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

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Citation

Ploeg, J. van der. (2013, June 11). *Swallowed by a cayman : integrating cultural values in Philippine crocodile conservation*. Retrieved from <https://hdl.handle.net/1887/20940>

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

Issue Date: 2013-06-11

4. CREATING SPACE FOR CROCODILES: ENVIRONMENTAL GOVERNANCE IN THE PHILIPPINES¹

INTRODUCTION

The Philippine crocodile is a relatively small freshwater crocodilian. This endemic species was widely distributed throughout the archipelago but is now thought to be restricted to a few upland localities in North Luzon and Mindanao (van Weerd & van der Ploeg 2004). Indiscriminate hunting and habitat loss have decimated the population below critical threshold levels throughout the Philippine archipelago.²

Responding to the alarming results of Philippine crocodile surveys in the 1980s (Ross 1982; Ross & Alcala 1983), the Philippine government established an ex-situ conservation program in 1987: the Palawan Wildlife Rescue and Conservation Center.³ Captive breeding was considered the only viable option to guarantee the survival of the species (WCSP 1997). The center has successfully bred Philippine crocodiles in captivity, but no crocodiles have so far been reintroduced in the wild. Negative community attitudes towards crocodiles and the absence of any form of effective protection of the species and its habitat make the reintroduction of the Philippine crocodile in the wild almost impossible (Banks 2005).

The rediscovery in 1999 of a small and fragmented Philippine crocodile population in the municipality of San Mariano, Isabela Province in northeast Luzon (van Weerd 2000) and the subsequent conservation efforts (van Weerd & General 2003) created new opportunities for the survival of the species in the wild (van Weerd & van der Ploeg 2004). In this remote municipality in the northern Sierra Madre an alternative conservation strategy was developed. Here, conservation activities have focused on protecting the Philippine crocodile in its natural habitat through mobilizing public support for crocodile conservation, and establishing sanctuaries with the consent and cooperation of local authorities and rural communities.

The aim of this chapter is to document the Philippine crocodile conservation activities in the municipality of San Mariano, and place them in the wider context of natural resource management and environmental governance in the Philippines. I give special attention to the pivotal role of the municipal government in the protection of the species. I argue that the devolution of power to the municipalities has been instrumental for the design of a legitimate and effective policy to protect crocodiles in the wild. In the current sociopolitical context that characterizes the uplands of northeast Luzon, only local governments are able to effectively enforce laws protecting the Philippine crocodile and its freshwater habitat.

In many parts of Southeast Asia processes of decentralization and devolution are responses to the failure of centralized forms of government to solve certain problems,

especially those pertaining to environment and development (Persoon *et al.* 2004).⁴ Some authors have argued that this is essentially a top-down attempt to extend the authority and influence of the central State in remote upland areas (Magno 2001; Edmunds & Wollenberg 2004; Ribot *et al.* 2006). Interestingly, this State initiated devolution process has created a context in which local politicians, rural communities, and civil society groups are able to design new institutions for the sustainable management of natural resources at the local level (Contreras 2003). Throughout the Philippines people are currently experimenting with participatory approaches to conserve wildlife and natural resources. In contrast to the punitive national laws or the technocratic and capital-intensive captive breeding projects of the national government, these efforts epitomize adaptive and flexible co-management approaches that strengthen multifunctional local institutions and ingenuity (Scott 1998). This article aims to contribute to the growing body of empirical case studies describing local experiences to creatively overcome environmental degradation and rural poverty.

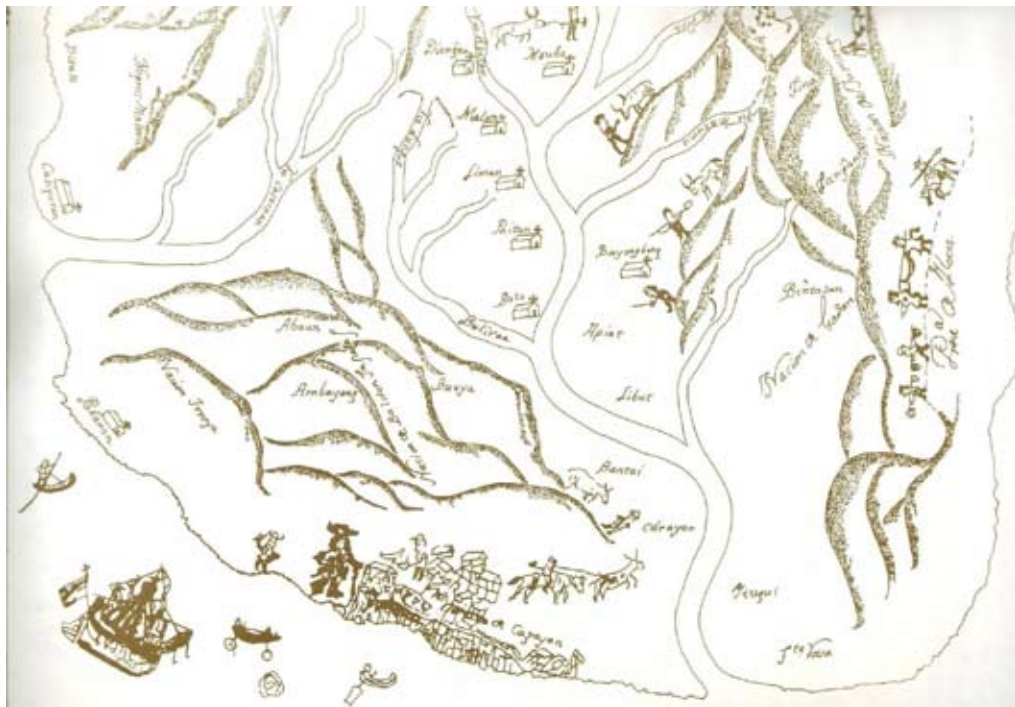
It is important, at the outset, to clarify my own position and methodology. This chapter is largely based on my experiences designing and implementing a Philippine crocodile conservation strategy in northeast Luzon. I supervised several students of Isabela State University and Leiden University who systematically collected data on peoples' perceptions and awareness in San Mariano and conducted interviews to obtain information of threats and potential conservation actions. Crocodile populations were monitored on a quarterly basis (van Weerd & van der Ploeg 2004). Most important perhaps in understanding the problems surrounding the centralized government bureaucracy was my participation in formal meetings with government officials, scientific seminars, sessions of the municipal council and community consultations, and, above all, my informal contacts with key informants over a period of time. All in all, I think that this longitudinal participatory action research enabled me to gain an in-depth understanding of the processes and context of environmental governance in contemporary rural Philippines.

