

**LOCAL PARTICIPATION AND BIODIVERSITY CONSERVATION: THE
COSTA RICAN EXPERIENCE**

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Abstract

Participatory governance has been promoted as a viable strategy to address the global biodiversity crisis. Since 1986 Costa Rica has been experimenting with two different approaches to develop participatory governance processes for biodiversity conservation within the National Conservation Area System (SINAC for its acronym in Spanish), which is integrated by eleven rurally-based conservation areas. Using a comparative research strategy this paper assesses the effectiveness of each approach to facilitate the emergence of local participatory governance. The first approach describes the institutional arrangements prevalent in most conservation areas and the second describes those developed by the *Área de Conservación Guanacaste* (Guanacaste Conservation Area). Findings show that while the first approach has not allowed for the emergence of participatory governance processes the second one has been more successful. One of the main lessons emerging from the Costa Rican experience suggests that in order for participatory governance processes to develop in the context of the governance of biodiversity conservation, attention must be paid to understanding how class-based urban-rural relationships shape the protected area bureaucratic system's incentive structure to incorporate rural citizenry into decision-making processes.

Keywords: Costa Rica, biodiversity, conservation, *Área de Conservación Guanacaste*, ACG, SINAC, decentralisation, governance, community-based conservation.

1. Introduction

The global biodiversity crisis (MEA 2005) highlighted the need to better understand how local participation in protected areas' governance can take place. For decades, tropical developing countries—where most of the biodiversity is located—have relied in centralised governance approaches, delegating little, if any decision-making authority to rural inhabitants who are most directly affected by the establishment of protected areas, particularly national parks. As the limitation of centralised approaches to effective natural resources governance became better understood (McCay & Acheson 1987; Berkes 1989; Pinkerton 1989; Ostrom 1990; Baland & Platteau 1996; Hayes 2006, Ostrom & Nagendra 2006, Robbins *et al.* 2007), local participation gained importance as a factor that could facilitate more effective biodiversity conservation outcomes (Perry & Dixon 1986; Leader-Williams & Albon 1988; Wells *et al.* 1992; Ludwig *et al.* 1993; Lowry & Donahue 1994; Western *et al.* 1994; Robinson 1995; Brandon *et al.* 1998; Barrett *et al.* 2001; Brown & Kothari 2002; Berkes 2004; Chapin 2004; Southworth *et al.* 2006; West & Brockington 2006). Scholars argue that local participation offers better prospects of adequate or long-term use of biodiversity and other natural resources because: (a) local resource users have higher stakes in the sustainable use of resources than does the state or distant corporate managers; (b) have more and better information about the intricacies of local ecological processes; and (c) can develop more effective means to manage available resources through local or traditionally accepted practices (Brosius *et al.* 1998; Brechin *et al.* 2002). In addition, Ribot *et al.* (2006) have also pointed out that when local stakeholders are involved in governance processes it is more likely that additional accountable and equitable policies will develop.

When decentralisation is understood as a set of reforms designed to improve local public sector performance (Andersson 2004), implicit is the presence of institutional arrangements that facilitate the participation of ordinary citizens in the public policy process, this is also referred to as participatory governance (Andersson & van Laerhoven 2007: 1089). The literature on participatory governance has covered issues like municipal service provision and enforcement (Andersson 1999; Andersson & van Laerhoven 2007); electoral and rural development (Ackerman 2004); participatory budgeting (Baiocchi 2001; Bräutigam 2004) and planning (Costa *et al.* 1997; Evans 2004), and the relationship between participation, accountability, and democratic local

governance (Blair 2000), among others. In the context of participatory governance of natural resources, forest issues have received significant attention, especially during the last two decades (Agrawal *et al.* 2008; Andersson *et al.* 2009). In contrast, very limited attention has been paid to the understanding of developing country's participatory governance processes for biodiversity conservation in settings where most protected areas explicitly forbid consumptive uses such as in national parks. Costa Rica is a great setting to address the gap in the participatory governance literature towards biodiversity conservation oriented protected areas. Since 1986, the Costa Rican government engaged in a decentralisation discourse, vowing to grant decision-making power to local inhabitants surrounding protected areas spanning more than 25 per cent of the country's surface (SINAC-MINAE¹ 2002). As part of such discourse, the government created the National Conservation Area System (SINAC for its acronym in Spanish). SINAC is integrated by eleven rurally-based, so called 'conservation areas,' which were defined by a 1990 executive degree as 'composed of one or several contiguous (or not) protected areas, the objective being the conservation of biodiversity and the sustainable production of goods and services derived from the management of natural and cultural resources' (MINEREM 1990). SINAC is defined according to its website as 'a decentralised and participatory governance system that integrates forestry, wildlife, and national park protected area issues so that policy development, planning, and implementation can lead towards the sustainability of Costa Rican natural resources' (SINAC 2009). Interestingly, within SINAC two different approaches developed to operationalise local participation in protected area governance processes. How did each approach perform?

The goal of this paper is to analyse the effectiveness of the two main approaches developed within SINAC by answering the following question: (1) Did local participation in protected area governance emerge as a result of the decentralisation reforms? Results indicate that participatory governance processes did not emerge under the first approach while under the second one they did. The first approach describes the institutional arrangements prevalent in most conservation areas of SINAC and the second describes those developed by the *Área de Conservación Guanacaste* (Guanacaste Conservation Area or ACG herein for its acronym in Spanish). This paper demonstrates that in order for participatory governance processes to emerge inside biodiversity oriented protected areas, attention needs to be paid to the bureaucratic structure of which local participation must become a part. One of the main obstacles

SINAC faced to incorporate local participation in decision making processes was the incentive structure that class-based urban-rural dynamics created within the bureaucratic system, effectively precluding involvement of rural citizenry in protected area governance.

In the next section I describe the general research strategy including data collection methods and variable measures operationalisation. Following, I provide a brief account of the political, economic, and ecological situation prevalent in Costa Rica before the decentralisation reforms took place and that set the stage for the central Costa Rican government to push for a local participatory agenda for protected areas' governance. I then present and discuss the two approaches that developed, before ending up with some brief policy implications.

2. General Research Strategy

2.1 Data Collection

Data collection took place in Costa Rica between 2002 and 2006 for a total of 462 data-collection-days. Data gathering was organised in two different stages: The first allowed for identifying key informants and gaining access to a wide variety of archival records (i.e. SINAC unpublished reports and private records of key policy-makers involved in designing policies for the decentralisation of the protected area system). Having acquired a basic understanding of the history of biodiversity conservation in Costa Rica and the bureaucratic structure under which the protected area system was organised, I spent most of my time conducting participatory observations, informal interviews, and 34 in-depth interviews of key informants using appropriate ethnographic techniques (Bernard 2006). To collect data on the first approach for decentralisation developed by most conservation areas within SINAC—labeled the 'SINAC approach' for clarity purposes—I visited and interviewed personnel at three conservation areas and the central offices of SINAC in San José, the country's capital. The three conservation areas sampled were: the Osa Conservation Area (ACOSA for its acronym in Spanish), the Tortugero Conservation Area (ACTo for its acronym in Spanish), and the Arenal-Tempisque Conservation Area (ACAT for its acronym in Spanish) (Figure 1). These areas represented a third of the total number of conservation areas in the country and their selection criteria was based on their relevance to biodiversity conservation purposes following the opinion of expert informants (i.e. Alvaro Ugalde, founder of the National Park Service, and Daniel Janzen, senior tropical biologist in Costa Rica) and

the published literature (Janzen 1983; Sanchez-Azofeifa *et al.* 2002; Bjorndal *et al.* 2005). I followed the same general strategy to collect data on the second approach for decentralisation developed by the Área de Conservación Guanacaste (ACG) (Figure 1), and labeled it the 'ACG approach'.

For both approaches I relied on the use of secondary data sources to supplement missing data generated by interviews and participant observation. Interviewees and key informants included conservation area personnel (i.e. program personnel like parkguards, program coordinators, and directors), members of the central government (previous and current directors of protected area systems, senior advisors to the minister of the environment and the minister of the environment himself), and directors or knowledgeable individuals that worked for non-governmental organisations that formally interacted with the conservation areas. I mention by name only those key informants that already constituted public figures at the time of data collection (Wallace 1992; Evans 1999; Allen 2001; Steinberg 2001) or that explicitly agreed to have their names recorded and published. The time period described in this study spans from the early 1970s to about 1996, unless otherwise stated. The reason is that the National Park Service was created in the 1970s and while the ACG became the first conservation area to be formally established in the early 1990s, the formation of SINAC was not formally enacted into law until 1996.

