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

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2. A CULTURAL HISTORY OF CROCODILES IN THE PHILIPPINES: TOWARDS A NEW PEACE PACT?¹

INTRODUCTION

In March 2004, I conducted together with several colleagues of the Mabuwaya Foundation a crocodile survey along the coast of the Northern Sierra Madre Natural Park in Isabela Province in Northeast Luzon. We counted crocodiles and interviewed people on human-crocodile conflicts. Hunters explained the importance of treating crocodiles with respect and farmers told anecdotes about enchanted crocodiles. We heard stories about spirits changing into vengeful crocodiles. Some people told us that they were afraid of crocodiles. Others mentioned that they had recently found a crocodile nest and had eaten the eggs. But none of the respondents expressed a fundamental objection to living with crocodiles. On our way back, waiting for the airplane, we had a conversation with a senior government official who reassured us that there were no more dangerous crocodiles in the protected area: Moro hunters and the military had killed and eaten them all to protect the people. Jokingly he added that if we were looking for crocodiles we could better go to the halls of Congress in Quezon City. We had heard this joke many times before, but never in such contrast with the perceptions of hunters, farmers and fishermen as that day in Palanan.

Commercial hunting for the international trade in crocodile skins decimated crocodile populations in the Philippines (Wernstedt & Spencer 1967). *Crocodylus porosus* is a premium species for the crocodile leather industry, and the species has been hunted intensively in the Philippines since the 1940s. As the Indo-Pacific crocodile became rare, hunters shifted their attention to the Philippine crocodile. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) banned the international trade in *Crocodylus mindorensis* skins on 1 July 1975. Ten years later, on 1 August 1985, the Philippines' Indo-Pacific crocodile population was also placed on CITES Appendix 1.

Since 2004, both crocodile species are officially protected under Philippine law (by virtue of the Wildlife Act: Republic Act 9147). However, in the socio-political context of the Philippines environmental legislation is seldom enforced: crocodiles continue to be killed for food or fun, and out of fear (van der Ploeg & van Weerd 2004). The conversion and degradation of wetland habitat pose significant threats to crocodiles in the Philippines and might prevent a recovery of the species (Ross & Alcala 1983; Thorbjarnarson 1999). The widespread use of dynamite, electricity and pesticides to maximize fish catches also poses a heavy toll on the remaining crocodile populations. As a result the Indo-Pacific crocodile and the Philippine crocodile have become rare in the wild: both species face a high risk of extinction in the near future in the Philippines.

Crocodiles have an image problem in the Philippines. In mainstream Filipino culture crocodiles are seen as vermin and considered to be a severe threat to children and livestock (Ortega 1998; Banks 2005). Crocodiles are stereotyped as ferocious monsters or bloodthirsty man-eaters, and associated with greed and deceit: corrupt government officials, selfish athletes, landlords and moneylenders are often called *buwaya*, Filipino for crocodile. In the media politicians are often portrayed as crocodiles (figure 2.1).

Figure 2.1: In Philippine media crocodiles are associated with corruption and nepotism. Left: A congressman portrayed as a hungry crocodile (Philippine Star, 14 December 2006). Right: President Gloria Macapagal-Arroyo can't get rid of her corrupt image (Philippine Star, 13 December 2007)



It is argued that these negative attitudes of the Filipino public form a major obstacle to *in-situ* crocodile conservation (Ross 1982; Banks 2005). The Wildlife Conservation Society of the Philippines, for example, concluded that:

'Filipinos have a strong dislike for the reptiles, especially crocodiles, due to the reputation of the estuarine crocodile as a man-eater, causing fear for all crocodiles. This has pushed the [Philippine crocodile] to the verge of extinction.' (WCSP 1997: 78).

Since the 1980s government policy has been based on the idea that in order to secure the survival of crocodiles in the Philippines, animals have to be removed from the wild and bred in captivity (Ross 1982; Ortega *et al.* 1993). In this chapter I contest this view. Attitudes towards crocodiles are indefinitely more complex and diverse than policy makers, conservationists and the media suggest.

In earlier times crocodiles were feared *and* revered: specific rules regulated

the relationship with crocodiles and enabled people to share the landscape with potentially dangerous carnivores. The Spanish friars recorded these primordial sentiments towards crocodiles in detail. These beliefs did not disappear: in the uplands of the Philippines indigenous communities still associate crocodiles with ancestors, fertility and mystic power. This veneration is expressed in material art, architecture, music and oral literature, and has played a role in the survival of the crocodiles in the Philippines. On Luzon the Kalinga sing ballads about the relationship between chiefs and crocodiles (Menez 2004). On Palawan the Tagbanwa believe their ancestors made a blood pact with the crocodiles to prevent attacks. And on Mindanao the T'boli weave cloth with delicate crocodile motifs (Paterno *et al.* 2001) and the Magindanaon believe they descent from crocodiles (Mangansakan 2008). Not surprisingly these are also the areas where crocodiles still survive in the wild.

In this chapter I aim to look through W.H. Scott's proverbial 'cracks in the parchment curtain' in order to get a better understanding of the relations between crocodiles and people in pre-colonial Philippines, and the changes that occurred in this relationship over time (Scott 1982). I present a literature overview of historical sources on perceptions of crocodiles in the Philippines, complemented with information from the ethnographic literature. For contemporary attitudes towards crocodiles I mainly rely on field work in the northern Sierra Madre between 2001 and 2008. I adopt a historical and comparative perspective, explicitly showing the cultural continuity of perceptions of crocodiles in both space and time. The Kalinga in the northern Sierra Madre, for example, make rice cakes in the form of a crocodile during healing ceremonies. Gatmaytan (2004) and Maceda (1984) report similar healing rituals among the Manobo and the Magindanaon, respectively. This seems remarkably familiar to the rice cake offerings in the form of a crocodile (*binuwaya*) in pre-colonial Visayas reported by W.H. Scott (1994). This transcends academic curiosity: the Kalinga ancestral lands in the northern Sierra Madre form the last stronghold for the Philippine crocodile in the wild. Here, the species survived as an unintended result of traditional values, beliefs and practices.

My aim in this chapter is to document the views, feelings and imaginations of the inhabitants of the Philippine Islands toward crocodiles through time and to counter the simplistic assumption that culture hinders crocodile conservation.² Filipino culture in all its diversity and flux is not a barrier for coexistence with crocodiles. On the contrary, an assessment of indigenous cosmology and contemporary marginalized perceptions of crocodiles might offer clues for conserving crocodiles in the Philippines in the wild in the twenty-first century.

THE PRE-COLONIAL HERITAGE

A reconstruction of primordial sentiments towards crocodiles in the Philippines inevitably has to cope with the bias of the Spanish *conquistadores* and friars. Obviously, the notes on the biology of the Philippine Islands and the cosmology of the *indios*, as the native Filipinos were called, were primarily made for effective exploitation and conversion. But despite the racism and religious dogmas, the Spanish archives provide detailed information of everyday life in the archipelago, and surprisingly often mentioned crocodiles.³

One of the first and best known written accounts of crocodiles in the Philippines was made by Antonio de Morga (1609: 93-94) a high-ranking colonial officer in Manila:

'There are [...] a great number of crocodiles [in the rivers and creeks], which are very bloodthirsty and cruel. They quite commonly pull from their *bancas* the natives who go in those boats, and cause many injuries among the horned cattle and the horses of the stock-farms, when they go to drink. And although the people fish for them often and kill them, they are never diminished in number. For that reason, the natives set closely-rated divisions and enclosures in the rivers and creeks of their settlements, where they bathe, secure from those monsters, which they fear so greatly that they venerate and adore them, as if they were beings superior to themselves. All their oaths and execrations, and those which are of any weight with them (even among the Christians) are, thus expressed: "So may the crocodile kill him!" They call the crocodile *buhaya* in their language. It has happened when someone has sworn falsely, or when he has broken his word, that then, some accident has occurred to him with the crocodile, which God, whom he offends, has so permitted for the sake of the authority and purity of the truth, and the promise of it.'