A SHORT HISTORY OF CROCODILES IN SAN MARIANO⁵

On one of the earliest maps of northern Luzon, drawn by the Spanish friar Alejandro Cacho in 1740, the western slopes of the northern Sierra Madre near the confluence of the Cagayan River and the Abuan River were called '*buaya*' (Antolin 1789) (figure 4.1). It suggests that crocodiles were common in the wetlands of San Mariano. Early explorers talk about 'rivers full of crocodiles, all of a ferocious temper' (De Witt Willcox 1912: 148). The indigenous peoples of the area, the Agta and Kalinga, depended heavily on the rivers and streams for fish, but had a limited impact on the Philippine crocodile population. These indigenous communities still have strong cultural taboos on eating

crocodile meat, and in many cases attach supernatural powers to the animal. In 1896, the Spanish colonizers established an administrative center on the convergence of the Pinacanauan and Disabungan rivers, and called it San Mariano (Keesing 1962). It marked a turning point in the political control of the area and the fate of the Philippine crocodile.

Figure 4.1: Map of northeast Luzon (North is oriented downwards) by A. Cacho (1740). Note the location *buaya* in the foothills of the Sierra Madre.



After the Revolution of 1898 and under the new colonial administration of the United States, San Mariano experienced an influx of Christian Ibanag migrants (Huigen 2004). These groups claimed the best agricultural lands along the extensive riverbanks and flood plains for the cultivation of upland rice, root crops, vegetables, and bananas. Crocodiles were associated with the devil and regularly killed, but human population was too low to severely threaten the Philippine crocodiles: in 1939 there were 7,046 people in San Mariano (Keesing 1962: 262).

Large-scale commercial logging of the vast forests began after independence. With the construction of a highway in the 1960s, which facilitated over-land transport to Manila, logging corporations started operating in the forests of the northern Sierra

Madre. During the logging boom from 1969 to 1992, 22,000 hectares of primary forest were logged annually in the northern Sierra Madre (van den Top 2003). A large inflow of impoverished immigrants from Ilocos followed the logging companies and settled in the region. The Kalinga and the Agta were respectively assimilated or pushed further into the depleted forests (Scott 1979). As of today, the majority, 53 percent, of the people in San Mariano are of Ilocano origin (Huigen 2004). These farmers can still recall the days that crocodiles were widely distributed in San Mariano: in the 1960s people still regularly observed large crocodiles in the Pinacanauan and Disabungan rivers. The frontier attitude of those days led to rapid and destructive resource extraction. Like everything else during those 'years of plunder' (Broad & Cavanagh 1993), crocodiles were seen mainly as a commodity. In the 1970s, commercial hunters systematically killed crocodiles in the river systems of the municipality for the leather trade. The violent insurgency during the Martial Law years (1976-1986) also had a negative effect on the crocodile population. There were several cases in which the army or the communist rebels killed crocodiles to safeguard the local people from these supposedly dangerous creatures. A widespread possession of firearms made crocodiles more vulnerable to humans.

As a result, the crocodile population collapsed. A small and fragmented population of Philippine crocodiles has survived in remote areas of the municipality of San Mariano (van Weerd 2000; van Weerd & van der Ploeg 2004). Three localities have been identified as breeding locations: Dunoy Lake, Disulap River, and Dinang Creek. Inaccessibility and remoteness seem to have offered some form of protection for the crocodiles. In Disulap River, for example, the limestone cliffs and underwater caves provide excellent hiding places for the crocodiles. More important it seems is the presence of indigenous communities. In Dunoy Lake and Dinang Creek, the Agta and Kalinga respectively could have easily killed the Philippine crocodiles had they wished so. Traditional belief systems and resource use practices have prevented the killing of crocodiles, and although these cultural attitudes are now rapidly changing they still give some form of protection to the species.⁶

After democracy was restored in the country during the People Power Revolution in 1986, the new Philippine Constitution introduced major policy reforms. In response to the centralized and autocratic government of President Ferdinand Marcos, under which the small and well-connected elite in Manila profited from resource destruction, local governments were given more autonomy (Vitug 1993). Civil society blossomed, and a wide variety of environmental civil society organizations advocated environmental protection and rural development, a process that was also fuelled by renewed international attention for biodiversity conservation in the Philippines (van den Top & Persoon 2000; Vitug 2000). In San Mariano, several civil society organizations concentrated on the protection of the Northern Sierra Madre Natural Park. The plight of the Philippine crocodile, however, was ignored, simply because of the fact that

scientists and conservationists were unaware of its existence in the municipality.

Social and economic changes continue to threaten the remnant crocodile populations in San Mariano. Destructive fishing methods regularly kill crocodiles. Freshwater swamps and marshes, prime Philippine crocodile habitat, are converted into rice paddies. Crocodiles are sometimes captured: purposively for the pet trade or accidentally in fishing nets (figure 4.2). These factors, combined with a strong growing human population, in 2000 San Mariano had 40,995 inhabitants (Huigen 2004), jeopardize the survival chances of the species in San Mariano.

Figure 4.2: Hunting, the use of destructive fishing methods and habitat conversion continue to threaten the remaining Philippine crocodile population in San Mariano. Photo by J. van der Ploeg (2007).



National legislation

Since 2004 the Philippine crocodile is legally protected by virtue of the Wildlife Act. Several other national policies also offer protection to Philippine crocodiles in the wild.⁷ The Department of Environment and Natural Resources (DENR) is the government

agency responsible for the enforcement of the national laws that govern the country's natural resources.⁸ The department is tasked with the protection of the country's wildlife, including its crocodiles. Following Executive Order 192 of 1987, the functions of the DENR were decentralized to the twelve administrative regions, and subsequently to the provinces, and the local level. The enforcement of environmental laws has become the exclusive responsibility of these localized offices (van den Top 2003; Oposa 2002). San Mariano falls under the jurisdiction of the local office of Naguilian, the provincial office of Isabela, and the regional office of the Cagayan Valley.

