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Swallowed by a cayman : integrating cultural values in Philippine crocodile conservation

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8. PHILIPPINE CROCODILE ATTACKS ON HUMANS IN THE NORTHERN SIERRA MADRE[1]

INTRODUCTION

Over the past 10 years the Mabuwaya Foundation has worked with local governments and rural communities to preserve the Philippine crocodile in the wild on Luzon (van Weerd & van der Ploeg 2012). Most people living in Philippine crocodile habitat now know that crocodiles are protected by law and support the conservation of the species in the wild (van der Ploeg *et al.* 2011c). But two recent crocodile attacks on people have eroded public and political support for the conservation of the Philippine crocodile.

INCIDENTS

On February 19, 2010, a Philippine crocodile attacked a pregnant woman in Dinang Creek in barangay Cadsalan, a remote village in the municipality of San Mariano, Isabela Province. Around 13:00, Glenda Arribay went to the creek to take a bath. When she squatted on an overhanging tree to scoop water, a large crocodile seized her lower right leg. As she fell in the water, the crocodile released her. Screaming for help, she swam back to the tree and pulled herself up. The crocodile however bit her again in the same leg. She kicked the crocodile several times on its head with her left leg while clinging to the roots of the tree. The crocodile released her and disappeared underwater. She pulled herself out of the water and called for help. Her husband, who was working on a nearby field, heard her cries and rushed to the scene. Glenda had severe wounds on her leg. Villagers gave emergency aid and antibiotics, and then brought her to the hospital in San Mariano town. She was hospitalized for 7 days. Her wounds healed well, and four months later she gave birth to a healthy son. Glenda herself thinks the attack is a case of mistaken identity. At the time of the attack her dog accompanied her to the creek, and sat next to her on the overhanging tree. She thinks that the crocodile attack was directed at the dog and that she was bitten by mistake. Dogs are regularly taken by Philippine crocodiles.

On August 27, 2010, around 12:00, Mario Jose was attacked by a Philippine crocodile along the Catalangan River in barangay Dibuluan, San Mariano. The specific conditions of the attack remain obscure. According to several people, Mario was setting his fish nets in an oxbow lake when saw a crocodile. He tried to scare away the animal by throwing stones. But instead of fleeing, the crocodile attacked him. Other people claim he was electro-fishing, and that he was bitten when he stun the crocodile. In any case, the crocodile bit twice in his right leg and disappeared underwater. People heard

Mario's calls for help and carried him back to his house. He had several deep punctures is his calf, and was brought to the hospital in San Mariano. His wounds healed well and after 14 days Mario returned home.

REACTIONS

People's responses to these crocodile attacks ranged from pragmatism to hysteria. During a television interview Glenda mentioned that the crocodiles in Dinang Creek generally do not pose a threat to humans: 'we are used to swim with crocodiles' (figure 8.1). Other people in Cadsalan also react remarkably rational to crocodile attacks. Most people in the village are Kalinga, who believe that crocodiles are the embodiment of the ancestors (van der Ploeg *et al.* 2011a). These indigenous people see crocodile attacks on humans as the result of human misbehavior. Some villagers actually blamed Glenda Arribay for the attack, and question why she was taking a bath alone in an area where everybody knows that there are large crocodiles. Also in Dibuluan people thought that it was Mario Jose's own fault (figure 8.2). Throwing stones to a crocodile is seen as an unwise provocation: 'as long as you respect crocodiles, the crocodiles will not harm you.' Of course, people in these remote villages are concerned about the threat posed by crocodiles, particularly to children. But people know from their own experience that the chance of being bitten by a crocodile is very small, and that simple precautionary measures can minimize the risk.

Outsiders however tend to be much less sensible. The attack on Glenda Arribay was widely publicized in the national media. Some of these reports were fairly accurate and balanced. Others misrepresented and sensationalized the story. 'Croc devours preggy Ilocana' read a headline on Pinoy Ako Online, a Philippine news website. ABS-CBN produced a 'docudrama' of the attack in Dinang Creek entitled 'I survived', which reinforced all existing stereotypes of the 'masculine monster myth' (Plumwood 1995).

Journalists often implicitly held the Mabuwaya Foundation responsible for the attacks. GMA7, the largest television network in the Philippines, for example reported that the attack on Glenda Arribay occurred near the 'crocodile breeding farm of the Mabuwaya Foundation', implying that the crocodile escaped from captivity. The foundation indeed raises juvenile Philippine crocodiles in captivity in San Mariano town (approximately 25 km from Dinang Creek); but no crocodiles have escaped from the rearing station or were released in or near Dinang Creek. Other newspapers linked the attack in Cadsalan to the release of 50 captive-bred Philippine crocodiles in Dicatian Lake in the municipality of Divilacan, on the other side of the Sierra Madre mountain range (GMANews 2010a). The underlying question in many of these reports is why these dangerous animals are being protected.

Reactions of the general public are characterized by incomprehension and ignorance. People's remarks on various websites exemplify this: 'How could a normal person swum in a creek with tons of crocs? I can't believe it! So stupid. Might the croc is hungry!!![*sic*]' (ABS-CBN 2010). People in the urban centers often have little knowledge of the conservation status of the Philippine crocodile or of the living conditions in the remote rural areas. For many people the idea of living with a potentially dangerous predator is inconceivable.

Policymakers also expressed their alarm about the crocodile attacks. Concerned about the safety of the public, the local government unit of San Mariano temporarily suspended the release of captive-raised Philippine crocodiles to the wild. The vice-governor of Isabela remarked that people could kill crocodiles if they posed a threat to humans, although he later retracted his comment (GMANews 2010b). At the national level, policymakers often do not differentiate between the Philippine crocodile and the saltwater crocodile. The secretary of the Department of Environment and Natural Resources for example recently expressed the concern that 'the reptiles could attack locals in surrounding areas' (AFP 2011).