As the Spanish settled in the coastal lowlands or along major river systems, in de Morga's case Laguna de Bay and the estuary of Pasig River, the historical accounts most likely refer to the Indo-Pacific crocodile. Throughout the Philippine archipelago, and indeed most of the Malay world, the Indo-Pacific crocodile was called *buwaya*.⁴ In most parts of the Philippines, people distinguished between the two crocodile species (table 2.1). This is reflected in 17th century Spanish vocabularies where a distinction was often made between *cocodrilo* and *caimán*; a nuance that was later lost in English dictionaries (see for example: Long 1843: 88).⁵ But local taxonomy was indefinitely more complex than this: it included ancestor-crocodiles, spirit-crocodiles and witch-crocodiles.

Taxonomy and cosmology

De Morga's quote exemplifies the paradoxical relationship between crocodiles and men in pre-colonial Philippines. On the one hand, crocodiles posed a significant danger to people and livestock. Man-eating crocodiles are a recurrent theme in the Spanish archives. The historiographer of Aragon, Bartolomé Leonardo de Argensola (1708: 235), for example, wrote:

'In the rivers and lakes are many monstrous caimans, or crocodiles; these kill the Indians very easily, and especially the children, who happen unadvisedly to come where they are, as well as the cattle when they go to drink. It often happens that they lay hold of their snouts, or noses, and draw them under water, where they are drowned, without being able to defend themselves.'

On the other hand, crocodiles were venerated. The best illustration of this fact comes from the book *Labor Evangelica* written in 1663 by Francisco Colin:

'[The Tagalogs] held the crocodile in the greatest veneration; and, when they made any statement about it, when they saw it in the water cried out, in all subjection, "*Nono*", signifying Grandfather. They asked it pleasantly and tenderly not to harm them; and for that purpose offered it a portion what they carried in their boats, by throwing it into the water.'

People prayed and made offerings to edifices of crocodiles (Blumentritt 1882: 12; Jagor 1875: 207; Cole 1913: 114). The *buwaya* was a benign symbol of physical strength, sexuality, fierceness and power. In legends and myths, heroes and chiefs were depicted as crocodiles or thought to have personal bonds with crocodiles.⁶ Warrior chiefs traced their ancestry to crocodiles and wore necklaces made of crocodile teeth, *boaia*, as symbols of their power. Crocodile teeth were also widely used as omens and as amulets to protect the bearer from evil spirits and sickness (de Loarca 1582: 130; Bowring 1859:157; Scott 1994: 82). Crocodile motifs were woven into funeral cloths and carved into coffins to protect the deceased from evil spirits (Maxwell 1990: 98; Benedict 1916: 42). Throughout insular Southeast Asia crocodiles were associated with water and rain, and thus with agricultural fertility and rice culture (Schulte Northolt 1971; Middelkoop 1971: 437; Hose & McDougall: 198). In pre-colonial Philippines crocodiles were symbols of danger as well as protection, a benevolent and malevolent power at once (Maxwell 1990: 133). The functional interpretation of Antonio de Morga that crocodiles were worshipped because of the danger they posed – 'monsters, which they fear so greatly that they venerate and adore them' – does however injustice to the complexity of pre-colonial Philippine cosmology.

The *indios* in fact worshipped a variety of ancestor spirits, nature gods and mythical creatures, which could take the form of a crocodile. First, it was thought that

the ancestors could reincarnate in crocodile form:

'They believe that after a certain cycle of years, the souls of their forefathers were turned into crocodiles.' (Pablo de Jesus cited in Nocheseda 2002: 104).

These benevolent ancestor spirits, called *anito*, were venerated as personal guardians and secured good harvests. But they could also cause death and destruction if not given due respect (Scott 1994). Second, crocodiles could be the embodiment of nature-gods, generally called *diwata*. Negrito peoples in the Philippines, for example, believed that a large crocodile, called *Lahua*, inhabited the earth and caused earthquakes (Schebesta 1957: 276; Garvan 1963: 204). In several origin myths from the Philippines the creator-god takes the form of a crocodile (Gray 1979). These crocodile-gods were seen as the guardians of the underworld: they were invoked to secure a safe passage for the dead to the next life (Maxwell 1990: 98). Miguel de Loarca (1582: 129), an influential member of the Catholic clergy in Manila, wrote:

'It is said that the souls of those who [are] eaten by crocodiles [...] which is considered a very honorable death, go to heaven by way of the arch which is formed when it rains, and become gods. The souls of the drowned remain in the sea forever.'

These crocodile-gods lived in a parallel world, often literally interpreted as an underwater village. Third, people believed in malevolent spirits and witches, most often called *aswang*, which could take the form of a crocodile (Gardner 1906: 195). Father Antonio Mozo (1673: 16), for example related that:

'[I]n two islands, called Zebu and Panay [...] dwell a people who are called the Mundos; they have the same barbarian characteristics of fierceness and barbarism [...], but they have besides this a peculiarity which renders them intractable, for they have among them some fearful wizards. [...] Instructed and misled by the demon, those barbarians do fearful things, especially to revenge themselves, to the continual terror of those about them. The natives say that these wizards, change into crocodiles, follow them when in their canoes, and do not stop until they seize some person whom they hate; also that they change themselves into other animals, in order to commit other wicked acts – as likewise that, availing themselves of various enchantments, they commit horrible murders, with a thousand other diabolic acts [...].'

These *aswang* ate people and disinterred corpses. But simple pre-cautions, such as making noise or avoiding being alone, could be taken against these creatures (Alejandro 2002; Scott 1994: 81).

It is important to note that not all crocodiles were seen as the personification of the ancestors, gods or witches. Enchanted crocodiles could be distinguished from normal crocodiles by having extraordinary traits, such as being very large, docile, strangely coloured, crippled, wearing a necklace, or having four toes instead of five

(Wilken 1885; Kruyt 1935).⁷ The Franciscan priest Juan Francisco de San Antonio (1738: 154) wrote:

'It is definite that crocodiles do not have a tongue. However, I am told that a crocodile who had swallowed a man whole and was later followed and killed, the man being found complete in its stomach, had a large black tongue. It is not known whether this is because it was of a special type. [...] It was the strangest one seen by my informant during his whole life. This happened in 1736 in the Macabebe River in Pampanga. The man who was thus swallowed was Captain Culango who owned a tavern in the village called Manlauay, well known by the natives.'⁸

Conversely, not all spirits were crocodiles. The *anito*, *diwata* and *aswang* could manifest themselves in many possible ways, not necessarily in the form of a potentially dangerous animal. They could also take the form of harmless animals such as nightjars, owls, or kingfishers, which were feared as much as crocodiles (Colin 1663: 77; Gardner 1906: 193).

The peace pact

A drawing by the Tagalog artist Francisco Suárez provides a rare glimpse of daily life in the early 18th century (figure 2.2). Crocodiles were common throughout the Philippine archipelago and people often lived in close proximity to crocodiles. The Spanish colonizers were puzzled by the apparently indifferent attitude of the *indios* towards crocodiles. This can be best illustrated by a quote of the Augustinian friar Casimiro Diaz (1890: 212-213) who lived in Pampanga in 1717:

'In another way they exhibit other rash actions, by which it is seen that their rashness is rather the daughter of ignorance and barbarity than of valor [...] The same thing happens in the rivers where there are crocodiles, although they see them swimming about; for they say the same as do the Moros (i.e. Mahometans), that if it is from on high it must happen, even though they avoid it. [...] The world is just so. If it is written on the forehead that one is to live, than he will live; but if not, then he will die here.'

In some areas people built bamboo fences as precaution against man-eaters: the *patiwa* described by Antonio de Morga (Nocheseda 2002: 71).⁹ But in general people seemed to take not much notice of the danger posed by crocodiles and adopted no rigid safety measures (see Bowring 1859: 130-131; Worcester 1898: 514). During a visit to Leyte, the German ethnologist Fedor Jagor (1875: 269) described the almost submissive attitude of the natives:

'The principal employment of our hosts appeared to be fishing, which is so productive that the roughest apparatus is sufficient. There was not a single boat, but only loosely-

bound rafts of bamboo, on which the fishers, sinking, as we ourselves did on our raft, half a foot deep, moved about amongst the crocodiles, which I never beheld in such number and of so large a size as in this lake. Some swam about on the surface with their backs projecting out of the water. It was striking to see the complete indifference with which even two little girls waded in the water in the face of these great monsters. Fortunately the latter appeared to be satisfied with their ample rations of fish.'