Unfortunately, the lack of financial resources, political support, and technical capacity of the DENR seriously hinders the enforcement of these national laws. The department is responsible for managing half of the Philippines' total land area, but has an underdog position in the ranks of the government (van den Top 2003). To give an indication of its political importance: the department receives 1.7 percent of the total budget allocation to national government agencies (CPBD 2003). Lack of financial resources and manpower is often cited as a reason for weak enforcement of environmental laws and policies (NORDECO & DENR: iv). The community office of Naguilian, for example, with a jurisdiction consisting of around 100,000 hectares, has 53 staff members of which five are assigned to the protection of wildlife. Political patronage and a hierarchical bureaucratic culture traditionally focused on resource extraction, and a low esteem for field activities, further weaken the capacity of the DENR to effectively monitor and implement the national policies that could protect the Philippine crocodile in the wild (Utting 2000).

Consequently, crocodiles remain *de facto* outlawed: the department is unable to stop the use of destructive fishing methods, despite stiff penalties provided for in the Fisheries Code of the Philippines (Republic Act 8550), and it considers slash-and-burn farming in critical crocodile habitats unavoidable notwithstanding its illegality as specified in Wildlife Act.⁹ In the uplands of San Mariano law enforcement is hampered by sporadic civil violence. Related to this, department officials also consider the strict implementation of laws unethical given the socioeconomic position of the violators, and fear that punishment would fuel the insurgency, a widespread practice called 'humanizing the law.' In addition, department personnel often cite the lack of information dissemination as a reason not to enforce rules and regulations: how does one penalize a farmer for clearing his fields in a crocodile habitat, when he or she is not aware that this is unlawful?¹⁰

The DENR, in short, suffers a serious credibility crisis: 'the idealistic and ambitious objectives of the department are in sharp contrast with its public image as a corrupt and inefficient organization' (van den Top 2003: 234). Ironically, department officials are often called *buwayas*, crocodiles, by local people in San Mariano. The inability of the DENR to effectively enforce national laws and policies at the local level is a major problem for the effective protection of crocodiles in the wild, and for

biodiversity conservation and environmental protection in the Philippines in general. In the absence of structural administrative reforms, this grim local reality forces us to consider alternative solutions for wildlife conservation in the Philippine uplands.

Local alternatives

In March 1999, Mr. Samuel Francisco, a fisherman from the village of San Isidro, accidentally caught a crocodile hatchling in Disulap River, thereby revealing its previously unknown existence in northeast Luzon. This by-catch triggered new initiatives for in-situ Philippine crocodile conservation. Surveys were carried out to determine the status and distribution of the Philippine crocodile population in San Mariano. These surveys highlighted the difficulties of preserving the species in the wild. Local attitudes towards crocodile conservation were outright negative; not out of fear for the crocodile as people considered it relatively harmless, but because upland farmers feared that crocodile conservation would have a negative impact on their livelihood.¹¹ A complicating factor was the absence of the rule of law.

The Local Government Code provides the legal framework for the devolution of power and authority over natural resource management to the local government units.¹² The devolution of the functions of the DENR to the municipal government has provided the municipal mayor and the municipal council with considerable influence over environmental management, at least in theory. In the municipality of San Mariano, it has opened a window of opportunity for effective protection of the Philippine crocodile in the wild. After the discovery of three breeding crocodile populations in San Mariano, conservationists actively lobbied to get the support of the municipal authorities of San Mariano for a long-term in-situ conservation strategy for the species. The strategy focused on the proclamation and management of crocodile sanctuaries with the consent and cooperation of local people: a space where crocodiles could reproduce safely (van Weerd & General 2003). The first step was to create a comprehensive policy protecting the species in the wild.¹³ On 23 July 1999, the *Sangguniang Bayan* (municipal council) approved Municipal Ordinance 1999-025, which prohibits 'the collection and annihilation of Philippine crocodiles in the municipality.' It includes a modest penalty for violators: 'one thousand pesos or imprisonment for fifteen days.' For the first time in Philippine history, the Philippine crocodile had a protected status.

This municipal ordinance marked the start of an intensive involvement of the municipal government in crocodile conservation. On 21 January 2000, the municipal council enacted Municipal Ordinance 2000-002 declaring the Philippine crocodile the flagship species of the municipality, a remarkable action in a country where crocodiles are generally associated with corrupt government officials. On 7 September 2001 the Sangguniang Bayan approved Municipal Ordinance 01-17, declaring the upper part

of Disulap River as a municipal sanctuary for the Philippine crocodile (figure 4.7). The proclamation of the crocodile sanctuary can be seen as a model for devolving authority over natural resource management to local governments. A series of public consultations with local communities residing near the municipal sanctuary was organized. These community meetings sought to balance conservation goals with the developmental needs of the community. During these community consultations specific management agreements were negotiated upon, for example on the extent of the buffer zone.¹⁴ The municipal government formed a protection team composed of local people, the *Bantay Sanktuwaryo*, to monitor and enforce the rules and regulations of the crocodile sanctuary. In 2004, the Sangguniang Bayan approved Municipal Ordinance 04-011 allotting 70,000 pesos (€1,166) per year for the honorarium and insurance of this local protection group to enforce the rules and regulations protecting crocodiles in Disulap River and other crocodile breeding areas in the municipality.

In order to mobilize local support for crocodile conservation the local government unit prioritized the delivery of basic social services to barangays with a crocodile population. Farm-to-market roads were improved to assist farmers, and also to stimulate ecotourism. In barangay Disulap, the municipal government financially supported a proposal of the local people's organization to provide security of tenure for their upland possessions.¹⁵ Upland farmers in the Philippines generally do not have formal ownership, a title, of the land they cultivate. Most upland areas in the Philippines are still classified as forest lands and thus belong to the State. Farmers were assisted in secure land tenure in several villages in San Mariano, with mixed results. In barangay Cadsalan the local government unit also co-financed the construction of pump wells, meant to provide clean water and minimize human-crocodile interaction. In addition, the municipal government prioritized the construction of a rural health clinic in this remote village. These activities created a lot of goodwill and awareness of local communities towards crocodile conservation.

An intensive communication and awareness raising campaign, conducted in cooperation with Isabela State University, highlighted the flagship status of the crocodile. Centered on the theme 'the Philippine crocodile: something to be proud of!' the public awareness campaign aimed to counter negative community attitudes towards crocodiles, and mobilize public support for the conservation of the species. Newsletters, posters, flyers, and a comic album were distributed in the municipality. Billboards were placed in strategic locations throughout the municipality (figure 4.3). A bulletin board highlighting the Philippine crocodile was placed prominently in the lobby of the municipal hall.