Figure 8.1: Edward and Glenda Arribay in the hospital in San Mariano during a television interview (source: ABS-CBN News 2010).

Figure 8.2: Mario Jose recovers from a Philippine crocodile bite. Photo by F. Koopmans (2010)

PREVENTION

It is in fact remarkable that there are so few crocodile attacks on humans in the Sierra Madre. People intensively use the creeks and rivers where Philippine crocodiles occur: men regularly fish at night with spears; women spend much time on the edge of the water washing clothes or fetching water; and children often play in or near the water. The only other documented Philippine crocodile attack occurred in July 2000, also in Dinang Creek. The time of the year, the location and the behavior of the animal suggest that the crocodile attacked to defend its nest.

However the incidence of crocodile attacks on humans is likely to increase as the crocodile population is recovering and human populations are also rapidly growing (*cf.* Caldicott *et al*. 2005). It is therefore essential to try to identify interventions that effectively prevent crocodile attacks on humans. This is particularly important as basic healthcare facilities are lacking in this remote rural area, and people generally do not have medical insurance and often lack the money to pay for medicines.

Improving people's awareness of the risks posed by crocodiles, for example by placing signposts advising against entering the water, is generally seen as a necessary precautionary measure (Gruen 2009). After the attack in Cadsalan students of Isabela State University designed a poster with several practical suggestions how to minimize human-crocodile conflicts (figure 8.3). Two-thousand copies were distributed among people living in Philippine crocodile habitat in the northern Sierra Madre. The poster fosters traditional values such as respect for crocodiles. The Mabuwaya Foundation also places billboards along crocodile sanctuaries to inform people on the presence of the species.

Crocodile attacks can also be prevented by providing safe access to water (Wallace *et al*. 2011). During a community consultation in Cadsalan in March 2010 villagers suggested to construct several wells in the village in order to minimize human-crocodile interactions. Four pump wells were subsequently constructed in Cadsalan (van Weerd *et al*. 2011). These wells now provide a source of safe drinking water for the community, but have not reduced human activities in the creek: children still play in the water and women continue to do the laundry.

So-called 'crocodile-proof fences' have proved an effective method to reduce human-crocodile conflicts in Southern Africa (Aust *et al*. 2009). Constructing protective barriers in which people can bath safely could be a possible precautionary measure in the northern Sierra Madre. But fencing all crocodile sanctuaries, as people sometimes suggest during community consultations, is obviously not feasible from an economic, social and ecological point of view.

Participatory land-use planning is regarded as long-term solution for human-crocodile conflicts (Dunham *et al*. 2010). The Mabuwaya Foundation supported barangay councils in the design and implementation of legislation protecting crocodiles and

freshwater habitat. In Cadsalan for example the barangay council declared Dinang Creek a Philippine crocodile sanctuary, and prohibited the cultivation of the riverbank. The idea is that such a buffer zone will protect basking and breeding sites, ensure prey availability, minimize erosion and prevent human-crocodile conflicts. To restore the natural vegetation along the creek, villagers planted 1,455 trees. In addition 4,597 fruit-tree seedlings were provided to affected farmers to compensate for the loss of land and stimulate a transition towards sustainable land use (van Weerd *et al*. 2011). The results so far are not encouraging: most seedlings have died, and several farmers continue to cultivate the 5 m buffer zone. Villagers generally do not think buffer zones are a viable solution to prevent human-crocodile conflict, as it will take several years before such a natural buffer zone is in place.

The relocation of problem-crocodiles is generally regarded as a last resort to prevent attacks on humans, but there are doubts about its effectiveness (Walsh & Whitehead 1993). A serious concern is that problem-animals often end up in captivity thereby depleting the population in the wild. In March 2009 for example the local government unit and the Mabuwaya Foundation captured a Philippine crocodile in barangay Paninan that repeatedly approached humans. It was subsequently released in the Disulap River crocodile sanctuary. However in August 2010 the foundation had to recapture the animal after it repeatedly attacked livestock. The adult male crocodile is now held in captivity. Moreover, people often do not want the removal of crocodiles. In Cadsalan people objected to catching the problem-crocodile that attacked Glenda Arribay. This refusal reflects traditional beliefs towards crocodile-ancestors, as well as an opportunistic assessment of the possibility of receiving developmental support.

CONCLUSION

These precautionary measures can however never wholly assure human safety. Efforts to communicate the risks posed by crocodiles will not guarantee the safety of children. Along similar lines, the proclamation of freshwater protected areas, the restoration of buffer zones or the provision of safe water points will not prevent an occasional crocodile attack. The preservation of a large and potentially dangerous predator in a human-dominated landscape always entails a certain degree of risk. Paradoxically, people living in Philippine crocodile habitat seem more willing to accept this harsh reality than most outsiders.

Figure 8.3: Poster designed by students of Isabela State University (2010)

ENDNOTE

1. Based on: van der Ploeg, J., F. Koopmans, M. Cauilan-Cureg, D. Rodriguez, W. van de Ven, M. Balbas, R. Araño, & M. van Weerd. 2012. Philippine crocodile attacks on humans in the Northern Sierra Madre. *Crocodile Specialist Group Newsletter* 31(2): 20-23. Jan van der Ploeg wrote the text. Femke Koopmans and Dominic Rodriguez conducted interviews on human-crocodile conflicts in the municipality of San Mariano. Myrna Cauilan-Cureg, Willem van de Ven, Mari-Tes Balbas, Robert Araño and Merlijn van Weerd provided comments on the text. The authors are working jointly on the prevention of human-crocodile conflicts in the northern Sierra Madre in the framework of the Mabuwaya Foundation.