Friendly crocodiles and vengeful ancestors: Conserving the critically endangered Philippine crocodile in Dinang Creek

Ploeg, J. van der

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With Guest editors | Bas Verschuuren and Robert Wild

Langscape

Sacred Natural Sites; Sources of Biocultural Diversity

Langscape is an extension of the voice of Terralingua. It supports our mission by educating the minds and hearts about the importance and value of biocultural diversity. We aim to promote a paradigm shift by illustrating biocultural diversity through scientific and traditional knowledge, within an elegant sensory context of articles, stories and art.

On the cover: Wixárika yarn paintings often depict the interconnection of the spiritual and natural world. The Wixárika Mara'akame pictured here (in ceremonial clothing), calls upon the eagle spirit under the watchful eye of the sun and the moon. Source: Yarn painting by Gonzalo Hernandez, courtesy of the Huchol Center for Cultural Survival. http://www.thehuicholcenter.org

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Guest Editors: Bas Verschuuren and Robert Wild, Sacred Natural Sites Initiative.

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Where there is a sacred site there is a space and a force for the human beings to live in balance and harmony with themselves, nature and the universe.

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Contributors

Guest Editors

Bas Verschuuren currently works as a freelance researcher and conservationist with EarthCollective www.earthcollective.net doing applied research and conservation projects the integration of cultural and spiritual values in management and policy. Bas collaborates with a range of conservation NGO's, government agencies and research institutes on a variety projects in Europe, South, Central and North America, Asia, Africa and Australia. His work leads him to lecture and publish (academic) articles, reports and books, especially on sacred natural sites.

Robert Wild is a conservation practitioner with over twenty five years living and working with communities at protected areas in tropical countries. A city child who in his teens wandered London's peripheral farmlands, sought out its secret locations and learnt its country lore. Years later he realized he had grown up with a sacred site at the bottom of his garden! Thanks to the elders of the forests of East Africa, he learned read the signs in the landscape and yes he also did the western education stuff.

Together Bas and Rob, have for the past 6 years been Co-Chairs of the IUCN Specialist Group on Cultural and Spiritual Values of Protected Areas, they are now focusing on the development of the Sacred Natural Sites Initiative. The Initiative builds a programme of work with custodians, communities, scientists, conservationists and other stakeholders in support of the protection, conservation and revitalization of sacred natural sites and territories www.sacrednaturalsites.org.

Contributors

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Felipe Gomez is a K'iche Maya, a Ajq'ij spiritual leader, and a Ajkun traditional healer. Since 1992, Felipe has been working with Oxlajuj Ajpop, the National Conference of Spiritual Mayan Ministers in Guatemala. Felipe supports and promotes structures for the ancestral authorities to enable them to dignify their sacred sites and revitalise their ancient Mayan knowledge.

Janelle Marie Baker is an ecological anthropologist who worked with Wixáriktari to record their ethnoecological knowledge about amaranth for her MA thesis at the University of Alberta (2005). She continues to visit Wixárika friends in Mexico and has a close relationship with the Huichol Center for Cultural Survival.

Rylan Bourke is a student at the Institute of American Indian Arts. **Julee DeHose** is a graduate student at New Mexico Highlands University. **Judy DeHose** is President of the Cibecue Community School Board. **Jayar Early** graduated from Cibecue High School and plans to attend Eastern Arizona College this fall. **Jonathan Long** is an ecologist with the USDA Forest Service Pacific Southwest Research Station.

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Holly Shrumm works for Natural Justice and has a background in anthropology, zoology and community-based natural resource management. Based in Sabah, Malaysia, Holly co-coordinates the Asia Regional Initiative on Biocultural Community Protocols together with COMPAS, the LIFE Network, UNU-IAS and community partners in Pakistan, India and Sri Lanka. She has most recently coedited Biocultural community protocols: a toolkit for community facilitators.

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Dr. John R.Healey, Senior Lecturer in Forest Ecology at Bangor University, with extensive research experience, including 'Biodiversity conservation in ancient church and monastery yards in Ethiopia'; Indicators and tools for restoration and sustainable management of closed-deciduous forests in East Africa, Combining ecological knowledge and socio-economic perspectives in participatory improvement of multistrata agroforestry systems in forest margins

Coming from Cyprus, **Inanc Tekguc** uses a camera to catalyze his passions for photography, traveling, and biocultural diversity conservation. After an MA in Visual Anthropology in 2010, he has been volunteering for organizations working with indigenous people, training his photography skills, and participating in biocultural diversity related courses as a photographer/videographer.