Figure 4.3: Billboards informing people on the Philippine crocodile are placed at strategic locations in San Mariano. Photo by J. van der Ploeg (2007).



Raising public awareness and empowerment of local officials have turned out to be a key factor for crocodile conservation in San Mariano. Most people, including barangay officials, are simply not aware of the national environmental policies and laws. Barangay officials, usually farmers with limited education, often do not know their specific responsibilities, and particularly lack information on environmental legislation. This is a serious hindrance for effective law enforcement at the local level, especially if it's largely based on self-imposed control. Two training workshops on environmental legislation and law enforcement techniques were organized to enhance the capacity of village leaders. In November 2004, 122 barangay officials attended a five-day workshop. Environmental lawyers explained the different national laws pertaining to wetland and crocodile conservation and the duties and responsibilities of barangay officials (Cureg *et al.* 2005). The participants made plans to conserve wetlands in their respective village (figure 4.4). This resulted in the enactment of barangay ordinances prohibiting destructive fishing methods and creating small sanctuaries. In February 2006, a second workshop was organized. Here, classroom lectures were complemented with on-site role playing games in the Disulap River crocodile sanctuary. Follow-up community consultations were organized to discuss crocodile conservation with barangay officials, fishermen and landowners in fifteen barangays in San Mariano.¹⁶ As a result of these

trainings and consultations local officials feel empowered. They are better aware of their roles and responsibilities under the law, and feel supported by the majority of the people. There exists strong societal support to act against illegal fishing, as local people are confronted with declining in fish catches. The Philippine crocodile has become a flagship for local environmental stewardship: a symbol for sustainable management of wetland resources.

Figure 4.4: A *barangay kagawad* (village councilor) present the conservation action plan of barangay Cadsalan during a community consultation. Photo by M. van Weerd (2004)



The crocodile conservation activities in San Mariano were featured in one of the most popular television shows on prime time, *Magandang Gabi Bayan!*, hosted by then Senator, and former Vice President, Noli de Castro. Other TV stations, GMA7 and the National Geographic Channel, also made documentaries on the Philippine crocodile in San Mariano. Several national newspapers covered the conservation activities in San Mariano. A local radio station, *Bombo Radyo*, discussed crocodile conservation during their talk shows. This media attention created further awareness among the citizens of San Mariano: crocodiles became the talk of the town. Most people in San Mariano now know it is illegal to kill the species. A transformation has taken place in the attitudes of local communities towards crocodiles. The fact that the Philippine crocodile survives

in the municipality has become a special source of pride. More importantly, the actual killing of crocodiles has largely stopped.

DISCUSSION: LOCAL SOLUTIONS TO LOCAL PROBLEMS

Over the past years, the municipality of San Mariano has taken a number of steps to conserve the Philippine crocodile. The involvement of the municipal government has proven to be an important factor in the effective protection of the species in the wild. It created a breakthrough in the downward spiral of local extinctions, negative community attitudes, and passive governance that has long characterized crocodile conservation in the Philippines. As such, the conservation strategy in San Mariano appears to be a success story in the legislative efforts to devolve authority on natural resource management from the national agencies to the local level.

This discussion focuses on three arguments that challenge the validity and effectiveness of devolving power from the national to local governments. First, it is often said that local governments are not inclined to focus on global conservation priorities but focus on local development; hence a centralized expert system is needed to preserve the common good. Second, it is argued that devolution of power fuels institutional confusion in which corruption and incompetence thrive. And third, the scientific literature on decentralized natural resource management mentions that without reforming underlying sociopolitical structures, devolution will lead to resource capture by powerful local elites. Together these arguments form what has been labeled 'the Achilles heel of localization' (Bryant & Bailey 1997: 74).

Here I will argue, based on the experiences in San Mariano that, contrary to these arguments, the devolution of power to the local government units is instrumental for effective wildlife conservation in the Philippines. The main reason for this outcome is that the enforcement of laws protecting crocodiles and other wildlife is only possible if it is considered legitimate by the majority of local people (Brechin *et al.* 2003); a role that only local governments can play in the contemporary sociopolitical context of the Philippine uplands.

Cash for crocodiles

The first argument often used to question the devolution of power to local governments is that only a supra-local expert system can assure the preservation of natural resources without a direct utilitarian value, such as crocodiles or biodiversity in general (Bryant & Bailey 1997). The central State, in this view, remains indispensable because it is the only actor in a position to address ecological problems at larger scales and on a longer

term. Essentially this is a question of scale: not all environmental problems, especially those where there is no direct benefit for the local people, can be solved at the local level.

The San Mariano case proves that municipal governments can preserve a globally threatened species even when there are no direct local benefits. The extremely low population and the shy nature of the Philippine crocodile rule out any short term cash benefits for the municipality through sustainable harvesting or ecotourism, a fact fully recognized by local government officials. The only benefits derived from crocodiles by the municipality are immaterial: a source of pride and media attention. Of course, the municipal government has a focus on rural development. But this does not contradict conservation efforts as is so often assumed.

In their book 'Decentralization and biodiversity conservation' Ernst Lutz and Julian Caldecott (1997: 161) argue that:

'Decentralization [...] is not driven by public interest in conservation but rather by a desire for better access to the fruits of economic development through democratic participation. Conservation will only benefit from this only to the extent that ecosystems and the biodiversity they contain are seen as resources to sustain development; in other words as valuable resources, that some may wish to control for their own benefit. If no such perception exists, then conservation benefits will accrue from decentralization only accidentally and, if biodiversity continues to be perceived as valueless by newly empowered groups, only temporarily. Because conservation requires permanent solutions to problems of species extinction and environmental degradation, it must involve changing perceptions and values among the people who control the fate of ecosystems.'

The San Mariano experience shows that this view is too simplistic. In San Mariano there has been a fundamental shift in how people perceive crocodiles: from dangerous pests to 'something to be proud of!' It can even be argued that the success of crocodile conservation activities is due to the fact that at the moment the crocodiles do not represent any commercial value. The extremely low population and the ban on international trade in Philippine crocodile hides make hunting non-profitable. Ironically, crocodile conservation succeeded because crocodiles were not valuable resources.