Here, the prejudice of the Europeans obstructed a comprehensive analysis. A comparative Southeast Asian perspective enables us to contextualize these anecdotes and better understand the relationship between people and crocodiles in pre-Hispanic Philippine cultures.¹⁰

Figure 2.2: Fragment from Murillo Velarde's *Carta hydrographica y chronographica de las Islas Filipinas* by F. Suárez (1734). Note the caption: '1. Caiman or crocodile of which the rivers of these isles are full. [...].'



In Malay cosmology crocodiles never arbitrarily attacked people. On the contrary, crocodile attacks were seen as a selective punishment of the *anitos* that followed socially unacceptable behaviour. Man-eating crocodiles were seen as divine arbiters: '*alguazil* of the water' (Chirino 1604: 201; Kruyt 1935: 14; Adams 1979: 93;

Bakels 2000: 366-367; Nocheseda 2002: 65).¹¹ Crocodiles guarded the social order and avenged the transgression of taboos. Crocodile attacks were considered the victims' own mistake. In this perspective it was futile to be afraid of, or to take precautions against crocodiles.

It was believed that crocodiles personally knew and were closely related to the local community (Hose & McDougall 1901: 186; Boomgaard 2007: 17). People constructed personal relationships with crocodiles through reincarnation, descent, marriage, friendship or blood pacts. In the marshes of Mindanao the *datus* traced their ancestral lineage to mythical crocodiles (Polenda 1989). In the Cordillera Mountain Range on Luzon the Kalinga called themselves *buwaya* (de Raedt 1993). And in the Visayan Islands it was believed that women could give birth to crocodiles. In 1668 the Jesuit Francisco Alcina wrote:

'One of [the] parishioners gave birth to a crocodile twin. She was the wife of Pakotolini of Tubig, who had been raised in a Jesuit house as a church boy, and the little creature was delivered together with a normal child. The parents moved away to get rid of it, but it not only followed them but regularly brought them a wild hog or deer, or large fish.'
(cited in Scott 1994: 114-115).

These personal alliances have been extensively documented in the ethnographic literature from insular Southeast Asia. The Dutch ethnologist George Wilken wrote that the Bugis believed that the deceased changed into crocodiles: they placed offers in the water for those who had become crocodiles (Wilken 1885: 70). The Kanyah, Kenyah and Iban in Sarawak believed that they were related to crocodiles (Hose and McDougall 1901: 190-99).¹² Also the Batak in Sumatra thought they descended from crocodiles and therefore could not eat crocodile meat (Wilken 1885: 69). And in Nusa Tenggara people traced their origins to a powerful crocodile that had married a girl from the village (Schulte Nordholt 1971: 323; Middelkoop 1971: 436-440; Adams 1979: 92).

Consequently there were strict taboos on killing crocodiles or eating their meat. Doing so was also considered an unwise provocation: crocodiles were known to take revenge (Boomgaard 2007: 19). There was one clear exception: when a crocodile attacked a human that specific animal was killed, irrespective of the fact that the crocodile might have acted as an instrument of the gods (Hose & McDougall 1901: 186). Obviously the killing of the man-eater had to be justified. People searched the stomach of the crocodile for stones and pebbles, which proved its guilt. It was thought that each stone represented the soul of a victim (de la Gironière 1854: 221; Skeat 1900: 292-293).¹³ When the man-eater was killed, offers were made to restore the peace between crocodiles and people (Kruyt 1935: 9; Nocheseda 2002: 93; Gavin 2003: 98). People and crocodiles could again live together in peace.

These personal bonds in effect included crocodiles into the moral order. The laws and logic that regulated social life also applied to the relationship between people

and crocodiles. To assure that crocodiles and people could peacefully co-exist, there were specific rules and obligations for both parties (Kruyt 1935: 12-13; Bakels 2000). The well-being of the community depended on its harmonious relations with crocodiles. People's attitudes towards crocodiles were respectful, tolerant and non-aggressive. Violations from either side were punished. When a crocodile attack took place people sought a logical explanation and killed the man-eater in retaliation. This 'peace-pact' gave meaning to a dangerous and unpredictable world and enabled people to co-exist with crocodiles (Kruyt 1935: 10).

THREE-HUNDRED YEARS IN THE CONVENT, ONE-HUNDRED YEARS IN HOLLYWOOD

When the *datu* Soliman, Ache, and Lakandula surrendered to Miguel López de Legazpi in 1571, crocodiles were still invoked:

'The oaths of these nations were all execrations in the form of awful curses. *Matay*, "may I die!" *Cagtin nang buaya*, "may I be eaten by the crocodile!" [...] When the chiefs of Manila and Tondo swore allegiance to our Catholic sovereigns, [...], they confirmed the peace agreements and the subjection with an oath, asking the sun to pierce them through the middle, the crocodiles to eat them, and the women not to show them any favor or wish them well, if they broke their word.' (Colin 1663: 78-79).

Four hundred years later the bond between crocodiles and people has been broken. Crocodiles are exterminated in most parts of the Philippines. Catholicism and a surging global demand for crocodile leather transformed Filipino perceptions of crocodiles and redefined the moral order.¹⁴ Crocodiles are no longer seen as guardians but as dangerous pests. But the fear of the beast paradoxically increased as crocodiles disappeared from the landscape.

In the medieval perception of the Spanish friars crocodiles were the personification of the devil (Cohen 1994). They brought with them Biblical notions of the Leviathan, an image that suited the Indo-Pacific crocodile well (Kiessling 1970). In the eyes of the friars, crocodiles did not only pose a physical threat to communities but a challenge to the faith itself. The adulation of crocodiles in the Philippines re-enforced the evangelical notion of an epic struggle against paganism. The slaying of the dragon and the subsequent conversion of the infidels are recurrent themes in medieval Christian mythology, for example in the legends of St. Martha, St. George and the dragon, and Philip the Evangelist (Hédard & Fréchet 2005: 96). It perfectly fitted the Philippine context where people made offerings to statues of crocodiles. The religious orders actively tried to destroy these pagan idols and liberate the *indios* from the evil crocodiles (Bankoff 1999: 40). Conversion could save people from the danger posed

by crocodiles:

'In this same year occurred a miraculous conversion of an infidel. This latter was crossing the river of Manila in one of those small boats so numerous in the islands, which do not extend more than two dedos out of the water. As there are many caimans in this river (which in that respect is another Nile), one of them happened to cross his course, and, seizing him, dragged him to the bottom with a rapidity which is their mode, by a natural instinct of killing and securing their prey. The infidel, like another Jonas, beneath the water called with all his hearth upon the God of the Christians; and instantly beheld two persons clad in white, who snatched him from the claws of the caiman; and drew him to the bank safe and sound; and as a result of this miracle he was baptized, with his two sons, and became a Christian. The very opposite befell another Christian, who forgot of God, passed every night to the other side of the river to commit evil deeds. God, wearied of waiting for him, sent his '*alguazil* of the water' – which is the name of the cayman – who, seizing him executed upon his person the divine chastisement for his wickedness.' (Chirino 1604: 201).

During the Spanish occupation crocodiles became symbols of evil and danger. The dragon captured at the feet of a Saint became an icon in art and literature.¹⁵ Figure 2.3, a painting from the parish church of San Mariano, is exemplary: a Saint saves his congregation by trampling a crocodile.

The novels of Jose P. Rizal, the Filipino novelist and nationalist whose execution set off the Philippine revolution, provide another illustration of the changes that occurred in peoples' perceptions of crocodiles. Rizal used the Spanish chronicles as a source of inspiration to 'awaken [the] consciousness of our past [...] and to rectify what has been falsified and slandered' (Rizal 1889 cited in Hall 1999). There are numerous references to 'caymans' in the works of Rizal, who despite being a keen naturalist apparently did not know that there were two species of crocodiles in the Philippines. One of the most famous is a passage in *Noli Me Tangere* when a crocodile is encountered, and killed, during a fishing trip on Laguna de Bay:

'All because we didn't hear mass, sighed one. But what accident has befallen us, ladies? asked Ibarra. The cayman seems to have been the only unlucky one. All of which proves, concluded the ex-student of theology, that in all its sinful life this unfortunate reptile has never attended mass – at least I've never seen him among the many other caymans that frequent the church. [...] The body of the cayman writhed about, sometimes showing its torn white belly and again its speckled greenish back, while man, Nature's favorite, went on his way undisturbed by what the Brahmin and vegetarians would call so many cases of fratricide. (Rizal 1886: 156-160).

