECC holders in the municipality of Narra on 26 June 2007.

Furthermore, KFI had secured all local permits pertinent to the project. A Land Use Permit for the entire KIEBC was issued by the Municipality of Narra on 25 June 2007 and a Building Permit was secured from the office of the municipal engineer in Narra on 3 July 2007.

An accomplishment report with picture verification of compliance to the posting of notices and the billboards was submitted to DENR-EMB, PENRO, CENRO Narra and DENR PAWB on 9 July 2007 (within 90 days from receipt of ECC).

On 25 June 2007, PENRO and the Chair of the ECC Holders Association were requested to accredit Ms. Jancie M. Tupas as Pollution Control Officer (PCO). On 22 October 2007, Ms Tupas was requested to submit letter of intention and curriculum vitae which was complied with on 29 November 2007.

The first area that was developed within the total 2ha-area was the bird and turtle quarantine and freshwater turtle breeding area. This area encompasses a total of 1000 m² that were permanently fenced with an interlink perimeter fence that has a cement base. The following were constructed (Fig. 2):

1. Three 6 x 20 m outdoor enclosures for hard-shelled turtles (H1-H3);
2. One 5 x 10 m outdoor enclosure for softshell turtles (S1);
3. Two large (2 x 3 m) quarantine enclosures (LQ1-2) for turtles

4. Ten small (1 x 2 m) quarantine enclosures for turtles (SQ 1-10)
5. One mobile aviary (5 x 3 x 2 m)
6. One caretaker house
7. One deep well
8. One septic tank