Interestingly, critics of decentralized biodiversity conservation focus on what the local governments supposedly can not do. But this line of reasoning inverts the argument: after all, it is the lack of capacity of the central government that forces us to find alternatives for sustainable natural resource management. In fact, the incompetence, ignorance and corruption in the ranks of the supra-local actor tasked with environmental conservation have allowed the Philippine crocodile to go nearly extinct. Critics also underestimate the capacity of municipal government to understand the supra-local importance of conserving a critically endangered species. In San Mariano, the local officials were informed and trained by civil society organizations; but without

the political will from the local government unit itself the conservation of the Philippine crocodile would never have taken place.

This brings me to another argument often used against the devolution of authority to the local level: it is often thought that the influence of civil society organizations and other grassroots groups can be disproportionate and can effectively undermine good governance at the local level (see for example Bryant & Bailey 1997; van den Top & Persoon 2000; Utting 2000; Contreras 2000). The simplistic focus on a single pressing issue of civil society, such as Philippine crocodile conservation, can influence local governments to put aside more pressing and relevant issues, or so it is argued. In San Mariano crocodile conservation has been put on the agenda by non-governmental environmentalists. Although the continued involvement of civil society is necessary, especially to provide technical expertise, to say that these groups can have disproportionate influence is to disregard the capacity of municipal government officials. The local government unit of San Mariano, for example, has always stressed that crocodile conservation has to be linked to rural development; it has increased accessibility of remote crocodile areas by providing farm-to-market roads for affected communities, a development that conservationists would normally rather not advocate. Local communities and the municipal government have been able to access funds for rural development that otherwise would not have been available. The partnership between civil society and the municipal government, what Gerhard van den Top and Gerard Persoon (2000: 176) have called the 'leapfrogging of the murky waters of the nation State', has actually resulted in conservation action for a globally threatened species.

Devolution, according to the skeptics, should be checked and balanced by a continuing role for central government to safeguard supra-local and intergenerational interests, and intrinsic values (Lutz & Caldecott 1996). In San Mariano devolution has helped to increase local responsibility for Philippine crocodile conservation, making this process more relevant and interesting for local people; not because of its utilitarian value but on intrinsic grounds.

Confusion over crocodiles

The second argument often used against the transfer of power and authority to the local level is that it will lead to more institutional confusion, which paralyzes government. Devolution, it is argued, has to be accompanied by a coherent and supportive macro policy (Utting 2000). A structural problem that characterizes biodiversity conservation in the Philippines is the overlapping jurisdiction of the DENR and local government units, leading to a 'continuing confusion over government lines of responsibility and authority' (Garriy *et al.* 2001: 132). The parallel processes of devolution of power from the DENR

to the municipal governments and the decentralization of the department offices to the regional, provincial and local levels create systematic confusion about the division of tasks and responsibilities of the national agency and the local government units. As Rowena Reyes-Boquiren (2002: 104) observes:

'The institutional arrangement for addressing biodiversity loss is highly bureaucratized, compartmentalized, and segmented, oftentimes resulting in competition, conflicts, duplication, disjointed action and the like. The bureaucratization is reflected in the enforcement of policies and program implementation [...]. A key area for advancing conservation is the harmonization of policy conflicts and program implementation issues.'

This is familiar talk for everybody working on natural resource management in the Philippines. Crocodile conservation in San Mariano permanently has to deal with institutional uncertainties and questions, caused by the department bureaucracy, that usually lead to delays: this applies to the deputation of the Bantay Sanktuwaryo, the issuance of appropriate land tenure instruments to farmers in crocodile habitat, the implementation of a biodiversity monitoring system in the Disulap River crocodile sanctuary, the applications for permits to conduct ecological research, the authorization of the municipal rescue center, and so on. Red tape and bureaucracy make conservation activities sometimes grind to a halt.

A fundamental problem is that most people, including most government officials, think that only the DENR can enforce environmental laws. This has profound consequences for law enforcement: apparently, a difference is made between environmental laws to be enforced by the DENR and 'normal' laws to be enforced at the barangay level by the *barangay tanods* (village police) or at the municipal level by the Philippine National Police.¹⁷ Another problem is the sheer size of the department bureaucracy and its enormous responsibilities. Officers in charge tend to change position frequently, usually without properly turning over their responsibilities, and there is little or no communication between different bureaus and divisions. Institutional conflicts between the DENR and other government agencies (such as the National Commission on Indigenous Peoples or the Department Agrarian Reform), occasional rifts with civil society groups and personal conflicts resulting in bureaucratic resistance further aggravate this bureaucratic confusion.

Summarizing, the mandate, jurisdictions and responsibilities of the municipal government and the DENR are far from clear for most government officials, let alone for local people. This is indeed hampering environmental governance, and is a major cause of the failed implementation of environmental laws and policies. But in San Mariano progress has been made because the municipal government has assumed a leading role and has been able to function despite the DENR bureaucracy. Concerns about the effects of devolution on macro-coherency are valid, but in many cases it is the

supra-local structure itself which creates the confusion. In effect, this structure becomes an argument for devolution: confusion is avoided when the authority lies solely with local governments. The national government, however, does play an important role in creating a macro-coherent framework for environmental conservation by ratifying international agreements and creating national legislation, tasks that can obviously never be adopted by local governments. A distinction should be made between the creation and the implementation of the framework. The boundaries of what is possible are set by the macro policy, ensuring that municipal governments do not allow illegal activities or jeopardize international agreements. The implementation possibilities are greatly enhanced by involving local governments through devolution.

Crocodiles in Congress

A more fundamental concern raised about the Local Government Code is that the devolution of power to the municipal governments, before any significant sociopolitical reforms have taken place, will simply replicate the plunder of the past at the local level:

'The Local Government Code aimed to correct longstanding imbalance in political and economic power between 'Imperial Manila' and the provinces. For centuries, Metro Manila siphoned resources and people away from the provinces for a kind of 'national development' that widened the economic gap between these urban centers and the rural periphery. It is questionable whether devolution is the way to redress the resulting social and political imbalances. In environmental terms, devolution carries the risk of replicating the past national development pattern in the provinces. [...] It remains to be seen whether local institutions can take the place of a weakened DENR in balancing these pressures and channeling these along a more sustainable course than the one pursued by the nation as a whole.' (van den Top 2003: 338)

Arguably, local elites will capture the natural resources of the municipalities if not checked by a centralistic expert system like the DENR. Given the longstanding tradition in the Philippines of using public office for personal gain or for defending the interests of the elite, it is feared that the transfer of responsibilities to local authorities will result in abuse of power and corruption (Aguilar 1994; Utting 2000; Contreras 2000).