Clearly, the association of crocodiles with greed and egoism was already commonly accepted in 19th century Philippines. In his book *El Filibusterismo* Rizal took things a step further: crocodiles became symbols of nepotism and colonial suppression. Rizal portrayed the Spanish friars as crocodiles, and paid with his life.¹⁶

Figure 2.3: Painting in the parish church in San Mariano by C. Domelod (1999).



The conversion of marshes and the clearance of riparian forests fuelled by a growing human population must have had an impact on crocodile populations during the Spanish occupation, particularly in Luzon and the Visayas (Bankoff 2007). But it was the frontier mentality of the American imperialists that fundamentally altered the relationship between crocodiles and people in the Philippines: for the Americans crocodiles were not only dangerous pests but also valuable resources.¹⁷ After the Philippine Revolution and the treaty of Paris of 1898 that ended the Spanish-American War, the United States started to explore and exploit its newly acquired colony. The Taft Commission, tasked to investigate the conditions in the Philippine Islands, stereotyped crocodiles as dangerous man-eaters:

‘Crocodiles are extremely abundant in many of the streams and freshwater lakes, and are sometimes met with in the sea along the coast. They frequently attain a very large size. [...] In certain parts of the archipelago they occasion no little loss of life, while in other regions the natives may be seen bathing with apparent impunity in streams where they are known to abound. The natives explain this by saying that the taste for human flesh is acquired, and that having once tasted it by accident a crocodile is content with nothing else and becomes a man-eater’ (Philippine Commission 1901: 318-19).

The early explorers and naturalists often exaggerated the dangers of the Orient for their overseas’ readers (figure 2.4). Even the zoologist Joseph Steere who collected the paratype specimen of the Philippine crocodile in Mindoro in 1888 coloured his story with ‘a violent bite from the captive crocodile’ (Schmidt 1938: 89). More empirically-oriented observers however, such as W. Cameron Forbes the U.S. Governor-General of the Philippines from 1908 to 1913, wrote that crocodile attacks on humans were in fact ‘comparatively rare’ (Forbes 1945: 17).¹⁸

Commercial crocodile hunting in the Philippines started in the 1920s and intensified after World War Two (Jenkins & Broad 1994; Thorbjarnarson 1999). Crocodile hunters were widely admired and rewarded for their ‘exemplary service to the community’ (Ortega 1998: 102). No reliable quantitative records exist of the trade in crocodile leather. But a figure published by the American geographer Frederick Wernstedt gives an indication of the scale of the slaughter: in 1953 five tons of crocodile skins were exported from the port of Cebu (Wernstedt 1956: 346). By the end of the 1960s crocodile populations were depleted up to the point that commercial hunting was no longer considered a ‘remunerative occupation’ (Wernstedt & Spencer 1967: 108). In the 1970s and 1980s skins, specimen, teeth and organs were sold on markets in Manila as tourist curios (Ross 1982). The reclamation of ‘crocodile infested swampland’ (DBP 1979: 2) further contributed to the disappearance of crocodiles in most parts of the archipelago.

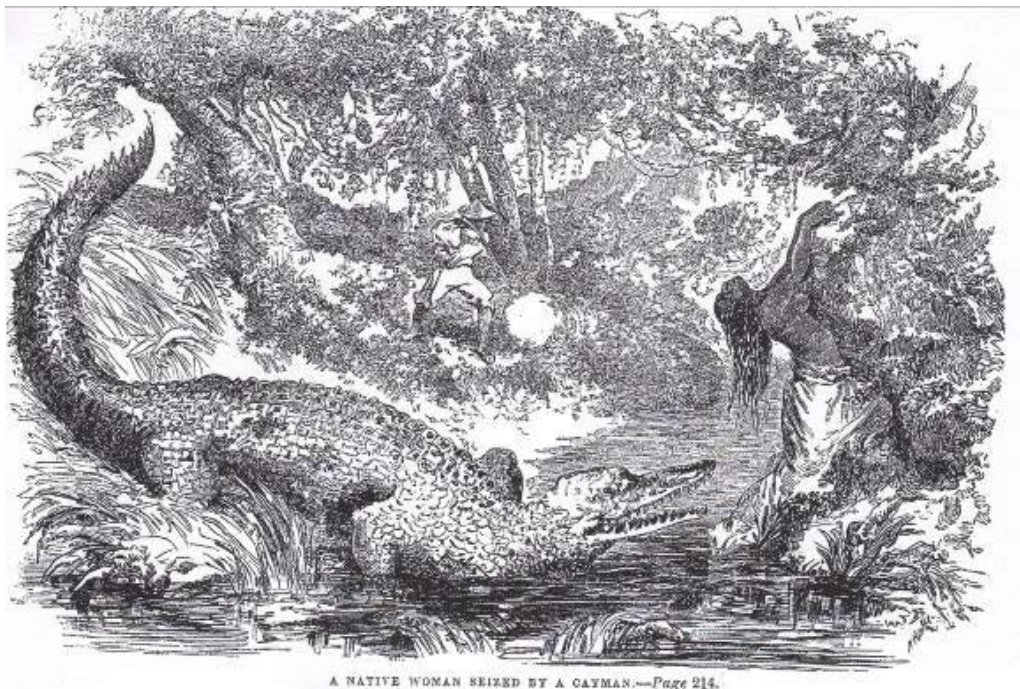
As early as 1977 the Philippine Government played with the idea of establishing crocodile farms ‘to minimize the dangers being posed by these dangerous reptiles to

men as well as to animals and to turn to a more productive purpose instead' (PCARR 1977: 1130). It took another ten years and Japanese funding before these ideas were put in practice. Responding to the decline of crocodiles in the Philippines, a captive breeding programme for the species was established in 1987 in Palawan: the Crocodile Farming Institute (CFI). The underlying idea was to develop a crocodile leather industry to 'instil in trappers/catchers the relative economic importance of a ferocious, living crocodile relative to a harmless dead one' (Ortega *et al.* 1993: 126). CFI succeeded in breeding both crocodile species in captivity. But captive-bred crocodiles were never reintroduced to the wild as policy makers assumed that rural communities would resist such an intervention:

'People's attitudes would have to be changed by challenging old and accepted, even if unscientific, notions about the crocodile [...] so that people in the rural areas would come to appreciate the crocodile as a viable wildlife species in our environment that needs to be appreciated and conserved' (Palawan State College 1991: 11).

However, no efforts were made to mobilize support and engage rural communities in in-situ crocodile conservation.¹⁹

Figure 2.4: Cover illustration of the book *Twenty years in the Philippines (1819-1839)* by H. Valentin (de la Gironière 1854).



A remarkable transformation has taken place in the way people regard crocodiles in the Philippines: from divine guardian to devil, from symbol of social injustice to commodity, and from obstacle to economic development to 'endangered pest' (Knight (2000: 13). Nowadays crocodiles are the 'most maligned, unfairly-treated and misunderstood species in the country' (Malayang 2008: 17). Mainstream Filipino society has become increasingly alienated from crocodiles. Most people now only see crocodiles on TV or in commercial advertisements. Hollywood horror movies such as *Lake Placid*, and Discovery Channel documentaries such as *Crocodile Hunter*, have entrenched an image of the crocodile as dangerous monster in contemporary mainstream Philippine culture (Vivanco 2004). But in the remote rural areas people often have very different perceptions of crocodiles.

CROCODILES IN THE NORTHERN SIERRA MADRE

I interviewed Marcella Impiel in April 2003 in Cadsalan, a village in the municipality of San Mariano in the uplands of the northern Sierra Madre.²⁰ Her words are illustrative for indigenous people's attitudes towards crocodiles in the remote rural areas of the Philippines:

'We're afraid of the crocodile. I do not allow my children to swim alone in the river. If a crocodile faces you it will blow at you and you will get beriberi.²¹ Crocodiles are very powerful. They have a special sense. Therefore you should not say bad things about the crocodile. My grandmother said: if you kill a crocodile you will get sick. The crocodile always takes revenge. Even if you cut your hair the crocodile will recognize you. Even on land it will strike you. But the crocodile will not bite innocent people. If you do not harm the crocodile, the crocodile will not harm you.'