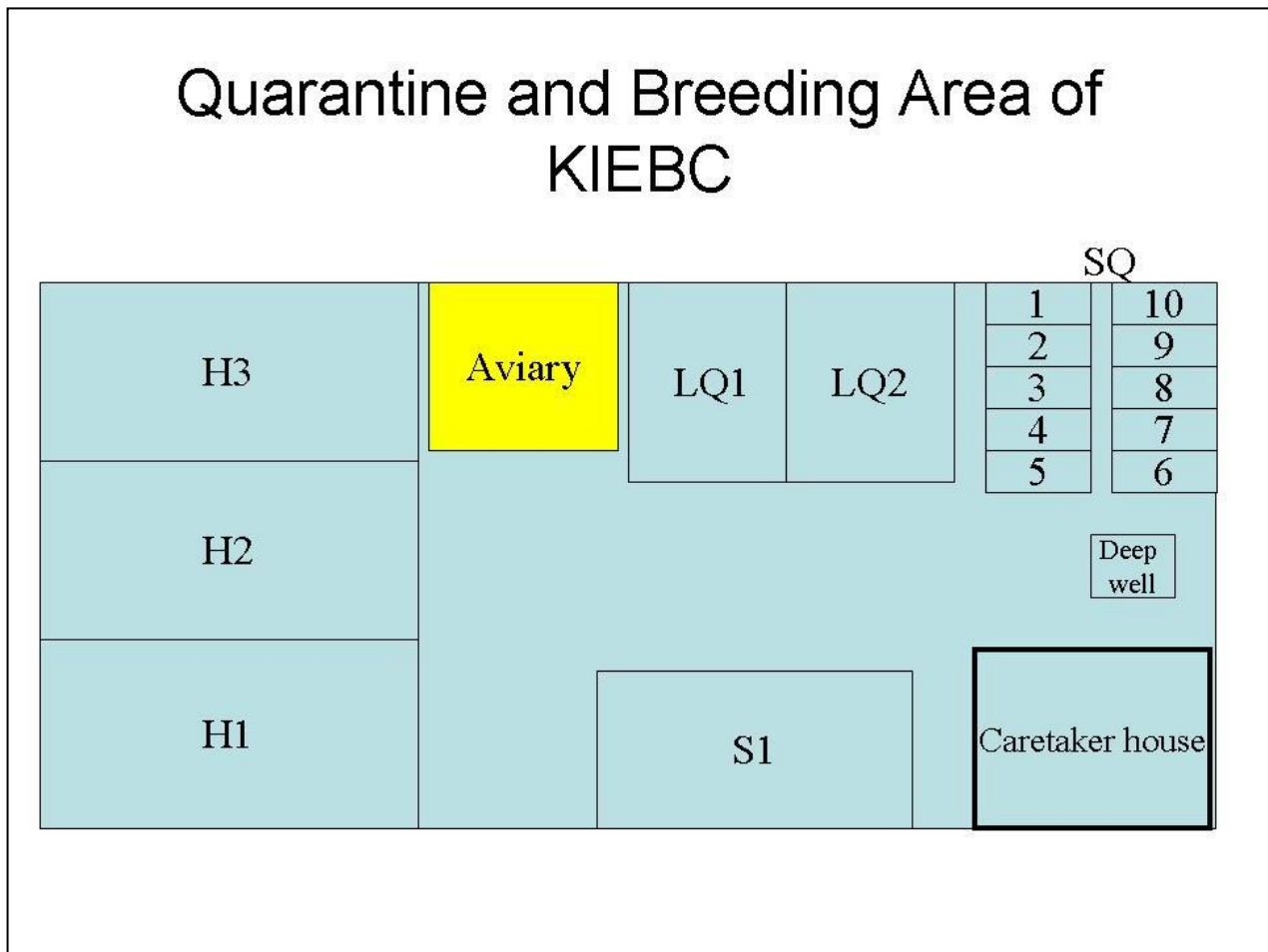


Figure 2: Floor map of quarantine and breeding area in KIEBC (not to scale).

Solar power to operate four light bulbs was installed in the caretaker's house. A deep well was drilled and a manual pump as well as a generator-powered pump were installed.

The quarantine area currently holds four Philippine Cockatoo. These cockatoos were victims of the 2005 drought that forced KFI to hand raise the birds. After the Philippine Cockatoo Translocation Project in Lagan Island, El Nido was terminated, the cockatoos were transferred to the aviary in KIEBC on 18 May 2007.

In June 2007 the basic turtle facilities were finished. On 28 June 2007, a total of 40 *Siebenrockiella leytensis*, seven *Cuora amboinensis*, three *Cyclemys dentata* and one *Dogania subplana* were transferred from the Palawan Wildlife Rescue and Conservation Center (PWRCC) to KIEBC. The selection and transfer of animals was supervised and guided by Dr. Joanne Justo

and Mr. Rainier Manalo of PWRCC and approved by Dr. Glenn Rebono, OIC Director PWRCC. All pertinent papers necessary for its transport were secured.

Upon arrival at KIEBC a one-day training for DENR and KFI staff, KFI wildlife wardens, caretakers and interested visitor on turtle species identification, individual notching and coding system, and basic captive care was conducted.

The boundary line of the 2 ha lot was elevated through backfilling of a drainage system. Along the boundary line a temporarily bamboo fence was set (Fig. 3). This was important to protect seedlings from grazing cattle. By and by this fence has to be replaced by a permanent perimeter fence.



Figure 3: Temporary bamboo fence and adjacent drainage channel along the boundary line of the entire 2 ha area. ©SSchoppe

Landscaping of the entire 2 ha has started but was hampered by rain since the area is seasonally flooded. The excavation for a pond system has started.

A nursery was established. Only native trees and shrubs are propagated. Approximately 100 pioneering endemic, food providing and shade-spending trees were planted in the quarantine area and another 300 along the perimeter of KIEBC area.

The attached KIEBC Environmental Management Plan indicates mitigation / enhancement measures and their respective costs (Annex 2). As of December 2007 a total of PhP 352,000 were spent in mitigation/enhancement measures.

OTHER HIGHLIGHTS

- The exhibit “Seeds of Life” was showcased for public viewing in Puerto Princesa City from October to November 2006. This exhibit will be permanently housed in the conservation education building at the KIEBC.
- On 17 September 2007, the 3rd year Aquatic Biology students of the Western Philippines University and their instructor visited the Center for a one-day training on species identification, biology, morphology and threats.
- A collaboration with Western Philippines University was forged through the project “*Freshwater turtles Conservation in Palawan*”. This cooperation produced 1000 copies of 2008 wall calendars which were distributed to several stakeholders.
- A total of 50 conservation education campaigns were conducted in Narra (21), Puerto Princesa City (2), Dumaran (13), Roxas (3), Taytay (4) and Rizal (7), approximately reaching 5300 students of both high school and elementary schools and community members from all target sites.

- Information materials produced include 2000 turtle bookmarks and 1000 turtle calendars, that were distributed during the lectures and campaigns conducted at target sites. In addition four tarpaulin posters in English and four tarpaulin posters in Tagalog were produced and used during IEC at target sites.
- Funding for a project entitled “*Siebenrockiella leytensis* over time: Are populations stable?” was approved for Nov. 2007 to April 2009.
- The quarterly monitoring by the ECC Holders Association had been scheduled twice and was postponed due to weather conditions. It was then conducted and headed by CENRO Narra on 18 December 2007.
- Two proposals for funding are in preparation: (1) Philippine cockatoo aviary and (2) Captive care of the Palawan porcupine.