[Figure 1 about here]

2.2 Variable Operationalisation

To assess the effectiveness of the SINAC and ACG approaches to promote participatory governance, I analysed the resultant incentive structure of each approach examining whether participatory governance processes had developed or not. Because the decentralisation reforms did not result on well-defined formal institutional arrangements (i.e. laws, decrees, etc.) guiding how conservation areas were to develop participatory governance processes, no clear standards existed by which to compare their effectiveness. Thus, I measured the participation of local rural citizenry in protected area governance in four ways: (1) Through the presence or absence of local advisory conservation area boards where local rural citizenry participated in decision-making processes about protected area issues. (2) Whether protected area staff could be held accountable for their actions through hiring and firing procedures. (3) Assessed

whether conservation areas had created spaces for local rural citizenry participation through direct employment into positions of decision-making responsibility within the protected area staff. This is a relevant measure in this context given that before the decentralisation reform, there was an explicit policy in place not to hire local people under the argument that doing so could weaken the staff's ability to monitor and enforce locals' hunting and logging activities inside the protected areas. Finally, (4) I examined whether there was any indication of local demand for local participation in governance processes from those most affected by the benefits and costs generated by setting land aside for biodiversity conservation purposes. Most typical local users of biodiversity are biologists, naturalists, and the local rural citizenry inhabiting the nearby protected area. Biologists most often benefit from the availability of biodiversity through knowledge generation and for the same reasons suffer the costs of its disappearance, while rural inhabitants can typically benefit from the provision of biological education about their surrounding ecosystem, but most often have paid the costs of setting land apart for biodiversity conservation through land expropriation policies.

3. Early Political, Economic and Social Setting

3.1 The Emergence of the National Park Service

Perhaps none of those involved in crafting the 1969 Forestry law, which included a small provision enabling the formation of National Parks, imagined that by the end of the 1970s, Costa Rica would be best known around the world for its ambitious protected areas system (Brocket & Gottfried 2002). By 1977, and in big measure due to the lobbying efforts of Costa Ricans Alvaro Ugalde and Mario Boza, the National Parks Law was enacted. The new law took away national parks from the control of the Forest Service, giving it status as a full-blown governmental agency within the Ministry of Agriculture and Livestock (Figure 2).

[Figure 2 about here]

The organisational structure of the National Park Service showed a general director at the top, based in San José. At the next level stood all national park administrators, who were in charge of implementing policy guidelines—devised by the director and mostly focused on protectionism—with help from teams of *guardaparques* (parkguards).

As a result of a booming economy and decided presidential support, at the end of the 1970s the number of protected areas expanded from 3 to 17 units (Wallace 1992).² International recognition followed,³ making national parks important national treasures and a source of national pride (Boza 1993). The operational budget of the National Park Service was determined by the central government, which collected and redistributed all the revenue generated from parks' visitation.⁴

In the 1980s the Costa Rican economy plummeted due to an increase in oil prices and a sudden drop in international coffee prices (Molina & Palmer 2004),⁵ prompting president Carazo (1978-1982) to sign an International Monetary Fund structural adjustment loan mandating government-wide hiring freezes, reduced spending on social programs, privatisation of public corporations, and reduced subsidies to agricultural produce, among other policies (Umaña & Brandon 1992). Despite the economic crisis, the international prestige of the Costa Rican national park system made it personally beneficial to top-policy makers to continue declaring national parks, even when there were no funds to make budgetary allocations for land purchases and expropriation payments (Arguedas & Rodriguez 2003). Neither did the Park Service have resources to manage these lands appropriately.⁶ By the end of the decade however, visitation to Costa Rican National Parks increased threefold (Steinberg 2001: 76), making National Parks an attractive source of income to the central government.

Given the favorable political climate towards biodiversity conservation, interest from foreign public and private conservation organisations to allocate funds to national parks also increased (Boza 1993). To safeguard against the possibility that international donations to national parks would get lost within the Ministry of Agriculture and Livestock where the Park Service was still housed (Allen 2001: 43), in 1979 Costa Rica created the National Parks Foundation (FPN for its acronym in Spanish), a mixed private-public entity, and likely one of the first of its class in Latin America. As a private institution it could receive private donations and serve as a unified fundraising entity for the Park Service. As a public entity, the foundation had controls from the Costa Rican government through its board of directors, composed of five members, three of which had to come from the central government (Law of Costa Rican Foundations #5338) (Barnard 1982).

Despite the national economic crisis the protected area system continued to grow during the 1980s. However, as the government took land off the market and away from rural inhabitants and withheld compensation, increasing numbers of landless and

unemployed low income farmers from banana plantations saw national parks as an unfair and unproductive governmental land allocation policy. The epitome of such tensions would be symbolised by the well-documented miners' invasion of Corcovado National Park in 1985 (Christen 1994; Evans 1999: 144). The event captured national and international attention given the country's reputation for social peace, but also because unlike other countries, the creation of national parks did not involve local population displacements and open conflict with the rural population until now. The Arias administration (1986-1990), which came to power in the wake of the Corcovado invasion, urged to reform natural resources governance in the country. On one hand, national parks spanning 11 per cent⁷ of the national territory were under increasing pressure to show that they could be active contributors to regional development (Jones 1992). On the other, Costa Rica had one of the highest national deforestation rates in the continent at 2.9 per cent annually (Lehmann 1992) as lands outside of national parks—including those enjoying protection status as forestry and wildlife reserves—accounting for 14 per cent of the country according to Brocket and Gottfried (2002) were being logged. Arias responded by (1) consolidating decision-making power about national park, forestry, and wildlife issues into a new ministry of the environment, and (2) proposing to develop a new decentralised conservation area system that would use an integrated approach to manage land inside and outside national parks, by incorporating rural inhabitants into participatory governance processes (Durán & Sanchez 1989; Umaña & Brandon 1992: 89).

3.2 The Creation of SINAC

The creation of the National System of Conservation Areas (SINAC for its acronym in Spanish) faced significant challenges. To achieve integrated management of lands under different property-rights regimes i.e. national parks, forestry reserves, etc., required the design of new institutional arrangements.⁸ Furthermore, such integration required bringing together personnel that saw the goals and purpose of natural resources management with very different eyes. *Parquistas* [parksmen] blamed *forestales* [foresters] for the deforestation crisis affecting Costa Rica and *forestales* viewed *parquistas* as hindrances of national economic development.⁹

The resultant organisational structure of SINAC depicted a coordinating central office and general director in San José. A regional director at each conservation area was placed in charge of making local policy and implementation decisions regarding

park, forestry, and wildlife management activities in the territory under his/her conservation area's jurisdiction. Below the conservation area director, middle management personnel were in charge of the different units that form the backbone of each conservation area, such as administration, forestry, or wildlife departments. Depending on each conservation area, middle management personnel could also head different implementation programs such as the programs of protection, education, environmental services, land tenure, research, biological monitoring, marine protected area management, or firefighting (Figure 3).

[Figure 3 about here]

Despite the formal structure described above, two very different approaches developed to implement local participation in conservation area governance, with very different outcomes. Each is described next.

4. The 'SINAC Approach'¹⁰

This section shows that under this approach the dominance of class-based urban versus rural relationship patterns combined with the lack of local demand for participatory governance effectively precluded the development of participatory governance processes for biodiversity conservation purposes inside conservation areas. For the most part, the reorganisation of the protected area system resulted in the relocation of the previously existent class-based centralised bureaucratic structure from the country's capital and into a rural setting in the form of conservation areas, which did not allow for any significant transfer of decision-making power. In addition, the new institutional arrangements yielded most leadership positions to foresters, whom effectively gained control of decision-making processes inside SINAC and thus, made forestry—and not biodiversity conservation—the focus of their efforts.

4.1 SINAC's Institutional Arrangements: The Role of Class-Based Urban-Rural Relations

By 1996 none of the conservation areas studied had established a local board of directors, or had established clear mechanisms to hire and train local rural citizens to occupy positions of responsibility on biodiversity conservation related issues. In addition, visits to conservation areas suggested that their bureaucratic structure mirrored

the class-based relationships prevalent inside the central bureaucracy, where rural inhabitants usually occupy the lowest paying positions. In general, my observations indicate that individuals in directorship positions belonged to the upper-middle class and had long-standing connections in central government politics and members of the upper class. Most were of urban origin and a few had post-graduate degrees. Middle management personnel included park administrators, department managers, or other personnel with administrative functions. Some of them had university degrees and were generally from urban lower-middle class backgrounds. Seldom middle level positions were occupied by personnel that had started as a parkguard and climbed through the ranks by completing a technical secondary education degree while on the job. Most parkguards came from rural areas and had about a sixth grade formal education on average with salary comparable to janitorial positions in urban centers. From an urban perspective, parkguards constituted part of the working class (Biesanz *et al.* 1982, 1999). However, in a small rural context, parkguards could belong to a middle or even upper-class depending on their lifestyle. It is important to note that although belonging to a rural background, administrators or parkguards did not necessarily belong to the local population surrounding the protected areas and thus, could rarely represent or voice the interests or needs of the particular local rural population where the conservation area was located. Although nowadays this policy is not followed, by 2006 I estimated that a minimum 60 per cent of all employees of the conservation areas still did not belong to the region, this is consistent with Arguedas (2002).