San Mariano is, of course, no benign exception. In this remote municipality too the 'pork barrel State' (Coronel *et al.* 2004) infiltrates all aspects of public life. But the absence of clear material benefits in crocodile conservation has not influenced the conservation activities for the species. Crocodile conservation has largely been an apolitical oddity for local government officials. The *Sangguniang Bayan* members generally see crocodiles as something exciting and fun to be discussed during a session break, or as a way to generate positive media attention. Remarkably for the Philippine

context, conservation action for the species continued after the elections in 2004 which brought in a new municipal Mayor and Sangguniang Bayan members.

In this context it is relevant to note that grassroots political reforms are taking place in Isabela: in the 2004 elections the people of San Mariano massively voted against the political dynasty that has controlled southern Isabela for generations (figure 4.5). Grace Padaca, a political outsider who campaigned on a platform of transparency and accountability, won a land-slide victory over the incumbent governor Faustino Dy Jr. Her re-election as governor of the province of Isabela in the elections of 2007, despite widespread election fraud and political violence, is widely seen as a milestone for genuine political reform in the Philippines. Crocodiles have nothing to do with it, but local people are holding their politicians accountable for their actions. The words of Maria Cacha and Julian Caldecott (1996: 102) might provide a counterweight against the prevailing pessimistic views of devolution and the state of Philippine politics:

'The reform process that began in the mid-1980s has a long way to go before all the damaging effects of [a history of social strife and environmental degradation] can be turned to benefit. Nevertheless, much progress has been made, and the pace of change has accelerated during the early 1990s. The former centralized and coercive style of governance, development and conservation essentially has been abandoned in favor of a model based on participation, accountability and community tenure in the rural areas. [...] Although abuses persist and shortages of funds and skill exist among the newly empowered local government units, the decentralization process continues to accelerate and is probably now irreversible.'

Legitimacy

Of course there are dangers associated with the transfer of power and authority to the local level. But, as the San Mariano case has shown, the local government has successfully handled the threats facing the Philippine crocodile in the municipality. The municipal ordinances are generally respected; not because of strict law enforcement, but because the majority of the people voluntarily complies with the measures of the municipal government to protect crocodiles. This is in sharp contrast to the national regulations of the DENR that are widely seen as illegitimate and are often simply disregarded.

During the Marcos dictatorship, the DENR (then called the Ministry of Forestry), became equated with corruption, patronage, and the unequal distribution of wealth:

'One structural factor that results in widespread violations of policies and constrains the capability of DENR to curtail these violations is the degree of *legitimacy* that the citizenry attribute to the government in general, the acceptance, even approbation, of the State's rules of the game, its social control, as true and right ... [and] the acceptance of the

State symbolic configuration within which the rewards and sanctions are packaged.’
(van den Top 2003: 327, emphasis added)

After democracy was restored to the country in 1986, the new administration reinforced the concepts of decentralization, democratization, and people’s participation in mainstream policy formulation: the Local Government Code of 1991 and the National Protected Area System Act of 1992 are clear examples of this recognition of the sociopolitical dimension of natural resource management.¹⁸ The pendulum swung back during the eleventh and the twelfth Congresses: the Wildlife Act is again a testament to a centralistic and technocratic vision of resource management, combined with a complete ignorance and disregard of the socioeconomic and political context of the Philippine uplands. An example from the field can make this clear.

Figure 4.5: Political dynasties rule the Philippines but fundamental political reforms are taking place in Isabela. Photo by J. van der Ploeg (2007).



In San Mariano, the municipality prohibited the hunting of crocodiles in 2001. Three years later Congress approved the Wildlife Act, which gave the Philippine crocodile nation-wide legal protection. Whereas the municipal ordinances prescribe a fine of 2,000 pesos (€ 33) or fifteen days of imprisonment for catching, hunting, collecting or killing a Philippine crocodile, the Wildlife Act specifies a minimum fine of 100,000 pesos (€ 1,666) and imprisonment of at least six years for killing crocodiles

(Oposa 2002: 122-123). This apparent contradiction reveals much about the difficulties surrounding the enforcement of national laws. The point here is that the draconian penalties in the Wildlife Act can and will never be implemented in poor rural areas. The strict implementation of the Wildlife Act, akin to the presidential decrees of the Martial Law period, is widely regarded as unjust. The question, then, is which law to apply in case of a violation? The answer, in the Philippine judicial system, basically lies in the hand of the prosecutor, who can decide on which law or ordinance to base his case. For now it suffices here to note that the municipal ordinances appear to be far more effective. In contrast with the national law, the penalties of the municipal ordinances are realistic and considered to be a just punishment for the offence by local people, and as such are taken seriously.

The key to effective law enforcement is to create rules that are understood and supported by the majority of the local community. In contemporary Philippine society only self imposed enforcement will be effective; and only local governments seem to be able to define rules that are considered to be just, correct and appropriate; in other words, legitimate. As Steven Brechin *et al.* (2003: 14-15) state:

‘Since conservation and other agencies will likely never have enough resources to universally enforce the law and since confusion over the legitimacy of enforcement acts at times creates conflict, a more practical, long term approach would be to negotiate agreements that participants view as legitimate and feasible.’

The municipal government of San Marino has succeeded in defining rules protecting the Philippine crocodile that are widely accepted by local people as important and fair. There are several reports of violations of barangay ordinances that were actually penalized in San Mariano. In barangay San Jose, for example, the barangay captain penalized three teenagers who used pesticides to fish and fined two farmers who encroached in the 10 meter buffer zone on the crocodile sanctuary in Disulap River (figure 4.6). But in general barangay officials (and often also the municipal mayor and councilors) usually try to avoid passing cases to the higher authorities: people prefer to settle things in the village. In itself that is not a problem: the essence is to prevent any violations. This experience suggests that local governments can be very effective in creating laws that work, and that future strategies to protect crocodiles in the Philippines should make use of the authority of the barangay and municipal governments.

Figure 4.6: A member of the local protection group, the *Bantay Sanktuwaryo*, inspects a violation of the buffer zone of the Disulap River municipal Philippine crocodile sanctuary. Photo by J. van der Ploeg (2007).