In the northern Sierra Madre crocodiles have survived in the ancestral lands of the Agta and the Kalinga. Here, a delicate mix of respect, fear and indifference characterizes the relationship between people and crocodiles.

The Agta

The Agta are a Negrito forest-dwelling people inhabiting the Sierra Madre mountain range on Luzon.²² Fishing, hunting and gathering are important livelihood strategies (figure 2.5). Settlements are located along forest streams, or in the coastal area near river estuaries: the habitat of Philippine crocodiles and Indo-Pacific crocodiles respectively. The Agta differentiate between *bukarot* and *buwaya*, and often have detailed knowledge of the occurrence and behaviour of crocodiles in their ancestral

domains. They respectfully call large crocodiles *Apo* (Sir) or *Lakay* (old man). The Agta sometimes find half-eaten sea-turtles on the beach: 'a gift from the old crocodile' (pers. comm. D. Gonzales 2004). If people see an Indo-Pacific crocodile taking shelter in a cove, it is interpreted as a sign of an approaching typhoon.

Both crocodile species are feared but the Agta do not take specific precautions, even in areas where Indo-Pacific crocodiles occur. Agta fishermen occasionally encounter crocodiles underwater but are unconcerned about the risks. In the past, fishermen requested permission of the crocodiles to catch fish and asked to be left alone in the water, but this practice has largely disappeared. Fishermen claim that crocodiles will not attack them:

'My father knew an underwater cave in Dipagsangan. There was always a large crocodile in the cave. The crocodile allowed my father to enter the cave and spear fish. They were friends and blood brothers. My father asked the crocodile not to harm his family. When my father died, the crocodile was also gone' (pers. comm. E. Prado 2006).

These personal bonds are common throughout the northern Sierra Madre. Fishermen know individual crocodiles and say that these animals do not pose a threat to them.

Crocodile attacks on humans are rare in the northern Sierra Madre. In 1996 a boy, Arnel de la Peña, was bitten in his leg by an Indo-Pacific crocodile in Dibulos Creek in Divilacan; he luckily survived the attack. Several respondents said it was his own mistake:

'Crocodiles never forget and always take revenge. Arnel cut the tail of a small crocodile and threw stones at it. After a few years he was bitten in his legs by the same crocodile. A crocodile will always remember you' (pers. comm. R. Gonzalez 2005).

The moral of stories like this is that people should respect crocodiles: 'if you harm a crocodile, the crocodile will harm you' (pers. comm. W. Cabaldo 2004). Killing a crocodile is considered an unwise provocation. Not so much because of the physical danger posed by crocodiles, but because of the risk that 'an evil spirit will bite your soul' (pers. comm. M. Molina 2005). The Agta think that some crocodiles are guarded by spirits; these *enkantado* crocodiles are considered dangerous. Some respondents say that these enchanted crocodiles are very large, wear a necklace, have two tails or are completely black.

The hunter-gatherer lifestyle of the Agta has relatively little impact on crocodiles and wetlands. People do not eat crocodile meat, but when a nest is found the eggs are collected and eaten. In general the Agta are indifferent towards the crocodiles that inhabit their ancestral domains.

Figure 2.5: An Agta girl, Bianca Almonte, fishes for gobies in Disulap River. Photo by J. van der Ploeg (2007).



The Kalinga

The Kalinga are shifting cultivators in the forest frontier of the northern Sierra Madre. They inhabit two remote watersheds in San Mariano: Catalangan and Ilaguen.²³ A remnant Philippine crocodile population survives in these river systems. It is said that in the past the Kalinga and crocodiles peacefully coexisted: 'people used to cross the river on the back of crocodiles' (pers. comm. A. Fransisco 2004). The Kalinga say that crocodiles are dangerous animals but claim that the crocodiles that live in their ancestral domains are an exception: they are 'friendly' (pers. comm. W. Languido 2003). Killing crocodiles is a taboo and can cause sickness: 'you cannot kill something that is stronger than you' (pers. comm. Baliwag 2004). If people become sick because of a crocodile, they can be cured by placing a cross with chalk on their forehead and performing a ritual.

Crocodiles play an important role in Kalinga culture. During festivities and healing rituals (*patunnuk*) the Kalinga make rice cakes in the form of a crocodile: offers to the ancestors. Transmogrification and metempsychosis are recurrent themes in Kalinga society. The Kalinga believe that crocodiles are the embodiment of the ancestors, and sometimes make a small food offer for the ancestor crocodiles when

crossing a river (Knibbe & Angnged 2005: 71) (figure 2.6). People narrate that their chief could change at will into fierce crocodiles; and they joke that today's *punong barangay* (the elected village leader) has luckily lost that ability. The Kalinga believe that the *bugeyan*, the traditional healer, still has the ability to change into a crocodile. In trance she risks becoming a crocodile (pers. comm. M. Espiritu 2005) (figure 2.7). Faith healers can also command crocodiles to attack people as a punishment for anti-social behaviour. People tell stories of other remarkable transformations:

'A girl never wanted to share her beetle nut with her family. She was possessed by a spirit and became sick. Her parents cooked nice food, but she did not want to eat. Every night she went to the river to swim. One night she said to her parents: "you can eat my beetle nut, I am a crocodile now." She cried and said goodbye. Then she went to the river and became a crocodile' (pers. comm. T. Catalonia 2003).

In another popular Kalinga folktale, a woman hit her children too hard and subsequently turned into a crocodile. As it is widely thought that crocodiles eat their own offspring, people consider this a logical punishment.²⁴

Traditional beliefs and practices prove to be surprisingly resilient. Three hundred fifty years after Father Alcina wrote about women giving birth to crocodiles in the Visayas, the Kalinga in the northern Sierra Madre think that some people are born with a spiritual crocodile-twin:

'The girl and the crocodile grew up together. But one day the father got angry with the crocodile and tried to kill it. The crocodile escaped but his tail was chopped off. You can still see this twin crocodile without tail in the river. We call him *putol*. The crocodile regularly visits and protects his sister' (pers. comm. B. Robles 2003).

Different versions of this story are told throughout the Sierra Madre. Some narrators claim the enchanted crocodile was released by her human parents with a necklace. Others say it killed his human brother. Poldo Velasco recited another version of the crocodile-twin story:

'A woman gave birth to twins: one was a girl and the other a crocodile. They grew up together, although the crocodile was mostly in the water. His sister talked to him and said: 'please do not eat dogs or humans. Otherwise I will kill you'. But one day a dog went missing, and she suspected it was her sibling who did this. She went to the river and called: 'all of you crocodiles, related to my sibling, come to me!' Many crocodiles came, really a lot. The river was full of them. Then she said: 'there is still one missing!' So she asked them to look for her sister crocodile. A few moments later her sister crocodile came. 'So you were the one who ate the dog' she said. And she killed her sister crocodile' (cited in Knibbe & Angnged 2005: 72).

The Kalinga try to find a logical explanation for crocodile behaviour. In Cadsalan crocodiles are often observed in the creek near the traditional cemetery. People concluded that these crocodiles were the personification of the ancestors and therefore would not disturb these animals. Aggressive behaviour of individual crocodiles is justified: 'even a chicken protects its chicks' (pers. comm. Robles 2006). In 2003 a boy, Marlon Robles, was attacked by an adult Philippine crocodile in Dinang Creek in San Mariano; luckily he escaped unharmed. People explained that the father of the boy had tried to kill a crocodile and that the crocodile attacked in retaliation:

'There is a spell on the crocodiles. Nobody can kill them. Boy Robles has tried to kill the crocodiles but he did not succeed. Now the crocodiles are taking revenge and are attacking his family' (pers. comm. F. Languido 2003).

But the Kalinga don't see a fundamental problem in living in close proximity to crocodiles: the peace pact is still honoured.

Figure 2.6: Kalinga offering to the ancestors along Dilumi Creek. Photo by Y. Zwart (2009).



