Final report

Organisation name: Katala Foundation Inc.

ASAP species: Siebenrockiella leytensis

Project title: Palawan Forest Turtle (Siebenrockiella leytensis) hatchery

Period of project implementation: 1/11/21 to 31/10/2022

1. Brief Executive Summary (max. 300 words)

In 2006, KFI received the donation of 2ha wetland on which we built by and by facilities for quarantine and breeding of the Palawan Forest Turtle and other highly threatened endemics, as well as a public area for the education of locals and tourists. The Katala Institute for Ecology and Biodiversity Conservation (KIEBC) now holds the only assurance colony of the species. It took 11 years until we finally produced the first two captive bred PFT and another two years to increase the number of offspring to an average of one per breeding female.

The land area where KIEBC was build is a former marsh land and prone to floods. Floods caused losses of eggs in the past. The survival of eggs, hatchlings and small juveniles is also threatened by predators. Narra was hit by typhoon Kompasu on 10 Oct. 2021. KIEBC was flooded by some 60cm. Water entered the building where we kept hatchlings in aquaria, the ponds where we kept juveniles, and the rising water washed out fertile eggs at the outdoor enclosures. 15 Oct. 2021 was the official start of La Niña which is characterized by stronger than usual rains, that lasts until the first quarter of 2022, and some six tropical cyclones to enter or develop in the area during this period. These tropical cyclones may further enhance the northeast monsoon and could trigger floods, flashfloods, and rain-induced landslides, over susceptible areas. This calls for urgent action to safeguard eggs, hatchlings and small juveniles.

To address this and improve breeding success the present project provided for the construction of a hatchery that can accommodate at least 57 Palawan Forest Turtles of different development stages. The hatchery is composed of a collection tank, a treatment tank with aquatic plants, an incubation area, a mechanical and biological filter tank compartment, three juvenile tanks and one hatchery compartment. In the hatchery compartment, hatchlings are kept in individual baskets. The first 15 hatchlings and one egg on its way to hatch soon were transferred to the hatchery on 21 July 2022.

1. Objectives. Please list your project’s objectives and report progress against each.

Objective of this grant was to construct a flood-proof Palawan Forest Turtle hatchery that can accommodate at least 57 turtles at different development stages (20 late eggs, 25 hatchings, 12 small juveniles and up to 10 larger juveniles) for the first 12 months of their lives by July 2022 which will reduce climate-related (flood) losses of eggs & hatchlings by 100%.

We first had an area of 5x8m backfilled and 0.7m elevated from the ground to ensure that the area will be flood-proof. The construction work and installation of solar panel was then accomplished by April 2022. The tank system was first filled with water in mid-May. Water circulation worked well but some compartments had minor leaks hence we decided to add a special water proofing coat. This was applied in the first week of July and after curing we filled again with water. Now everything was perfect, and we installed a mechanical and a biological filter to the system on 21 July 2022. Then we transferred 15 hatchlings of different ages (4 from 2020, 8 from 2021, and 3 from 2022) and one egg to the hatchery.

1. Outcomes and impacts.
	1. Please describe how your project contributed to the conservation outcome(s) you included in your application.

Conservation breeding of *S. leytensis* from confiscated animals complements KFI’s in-situ conservation measures for the species. Captive-bred *S. leytensis* will be released to safe locations to help wild population to recover from over-exploitation. With the new hatchery conditions that protect eggs and hatchlings from floods are provided.

* 1. How were your project’s results or successes measured? Please refer back to section B7 in application.

The success of the project can be measured over time through the hatching success. It is expected that all eggs that will encountered in the outdoor enclosures will be transferred to the hatchery where they are 100% safe from floods. Furthermore, the hatchery provides enough space to raise hatchlings under stress-free conditions until they are at least one year old. As of now (31 July 2022) we cannot yet measure the success.

1. Please describe any barriers or challenges you had when implementing this project, and if you were able to overcome these, what you did.

*All projects experience barriers and challenges during implementation. Sharing these, and how you managed them, can be extremely helpful for others facing similar situations and can allow future conservation interventions for the species in question to be more effective and efficient. Therefore, please be open and transparent and provide as much detail as you can.*

The project had to face three main challenges: bad weather, long distance for materials to be carried to the construction site, and times at which we could not work to avoid noise at times we were raising cockatoo chicks at the nearby bird clinic. All three challenges prolonged the implementation phase of the project but had no other negative impact.