CONCLUSION: THE IMPORTANCE OF LOCAL GOVERNMENTS FOR WILDLIFE CONSERVATION

In this chapter I have argued, based on the experiences in the municipality of San Mariano, that in the contemporary Philippine context only local governments can effectively protect the critically endangered Philippine crocodile in its natural habitat. In this remote municipality in the northern Sierra Madre, an alternative strategy has been developed in response to the failure of centralized attempts to protect the Philippine crocodile in the wild. In the absence of any credible form of law-enforcement by the national government, the municipal government and conservationists negotiated a set of rules and regulations with rural communities that effectively protect the species and its habitat. This approach largely depends on self imposed control by local people. The Local Government Code of 1991 made such an alternative model for natural resource management possible by 'creating space', to use the words of Antonio Contreras (2003: 3), to initiate conservation action at the local level. As such it was not a purposive response of the central State to its own failure, but rather a spontaneous and

organic grassroots initiative: an anomaly tolerated, at best, by the central bureaucracy (Contreras 2003; Magno 2001; Scott 1998).

This is not to say that devolution can solve all problems pertaining to the conservation of crocodiles in the Philippines. Some form of centralized control and supportive macro policy remains necessary to tackle supra-local threats such as international trade and climate change especially in a rapidly globalizing world (Persoon *et al.* 2004; Utting 2000; Agrawal & Gibson 1999; Lutz & Caldecott 1996). Local efforts to manage natural resources can only succeed in the Philippines if the structural institutional reforms of the DENR that started in 1987 will continue.

As this chapter shows, the devolution of authority over natural resource management to the local governments has opened a window of opportunity for in situ conservation of endangered wildlife in the Philippines. Throughout the archipelago, civil society groups are working closely together with local government units to conserve biodiversity (see for example: Widman *et al.* 2003; Contreras 2003; Lavidés *et al.* 2004). It remains to be seen whether the experiences of these single species programs can be applied to other forms of natural resource management, especially when vital vested economic interests are at stake. But so far this approach seems currently to be the most effective in addressing the serious problems the Philippines is facing with regard environmental conservation. The coming years will show whether these local efforts suffice in creating the necessary conditions for the recovery of the Philippine crocodile in the wild.

[illegible]

ENDNOTES

1. Based on: van der Ploeg, J. & M. van Weerd. 2004. Devolution of natural resource management and Philippine crocodile conservation in San Mariano, Isabela. *Philippine Studies* 52 (3): 346-383. Jan van der Ploeg and Merlijn van Weerd jointly designed and led the in-situ community-based conservation strategy for the Philippine crocodile in the northern Sierra Madre. Jan wrote the paper. Merlijn provided comments on earlier versions of the text.
2. The IUCN Red List classifies the Philippine crocodile as Critically Endangered defined by a continuing declining mature population of less than 250 individuals in fragmented sub-populations, which each do not hold more than 50 mature individuals (Criterion C2a) and a population reduction of more than 80 percent during the last three generations based on declining areas of occupancy, extent of occurrence, and the quality of habitat (Criterion A1c). When a species is classified as Critically Endangered it is facing an extremely high risk of extinction in the wild in the immediate future (IUCN 2010). The other crocodile species that occurs in the Philippines, the estuarine crocodile (*Crocodylus porosus*), is restricted to coastal habitats. Although threatened with extinction in the Philippines, this species is not globally threatened (Ross 1998).
3. The Palawan Wildlife Rescue and Conservation Center is formerly known as the Crocodile Farming Institute. The Japanese International Co-operation Agency provided the financial and technical support to set up this ex-situ crocodile conservation program from 1987 to 1994.
4. Devolution refers to the transfer of power and authority from the central government to the local governments. In essence, decision making is delegated from the departments in the capital to the provinces and the municipalities. In this chapter I generally refer to the devolution of authority from the DENR to the municipal government of San Mariano. In the Philippines, this devolution process was initiated by 1986 Constitution and stipulated in the 1991 Local Government Code. Decentralization, in contrast, refers to the activities of national government at the local level. Here, departments create offices at the local level to improve policy implementation.
5. The following paragraphs draw heavily on Persoon & van der Ploeg (2004).
6. This is in stark contrast to the wetlands used and controlled by Ibanag or Ilocano farmers. These ethnic groups, like most people in the Philippines nowadays, regard crocodiles as a dangerous pest to be exterminated or a delicious snack.
7. Republic Act 9147, the Wildlife Resources Conservation and Protection Act of 2001, usually referred to as the 'Wildlife Act' aims to: 'conserve and protect wildlife species and their habitats' (Oposa 2002: 117). The Wildlife Act specifically mentions the jurisdiction of the DENR over crocodiles and other wetland species; the Department of Agriculture on the other hand has jurisdiction over all declared aquatic critical habitats and all aquatic resources. After a three year delay, the DENR, the Department of Agriculture and the Palawan Council for Sustainable Development issued their joint implementing rules and regulations pursuant to the Wildlife Act (Joint DENR-DA-PCSD Administrative Order No. 01). In October 2004, the Wildlife Act came into force. The following national policies give some form of legal protection to the critically endangered Philippine crocodile and its freshwater habitat: (1) Republic Act 7586, the National Integrated Protected Areas System Act of 1992, defines the terms of establishing protected areas in the Philippines. Hunting of wildlife is prohibited in protected areas, except in some specific circumstances, for example for traditional or religious purposes of indigenous communities. A large part of San Mariano falls under the Northern Sierra Madre Natural Park, which is one of the ten priority sites established under the National Integrated Protected Areas System (NIPAS). (2) Republic Act 8550, the Philippines Fisheries Code of 1998, ensures the rational and sustainable development, management and conservation of the fishery and aquatic resources in Philippine waters and protects the right of local fishers. Chapter 2, Section 11, mentions that the 'department shall declare closed