The creation of SINAC not only resulted in little local participation in decision-making, but also shifted the locus of power of the new agency from parksmen to forestry personnel, due to rules for the allocation of positions within the new hierarchy following a formal education criteria. Interviewees indicated that many more foresters had higher academic credentials and belonged to a higher urban upper social class than their Park Service park-guard counterparts. For instance, a 1991 tally showed that the first director of SINAC was a forester and all but two of the eleven conservation area directors were foresters as well (García & Ortíz 1991). The likely consequence of having foresters at the top of SINAC was a shift of focus on biodiversity conservation and towards forestry oriented issues. In sum, the conformation of SINAC's bureaucratic structure and the locus of decision-making power, made it very difficult that local participation of rural citizens for biodiversity conservation purposes could emerge and become part of their bureaucratic agenda and practices.

4.2 Accountability Mechanisms inside SINAC

Looking at the structure of the institutional arrangements under which hiring and firing procedures takes place is useful to understand where the locus of power lies within the organisation. I found that most hiring and firing power is held by the director of SINAC in San José and local rural citizens have no influence on the hiring and firing of conservation area personnel and thus cannot hold them accountable for their actions in the region.

Formally, hiring and firing procedures within SINAC are governed by the statutes of the Costa Rican civil service and the Ministry of the Environment, *Manual Institucional de Clases* (hiring and job categories handbook, MINAE 2004), which rewards experience and academic qualifications. However, according to interviewed Costa Rican senior policy-makers and other key informants, there is little enforcement on this set of rules-in-form and instead rules-in-use apply. The director of SINAC is usually a political appointee of the Minister of the Environment and the directors of the conservation areas are political appointees of the director of SINAC. As a political appointee, the director's survival is based on his or her ability to be loyal to the Director of SINAC.

Once appointed, the director of the conservation area has little freedom to choose his personnel given that most of them have civil service protection and were inherited from the National Park, Forestry or Wildlife Services when they existed as separate agencies. The Costa Rican civil service offers career bureaucrats a certain level of benefits such as medical insurance, yearly bonuses, and bonuses for working away from home, among other perks. Although firing somebody with civil service is technically possible in practice it rarely happens. Opening an administrative file to fire a civil servant entails engaging in a long and conflictive public process. During an interview a director recounted that: 'you need to be able to provide written evidence of any wrongdoings... [and to do that] you would need to drop everything else you are doing and constantly document all of what that individual does... [Even then], he or she could accuse you of profiling and sue you.' Several long time observers of Costa Rican politics indicated that it is customary among middle and upper level Costa Rican bureaucrats not to leave a paper trail in a colleague's administrative file of any of his/her wrongdoings, complaints, or reprimands by their superiors. Although threatening to do so is one of the tools that the Director of SINAC (central government) usually resorts to

when he wants to force conservation area directors to act against their will (and the same applies downward in the hierarchy). Several informants explained that nobody leaves a negative paper trail in a colleague's file because in Costa Rica the director's and middle level personnel constitute a small community of people. For instance, within the Ministry of the Environment there are 20 senior directors directly below the Minister of the Environment and they all have known each other for many years, and expect to continue interacting in the future. As one interviewee summarised: 'the government changes every four years and you do not know where you might end next or which of your colleagues might be your boss during the next presidential administration.'

4.3 Lack of Local Demand for Participatory Governance

While biologists and naturalists (especially of foreign origin) have played important formal and informal leadership roles in the creation and management of Costa Rican national parks and protected areas, i.e. entomologist G. Frankie in Palo Verde National Park of ACAT, entomologist L. E. Gilbert in Corcovado National Park of ACOSA and herpetologist A. Carr in Tortugero National Park in ACTo, among others (Wallace 1992; Evans 1999; Frankie *et al.* 2004). I found no clear evidence that their important work in favor of biodiversity conservation efforts coalesced into local demand for participatory governance from the central government. Similarly, I did not find any instances of demand for participatory governance from rural inhabitants surrounding such protected areas, even when in 1998 the central government still owed them about 100 million dollars from land expropriations (Castro & Arias 1998: 5). According to my own estimates by 2005 about 50 per cent of the expropriated lands had still not been paid for.

5. The 'ACG Approach' to Develop Local Participation

The ACG developed a different approach to incorporate local participation in biodiversity conservation governance than the one described above. To understand how local participation emerged it is necessary to also describe the ACG's formation process, which significantly differs from that of the rest of SINAC. First I describe how the demand for local participation in governance processes was articulated in the ACG context, resulting in land expansion of the conservation area, and the formation of a local advisory board that could hold the conservation area director and his staff accountable. The ACG's land buying acquisition process also differed from that

previously practiced by the central government. All these changes helped to create a local bureaucratic culture, which eventually allowed the incorporation of rural citizens with little formal educational background into decision-making positions. Finally, through administrative and financial autonomy, the ACG was able to shift significant decision-making power from the urban center to the rural locality where it is located. For the most part, this section is illustrative of a period on the ACG history encompassing 1985-1990.

5.1 Local Demand for Participatory Governance

The deforestation and protected area crisis of the mid 1980s that prompted a decentralisation discourse by the Arias administration also awakened the need for change among local stakeholders in Santa Rosa National Park in Guanacaste. U.S. biologists and long time Guanacaste residents at Santa Rosa National Park, Daniel H. Janzen and Winnie Hallwachs, wrote a proposal to the Arias administration that operationalised the environmental reform and sustainable development goals advocated by the President.¹¹

Santa Rosa National Park, located in the northwest province of Guanacaste (Figure 4), was created to protect seasonal tropical dry forests thought to be the most endangered of all tropical forests (Sanchez-Azofeifa *et al.* 2005). Most of the dry neotropical forests have been converted to pasturelands (Janzen 1986). Pasturelands were burned every year to increase the productivity of a fire-loving, introduced species of African grass (*Hyparrhenia rufa*), and fires frequently spilled to the forests of Santa Rosa National Park. Janzen-Hallwachs proposed to buy and restore degraded pastureland by stopping the fires and allowing forest regrowth under national park status. The idea was feasible given the availability of land for sale due to the economic crisis in the cattle-ranching industry.¹² The Janzen-Hallwachs proposal required reforms to the governance of the National Park Service structure so that locally-based decisions could be made and adequately address anthropogenic fires and other biodiversity conservation context-specific issues .

[Figure 4 about here]

The restoration plan found strong support among the Costa Rican academic class. As part of the country's intellectual elite and oligarchy, they used their long-term

connections to introduce Janzen to senior political circles. For instance, Rodrigo Gámez, a childhood friend of the President, introduced Janzen and Wallachs to Arias with the purpose of briefing him on the proposed new initiative. The President gave his political support to the project but told Janzen not to expect government funding (Allen 2001). Funds would have to come from private sources and would enter the country via the National Parks Foundation, which would then disburse funds to hire staff, pay for land purchases, equipment, and infrastructure. At the time the governing board of the National Parks Foundation was formed by Dr. Pedro León, Alvaro Ugalde (Director of the National Park Service), and Mario Boza (Vice-minister of the Environment). All of them shared roughly the same political agenda to reform biodiversity conservation governance, understood Janzen-Hallwachs initiative, and trusted Janzen's motives.

In 1987, as a result of lobbying efforts by Costa Rican scientists and key bureaucrats, President Arias provided the Guanacaste initiative with its first strong public political show of support. In a public appearance in Guanacaste, Arias gave *zona protectora* (protected zone) status to lands that Janzen and Hallwachs' initiative had targeted for purchase. Much of the land was owned by large and small cattle ranching farms willing to sell (Edelman 1992). Under the new property rights regimen, private ranch owners could continue to work their land but were forbidden to perform any environmentally damaging activities such as hunting, fishing, logging, or burning. This regulation was aimed at discouraging potential competing land buyers that would develop the land for commercial purposes.¹³ With the presidential 'blessing,' Janzen and Hallwachs embarked on an international fundraising campaign.

As soon as fundraising made it possible, Janzen and his Costa Rican allies assembled a land buying team, hiring personnel through the National Parks Foundation, and creating the legal basis for a local board of directors that would eventually govern the ACG. For the first time in the history of the protected area system in Costa Rica, a local board of directors would have input on decision-making processes inside a conservation area.