1. Were any components of your project not achieved or not completed? If so, how has this affected the overall impact of the project?

Not applicable

1. What are your next steps or future plans for the ASAP species this project targeted?

*For example, include details if the project will be continuing, long-term needs (funding, resources etc.), and whether the right threats were addressed or additional ones have been identified.*

We still need to collect additional substrate for the incubation area. Eggs will then be transferred to the hatchery as they will be encountered in the outdoor enclosures. The two 2019 captive hatched S. leytensis will be released to the wild and monitored through radio tracking for three months. We are also planning to start a stud book for the species.

1. Based on the results of your project, what are your recommendations for conserving your project’s focal ASAP species? These may be general or specific, reflecting the insight you gained since submitting your proposal to ASAP: anything which might help others working to conserve the species, or yourself in future, be more effective.

For the past 20 years, Katala Foundation Inc. is active in protecting and conserving wildlife in Palawan. The organization’s niche developed over years of applied research, advocacy and development work in order to protect and conserve the biological diversity along with people. To attain this vision, Katala Foundation employs participatory and ecosystemic approaches in all its programs and activities. In particular, strategies are aimed to:

* Capacitate and empower local partners and communities as effective conservation managers;
* Increase level of knowledge on biodiversity conservation through intensive conservation education activities and thereby influencing positive attitudes and behaviours towards the environment;
* Conduct scientific researches along with local partners applying international standards and methodologies to fill up research gaps and recommend the most appropriate action for decision makers to lead;
* Develop proactive leadership among local partners; and
* Strengthen the organization through staff development.

**The Palawan Freshwater Turtle Conservation Program (PFTCP)** is one of KFI early and major programs. The overall goal of the program is the conservation and sustainable management of Palawan’s freshwater turtles and their habitats. Specifically, it is aimed at the conservation and restoration of the most viable populations of the Palawan endemic Palawan Forest Turtle *Siebenrockiella leytensis* and their habitats, under involvement of key stakeholders in combination with ex-situ conservation measures such as captive breeding and maintaining an assurance colony, resulting in a down-listing of the species from „Critically Endangered‟ to „Endangered‟. PFTCP’s objectives are:

1. Conservation and management of Palawan’s freshwater turtle their habitats:
	1. Establishment and development of facilities for conservation breeding / captive management / rescue of threatened freshwater turtle species, especially *S. leytensis*;
	2. Provision of assistance in identifying areas / habitats of freshwater turtle for priority protection as well as in implementing conservation and protection measures and sustainable development of identified priority areas.
	3. Provision of assistance in wildlife law enforcement and information dissemination.
	4. Conduct of experimental release of turned-over / donated / confiscated and captive bred freshwater turtles.
2. Conduct of scientific research on the biology and management of Palawan’s freshwater turtles and their habitats, and socio-economic frame conditions leading to threats and strategies for conservation:
	1. Research on biology such as but not limited to breeding, population dynamics, feeding ecology, synecology, diseases, threats, taxonomy, captive management, veterinary medical procedures, and behavior, among others.
	2. Habitat conservation and restoration techniques.
3. Education and capacitating stakeholders on natural resource management and conservation, rehabilitation/restoration of species habitats, and environmental awareness by:
	1. Conducting environmental education on the status and threats of Palawan’s freshwater turtle species for key stakeholders like poachers, buyers, traders, decision makers, law enforcers, in and out of school youth, local communities, academe and local government units, among others;
	2. Capacitating local communities concerned on turtle conservation, including pre- and post-release activities for the species in their respective areas;
	3. Disseminating information on Palawan’s freshwater turtles and related conservation / protection issues through multimedia, including publications and distribution of research outputs/results generated from this undertaking;
	4. Maintaining a Center in Narra, Palawan as venue for biodiversity education and research.
4. Identification and implementation of livelihood options for poachers / resource users.
5. Addressing basic news of resource users.

In line with the above, our approach for the conservation of *S. leytensis* is holistic and includes the research on the biology and ecology needed to conserve the species, rescue and rehabilitation of confiscated individuals, captive management and conservation breeding, release of offspring to supplement wild populations and to reintroduce to areas where the species got locally extinct, distribution surveys, habitat restoration, and active habitat protection in key conservation areas, and the information and education of the stakeholders about our findings and the conservation needs of the species. The present project constitutes a milestone for the conservation breeding of the species, offspring of which are needed to augment wild populations.