Social change

The historical continuity of people's attitudes towards crocodiles is remarkable in the northern Sierra Madre. But it also masks fundamental changes. In the 1960s commercial logging companies started operating in the forests of the Sierra Madre. Commercial crocodile hunters systematically killed crocodiles for the leather trade. Some elder respondents remember how 'Moro hunters' killed crocodiles by luring the animals with a prayer and stabbing them underwater: 'their magic made them invulnerable to the wrath of the spirits' (pers. comm. T. Francisco).²⁵ In several areas, the army shot crocodiles to 'protect the local populace' (pers. comm. Lt. J. Arburo 2004). Immigrant farmers settled in the forest frontier and organized hunting parties to 'clean the river from crocodiles because they posed a threat to our children and pigs' (pers. comm. R. Corpus 2004). These Ilocano and Ibanag immigrants generally see crocodiles as vermin. They believe that crocodile meat is an excellent medicine against asthma; that crocodile scales have magical power during cockfighting; and that a crocodile penis is an aphrodisiac.

Nowadays, the Agta and Kalinga form minorities in the northern Sierra Madre. Immigrants have dispossessed the indigenous people of most of their ancestral lands. The Agta have maintained their cultural distinctiveness to a large degree, but are generally excluded from social and economic life. The Kalinga, in contrast, have undergone a rapid process of 'Ilocanization' (Keesing 1962: 326). Most Kalinga have been converted to Christianity and have adopted the production and consumption patterns of their Ilocano and Ibanag neighbours. The Agta and the Kalinga are marginalized groups, often stigmatized by lowland communities. As a result people are reluctant to talk about their traditions and beliefs, afraid of being labelled as 'stupid', 'backward' or 'superstitious'. During interviews people explain that only enchanted crocodiles attack people, but add that they personally 'no longer believe in these stories' (pers. comm. P. Maneia 2003).²⁶ Traditional values and practices are changing as markets, schools, chainsaws and televisions become more accessible.

In the remote villages one finds a mix of often contradicting stories and anecdotes. Some people claim that enchanted crocodiles attack people whereas normal crocodiles are harmless, others say that normal crocodiles attack people and that enchanted crocodiles are 'friendly' and carry people across rivers. Indigenous people and immigrant farmers in the northern Sierra Madre creatively fuse Malay beliefs, European fairytales and Hollywood movies into one contemporary reality. In June 2001, for example, a Philippine crocodile was killed in the municipality of Divilacan. The animal was buried. When it started raining intermittently for several days, people made a link between the rains and the dead crocodile: the crocodile needed water. As a result the crocodile was exhumed and thrown into the sea to appease the crocodile-spirit and prevent a flood. Another example comes from the municipality of Palanan

where treasure-hunters drained an underwater cave in 2004. They were convinced that a Japanese plane loaded with gold had crashed in the cave during World War II. The fact that crocodiles were observed in the area strengthened this idea: 'everybody knows that crocodiles protect treasures' (pers. comm. L. Salazar 2004). This chaotic and often inconsistent mix is in my view not a sign of deculturation but a characteristic element of oral history. Folktales, myths and movies form the logical framework wherein new experiences and observations are flexibly incorporated. People in Divilacan for example say that there used to be an Indo-Pacific crocodile that was so large that bamboo grew on its back. Seeing this animal was an omen for a good harvest. But this is no longer the case: 'the bamboo died because of the use of pesticides' (pers. comm. J. Centeno 2004).

The argument that crocodiles survived in the ancestral domains of the Agta and the Kalinga because of low population densities, rudimentary technology and the absence of markets can easily be refuted. Indigenous people in the northern Sierra Madre tolerated crocodiles; they could have exterminated the crocodiles had they wished so. Indifference, respect and fear of the spirits assured that crocodiles were not purposively killed. Conversely, the Kalinga and Agta have not actively protected crocodiles or critical wetland habitat in their ancestral lands. There is, in essence, no need to protect ancestors, spirits or witches. Obviously immigration and acculturation have profound impacts on traditional belief and knowledge systems that structured people's relations with crocodiles. But that does not make these indigenous experiences less relevant. Agta and Kalinga culture provides a valuable counterweight against the commonly held view that negative attitudes of rural communities form a major obstruction for *in-situ* crocodile conservation in the Philippines. As such the perceptions of the Agta and the Kalinga are more than relicts from a distant past: they are proof that people and crocodiles can coexist in intensively-used landscapes in the Philippines in the 21st century. The experiences of the Kalinga and the Agta provide very practical solutions for specific problems: when a crocodile attacked Marcella Impiel's livestock in Cadsalan in 2001 she did not kill the crocodile, but decided to transfer her house a little further from the creek and to prevent her pigs from roaming freely at night. It solved the problem.

DISCUSSION

It is argued that negative attitudes of rural communities hamper *in-situ* crocodile conservation. In this view removing crocodiles from the wild and breeding them in captivity is considered the only solution to safeguard crocodile populations in the Philippines (Ross 1982: 27; WCSP 1999: 76-79).

There are several flawed assumptions in this reasoning. As this chapter has

shown people who live in close proximity to crocodiles do not necessarily consider crocodiles a pest. In fact, indigenous peoples in the northern Sierra Madre tolerate crocodiles. Here, as well as in the mangrove forests in Palawan and the marshes in Mindanao, rural communities have a tradition of co-existence with crocodiles that goes back for more than four hundred years. As a result crocodiles have survived in the ancestral domains of these peoples. Ignoring this fact not only inhabits the design of effective conservation interventions but also adds to the marginalization and disenfranchisement of indigenous peoples. Paradoxically people who have no actual experiences with crocodiles are more afraid of and hostile towards crocodiles. When people are 'disengaged' incoherent representations and irrational fears of crocodiles prevail (Ingold 1994: 19).

A narrow focus on the utilitarian value of crocodiles does not seem to be a practical conservation strategy in the Philippines. There are no undisturbed wetlands and too few crocodiles left in the wild for a community-based sustainable harvesting and ranching programme in the Philippines. Crocodile farming certainly has economic potential but requires large capital investments. At present, the crocodile leather industry in the Philippines is dominated by six wealthy hog and poultry farmers, who are operating closed-cycle crocodile farms (Mercado 2008: 29). Crocodile farming has so far not generated economic benefits for rural communities living in crocodile habitat, and it is highly unlikely it will do so in the near future. In most areas where crocodiles occur, tourism is not a viable option: civil insurgency and the lack of infrastructure makes travelling to the northern Sierra Madre, the Balabac Islands in Palawan, and the Ligauasan and Agusan marshes in Mindanao difficult. The exclusive focus on sustainable use and captive breeding deviates scarce resources from *in-situ* conservation efforts. Removing crocodiles from the wild contributes to local extinctions and reinforces the idea among policy makers and the public that cohabitation is impossible. Moreover it ignores the fact that people have found ways to co-exist with crocodiles in human-dominated landscapes. But the sustainable use model has failed to conserve crocodiles and improve the well-being of people in the Philippines.

The pre-colonial heritage and the practical knowledge and experiences of indigenous people offer an alternative perspective for the modernist and utilitarian views of policy makers and conservationists (Schama 1995; Scott 1998; Maffi & Woodley 2010). Philippine history and culture provides a conservation ethic entrenched in society and history and adaptive to local circumstances. In areas where crocodiles survive in the wild, indigenous beliefs and practices towards the species often prevail. Here people know crocodiles from their own experience and treat them with respect. These are not archaic remnants of a forgotten past, irrelevant for modern life. On the contrary, the worldviews and ecological knowledge of the Kalinga and Agta offer pragmatic solutions for living with crocodiles. With common-sense precautionary measures, such as tying livestock at night and avoiding areas where crocodiles are known to occur, human-

crocodile conflicts are minimized. These experiences provide a different narrative: one that stresses cohabitation, instead of 'threats to livelihoods' and 'economic importance.' It enables the design of a conservation strategy that positively enhances the capacity and knowledge of rural communities to conserve the resources they value.