Jan van der Ploeg is an environmental anthropologist. In 2003 he founded the Mabuwaya Foundation. Mabuwaya is a compilation of the Filipino words mabuhay (long live) and buwaya (crocodile). The foundation aims to conserve the Philippine crocodile in its natural freshwater habitat. For more information see www.mabuwaya.org

Dr. Kalliopi Stara is currently a postdoctoral researcher in the Department of Biological Applications and Technology in the University of Ioannina, Greece. She is involved with the research on Trees and the Sacred since 2000. Her research interests lie on the scientific fields of Ethno-biology, Cultural Ecology and Environmental Education.

A researcher, **Cholponai Usubalieva-Gryshchuk** graduated from the American University in Central Asia with a BA degree in American Studies. Shortly thereupon, she developed an interest in traditional knowledge and shamanic practices, which made her travel to a number of locations in Central and Southeast Asia. Among other places, she delved into traditional practices in Kyrgyzstan, Cambodia, Myanmar (Burma) and Indonesia. Currently, she works as a researcher with the Aigine Cultural and Research Centre based in Bishkek, Kyrgyzstan, and collects materials for her PhD studies.

He Ran Gao finished her master degree on Landscape Ecology and Nature Conservation in Greifswald University in Germany. She first worked for a Beijing - based environmental NGO Green Earth Volunteer as project manager and now as an assistant researcher on environmental and resource policy in the Development and Research Center of the State Council.

Editor-in-Chief

Ortixia Dilts has collaborated with Terralingua since 2008. Her passion for her work with Terralingua stems from her deep connection with nature. Among her 'many hats' at Terralingua, she serves as editor-in-chief/designer of Langscape, Terralingua's flagship publication and an emerging forum for the exploration of the many facets of biocultural diversity. Ortixia aims to educate the minds and hearts of people about the importance and value of biocultural diversity.

Illustrations: details from cover photo. See information page 2.

Jan van der Ploeg

Friendly Crocodiles and Vengeful Ancestors:

Conserving the Critically Endangered Philippine Crocodile in Dinang Creek

Enhancing cultural values: the Philippine crocodile dance show links crocodile conservation to Kalinga culture Photo : G. Persoon 2011.

Night falls over Dinang Creek

The moon comes up over the forest. A thunderstorm in the distance flashes. Fireflies dance in a fig tree along the creek. The monotone buzz of the cicadas is deafening. We crawl through the bush to the bank of the creek, our shirts drenched in sweat, and switch on the flashlight. The light sweeps over the water. Two red eyes shine in the darkness: a crocodile. Then, the rain sets in and the flashlight burns out.

Dawn. The village slowly awakens. A rooster crows in the distance. Women sweep their yards. A girl fetches water in the creek. A farmer on the way to his field pauses briefly in the shade of the creek to clean his slippers. Two young boys bath a carabao in the same spot where we saw the crocodile just a few hours earlier. An old woman washes her clothes in the water. She laughs when we approach the water: '*never mind the crocodiles, they are friendly*!'

People intensively use Dinang Creek for washing, fishing, shading livestock and irrigating fields. Photo: by J. van der Ploeg 2010.

Traditional beliefs and practices protect crocodiles. Mrs. Garatiyu, a traditional healer believes she can transform into a crocodile. Photo: J. Hulshoff-Pol, 2005).

The Philippine crocodile

(*Crocodylus mindorensis*) is one of the rarest and most threatened species on the planet. Commercial hunting, the widespread use of destructive fishing methods and the massive conversion of freshwater wetlands have led to the disappearance of the species throughout the Philippine archipelago. It is estimated that less than 100 individuals remain in the wild. On the IUCN Red List the Philippine crocodile is classified as Critically Endangered, the category for species with the highest risk of extinction.

In theory the Philippine crocodile is legally protected in the Philippines. However, in practice the species continues to be killed out of fear. Most people think that crocodiles pose a severe threat to children and livestock. They generally do not differentiate between the relatively small and innocuous Philippine crocodile and the much larger and potentially dangerous saltwater crocodile (*Crocodylus porosus*) that also occurs in the Philippines.

