

5th Interim Report
Philippine crocodiles, people and livestock living together



people's
trust for
endangered
species

Bringing the wild back to life

Mabuwaya Foundation Inc

February 2015

5th Interim report of the Mabuwaya Foundation: Philippine crocodiles, people and livestock living together

- *Project title:* Philippine crocodiles, people and livestock living together
- *Project head:* Dominic G. Rodriguez
- *Institute:* Mabuwaya Foundation Inc.
- *Country project is based in:* the Philippines (Dinang Creek Philippine crocodile sanctuary, Sitio Lumalug, Barangay Cadsalan, Municipality of San Mariano, Isabela Province)
- *Project start and end date:* January 2012-December 2014
- *Reporting period:* July-December 2014
- *Date of report:* February 9, 2015
- *Species/ habitat:* Philippine crocodile
- *IUCN conservation action/ research action being undertaken AND/ OR UK BAP target addressing:* Critically Endangered
- *What activities have you undertaken to date?*
- *Are you on target – e.g. achieving sample size, reaching target audience:*
- *Have you achieved any outcomes to date? What are they? E.g. produced survey booklet, radio-tagged six animals, arranged three community workshops:*

1. Restoration of buffer zones of Philippine crocodile sanctuary Dinang Creek:

All of the target open areas of the buffer zones have been reforested in this project. However, one of the farmers did not maintain his area bordering the buffer zone. During the third quarter of this year September 2014, the team finally convinced the farmer and was able to replant Narra seedlings. He was finally convinced to establish a permanent barrier by planting forest tree seedlings bordering his land after the attack of a crocodile on his pig that was tied beside his house. This area has been planted in the first year of this project but not replanted because he was not cooperating before. This year the team planted Narra seedlings together with the Bantay Sanktuwaryo (BS) members.

A total of **5,724** (excluding the newly planted Narra seedlings) seedlings were planted in the open areas of the buffer zone of the Dinang creek Philippine crocodile sanctuary with a survival rate of 50.6%. 3,883 indigenous tree seedlings and 1841 bamboo seedlings were planted in year 2012 and year 2013. The newly planted 83 Narra seedlings in year 2014 were not included in the calculation of the survival rate to avoid bias. The team did not use Kakawate in the next round since they have very low survival rate during summer but instead we planted Molave and Apitong. The table below shows the breakdown of the planted seedlings and the survival rate. Most of the planted seedlings in 2012 died during the summer of 2013. Therefore the team watered the planted seedlings during the summer (March-April) of 2014 with the involvement of young people and school children.

Table 1: the total number of seedlings planted and the survival rate.

Planted seedlings	2012	2013	2014	Total no. of seedling planted	November 2014	
					No. of seedlings survived	% Survival
Narra	842	1,000	83	1,842	1,571	85.3
Kakawate	1,541			1,541	71	5.5
Molave		350		350	234	66.9
Apitong		150		150	97	64.7
Bamboo	841	1,000		1,841	921	50.02
Total	3,224	2,500	83	5,724	2,894	50.6

2. Development of agroforestry farms:

34 farmers benefited with different kinds of fruit tree seedlings. One farmer, Mr. Romy Labuguen, completely developed his 1.5 ha agroforestry farm while other farmers planted their fruit tree seedlings in a portion of their land.

In 2002, 801 fruit tree seedlings were distributed. In 2013, 1470 seedlings were distributed and planted by the farmers. The total fruit tree seedlings planted in this project was 2,271. The result on the survival of the planted fruit tree seedlings will be presented in the final report since the monitoring not yet done completely. Most of the farmers were busy during the planned monitoring schedule.

3. Maintenance of seedlings:

Weeding and application of fertilizer of the planted fruit tree seedlings were implemented by each individual farmer together with their family members. Re-planting of forest tree seedlings were conducted by the BS members.

4. Crocodile monitoring:

Two quarterly Philippine crocodile population monitoring surveys were conducted. In September 2014, 4 adults and 2 juveniles and 9 hatchlings were counted and in December 2014 2 adults, 3 juveniles and 3 hatchlings were counted. The vegetation of the buffer zones of the crocodile sanctuary regenerated well as well as the restored open areas of the buffer zones. The vegetation on the banks of the creeks created more hiding places for crocodiles and prey animals.

In 2014, there were three nests found in Dinang Creek Philippine crocodile sanctuary, 2 mound nests and a hole nests. It was previously reported that there were only two nest discovered but perhaps due to the improvement of the buffer zones, the third nest was not found but successfully hatched and produced 16 baby crocodiles. Although one nest was accidentally destroyed by a water buffalo, the other nest also produced 5 hatchlings. In total 21 baby crocodiles successfully hatched and 12 were collected and brought to the Municipal Philippine crocodile Rearing Station. These baby crocodiles will be reared at the rearing station for 18-24 months to increase their survival chances and will be released back into the wild.

The number of crocodiles counted in Dinang creek Philippine crocodile sanctuary for this year 2014 is 30 (4 adults, 5 juveniles and 21 hatchlings).

5. Community meetings:

One community meeting was conducted with the barangay officials in Cadsalan. The existing ordinance of the sanctuary was reviewed and a new release site was approved. The idea to release crocodiles from the head start program in Dinang Creek has been suggested by the community in Sitio Lumalug during the community consultation. The new release site is located upstream of the crocodile sanctuary at the small water impounding of Mr. Domingo Robles. Two quarterly meetings were conducted with the BS members in September and in December 2014 at the Municipal Philippine crocodile rearing station.