The experiences in the northern Sierra Madre suggest that crocodiles can effectively be conserved in human-dominated landscapes (van der Ploeg & van Weerd 2004; van der Ploeg *et al.* 2008b). Setting aside cultural prejudice the municipal government of San Mariano proclaimed the Philippine crocodile as the flagship species of the municipality. Village councils prohibited the use of destructive fishing methods, established crocodile sanctuaries and maintain riparian buffer zones. A public awareness campaign engages people in crocodile conservation: posters are distributed, community dialogues are organized to address peoples' questions and concerns, and schoolchildren are brought to the field to see the Philippine crocodile in the wild (van der Ploeg *et al.* 2008a; van der Ploeg *et al.* 2009). Farmers and fishermen now know that the Philippine crocodile is protected by law.²⁷ More important perhaps is that people take pride in the occurrence of a rare and iconic species in their village; that fishermen enjoy talking about crocodile ecology and behaviour; and that children become excited about seeing a crocodile in the wild. For many people in San Mariano these immaterial values seem to be an important motivational factor to tolerate the species in their midst.

There is broad support for these conservation interventions at the grassroots level. Confronted with declining fish stocks and the effects of flooding, people want authorities to ban fishing with dynamite and to act against destructive land use practices such as the conversion of creeks and ponds and logging along river banks. In this view the well-being of the community depends on the conservation of watersheds, wetlands and crocodiles. For rural communities living in crocodile habitat, crocodile conservation is not an externally imposed alien concept but builds on existing cultural values.

In 1890 Jose P. Rizal published an annotated version of Antonio de Morga's *Sucesos de las Islas Filipinas* (1609):

'[O]ther nations have great esteem for the lion or the bear, putting them on the shields and giving them honorable epithets. The mysterious life of the crocodile, the enormous size that it sometimes reaches, its fatidic aspect, without counting anymore its voraciousness, must have influenced greatly the imagination of the Malayan Filipinos' (Rizal cited in Nocheseda 2002: 75).

Crocodiles still capture the imagination of many Filipinos. This forms a strong foundation to conserve the species in the wild, also for poor rural communities in remote areas.

Figure 2.7: Mrs. Garatiyu, a Kalinga traditional healer (*bugeyan*). Photo by J. Hulshoff-Pol (2005).



Table 2.1: Local terminology for crocodiles in the Philippines.

Area	Language	<i>C. porosus</i>	<i>C. mindorensis</i>	Reference
North Luzon	Ilocano (Iloko)	<i>buaya</i>	<i>Bokkarut</i>	Vanoverbergh 1928: 11
Cagayan Valley	Itawis	?	<i>Lamag</i>	pers. obs.
	Ibanag	<i>binuaya / buaya / bubuaya</i>	<i>bukarut / lamag</i>	pers. obs.
	Yogad	<i>bwaya</i>	<i>bukarot / lamág</i>	pers. obs.
	Gaddang	-	<i>lamig</i>	Reid 1971: 65
	Isneg	<i>buwaya</i>	<i>bokarót</i>	Vanoverbergh 1972
	Bugkalot (Ilongot)	-	<i>buwaya</i>	Aquino 2004: 290
Sierra Madre	Agta (Dupaninan)	?	<i>bukahot / lamag</i>	Headland 2007 pers. comm.
	Kasiguranin	<i>buwaya</i>	?	
	Dumagat	<i>buya</i>	?	
	Umirey	<i>mangato (?)</i>	?	
	Kalinga	-	<i>lamag</i>	pers. obs.
Cordillera	Bontoc	-	<i>buaya / bo'waya</i>	Reid 1971: 65
Zambales	Sambal	<i>buaya</i>	?	Reid 1971: 65
Central Luzon	Kapampangan	<i>dapo</i>	?	Forman 1971
South Luzon	Tagalog	<i>mamuaya / manbuaya / namumuaya</i>	<i>tigbin</i>	de San Antonio 1624
Bikol	Bikol	<i>bu'aya</i>	<i>barangitaw</i>	de Lisboa 1865
Masbate	Masbatenyo	<i>buwaya / bwaya</i>	?	Wolfenden 2001
Mindoro	Mangyan	<i>buaya</i>	<i>barangitaw / burrangás / burrangaris</i>	Barbian 1977
Central Visayas	Sebuano	<i>boàya / balanghítao / balangíta</i>	?	de la Encarnacion 1885
East Visayas	Waray (Samar-Leyte)	<i>binuaya</i>	<i>barangitáw</i> ²⁸	Tramp 1995
Surigao	Mamanwa	<i>buaja / bowaza</i>	?	Reid 1971: 65

Table 2.1 (continued)

Agusan	Manobo (Agusan)	<i>búaya / bu'ada</i>	<i>ngusó (?)</i>	Elkins 1968
Bukidnon	Binukid (Manobo)	<i>bu'qaya / vuaya</i>	?	Polenda 1989: 275
Davao del Norte	Mandaya (Mansaka)	<i>bowaya</i>	<i>sapding</i>	Svelmoe & Svelmoe 1990
Lanao	Maranao	<i>boaia / lotoi</i>	<i>balangitao / dagoroqan</i>	McKaughan & Macaraya 1967
Ligauasan	Maguindanao (Moro)	<i>buhaya / bohaya</i>	?	Juanmartí 1892
Cotabato	T'boli	<i>bwenghel</i>	?	Paterno <i>et al.</i> 2001
Zamboanga	Subanon	<i>buaya</i>	?	Reid 1971: 65
Sulu	Tausug	<i>buaya / buqayah</i>	?	Reid 1971: 65
Basilan	Yakan	<i>buwaye</i>	-	Behrens 2002
Calamian Islands	Kalamianon	<i>bukayaq</i>	?	Reid 1971: 65
North Palawan	Batak	<i>buaya</i>	<i>bungut</i>	Eder 2006 pers. comm.
South Palawan ²⁹	Tagbanwa	<i>buaya</i>	<i>bungot</i>	Reid 1971: 65

ENDNOTES

1. Based on: van der Ploeg, J., M. van Weerd & G.A. Persoon. 2011. A cultural history of crocodiles in the Philippines; towards a new peace pact? *Environment and History* 17 (2): 229-264. Jan van der Ploeg conducted the literature review, collected the ethnographic data and wrote the article. Merlijn van Weerd assisted in the field and commented on the text. Gerard Persoon encouraged the publication of the paper, and provided comments and corrections on different versions of the text.
2. While acknowledging my moral engagement and active involvement with crocodile conservation in the Philippines, I do not advocate a romantic view of indigenous people living in harmony with nature since time immemorial, or aim to construct a 'usable past' for contemporary political gains (McNeill 2003: 15). Nor do I suggest a linear evolution from primitive to modern ideas about wildlife.
3. I mainly relied on the fifty-five volumes of the *Philippine Islands, 1493-1898* edited by Emma Blair & James Robertson (1907). Unless otherwise indicated, I have used their translation of the Spanish archives. For clarity I refer in the text to the date and author of the original publication. In the literature search I have not limited myself to the Philippines, but included references and historical anecdotes from insular Southeast Asia. The article *De krokodil in het leven van de Posoërs* [The crocodile in the life of the Poso] of Albert Kruyt (1906), a Dutch missionary in Sulawesi, is perhaps the most interesting

primary source on the relation between crocodiles and people in Southeast Asia. Charles Hose and William McDougall (1901) also provide valuable insights on the relations between crocodiles and people in the Malay world.