The local board of directors was formed in 1989, through the convocation of about 19 different national, regional, and local institutions including the province's government, bankers, central government agencies in the region (planning, agriculture, cattle ranching, education, fisheries, and public works), regional commerce chambers (cattle ranching, agriculture, tourism, and forestry), local municipalities of Liberia and La Cruz, and local communal development associations of the towns of Santa Cecilia,

Cuajiniquil, and Dos Ríos. Through this meeting seven board members were elected. They included the governor of the Guanacaste province, the president of the cattle ranchers association, the president of the regional agricultural center, a member of a local cultural association, the president of the regional university campus, the president of the municipality of La Cruz, and the president of the local communal association of the neighboring community of Santa Cecilia. The ACG director did not have a vote in the board but was considered part of it. The board's main responsibilities were to (1) understand the structure and functions of the ACG in order to be able to make responsible decisions about its activities, (2) approve the annual budget, (3) approve the activities report, (4) evaluate the director's performance, and assign salary changes, (5) open to public contest every five years the directorship position (to which the previous director can participate), (6) assess the annual operative activities of the trustee of ACG's funds, and (7) assess and generate proposals for changes of uses of ACG funds and activities. During 1989 the board met 16 times (13 ordinary and 3 extraordinary meetings), (MINEREM-ACG 1990).

5.2 Creating Local Trust through Land Buying Processes

Perhaps the most relevant aspect of the land purchase effort is that the process was guided by the explicit goal of making the ACG a desirable neighbor to have by the resident local population. Thus, the project explicitly avoided following the standard land purchasing procedure exercised for decades by the central government in its creation of national parks: expropriate land and pay for it 'later' on an undetermined date and at 'officially' determined prices. Instead, the project attempted to signal as loudly as possible its intention to create 'good will' among the local population surrounding the conservation area by providing landowners with the opportunity to negotiate the selling price of their land. 'This did not guarantee owners that they would obtain better prices for their land than if they had been expropriated, but guaranteed that a payment would indeed come, and allowed people to be part of the negotiation process' (Janzen personal comment 2003). The intricate land buying process involved a gamut of actors from the local to the international level, and it would not have been possible without the decided support of key central government officials including the minister of the Treasury among others (see Allen 2001 for details).

Given that some of the large landowners that sold land to the project were among the oldest families in the region (Edelman 1992), people watched carefully their

interactions with the land buying team. Perhaps a measure of local satisfaction with the land-buying process is that, as mentioned before, some former land owners would agree to become part of the local board of directors with governing power over the ACG.

Interviews show that people were willing to sell their land for a variety of reasons. Broadly speaking, some sellers sold motivated by the possibility of monetary profit, others because they saw it as an opportunity to be part of a good cause that would increase their own standing among the national level oligarchy. For some others it was an opportunity to relocate from rural to urban areas to be closer to markets and better schools or hospitals (especially those with children and elderly). Sometimes the same piece of land had to be bought twice, once to the rightful owner and then to squatters that had been occupying it. Some large landowners (a thousand hectares or more) sold as a way to leave a legacy to the region. Others cattle ranchers also wanted to sell, but afraid of being isolated by the ranching community, asked the government to make it look as if they had been expropriated. Finally, a small number asked exorbitant prices for their properties but agreed to negotiate under the threat of expropriation. Others became conflictive neighbors, setting off fires in order to pressure being bought off quicker.

5.3 Accountability at the Local Level

The ACG broke with the central government's standard hiring practices when it declared its intentions to hire its first director through an open and public process. This was possible due to the broad support from senior members of the central government and the political and academic elite. At the end of the process there were two finalists, one favored by those closer to the interests of the central government in San José and the Central Valley, and the other favored by the supporters of the ACG and closest to the interests of rural Guanacaste. At the end, the Guanacaste-favored candidate prevailed due to Janzen's great leverage as the main fundraiser. The director's contract stipulated that the Guanacaste-favored candidate was hired, and thus accountable, to the local board of directors and not to the central government. Effectively, the director was no longer under the control of the National Park Service, the central government's bureaucracy, or its urban-based oligarchy, but under the control of a rural Guanacastecan oligarchy. Under the prior scheme, a park directorship was considered to be a prize position reserved to political appointees, loyal and only accountable to the

central government. This was not a welcomed stance and cost Guanacastecans significant support from key central government players.

5.4 Creating a New Bureaucratic Culture

Administratively, the ACG director, had the support of two adjunct directors. One was an experienced parkguard, trusted by the National Park Service Director, and in charge of coordinating all National Park Service personnel deployed at Santa Rosa National Park before the reform began. The other was in charge of coordinating all new personnel hired through the National Parks Foundation, and was a key negotiator of land purchases. In sum, the new emerging institution (i.e. ACG) was populated by two broadly different types of stakeholders (that did not like each other) and governed by different property rights regimens. One group was the parkguards and other National Park Service employees that had been stationed for years in Santa Rosa National Park, also a national monument.¹⁴ Unmotivated and under-equipped,¹⁵ they saw with jealous eyes the arrival of an increasingly large group of new non-governmental employees, buying and managing private lands.¹⁶ This new group had a forestry flavor due to some members having such formal training they were highly motivated and had many resources at their disposal (new vehicles, radio communication, etc). Parkguards recall being convinced that this was a conspiratorial effort by the '*gringo* Janzen' to take over this part of Costa Rica and vowed not to let it happen in the name of national security.¹⁷

According to Santa Rosa National Park parkguards of the time, they would not talk nor cooperate with their privately-employed counterparts. This started to change as benefits brought by the project started to become evident at the local level, like the hiring of local people. In addition, interviewees pointed out that two events played a very important role in the integration of Park Service personnel to the ACG project. The first occurred during the dry season when a huge fire broke out on recently purchased lands of high archeological value.¹⁸ Initially, Park Service personnel refused to help out, under the argument that these lands were not under their jurisdiction and their insurance would not cover them if injured (the lands were still under the National Parks Foundation ownership and not yet under National Park status). However, their boss, Sigifredo Marin, ordered them to get out and help ACG personnel put out the fire.¹⁹ The fire lasted several days during which both groups had to interact and work together for a common goal and eventually developed some trust among them. The second event consisted in the rejection that Park Service personnel stationed in Santa Rosa National

Park began to be subjected to by the rest of their Park Service peers elsewhere. From a distance, one parkguard recalled, they were seen as 'cooperating with the gringo that wanted to privatise Costa Rican National Parks' and were called '*traidores*' (traitors) and '*vende patrias*' (salesmen of the motherland), by their peers. Together, these events facilitated the integration of these two groups when eventually the newly bought lands were given national park status and they all had to work together.

Through land purchases, the ACG eventually became three large interconnected protected areas depicted in Figure 4 (Santa Rosa National Park, Guanacaste National Park, and Rincon de la Vieja National Park), spanning more than 158,000 Ha, becoming the largest biodiversity restoration project in the Neotropics (Perrow & Davy 2002). All of it was managed by a single team of 100 plus people under a single land tenure regime (the National Parks law), and as will be described in the next section, with much more active decision-making and participation of the rural surrounding population than at other conservation areas of SINAC, given that the ACG was able to make the surrounding rural citizenry the main recipient of the direct and indirect employment, educational, and ecological services (Allen 2001; Daily & Ellison 2002; Blanco 2002, 2004). Nationally, the ACG would eventually be viewed as a success for the parksmen's cause because most of its personnel were devoted to biodiversity conservation goals. However, at an internal level, the ACG had moved beyond the parksmen versus forestry dichotomy that prevailed elsewhere as the ACG had developed its own identity and bureaucratic culture.

5.5 Broadening Local Benefits and Participation of Rural Neighbors

Programs like fire fighting, protection, maintenance, ecotourism, research, biological education, biological monitoring, and land tenure, among others, constituted the main operational units of the ACG. The ACG directors supported by Janzen's advise, placed significant effort in identifying and mentoring suitable personnel for each program who could eventually lead them. Convinced that breaking with long standing class-based and urban relationships versus rural dominant relationships and patterns was key for local rural involvement and more effective biodiversity conservation outcomes, the staff was hired from the rural resident population and largely trained on-the-job. In effect, the ACG offered honorable and desirable jobs to low-income farmers by on-the-job training parkguards as teachers, wildfire-fighters, police, and parataxonomists (Janzen 2004). These employees had an average second grade formal education

(Basurto personal notes), and were trained to be something specific that they could be proud of. The ACG likely reshaped the local employment landscape for the surrounding rural populace with a low formal education background, given that traditionally such population could only gain access to seasonal janitorial-level positions at farms and small towns. In contrast, the ACG provided its employees with job security and a variety of learning opportunities. For instance, the parataxonomists program trained on-the-job low income rural farmers in all aspects of how to conduct a biological inventory of Lepidoptera (i.e. butterflies and moths). Parataxonomists eventually became responsible for all aspects of the program. Moreover, the nature of the job demands that parataxonomists keep a busy schedule year-round, hike the forests, commute between their hometowns and remote rearing stations, and constantly interface in two worlds: rural Guanacaste and that of international biodiversity science and scientists. As a result, many parataxonomists have adopted the work ethic of North American academicians (Janzen *et al.* 1993), while at the same time stay deeply rooted in their hometown traditions and families (Basurto 2007). Some of them have gained enough self-confidence to take leadership roles in their home communities (i.e. local school board associations or as part of the local governance council), serving as role models for other community members that are exposed to an alternative model of rural lifestyle (Basurto 2007).