ACKNOWLEDGEMENTS

KFI is indebted to the following individuals and organizations for their assistance and generous support to realize all these activities:

- Mayors Lucena D. and Atty. Clarito D. Demaala Jr. and MENRO Rolando R. Tagyab, and the Sangguniang Bayan of the Municipality of Narra.
- Regional Director Reynaldo R. Villafuerte of DENR-EMB; Director Dr. Mundita Lim of DENR-PAWB; PENRO Juan dela Cruz, and Vivian Soriano of DENR-PENRO; CENRO Fernando Tactay, EMS Mercy Almorfe, and PASu Emmanuel Alfaro of CENRO Narra.
- OIC Director Dr. Glenn Rebong, Dr. Joanne Justo and Rainier Manalo of PWRCC.
- OIC Director Romeo Dorado PCSDS.
- To our sponsors and donors: Loro Parque Fundacion, Zoological Society for the Conservation of Species and Populations (ZGAP), European Association of Zoos and Aquaria (EAZA) Shellshock Campaign, Turtle Conservation Fund (TCF) through EAZA-Shellshock Campaign, Chester Zoological Gardens, CEPA
- President Dr. Concepto Magay, Joie Matillano and Roger Dolorosa of the Western Philippine University (WPU).
- Bgy. Antipuluan

PERSONNEL INVOLVED

KFI Board

Indira Dayang Lacerna-Widmann and Dr. Sabine Schoppe – Program Managers, PCCP

Janice M. Tupas – designated Pollution Control Officer

Siegfred H. Diaz – Operations Coordinator

Rommel Cruz – Field Assistant / Zookeeper

Diverlie Acosta - Turtle Caretaker KIEBC

SDENRO Monico Beleg, Bird Caretaker / Asst. Zookeeper

SDENRO Roger Coyao, Bird Caretaker / Asst. Zookeeper

Affiliated Scientists:

- Glenn G. Rebong, DVM, OIC, Project Director, PWRCC
- Joanne Mae G. Justo, DVM, Head, Clinical Section, PWRCC
- Rainier I. Manalo, Head Wildlife Research Management Section, PWRCC
- Roger G. Dolorosa, MA Education, MS in Marine Biology, Assistant Professor, Western Philippine University
- Joie Matillano, BS in Aquatic Biology, Instructor, Western Philippines University

Annex 1: Amendment to Environmental Compliance Certificate No. 4B-042-PA-5012-2007).



Department of Environment and Natural Resources
Environmental Management Bureau
Regional Office No. IV – B MIMAROPA

CERTIFICATION

This is to certify that the Environmental Compliance Certificate (ECC No. **4B-042-PA-5012-2007**) of **Katala Foundation Inc.** for their **Katala Institute for Ecology and Biodiversity Project** located at Nrgy. Antipuluan, Narra, Palawan is hereby amended as follows:

PROJECT DESCRIPTION

The proposed **Katala Institute for Ecology and Biodiversity Project** is situated in a 2.18 has. donated by the municipal government of Narra, Province of Palawan with the following components:

1. Ephemeral pond (about 5000 m²) – serve as a habitat for aquatic species that are endemic to Palawan such as but not limited to the Philippine discoglossid frog (*Barbourula busuangensis*), Palawan horned frog (*Megophrys ligayae*) and fresh water fishes (*Puntius* spp., *Hito* spp.)
2. Aviaries (2) (about 1000 m²) – serve for endemic birds such as but not limited to the Palawan hornbill (*Anthracoceros marchei*), the Philippine cockatoo (*Cacatua haematuropygia*), Blue-headed racquet tail (*Prioniturus platenae*), and Blue-naped parrot (*Tanygnathus lucionensis*).
3. Mammals (2) (about 3000 m²) – serve as areas for each endemic mammal species such as but not limited to the Palawan pangolin (*Manis culionensis*), Palawan flying fox (*Acerodon leucotis*), Balabac mouse-deer (*Tragululus nigricans*), and Palawan porcupine (*Thecurus pumilus*)
4. Garden (about 600 m²) – serve as the source of feeds for the different species in the center.
5. Turtle Pond (about 500 m²) – serve as show case the endemic Philippine forest turtle (*Siebenrockiella leytensis*) and other freshwater turtles.
6. Conservation Education Center (about 500 m²) – serve as the area for training and center for information dissemination of all the knowledge products developed;
7. Ultramafic forest (about 2000 m²) – serve as area for demonstration of a rare forest type. It is found in areas with dark-colored soil that contains a high level of heavy metals compound
8. About 2000 m² will not be open to the public and serve comprise a garden for growing feeds for animals, "off -show" enclosures for breeding of Philippine cockatoo and Philippine Freshwater Turtles, quarantine, as well as the administration building.
9. About one third (1/3) of the area will be occupied by the parking lot and arboretum and a conservation education center(see above 6) with exhibit, which is openly accessible during day time

This certification shall be part of the ECC issued for the project.