This year in April 2015, we plan to release five crocodiles in the new release site. These crocodiles will be equipped with a radio transmitter. The foundation already ordered transmitters from the SirTrack company in New Zealand. Although we ordered simple radio transmitters that will be monitored manually using a VHF receiver, we hope to be able to use satellite transmitters in the future since tracking the crocodiles manually is very labour intensive and once a crocodile moves out of range of the receiver it is difficult to locate. .

6. Establishment billboards:

Four new billboards were established in the areas where farmers usually walk. These billboards will remind the people of the sanctuary boundaries. The billboards also serve to create awareness for visitors passing by in the sanctuary.

In February 2015, an environmental law enforcement training will be conducted that will be attended by five representatives from barangay Cadsalan and the three sanctuary guards (BS Members). This is to strengthen law enforcement and to review and if necessary amend the existing sanctuary ordinance.

- *Is your project on target to achieve the sustainable measures outlined in your application?*

The project achieved the sustainable measures outlined in the proposal. 62 Pig pens were constructed and two additional pump wells were constructed and operational. About 1 km of open areas of the buffer zones were reforested on a strip of 5 m on both sides of the creek. Fruit tree seedlings were distributed to 34 farmers. A 1 km fence was constructed on both sides of the sanctuary in the core area bordering the community to serve as protection for livestock and increase the survival of the planted areas. In 2014, three nests were made by crocodiles. Two nests successfully hatched yielding 21 hatchlings. The community requested for additional head started crocodiles to be released in Dinang Creek, showing the general support for crocodile conservation. Despite the fact that many challenges remain, the project has contributed to better prospects for the Philippine crocodile in Dinang Creek and the community is largely supportive of crocodiles and crocodile conservation in the sanctuary.

- *Have you started disseminating any results – e.g. giving talks, preparing papers, producing management guidelines, submitting evidence to change government policy, getting media interest?*

The activities funded by PTES were featured in the annual Mabuwaya newsletter that is distributed to all donors, partners and people interested in the work of Mabuwaya. The newsletter is also available online through the facebook page of Mabuwaya (Facebook/Mabuwaya).

During regular informal meetings with the Municipal Environmental and Natural Resources Office and the Municipal Administrator and Mayor of the Municipality of San Mariano, updates about the project were discussed. The municipal government allotted funds for a similar buffer zone restoration program along the Disulap River crocodile sanctuary.

In October 2014, a Belgian Photographer/Journalist (Steve deNeef) visited San Mariano including Dinang Creek, to obtain information and photos for an article about the Philippine crocodile and the conservation program of Mabuwaya (stevedeneef.com). Several articles are expected to be published by him in 2015.

- *Have you encountered any difficulties or setbacks and how have you overcome them?*

In the first week of November, two crocodile attacks on livestock were recorded, 1 young horse and 1 pig. The horse was bitten in the neck and died. The pig was tied beside the house but not inside the pen but they were able to butcher the wounded pig and sell the meat. The farmer who owned the pig was angry during the incident but later calmed realising that it was his own fault. The horse was owned by Mr. Marlon Robles, one of the Bantay Sanktuwaryo members and also elected as a barangay official. He said that it's the fault of his own horse since it went home in the middle of the night. Marlon also shows a good example as a good sanctuary guard and also as an ordinary farmer that understands the rules and regulation of the crocodile sanctuary. After this incident, they decided to cut one of the big trees beside the creek to serve as bridge for

their animals. We advised them that perhaps it's time to construct a small bridge for people and animals to make sure that nobody will get hurt.

Another crocodile attack happened on the 12th of December. A woman was bitten when fetching water at the creek. Accordingly, she was fetching water at the creek for her pig but was attacked. Luckily she only had a minor wound on her leg. She was brought immediately to the hospital but went home the same day. The foundation only supported her medicines and transport cost. The woman was fetching water in a part of the sanctuary where this is not allowed. The Mabuwaya foundation has provided water pumps as an alternative water source but some people just don't want to follow the rules and regulations set by the village leaders.

One farmer is still not convinced with the buffer zone restoration program and keeps on clearing his backyard up to the edge of the creek.

It shows how difficult it is to convince people to not use the crocodile sanctuary and its buffer zone. Continued information campaigns are needed and also a stricter enforcement of rules and regulations.

- *Please indicate if the income or expenditure for your project differs significantly from that stated in your original application.*

The financial expenditures will be included in the final report. There is no major deviation from the proposed budget.

Appendix: Pictures



The team caught an unmarked juvenile crocodile during night survey in the Dinang creek Philippine crocodile sanctuary. From left to right: Arnold Macadangang, Dominic Rodriguez and Marlon Robles.



Eyeshine of one of the adult crocodiles observed during night survey.



Eyeshine of an adult crocodile near the nesting site.



New billboard demarcating the crocodile sanctuary established.



New billboard established in the busy area where many people pass.



New crocodile release site in Dibinayan creek (SWIP of Boy Robles) that is a tributary of Dinang creek Philippine crocodile sanctuary. Crocodiles will be released in 2015.



Hatchling observed during night survey in Dinang creek.



Fresh tracks of an adult crocodile on the bank of Dinang creek.



Fresh tracks of an adult crocodile showing the size of the body sliding towards the water.