Hiring local rural people with little formal education did not come without the costs of training and learning i.e. cars did not last long and a firefighting truck was burned in the process of learning to fight the fires. However, the ACG was able to withstand such costs because it was explicitly committed to employing local rural people to conduct activities to which they usually had no access, like driving or organizing a wildfire fighting operation (Janzen 2004). Also, through the support of foreign researchers and other international contacts, the ACG had access to funds or fundraising with which it could buffer the economic and political costs of supporting members of the low and rural class.²⁰ According to the ACG directors, the returns on such investment seemed to pay-off well as it created a very loyal employee body, a regional reputation as a supporter of local employment, and a good employer, given that it broke with the normal practice of firing nor punishing their employees at the first gross mistake they did at work, a significant inhibitor of employee's capability to learn and on-the-job training.

The ACG policy towards purchases and resources acquisition also emphasised to buy locally as much as possible. Vehicles and supplies were bought regionally instead of in San José. There was an explicit understanding that spending money locally would necessarily be more expensive than if it was done at an urban center where resources could be bought in bulk and cheaper. Members of the central government that benefited from these practices resented these measures, as kickbacks and the power that came from being in charge of authorizing purchases disappeared for them, effectively changing hands from the central to the local level. At a local level, ACG personnel was perceived as privileged, and people wanted to be associated with it. ACG personnel would pay with cash at the gas station, instead of using government coupons. Although on occasion money was lost and those practices eventually had to change, examples like this helped to create a local image that the ACG was a local economic force of which rural instead of urban people could play a part as well as reap some of the benefits.²¹

5.6 Shifting Decision-making Power Through Administrative and Financial Autonomy

The ACG's ability to gain administrative autonomy took place when the ACG was able to return to the central government all civil service positions belonging to personnel working at Santa Rosa National Park. This was only possible after Sigifredo Marin—who had become ACG director in 1992 and was viewed as a leader by the rest of the staff—returned his civil service position and became staff of the National Parks Foundation (the trustee of ACG's funds). As a result all but two staff also opted to give up their civil service position, even though they only enjoyed a slightly higher salary and the benefit package was not much more attractive than that from the government. For the ACG as a whole this meant that personnel could now be hired and fired more easily and be made more accountable for their performance to local level actors (i.e. the local board and ACG director).

In exchange for the civil service positions—a highly valuable commodity to the central government—the central government granted the ACG with official fiscal recognition as an autonomous administrative agency within the Ministry of the Environment. As an administratively autonomous entity, the ACG gained significantly more control over their own administrative and budgetary issues than any other conservation area would be able to.

The ACG's financial autonomy resulted from Janzen and Hallwachs' fundraising capacity. In total, between 1986 and 1989 Janzen and Hallwachs raised about 50 million

dollars, of which 12 million constituted the organisations' endowment. The funds came from more than one thousand different small and large donors, with the largest amounts donated by the Swedish and Norwegian governments and helped make the ACG the first endowed conserved area in the world (Allen 2001). These funds constitute most of the ACG operating budget and are administered by the National Parks Foundation. Unfortunately, the management of the endowment is a constant source of tension between the foundation and the ACG, and the central government has often tried to control ACG's local biodiversity conservation agenda through intervening on the foundation's management of the endowment.²²

It has often been said that the ACG's ability to develop differently from the rest of the conservation areas was due to an unprecedented support from the international community due to Janzen's fundraising abilities. The evidence does not seem to support these claims. My own interviews and an internal SINAC-MINAE (1996) report of the status of all conservation areas shows that (1) in 1996 ten of the eleven conservation areas had seed money to build on their own endowments but no sustained effort to build on those initial funds took place afterwards. (2) Furthermore, other conservation areas have received much higher levels of external funding from the international community than the ACG during the last twenty years but this funding was not invested in biodiversity conservation activities that increased the participation of locals in decision-making processes (Basurto 2007).

6. Conclusions

One of the main lessons learned from the Costa Rican experience is that in order for local rural citizenry to have a positive contribution to the governance of protected areas with biodiversity conservation goals, attention needs to be paid to the bureaucratic structure to which communal participation must become part of. One of the main obstacles SINAC faces in incorporating rural communities in decision making processes is the incentive structure that dominant social class and urban-rural dynamics create within the bureaucratic system. Currently, such incentive structure discourages any real rural involvement and empowerment. Changing the nature of class driven relationships is a tremendous challenge for any bureaucratic system unless outside perspectives can be successfully integrated to the local context.

It also seems clear that 'building' local rural citizenry participation in protected area governance, needs to take place from the top-down and bottom-up at the same

time. The ACG would not have been able to develop without decisive political support from the central government and demand for change from local level stakeholders. These two ingredients seem to be lacking in the effort undertaken by SINAC. Because demand for participatory governance comes from those most affected by the benefits and costs generated by the resource being governed, we should not be surprised that demand for local governance at the ACG came mostly from biologists who had a clear stake in the conservation of biodiversity.

Clearly, biologists Janzen and Hallwachs' role was fundamental in the development of the ACG, especially at the beginning of the process. However, it would be extremely naïve to conclude that creating participatory governance processes depends on a few key individuals for its success. The more important question is what kind of leadership do such individuals need to provide to the overall process of local involvement? What seems to have made Janzen and Hallwachs' role particularly important was their ability to develop creative ways in which to broaden the benefits of the formation of the ACG to a diverse set of local, national, and international players, so that the ACG eventually could become its own community of stakeholders and a new locally-based bureaucratic culture.

Finally it is important to keep in perspective that as a policy system SINAC is still in its infancy and experimentation with different institutional arrangements is ongoing. In 1998 the biodiversity law (No7788, arts 29 and 30) was passed establishing that each of the eleven conservation areas must form a local board of directors to which the conservation area director has to respond. The ACG experience served as an inspiration for the inclusion of this participatory governance process in the law. However, most conservation areas have been slow to develop their own boards due to the lack of internal incentives within SINAC to share power and accountability, as well as the lack of a well-defined enforcement mechanism to do so. Despite this, some preliminary interviews indicate that congressmen, and to a lesser extent the municipalities, are emerging as stakeholders and have gained some power (and potentially some accountability) over the decision-making processes taking place in their respective conservation areas. Whether the type of power that emerging stakeholders are gaining will result in support to the biodiversity conservation or forestry objectives of conservation areas is an entirely different question.

Cited Literature

- Acherman, J. 2004. Co-Governance for Accountability: Beyond "Exit" and "Voice". *World Development* 32(3):447-463.
- Agrawal, A., Chhatre, A., Hardin, R. 2008. Changing Governance of the World's Forests. *Science*. 320:1460-1462.
- Allen, W. H. 2001. *The Green Phoenix. Restoring the Tropical Forests of Guanacaste, Costa Rica*. Oxford, U.K: Oxford University Press.
- Andersson, K. P. 2004. Who Talks with Whom? The Role of Repeated Interactions in Decentralized Forest Governance. *World Development*. 32(2): 233-249.
- Andersson, K. P., and van Laerhoven, F. 2007. From Local Strongman to Facilitator: Institutional Incentives for Participatory Municipal Governance in Latin America. *Comparative Political Studies*. 40(9): 1085-1111.
- Andersson, K. P. Gordillo de Anda, G., van Laerhoven, F. 2009. *Local Governments and Rural Development: Comparing Lessons from Brazil, Chile, Mexico, and Peru*. Tucson, AZ: University of Arizona Press.
- Anonymous. 1977. More Ecology Prizes for President Oduber. *The Tico Times*, 18 November 1977.
- Arguedas, S. 2002. *Estudio Rápido de Manejo para una Muestra de 19 Áreas Protegidas Gerencialmente Fuertes de Costa Rica*. Reporte para Wildlife Conservation Society. San José, Costa Rica. Unpublished Document.
- Arguedas, S. and J. M Rodríguez. 2003. *Algunas Lecciones Aprendidas: Sistema de Áreas Protegidas de Costa Rica*. Borrador Final. ELAP WCS. Unpublished Document.
- Baland, J. and J. Platteau. 1996. *Halting Degradation of Natural Resources: Is There a Role for Rural Communities?* Oxford, UK: Clarendon Press.
- Baiocchi, G. 2001. Participation, Activism, and Politics: The Porto Alegre Experiment and Deliberative Democracy Theory. *Politics & Society*. 29(1):43-72.
- Barnard, G. S. 1982. Costa Rica: Model for Conservation in Latin America. *The Nature Conservancy News*. 32.
- Barrett, C. B., Brandon, K., Gibson, C., H. Gjertsen. 2001. Conserving Tropical Biodiversity amid Weak Institutions. *BioScience*. 51(6):497-502.