- seasons and take conservation measures for rare, threatened and endangered species in concurrence with concerned government agencies' (Oposa 2002: 385). Note that this act is to be implemented by the Department of Agriculture, whereas the other acts in this note fall under the jurisdiction of DENR. (3) Republic Act 9125, the Northern Sierra Madre Natural Park Act of 2002, is of special importance for San Mariano. The forested areas of San Mariano were largely identified as strict protection zones in the general management plan of the Northern Sierra Madre Natural Park. In the management plan of the park, a crocodile habitat management zone, encompassing the watersheds of the Catalangan and Disulap rivers, is identified in San Mariano (DENR 2001b). In addition, there are various international agreements and conventions to which the Philippines is a signatory: (a) the Philippine crocodile is listed on Appendix 1 of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), banning all international trade in the species or species derived products (CITES 1998); (b) the Convention on Biological Diversity was ratified by the Philippine Senate in 1993 urging for a national strategy for biodiversity conservation; and (c) the Philippines ratified the Ramsar Convention to protect internationally significant wetlands. The Philippine constitution gives a ratified international treaty the same weight and value as a statute of Congress (de Leon 2002: 47).
8. The DENR is the mandated government agency for environmental protection. The department is responsible for: (a) the conservation, management and development of the country's natural resources, including those in reservation and watershed areas and lands of the public domain; (b) the preservation of the cultural and natural heritage through wildlife conservation and segregation of national parks and protected areas; and (c) the enforcement of policies, standards and rules and regulations for the control of pollution and conservation of the country's genetic resources, biodiversity and endangered habitats (Oposa 2002: 2). The department was created pursuant to Executive Order No. 192 of 1987, which merged the Ministry of Natural Resources, the National Pollution Control Commission, and the National Environmental Protection Council. There are six bureaus under the cabinet secretary: (a) Mines and Geosciences, (b) Forest Management, (c) Land Management, (d) Ecosystem Research and Development, (e) Environmental Management, and (f) Protected Areas and Wildlife. Attached to the DENR is the Natural Resources Development Corporation, the corporate arm of the ministry responsible for promoting natural resource development through investment in technology and forest management ventures (Oposa 2002). The Palawan Wildlife Rescue and Conservation Center is currently managed by the Natural Resources Development Corporation in an attempt to create financial sustainability and continuity for ex-situ crocodile conservation efforts.
 9. Under Philippine law killing a crocodile in the Northern Sierra Madre Natural Park carries a penalty of six years and one day in jail and a fine of one 1 million pesos (€ 16,666). Dynamite fishing carries a maximum penalty of 12 years imprisonment, fishing with chemicals 10 years, and electricity fishing 2 years (Peña 2001: 199; Oposa 2002: 413).
 10. In fact, awareness and knowledge of department officials themselves about wildlife conservation in general, and national policies protecting crocodiles in particular, is low: of 20 department officials interviewed in 2003 in five different offices, 12 (60 percent) were not aware of the existence of the Animal Welfare Act. Nine officials (45 percent) had never heard about the Wildlife Act. The National Integrated Protected Area System Act and the Revised Forestry Code were better known: only seven officials (35 percent) did not know these acts. Awareness was defined during this study as simply knowing the title of the law. Obviously, awareness of specific provisions or penalties is much lower.
 11. The communist rebels, who basically control the remote uplands of San Mariano, reinforced these fears as they suspected crocodile conservation to be a front for a government organized land grabbing scheme (Baringkuas 2003).
 12. Republic Act 7160, the Local Government Code of 1991, Section 3i, reads: 'local government units shall share with the national government the responsibility in the management and maintenance of

ecological balance within their territorial jurisdiction, subject to the provisions of this Code and national policies' (Santiago Defensor 2000: 5). The local government consists of: (1) the provincial government, with the Provincial Governor as chief executive and the *Sangguniang Panlalawigan* as legislative body responsible to adopt measures for the preservation of the natural ecosystem in the province; (2) the municipal government, with the municipal mayor as chief executive and the *Sangguniang Bayan* as the legislative body responsible for the approval of ordinances for the protection of 'the environment and impose appropriate penalties for acts which endanger the environment, such as dynamite fishing and other forms of destructive fishing, illegal logging and smuggling of logs, smuggling of natural resources products and of endangered species or flora and fauna, slash and burn farming, and such other activities which result in pollution [...] of rivers and lakes' (Section 447; Oposa 2002: 640); and (3) the *punog barangay*, or *barangay* captain, who shall enforce all laws and ordinances which are applicable in the *barangay*, including those relating to the protection of the environment (Section 389; Oposa 2002: 639). In this chapter I focus only at the *barangay* and municipal levels.

13. In San Mariano, the Philippine crocodile can be found mostly outside the Northern Sierra Madre Natural Park, with the exception of Dunoy Lake. A conventional conservation program, based on minimizing people-crocodile interactions and complete protection of crocodile habitat, is there therefore not a possibility. Resettling people from crocodile inhabited areas will not be accepted by the local people and local government in the current sociopolitical context (van Weerd & General 2003).
14. In short, the regulations of the Disulap River Philippine crocodile sanctuary include: (1) no hunting or disturbing crocodiles and other wildlife, (2) no destructive fishing methods, (3) no cultivation and infrastructure development, (4) no deforestation, and in currently cultivated areas reforestation has to take place, and (5) nesting areas can be closed for entry. A 10 meter buffer zone on each side of the river should protect the breeding and nesting sites of the crocodiles, minimize human-crocodile interaction, and protect the river banks from erosion. The Local Government Code specifies that the DENR retains the ultimate say in deciding whether resource management plans developed by local government units are acceptable in the light of national environmental considerations (Santiago-Defensor 2000).
15. The NARRA project of the San Isidro Agro-Forestry Development Multi-Purpose Cooperation, a farmers cooperative, and the municipal government of San Mariano aimed to reforest 26 hectares in the watershed of Dunoy Lake and Disulap River. The project won 1 million pesos (€ 16,666) during the first Innovative Development Marketplace organized by the World Bank in January 2004. The municipal government allocated 852,000 pesos (€ 13,750) to the project, especially to rehabilitate the road to the project site.
16. These meetings are often held in the *barangay* hall or under a tree near the (proposed) crocodile sanctuary. Specific problems are often voiced out during community meetings: for example fears about land grabbing or misconduct of officials. It provides an opportunity for crocodile conservationists to present their side of the story, gain peoples' trust and try to convince the community about the importance of Philippine crocodile conservation. People can ask specific questions and ventilate their concerns. Often an agreement is made during these community meetings on the conditions on which people will conserve crocodiles.
17. Obviously, the Local Government Code (Sec. 388) and the Revised Penal Code, specify that the *punong barangay*, the *barangay* council, and the *barangay tanod* are 'person in authority' in their respective jurisdiction responsible for the enforcement of laws, including environmental laws. In addition, community members can organize a so-called *posse comitatus* to implement environment and natural resources laws in their jurisdiction (Oposa 2002: 638).
18. In fact, during Martial Law, the perception of high ranking government officials that regional, environmental and social cases were linked with the political left discouraged decentralization and effective conservation (Cacha & Caldecott 1996).