4. *Buwaya* or a derivate thereof is the common denominator for crocodile throughout Southeast Asia (Table 2.1). In areas where both crocodile species occur, such as in the northern Sierra Madre, *buwaya* refers to *C. porosus* and other names are used for *C. mindorensis*, such as *lamag* in Ibanag or *bukarot* in Ilocano. However, in upland areas where only *C. mindorensis* occurs, such as the Central Cordillera on Luzon, people have adopted the generic name for crocodile for *C. mindorensis*: *buwaya*. It is difficult for laymen to distinguish a Philippine crocodile from an Indo-Pacific crocodile, especially in the wild. There are several morphological differences that distinguish the two crocodile species. In addition, there are differences in habitat preference: the Indo-Pacific crocodile is generally restricted to mangroves, lakes and marshes in the lowlands, whereas the Philippine crocodile occurs mainly in upland river systems.
5. Most of the Spanish lexicographers had spent years in Mexico and probably knew the spectacled caiman (*Caiman crocodilus*) and the American crocodile (*Crocodylus acutus*) which occupy similar ecological niches as the Philippine crocodile and the Indo-Pacific crocodile respectively.
6. Crocodiles are a popular character in Filipino folktales (Eugenio 2002: 19). In folktales the crocodile is generally the dupe who is tricked by a monkey or a turtle (Fansler 1921: 374-79; Hart & Hart 1966: 323; Eugenio 1985: 161; Eugenio 1994: 144).
7. Crocodiles have five toes on the front limb without webbing between them. On the hind limb crocodiles have four toes, of which three are clawed and have webbing between them. The hind limb also has a small rudiment of a fifth toe.
8. The reason why crocodiles have no tongue is a popular theme in Philippine folktales (Ratcliff 1949: 282). In fact, the tongue of all crocodile species is attached along its entire length to the floor of the mouth, and cannot be protruded.
9. Albert Kruyt, a Dutch missionary, photographed these bamboo fences in Central Sulawesi (1906: 6).
10. It is tempting to provide an ecological explanation for the indifference of people towards crocodiles. It seems plausible that in areas where the Indo-Pacific crocodile occurred, people feared crocodiles and took precautions; whereas in the habitat of the much smaller Philippine crocodile people would be indifferent to crocodiles. On closer inspection however this lowland-upland dichotomy does not hold. In several areas in the Philippines, for example on the Pacific coast of Sierra Madre, both crocodile species occur. In these areas people differentiate between the species but do not take specific precautions against *Crocodylus porosus*. Although there are no records of fatal attacks on humans, the Philippine crocodile poses a risk to humans, particularly during breeding season.
11. In the Spanish Empire an *alguazil*, a derivation from the Arabic *visir*, was a municipal judge.
12. In Borneo, people engraved crocodile images on rocks, and constructed life-size outlines of crocodiles with clay, wood and stones. These crocodile images were ritually killed during a ceremony (*ulung buaya*). After the ceremony, the crocodile image continued to serve as a symbol of leadership, as platform for juridical sessions, a ritual site for offerings, or as boundary marker between warring groups (Hose & McDougall 1901; Harrison 1958; Datan 2006). In the Philippines, however, such large megalithic relics were never recorded.
13. Large crocodiles often have several stones, gastroliths, in their stomach to aid digestion.
14. Pre-colonial Philippines was subject to Indian, Chinese and Islamic influences, which obviously left traces in material and oral culture. The *naga* and the dragon, for example, are symbols that are closely associated with crocodiles, and which have been adopted throughout the archipelago (Maxwell 1990). The popular folktale about the crocodile and the monkey probably originates from Indian literature (Francisco 1964). These influences are, however, now so thoroughly mixed up that it is almost impossible to disentangle them (Skeat 1900: p. xii-xiii). Nevertheless it is important to highlight one aspect: Muslims

generally consider crocodile meat *haram*, and will thus not kill crocodiles for food. Persoon and de longh (2004) already pointed to the differences between Islamic and Christian communities in Southeast Asia and the implications for wildlife conservation: a point of particular relevance for the conservation of crocodiles in Mindanao and Luzon.

15. Nevertheless some remarkable transformations took place in this image: St. Martha the Patron Saint of housewives in Europe, became in the Philippines the Patron Saint of the duck egg (*balut*) industry after driving crocodiles out of Pasig River (Nocheseda 2002). Her victory over the crocodiles is still celebrated every year in the municipality of Pateros. A similar fiesta is held in the municipality of Gattaran to celebrate the disappearance of crocodiles from Cagayan River.
16. A bronze sculpture made by Rizal of a dog attacking a crocodile to save her pup represents the Filipino people and the Spanish rulers, respectively. The association between crocodiles and landlords is still a popular theme in Filipino literature (see for example: Hernandez 1983).
17. See Bankoff 2009 on the origin of the utilitarian conservation ethic in the Philippines.
18. In the Dutch Indies, the colonial government created a premium system to eradicate crocodiles. The system officially started in 1935 but was terminated because most people refused to kill crocodiles (Knapen 2001)! To our knowledge no systematic pest eradication system was set-up in the Philippines.
19. Since 1992 there has been growing awareness of the plight of the country's endemic wildlife. Since 2004 crocodiles are protected by law. However, most people are simply not aware of environmental legislation.
20. This paragraph is based on around 150 unstructured interviews with Agta, Kalinga and immigrant farmers (mainly Ilocano, Ibanag and Ifugao) in the northern Sierra Madre between 2002 and 2008. Most interviews were conducted in Ilocano, the lingua franca in north Luzon, with the help of an interpreter. Specific quotes were selected if they were considered representative for a general theme. The name of the respondent and the year when the interview was conducted are provided for each quote.
21. Beriberi is a nervous system ailment caused by vitamin B1 deficiency. Symptoms include weakness, pain, weight loss, emotional disturbances and swelling of limbs.
22. There are approximately 10,000 Agta in the Sierra Madre on Luzon (Early & Headland 1998). The Northern Sierra Madre Natural Park in the province of Isabela, where I conducted most of the fieldwork, is home to 1,700 Agta distributed over more than 80 settlements (Minter 2009).
23. It is important to differentiate the Kalinga of the Sierra Madre from the Kalinga of the Central Cordillera: these are two different ethno-linguistic groups. In Ibanag the word 'kalinga' means enemy. The Christian communities in the Cagayan Valley called all infidel mountaineers Kalinga which might explain why these separate groups are both called Kalinga. The Kalinga of the Sierra Madre, also known as Irraya, Kalibugan or Catalangan, were first described by a German explorer, Carl Semper, in 1861 (Scott 1979). Felix Keesing (1962) postulated that the Sierra Madre Kalinga are Ibanag and Gaddang who rebelled against Spanish rule and retreated to the foothills of the Sierra Madre. The local government of San Mariano estimates that there are approximately 2,500 Kalinga living in the municipality. This is most likely an underestimation: many Kalinga nowadays identify themselves as Ilocano. At present there are also several Cordillera Kalinga migrant communities in the northern Sierra Madre, particularly in the municipality of Divilacan.
24. This myth is widely known throughout the Philippines and insular Southeast Asia. It probably finds its origin in the maternal care of crocodilians: several crocodile species crack the eggs to assist the young in hatching and carry the hatchlings to the water in their jaws (Navarrete 1676: 305; Skeat 1900: 286; Alvina 2007).
25. Throughout northern Luzon people narrate how in the 1960s and 1970s professional hunters searched the rivers and creeks at night, killed crocodiles, dried the skin and distributed the meat to local people. It is generally assumed that these hunters were from Mindanao: hence people refer to them as 'Moro.'

- In fact it is probable that these professional crocodile hunters were Orang Bugis from Sulawesi, who controlled the crocodile leather networks in insular Southeast Asia. Most crocodile skins from the Philippines were exported to tanneries in Singapore (Hemley & Caldwell 1986).
26. Interestingly, this ambivalence has been a recurrent element in the anthropological literature on human-wildlife relations for more than 100 years (see: Hose & McDougall 1901: 190; Martin 1978: 155-156).
 27. As a result the Philippine crocodile population in San Mariano is slowly recovering from 12 individuals in the wild in 2000 to 64 in 2009.
 28. One is tempted to conclude that *barangitaw* is a common denominator for the Philippine crocodile in the Visayas. Marcos de Lisboa, for example, defined *barangitaw* in his *Vocabulario de la lengua Bicol* (1865) as a 'type of crocodile found in fast flowing rivers'. However, Juan Felipe de la Encarnacion (1885) defines the Cebuano word *balanghitao* as an '*especie de caiman muy maligno*': a very malicious caiman species. And here one would conclude that *balanghitao* refers to the Indo-Pacific crocodile. To make matters more complicated, the Cebuano word *barang* means 'witch'. Thus *balanghitao* could best be translated as a witch-crocodile. This shows the limitations of using ethnographic and linguistic sources for determining the historical distribution of the two crocodile species in the Philippines.
 29. The fact that two separate names are used for crocodiles in Batak and Tagbanwa suggest that two crocodile species occurred in Palawan. However, there are no records of Philippine crocodiles on Palawan (but see Schultze 1914).