Given this **JUN 12 2007**


REYNALDO R. VILLAFUERTE
Regional Director

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RD's Office 536-9786; Admin/Finance Division Telefax No. 400-5960
PC Division 521-8904, EIA Division Telefax No. 400-5960
E-mail Address: emb_r4b@denr.gov.ph and emb_mimaropa@yahoo.com

Annex 2: KIEBC Environmental Management Plan and mitigation/enhancement expenses as of Dec. 2007.

IMPACT DESCRIPTION	MITIGATION/ ENHANCEMENT MEASURES	Ca. EXPENSES as of Dec. 2007	INSTITUTIONAL PLAN & RESPONSIBILITIES	GUARANTEE
A. Pre-Construction Phase	No significant impact during this phase	PhP 20,000		
B. Construction Phase				
1. Land alteration and modification	Minimize earth moving		KFI / LGU	MOA
2. Soil Physical Properties	Landscaping to be introduced early in the project	PhP 120,000		
3. Increase TSP due to equipment / material movement	Save topsoil for surface layer cover in landscaping	PhP 35,000	DA-MAO, Contractor	permits, contracts
4. Generating of air pollutants	Minimal use of heavy equipment	PhP 40,000	KFI, LGU	MOA
5. Surface /Groundwater contamination	Localized water sprinkling. Phase by phase development scheme	-	Contractor, KFI	contracts
6. Disturbance of local flora & fauna	Optimize equipment utilization	-	Contractor, KFI	contracts
7. Increase Employment opportunities	proper maintenance of equipment & vehicles	-		
8. Noise Generation	Conserve and re-use of water	PhP 33,000	LGU, Contractor, KFI	agreement
9. Traffic	Proper disposal of lubricants/ engine oil	-	DENR	
1. Air pollutants from vehicular traffic	Temporary perimeter fence of the construction area.	PhP 20,000	LGU, Contractor, KFI	contracts
2. Noise from vehicles	Introduction of indigenous/ native species	PhP 5,000		
3. Domestic waste water generated from operation	Hiring of workers from Brgy. Antipuluan	PhP 20,000	LGU, KFI	contracts
4. Solid waste generation	Coordinate with LGU		Brgy. Officials	
5. Increase employment opportunities	Scheduling of deliveries & off-site equipment movement	included in #6	LGU, KFI, Brgy Officials	agreement
1. Air pollutants from vehicular traffic	Establishment of windbreaks & shelter belts in the periphery	-	KFI, LGU	agreement
2. Noise from vehicles	Traffic volume reduction.	-		
3. Domestic waste water generated from operation	Imposed speed limit for all vehicles.	-		
4. Solid waste generation	Provision of septic tanks/ waste water treatment	PhP 9,000	KFI, LGU	construction plan
5. Increase employment opportunities	Waste segregation	-	KFI, LGU	contract
	Hiring of local residents as workers.	PhP 50,000	KFI, LGU, contractor	agreement/ MOA

IMPACT DESCRIPTION	MITIGATION/ ENHANCEMENT MEASURES	Ca. EXPENSES as of Dec. 2007	INSTITUTIONAL PLAN & RESPONSIBILITIES	GUARANTEE
6. Increase traffic volume	Scheduling and limitation of visitation Provide separate entrance & exit routes. Allow only light vehicles to enter the site	- - -	KFI, LGU, contractor	operational plan
7. Impact of environment to the project	Malaria control program	-	KFI, LGU, MHO	MOA
8. Revenue generation	Proper management of funds Promotion during lean months	- -	KFI, LGU	financial plan
D. Abandonment Phase				
1. Encroachment of the Park	Provide structure that will prevent intrusion. Use for other related govt activities. LGU to take-over the operations.	-	KFI, LGU	MOA
2. Deterioration of aesthetic value	Use for other compatible govt/ NGO activities.	-	KFI, LGU, NGO	agreement
3. Proliferation of invasive species		-		
a. fauna	translocation to the wild/ original habitat	-	KFI, LGU, NGO	agreement
b. flora	destroy invasive species	-		permits
TOTAL all phases		PhP 352,000		