- Basurto, X. 2007. *Policy, Governance, and Local Institutions for Biodiversity Conservation in Costa Rica*. School of Public Administration and Policy. Unpublished Dissertation. University of Arizona. Tucson, Arizona.
- Berkes, F., ed. 1989. Common property resources. *Ecology and community-based sustainable development*. London: Belhaven Press.
- Berkes, F. 2004. Rethinking Community-Based Conservation. *Conservation Biology* 18: 621-30
- Bernard, H. R. 2006. *Research Methods in Anthropology: Qualitative and Quantitative Approaches*. California: Altamira Press.
- Biesanz, M. H., Biesanz, R., and K. Z. Biesanz. 1999. *The Ticos. Culture and Social Change in Costa Rica*. Boulder, Colorado: Lynne Rienner Publishers.
- Biesanz, R., Biesanz, K. Z., and M. H. Biesanz. 1982. *The Costa Ricans*. New Jersey: Prentice-Hall.
- Bjorndal, K. A., Bolten, A. B., and S. Troëng. 2005. Population Structure and Genetic Diversity in Green Turtles Nesting at Tortuguero , Costa Rica, Based on Mitochondrial DNA Control Region Sequences. *Marine Biology*. 147(6):1449-1457.
- Blair, H. 2000. Participation and Accountability at the Periphery: Democratic Local Governance in Six Countries. *World Development*. 28(1): 21-39.
- Blanco, R. 2002. *El Programa de Educación Biológica del Area de Conservación Guanacaste: Costos y Oportunidades de Financiamiento*. Unpublished Thesis to obtain Bachelor Degree in Protected Area Administration. Escuela Latinoamericana de Areas Protegidas (ELAP). San José, Costa Rica.
- Blanco, R. 2004. *Del Machete y la Carabina a la Computadora. La Evolución del Area de Conservación Guanacaste*. World Heritage Site Publication. Available through the Author.
- Boza, M. A. 1993. Conservation in Action: Past, Present, and Future of the National Park System of Costa Rica. *Conservation Biology*. 7(2):239-247.
- Brandon, K., Redford, K., and S. Sanderson, (eds). 1998. *Parks in Peril: People, Politics, and Protected Areas*. Washington, D.C: Island Press
- Bräutigam, D. 2004. The People's Budget? Politics, Participation and Pro-poor Policy. *Development Policy Review*. 22(6): 653-668.

- Brechin, S., Wilshusen, P., Fortwangler, C., and P. West. 2002. Beyond the Square Wheel: Toward a More Comprehensive Understanding of Biodiversity Conservation as Social and Political Process. *Society and Natural Resources*. 15(1):41-64.
- Brockett, C. H., and R. R. Gottfried. 2002. State Policies and the Preservation of Forest Cover: Lessons from Contrasting Public-Policy Regimes in Costa Rica. *Latin American Research Review*. 37(1).
- Brosius, P., A. L. Tsing, and C. Zerner. 1998. Representing Communities: Histories and Politics of Community-Based Natural Resources Management. *Society and Natural Resources*. 11:157-168.
- Brown, J. and A. Kothari. 2002. *Editorial*. *Parks*. 2(2):1-4.
- Cahn, R. 1984. An Interview with Alvaro Ugalde. *The Nature Conservancy News*. 34.
- Castro, R. and G. Arias. 1998. *Costa Rica: Toward the Sustainability of its Forest Resources*. San José, Costa Rica: MINAE and FONAFIFO.
- Chapin, C. 2004. *A Challenge to Conservationists*. WorldWatch Magazine. November/December Issue. www.worldwatch.org
- Christen, C. A. 1994. *Development and Conservation on Costa Rica's Osa Peninsula, 1937-1977: A Regional Study of Historical Land Use Policy and Practice in a Small Neotropical Country*. Unpublished PhD. Dissertation. Baltimore, Maryland: John Hopkins University.
- Costa, A. C. G., Kottak, C. P., and Prado, R. M. 1997. The Sociopolitical Context of Participatory Development in Northeastern Brazil. *Human Organization*. 56(2): 138-146.
- Daily, G. and K. Ellison. 2002. *The Quest to Make Conservation Profitable*. Covelo, California: Island Press.
- Durán, O. and J. M. Sánchez. 1989. *Alcances del Proceso de Implementación del Esquema Organizativo del Sistema Nacional de Areas de Conservación*. Proceedings of the MINEREM-SPN-OTS-FPN Workshop. La Selva Biological Station, November 17-18, 1989. Puerto Viejo de Sarapiquí, Costa Rica.

- Edelman, M. 1992. *The Logic of the Latifundio. The Large Estates of Northwestern Costa Rica since the Late Nineteenth Century*. Stanford, California: Stanford University Press.
- Evans, P. 2004. Development as Institutional Change: The Pitfalls of Monocropping and the Potentials of Deliberation. *Studies in Comparative International Development*. 38(4): 30-52.
- Evans, S. 1999. *The Green Republic. A Conservation History of Costa Rica*. Austin, Texas: University of Texas Press.
- Frankie, G. W., Mata, A., and Vinson, S. B. 2004. *Biodiversity Conservation in Costa Rica. Learning the Lessons in a Seasonal Dry Forest*. California: University of California Press.
- García, R. and L. Ortiz. 1991. *Estudio Diagnóstico de las Áreas Protegidas de Costa Rica*. Final Report. San José, Costa Rica.
- Gómez, L. D. and J. M. Savage. 1983. Searchers on that Rich Coast: Costa Rican Field Biology, 1400-1980. In: *Costa Rican Natural History*. ed. Janzen, D.H. Chicago: Chicago University Press.
- Hayes, T. M. 2006. Parks, People, and Forest Protection: An Institutional Assessment of the Effectiveness of Protected Areas. *World Development* 34:2064-2075.
- Janzen, D. H. 1983. *Costa Rican Natural History*. Chicago: University of Chicago Press.
- Janzen, D. H. 1986. *Guanacaste National Park: Tropical Ecological and Biocultural Restoration*. San José, Costa Rica: Universidad Estatal a Distancia.
- Janzen, D. H., Hallwachs, W., Jimenez, J. and Gámez, R. 1993. *The Role of the Parataxonomists, Inventory Managers and Taxonomists in Costa Rica's National Biodiversity Inventory*. Biodiversity Prospecting. (eds). W. V. Reid, S. A. Laird, C. A. Meyer, R. Gámez, A. Sittenfeld, D. H. Janzen, M. A. Gollin and C. Juma. Washington, D.C: World Resources Institute.
- Janzen, D. H. 2004. Setting up Tropical Biodiversity for Conservation through Non-Damaging Use: Participation by Parataxonomists. *Journal of Applied Ecology*. 41:181-187.
- Jones, J. R. 1992. Environmental Issues and Policies in Costa Rica: Control of Deforestation. *Policy Studies Journal*. 20(4):679-694.

- Leader-Williams, N. and S. D. Albon. 1988. Allocation of Resources for Conservation. *Nature*. 336(8):533-535.
- Lehmann, M. 1992. *Deforestation and Changing Land-Use Patterns in Costa Rica*. In *Changing Tropical Forests*. Ed. Steen, H. K. and R. P. Tucker. 58-76. Durham, North Carolina: Forest History Society.
- Lowry, A. and T. P. Donahue. 1994. Parks, Politics, and Pluralism: The Demise of National Parks in Togo. *Society and Natural Resources*. 7:321-329.
- Ludwig D, Hilborn R., and C. Walters. 1993. Uncertainty, Resource Exploitation, and Conservation -Lessons from History. *Science*: 17-9
- McCay, B. J., and J. A. Acheson, (eds). 1987. *The Question of Commons: The Culture and Ecology of Communal Resources*. Tucson, Arizona: University of Arizona Press.
- Millennium Ecosystem Assessment (2005). *Ecosystems and Human Well-being: Synthesis*. Island Press, Washington, DC.
- MINAE. 2004. *Manual Institucional de Clases*. Departamento de Recursos Humanos. San José, Costa Rica.
- MINEREM. 1990. Executive Decree number 20122 of August 25, 1990. San José, Costa Rica.
- MINEREM-ACG. 1990. Informe de Ejecución del Plan Operativo. Unpublished Internal Report. Area de Conservación Guanacaste. Santa Rosa, Guanacaste.
- Molina, I. and S. Palmer. 2004. *Historia de Costa Rica. Breve, Actualizada y con Ilustraciones*. San José, Costa Rica: Editorial de la Universidad de Costa Rica.
- Monge-Nájera, J. 2004. *Historia Natural de Guanacaste*. San José, Costa Rica: Editorial Universidad Estatal A Distancia.
- Myers, N. 1981. The Hamburger Connection: How Central America's Forests Became North America's Hamburgers. *Ambio*. 10(1):3-8.
- Ostrom, E. 1990. *Governing the commons: The Evolution of Institutions for Collective Action*. Cambridge, UK: Cambridge University Press.
- Ostrom, E., and Nagendra, H. 2006. Insights on Linking Forests, Trees, and People from the Air, on the Ground, and in the Laboratory. *PNAS*. 103(51):19224-19231.