Crocodiles are portrayed as dangerous man-eaters in mainstream Filipino culture. They are associated with corrupt politicians, and there is little public support for the protection of the species in the wild. The government Department of Environment and Natural Resources (DENR), mandated to protect the country's wildlife, lacks the capacity and resources to effectively enforce environmental legislation in the remote rural areas.

Policymakers have given up on the species. They argue that crocodiles cannot survive in human-dominated landscapes, and that people will only protect wildlife if they profit financially from it. Undisturbed wetlands no longer exist in the Philippines, and the species has little economic value: harvesting leather and ecotourism are not viable solutions. Typically, the Secretary of the DENR, Ramon Paje, recently remarked that: '*there is no place for crocodiles in the Philippines [...] because the reptiles could attack locals in the surrounding areas*'.

The Kalinga

A remnant Philippine crocodile population survives in the northern Sierra Madre mountain range on Luzon. Here, the species survives in the ancestral domains of indigenous people: the Kalinga. The word *kalinga* literally means enemy in Ibanag, the dominant language in the Cagayan Valley, and was used by the Spanish friars in the lowlands to refer to the infidels in the mountains. There is still much debate about the origins of the Kalinga. Most likely the Kalinga are the descendants of people who rebelled against colonial repression and conversion in the 16th and 17th century, and fled to the forest. Very little is known about the culture and language of the Kalinga. They nowadays form a small, closed community in two remote watersheds in the municipality of San Mariano: the Ilaguen River and the Catalangan River.

Crocodiles play an important role in Kalinga culture. Crocodiles are regarded as the embodiment of the ancestors. During festivities and healing rituals (*patunnuk*) the Kalinga offer rice cakes to the ancestors in the form of a crocodile. Crocodiles are associated with mystic power and fertility. People for example narrate that their chiefs can change at will into fierce crocodiles, and that faith healers (*bugeyan*) can command crocodiles to attack people as a punishment for antisocial behavior. People regularly place small offerings along creeks to appease the ancestor-crocodiles.

