Oryx

Living with saltwater crocodiles: how local data can help promote coexistence

By Shankar Aswani & Joshua Matanzima, 25th January 2024

Saltwater crocodiles *Crocodylus porosus* are large, powerful creatures. They are the biggest living reptiles, with males growing up to 6 m in length and 1,500 kg in weight, and they have an exceptionally powerful bite. The species is widespread throughout coastal areas across the Asia-Pacific region, and people living in these areas regularly encounter saltwater crocodiles. As with other large predators, such encounters can have serious consequences for both humans and animals: when these crocodiles attack, they can cause severe, often fatal, injuries, and people may resort to killing crocodiles in retaliation, in an attempt to protect their lives and livelihoods.

Previous studies aiming to improve human–crocodile coexistence have recommended measures to reduce such dangerous situations, for example by developing monitoring programmes, halting the destruction of mangroves that provide vital habitats for the crocodiles, and raising public awareness not only of the dangers associated with entering crocodile habitat, but also the important role these predators play in the ecosystem. Yet despite these efforts, negative interactions persist, and not all approaches are equally suitable everywhere. For people and crocodiles to successfully live alongside each other, any mitigation measures need to be tailored to the specific local context. To achieve this, researchers must interact directly with local communities and Indigenous people at the local level to understand their specific concerns, situations and experiences, and to determine how they envisage human–crocodile coexistence within their communities.

A saltwater crocodile *Crocodylus porosus*. Photo: AGAMI / Adobe Stock.

Our study took us to the Solomon Islands, where saltwater crocodiles were once commercially hunted for their skins. However, since the hunting of crocodiles and the export of their skins were banned in 1993, the crocodile population has increased rapidly and attacks on people have subsequently become more common. Yet attitudes towards crocodiles are not universally negative: some local clans revere the animals, regarding them as their totemic ancestors. To explore human–crocodile relations in the Solomon Islands, we carried out fieldwork in May and June 2023 in Roviana Lagoon. The lagoon extends over a large area—approximately 700 km^2—of south-western New Georgia Island, in the western Solomon Islands. Villages and small hamlets are dispersed along remote coastlines within the lagoon, with around 50–300 of the Roviana people living in each village. The local people speak the Roviana language and have either water-based livelihoods such as fishing and seashell gathering, or are engaged in land-based horticulture and gathering of natural resources.

We aimed to gain an understanding of any negative interactions that had occurred between the local people and crocodiles in this area over a 20-year period, during 2000–2020. Through questionnaires, we collected detailed data on such incidents and contrasted our findings with those of a national level survey carried out in 2019.

Author Shankar Aswani training Indigenous research assistants who worked on the project in Roviana Lagoon. Photo: Shankar Aswani.

We collected data in four villages: Dunde, Kozou, Baraulu and Nusa Hope, which were selected

because of their proximity to the lagoon. In these villages, 20 households reported a negative encounter with a saltwater crocodile in the period between 2000 and 2020. Both men and women had suffered crocodile attacks, but most victims were women who had encountered the animals while searching for shellfish. Clams and cockles are generally collected by women in Roviana Lagoon and are used for both subsistence and sale. Our respondents reported that most attacks occurred in the evenings and resulted in minor and serious injuries, and that none of the crocodiles involved had been captured or killed. In the huge expanse of the mangrove and riverine system, the behaviour of the crocodiles following the incidents was not monitored following an incident, and so we could not establish whether any had been injured.

Recommendations made by researchers to address human–wildlife conflict are usually based on national survey data, which are not always representative of the specific issues occurring at a local or village level. For example, according to a study carried out at the national level across the Solomon Islands, men are generally at greater risk of being attacked by crocodiles than women. Yet we found that women were more likely to suffer crocodile attacks in Roviana Lagoon, and national recommendations that mitigate men's interactions with crocodiles may thus not be applicable in this particular local context. It is these nuances and deeper insights that highlight why research at a local level is so important. The local data we collected enabled us to recommend mitigation techniques aimed specifically at protecting the women who collect shellfish in Roviana Lagoon, such as working in groups and staying away from crocodile habitats in the afternoons and evenings, when attacks are more likely.

Author Shankar Aswani sitting with Indigenous communities in villages affected by crocodiles in Roviana Lagoon in Solomon Islands. Photo: Shankar Aswani.

Each village in the Solomon Islands has its own experiences with crocodiles that may be quite different from those in other villages, and we would like to encourage researchers to carry out more site-specific research on human–crocodile interactions beyond Roviana Lagoon. By working

hand in hand with local communities, both Indigenous and non-Indigenous, it is possible to devise mitigation strategies tailored to specific communities, as has been done previously in Zimbabwe. Such local level research is vital for promoting coexistence between people and crocodiles across the Solomon Islands and beyond.

The article 'Human–crocodile interactions in the western Solomon Islands: the importance of local data for reducing attacks on people' is available open access in *Oryx—The International Journal of Conservation.*

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