- Perrow, M. R. and A. J. Davy. 2002. *Handbook of Ecological Restoration: Restoration in Practice*. U.K.: Cambridge University Press
- Perry, J. A. and R. K. Dixon. 1986. An Interdisciplinary Approach to Community Resource Management: Preliminary Field Test in Thailand. *Journal of Developing Areas*. 21(1):31-47.
- Pinkerton, E. 1989. ed. *Co-operative management of local fisheries: new directions for improved management and community development*. Vancouver, Canada: University of British Columbia Press.
- Ribot, J. C., Agrawal, A., and A. M. Larson. 2006. Recentralizing While Decentralizing: How National Governments Reappropriate Forest Resources. *World Development*. 34(11):1864-1886.
- Robbins, P. F., A. K. Chhangani, J. Rice, E. Trigo, and S. M. Mohnot. 2007. Enforcement Authority and vegetation Change at Kumhalgarh Wildlife Sanctuary, Rajasthan, India. *Environmental Management* 40:1432-1009.
- Robinson, M. 1995. Towards a New Paradigm of Community Development. *Community Development Journal* 30(1):21-30.
- Sanchez-Azofeifa, G. A., Rivard, B., Calvo, J., and I. Moorthy. 2002. Dynamics of Tropical Deforestation around National Parks: Remote Sensing of Forest Change on the Osa Peninsula of Costa Rica. *Mountain Research and Development*. 22(4):352-358.
- Sanchez-Azofeifa, G. A., Kalacska, M., Quesada, M., Calvo-Alvarado, J. C., Nassar, J. M. and J. P. Rodriguez. 2005. Need for Integrated Research for a Sustainable Future in Tropical Dry Forests. *Conservation Biology*. 19(2):285-286.
- SINAC-MINAE. 1996. *Diagnóstico sobre las Áreas de Conservación*. San José, Costa Rica: Ministerio de Ambiente y Energía.
- SINAC-MINAE. 2002a. *Agenda para las Áreas Silvestres Protegidas Administradas por el SINAC*. San José, Costa Rica: Ministerio de Ambiente y Energía.
- SINAC. 2009. www.sinac.go.cr. <Accessed May 2009>
- Southworth, J., Nagendra, H. and D.K. Munroe. 2006. Introduction to the Special Issue: Are Parks Working? Exploring Human-Environment Tradeoffs in Protected Area Conservation. *Applied Geography*. 26:87-95.

- Steinberg, P. F. 2001. *Environmental Leadership in Developing Countries. Transnational Relations and Biodiversity Policy in Costa Rica and Boliva*. Cambridge: MIT Press.
- Umaña, A. and K. Brandon. 1992. *Inventing Institutions for Conservation: Lessons from Costa Rica*. In: *Poverty, Natural Resoures, and Public Policy in Central America. U.S-Third World Policy Perspectives*. (ed). Annis, S. No 17. Overseas Development Council. New Brunswick: Transaction Publishers.
- Wallace, D. R. 1992. *The Quetzal and the Macaw. The Story of Costa Rica's National Parks*. San Francisco, California: Sierra Club Books.
- Wells, M., Brandon, K., and L. Hannah. 1992. *People and Parks: Linking Protected Area Management with Local Communities*. Washington, D.C: World Bank, World Wildlife Fund and USAID.
- West, P. and D. Brockington. 2006. An Anthropological Perspective on some Unexpected Consequences of Protected Areas. *Conservation Biology*. (20)3:609-616.
- Western, D., Wright, M. and S. Strum. (eds). 1994. *Natural Connections: Perspectives in Community-Based Conservation*. Washington, D.C: Island Press.

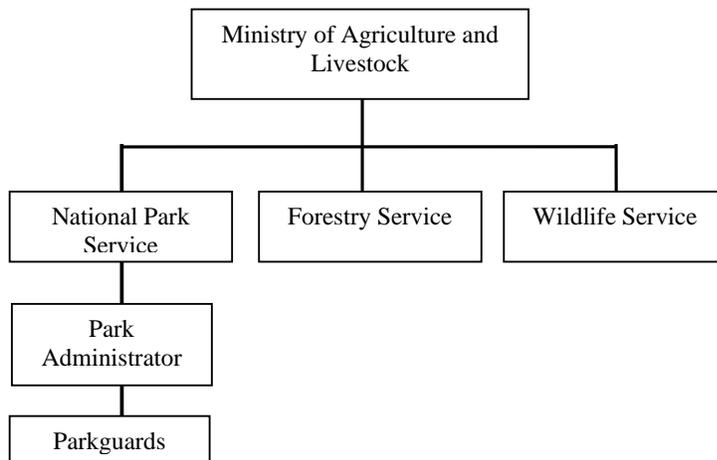


Figure 1. Organizational structure of the National Park Service of Costa Rica in 1977.

SISTEMA NACIONAL DE AREAS DE CONSERVACION

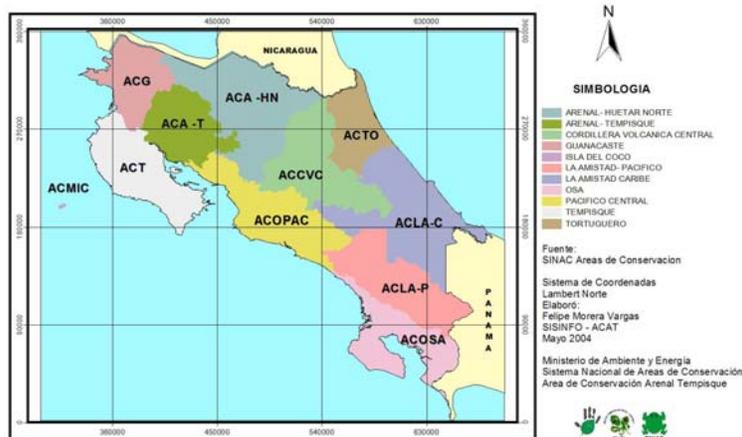


Figure 2. The Costa Rican National Conservation Area System SINAC. Map courtesy of SINAC.