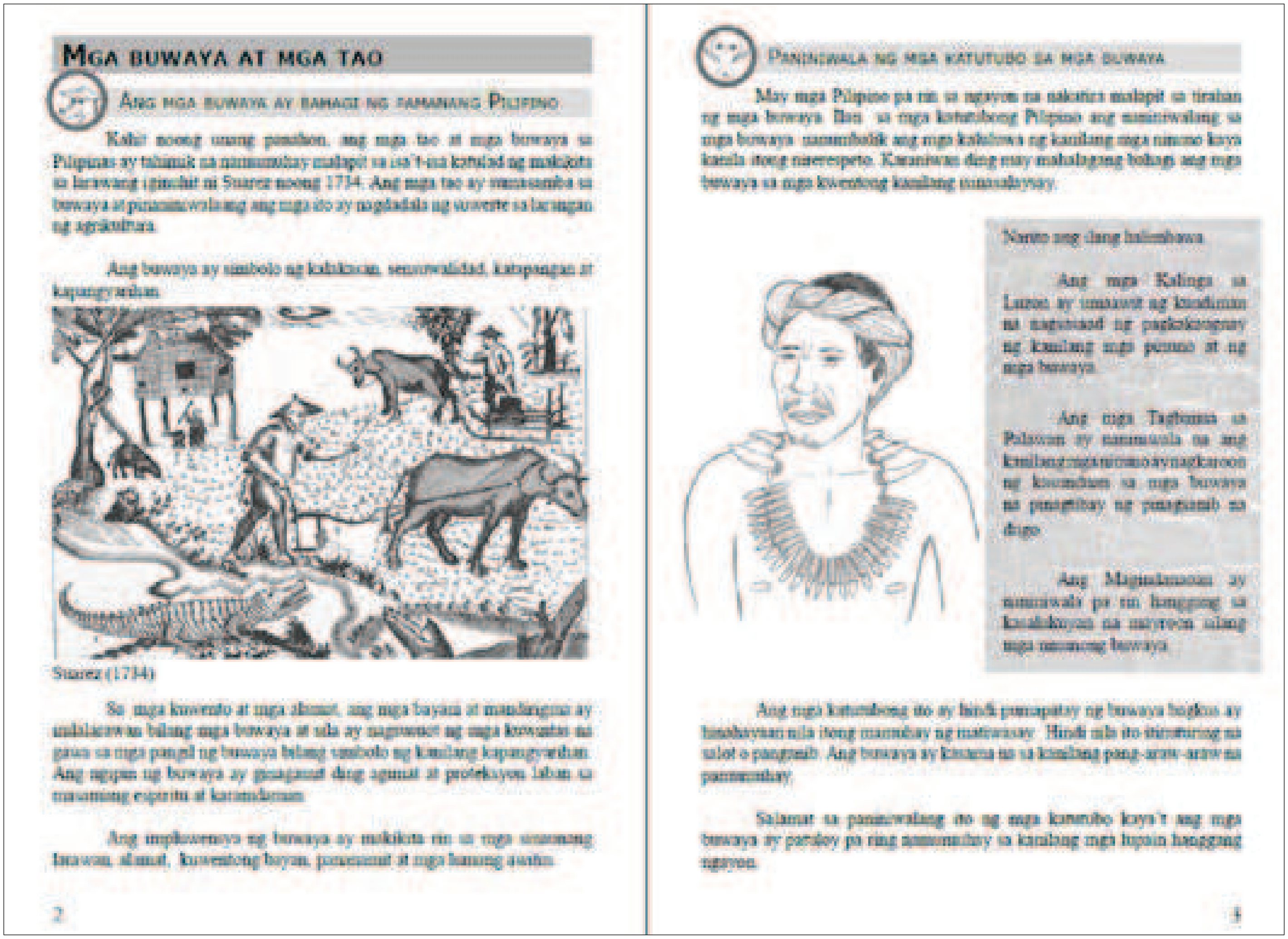
Killing or disturbing an ancestor-crocodile is considered an unwise provocation: '*you cannot kill something that is stronger than you*'. Not all crocodiles are ancestors, however: it is believed that ancestor crocodiles can be distinguished from normal crocodiles by their large size, or by their strange colors, or by having four instead of five toes. Conversely, not all ancestors are crocodiles: the ancestors can manifest themselves in many different ways and shapes. In any case, it is wise to treat crocodiles with respect: '*the crocodile will not bite innocent people; if you do not harm the crocodile, the crocodile will not harm you.*' Occasional crocodile attacks on humans are regarded as the punishment of the ancestors for the transgression of a social taboo. When a boy was bitten in 2000, people for example reasoned that this was because his father had thrown stones at the crocodiles.

The traditional beliefs and practices of the Kalinga have provided some form of protection to the Philippine crocodiles in the wild. Nowhere is this intricate link between indigenous people and crocodiles, and its implications for conservation, clearer than in Dinang Creek.

Dinang Creek

Dinang Creek is a small tributary of the Ilaguen River. The 11 kilometer-long creek meanders through sloping grasslands and corn fields. The area was logged in the 1970s by logging corporations. Only the banks of the creek remain forested. The water is almost stagnant and murky. A small Kalinga village, Lumalug, is located adjacent to Dinang Creek. People intensively use the creek for fishing, washing, fetching water, shading livestock and irrigating fields.

Arguably, this shallow creek is the most important nesting site for the Philippine crocodile in the wild! In


MGA BUWAYA AT MGA TAO

ANG MGA BUWAYA AY BAHAGI NG PAMANANG PILIPINO

Suarez (1734)

PANINIWALA NG MGA KATUTUBO SA MGA BUWAYA

The crocodile manual provides information on why and how to protect the Philippine crocodile. Mabuwaya Foundation, 2009

2009 three Philippine crocodile nests were found along the creek. Crocodiles regularly breed in a densely vegetated forest patch along the creek: the burial ground of the village. The fact that crocodiles are occasionally observed close to the graves reinforces the belief that ancestors turn into crocodiles.

Of course, the Kalinga have never purposively protected crocodiles. There is, after all, no need to protect the ancestors... But Kalinga culture undoubtedly protected the crocodiles in Dinang Creek. People in Lumalug could have easily killed all crocodiles had they wished so. But they did not.

Social Change

Nowadays the Kalinga form a marginalized minority in their ancestral lands.In the 1970s, Ibanag and Ilocano migrants settled in the area and bought land from the Kalinga. These newcomers often have very different attitudes towards crocodiles: they believe that crocodile meat is an excellent medicine against asthma, that crocodile scales have magical power and that a crocodile penis is an aphrodisiac. To them the only good crocodile is a dead crocodile.

Kalinga culture is rapidly eroding as markets, schools and televisions become more accessible. Most Kalinga have converted to Christianity. People have become reluctant to talk about their traditions and beliefs, afraid of being labeled as stupid, backward or superstitious. Many Kalinga youngsters are ashamed to speak their language, and many people longer identify themselves as Kalinga. People claim that in the past crocodiles carried their chiefs and heroes across the rivers, but say that '*they no longer believe these old stories*'.

Also in Dinang Creek crocodiles are now under severe threat. The Kalinga still refrain from killing the species, but don't object if other people are foolish enough to risk the fury of the ancestors. Crocodile nests are regularly

raided to eat the eggs. Hatchlings are occasionally captured and sold as pets. Also in Lumalug fishers now use electricity, dynamite and pesticides to maximize fish catches. Farmers increasingly clear vegetation along Dinang Creek to cultivate corn and reclaim freshwater habitat to grow rice. The municipal government declared that people could no longer bury their dead in the graveyard along the creek, thereby further unraveling the cord that tied people and crocodiles together.

Conservation

Over the past years the Mabuwaya Foundation has worked with the people of Lumalug to preserve the Philippine crocodile in Dinang Creek. It took a long time to gain the trust of the community. Who, after all, could be interested in a worthless crocodile? People in Lumalug at first feared that our interest in the species was a front for land grabbing or espionage. But after several consultations and regular visits people accepted the Foundation's presence in the village, and they now understand that it is genuinely interested in the Philippine crocodile.

But how to protect a sacred natural site such as Dinang Creek in a context of rapid social change, debilitating poverty, weak governance and a history of State-sponsored resource plunder? Is it possible to restore the traditional conservation ethic? And how to convince people who live below the poverty threshold to value crocodiles?

Under Philippine law indigenous people can claim rights to their ancestral land. In theory the Indigenous People's Rights Act seems a perfect solution to strengthen traditional resource management. In practice, however, red tape, corruption and institutional conflicts between the DENR and the National Commission on Indigenous People (NCIP) inhibit the issuance of an ancestral domain title to the people in Lumalug.

Farmers in Lumalug don't have security of land tenure and the traditional burial ground remains open-access. The formal recognition of indigenous rights is a major step forward, but will in the current socio-political context, not lead to the conservation of crocodiles in the wild or the improvement of people's livelihoods. The Mabuwaya Foundation has therefore mainly focused on environmental communication. An intensive public awareness campaign aims to enhance traditional values that protect crocodiles (such as respect for the species), and foster a sense of pride in people's cultural and natural heritage. A Philippine crocodile dance show, which is performed during the annual village feast, features the bond between Kalinga and the Philippine crocodile. Informative posters call on people to respect crocodiles. And a manual highlights the rich cultural heritage. The campaign has raised awareness on the plight of the Philippine crocodile, changed negative attitudes towards the species and influenced people's behavior.

At the same time the foundation aims to empower rural communities to protect their natural resources. After a lengthy negotiation process the village council declared Dinang Creek as a Philippine crocodile sanctuary in 2005. The use of destructive fishing methods is banned and farmers are encouraged to maintain a 3 meter natural buffer zone. The municipal government appointed three people as *Bantay Sanktuwaryo* (sanctuary guards). These guards protect crocodile nests and report violations of the rules of the sanctuary to the village council. Billboards were placed along the creek to inform people about the protection program. Six pump wells were installed in Lumalug to minimize human-crocodile interactions and improve access to safe drinking water. A performance-based payment system was set up to provide a financial incentive to the community: every year the village receives a reward based on the number of crocodiles that survive in the creek (1000 peso per crocodile). The Philippine crocodile now is the flagship species of these community-based conservation actions.

Coexistence

As a result of these conservation efforts the Philippine crocodile population is slowly recovering in Dinang Creek. The people in Lumalug tolerate the species in their village. In their worldview there is a place for crocodiles. Dinang Creek is the proof that people and crocodiles can coexist in the 21st century.

Further reading

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Photograph: The praying ritual at one of the hot springs in Kyrghizstan.
Cholponai Usubalieva-Gryshchuk