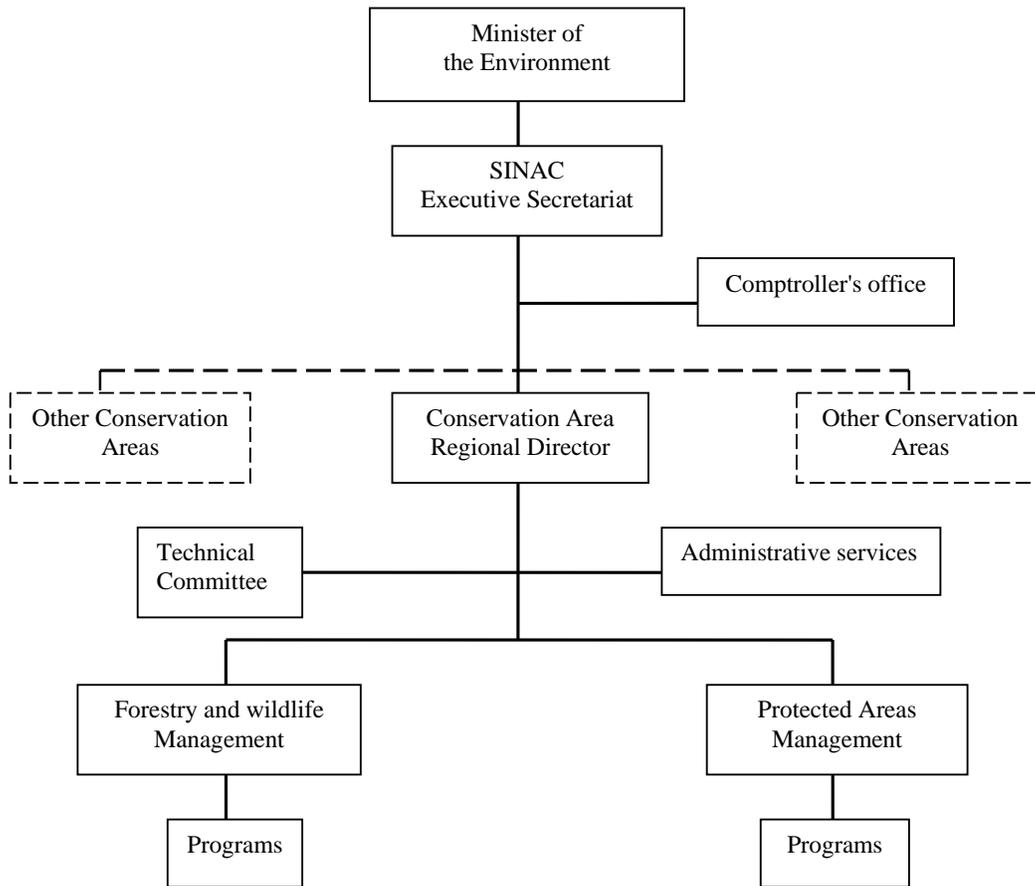


Figure 3. The Decentralised Structure of Natural Resources Management in 1996

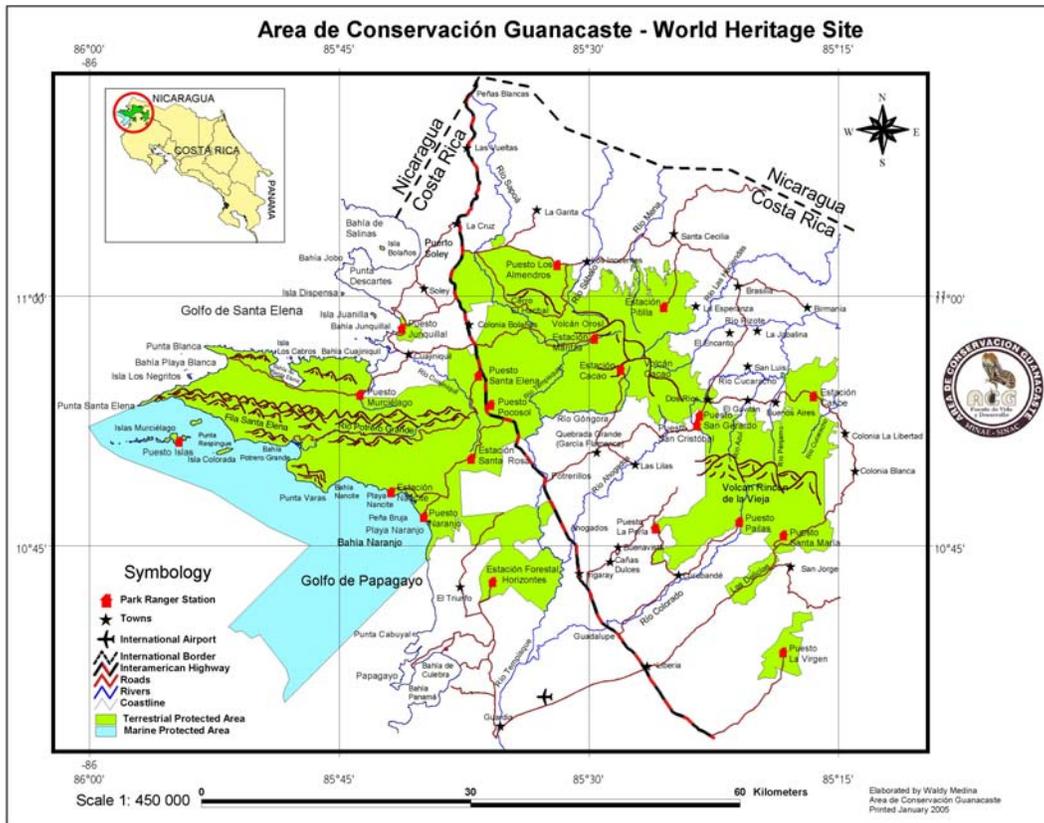


Figure 4. Map of the Area de Conservación Guanacaste (ACG). The Santa Rosa National Park included the area surrounding the Santa Rosa Park Ranger station.

¹ MINAE is the acronym in Spanish for the Ministry of the Environment and Energy. In 2008 it changed its name to the Ministry of the Environment, Energy and Telecommunications (MINAET for its acronym in Spanish).

² Under Ouduber's administration the budget of the National Park Service tripled and the staff increased to 400 (Steinberg 2001).

³ Ouduber was awarded by the New York Botanical Society, the Animal Welfare Institute, and given an appointment as honorary board member of the World Wildlife Fund (Anonymous 1977). Several years later Ugalde & Boza would receive the J. Paul Getty Award for Wildlife Conservation, presented by Ronald Reagan in a ceremony on the White House lawn (Barnard 1982; Cahn 1984).

⁴ In 1972 the National Park's fund was created and in 1977 a tax was also established to support National Parks but its impact decreased with time, making the National Park's Fund the main and most important source of income for the park system.

⁵ By 1982 the per capita gross domestic product had decreased by 11 per cent, real wages dropped 40 per cent, and annual inflation oscillated between 80 and 100 per cent. Unemployment increased 10 per cent and further increased when the United Fruit Company closed operations in their Pacific side banana plantations in 1984. Public debt skyrocketed to \$3.8 billion, one of the highest per capita in the world, and more of 44 per cent of the income generated by national exports had to be allocated to debt service payments (Molina & Palmer 2004).

⁶ President Carazo (1978-1982) declared *la Amistad* International National Park in 1982, with an extension similar to the sum of all the other national parks already in existence. Such an act significantly increased the responsibilities of the Park Service, which had already lost 15 per cent of their civil service positions and due to inflation its budget had lost 80 per cent of its buying power.

⁷ An additional 14 per cent enjoys protection status by different types of protection categories, especially forestry and wildlife reserves, however enforcement is often lacking (Brockett and Gottfried 2002).

⁸ Because the Forestry and Parks Service operated under different laws both agencies could not be immediately merged until a new law reforming existing laws was approved by congress. This happened in 1991.

⁹ With the creation of SINAC the personnel of the Park, Forestry, and Wildlife Services were now working under the same roof and director. While the Wildlife Service had always been a very small agency with no power or more than a dozen employees, the Park and Forestry Services were more powerful agencies that had grown to up to 400 employees by the early 1980s.

¹⁰ This section refers roughly to a time period between 1990-1996, although most findings were still applicable in 2006.

¹¹ Unlike elsewhere in Latin America, Costa Rica has a long tradition of foreigners' participation in policy issues, especially as it relates to biology and science (Gómez & Savage 1983).

¹² During the mid 1980s the Costa Rican cattle ranching industry had stopped being one of the main suppliers of meat for the fast food industry in the U.S. (Myers 1981) and cattle ranchers were willing to sell part or all of their entire properties.

¹³ Arias also announced the use of a financial transaction to help raise money for conservation with large external debt, called a debt-for-nature swap. Swaps allowed each dollar donated for conservation to go to the Central Bank to pay off Costa Rican national debt held in U.S. banks, purchased at a big discount. In exchange for that debt 'service,' the Central Bank would issue bonds that multiplied the value of the donation several times, depending on the interest rate, for the next several years when the bonds matured (Allen 2001; Steinberg 2001).

¹⁴ In addition, Santa Rosa National Park also houses Costa Rica's most important historic monuments and site of the two most important military battles in the country's history (Monge Nájera 2004).

¹⁵ During most of the 1970s and part of the 1980s parkguards only had a bicycle and later one vehicle at their disposal. Most of their patrolling activities were conducted on foot or by horse.

¹⁶ This land of course would later be donated to the state to become part of the Guanacaste Conservation Area.

¹⁷ These 'conspiracy theories' were in tune with the political atmosphere of the time. Oliver North's secret operation to aid the contras was taking place in a neighboring property to Santa Rosa National Park and local farmers knew about it as it was difficult to ignore the DC-10s landing and taking-off every so often. In addition the historical enemy of Costa Rica is U.S. national William Walker, who tried to invade Costa Rica with an army of filibusters and was defeated precisely at what is now Santa Rosa National Park. This is the most important military battle of the history of Costa Rica (Monge Nájera 2004; and Roger Blanco, ex Santa Rosa Park-Guard, Personal Comment, 2005).

¹⁸ The fire was at *Cerro El Hacha* a few kilometers west of the town of Santa Cecilia. *Cerro El Hacha* is believed to have been an important prehispanic urban center (Maria Martha Chavarria, ACG's resident biologist, personal comment 2003).

¹⁹ It was truly unheard of that parkguards would venture out of the national park to fight a fire.

²⁰ Janzen also frequently contributed his own money to cover unexpected costs.

²¹ My own estimates indicate that between salaries and research projects, the ACG generated in average between one and two million dollars to the surrounding community every year since 1990.

²² As a consequence by the mid 2000, the endowment had been reduced significantly, and the ACG would eventually require the support of the government to cover its operation costs.