

A Political Ecology of Land Tenure in Timor Leste: Environmental Contestation and Livelihood Impacts in the Nino Konis Santana National Park

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Introduction

The emergence of community based conservation management has proved to be a preferential alternative to traditional exclusionary principles of ecological conservation since its introduction. The implementation of community co-management in high value conservation areas seeks improved ecological outcomes while encouraging a greater sustainability of resource access reliant local livelihood strategies compared with classical models (Brockington 2001, 83). Nonetheless, local usufruct rights are altered and the differing aims of conservationists and local inhabitants regarding utilization of resources frequently leads to experiences of resource conflict and use right contestation.¹

Biodiversity based conservation management is a relatively new concept to Timor Leste, the newest nation in South East Asia. The young country is struggling with food security issues and development hurdles but has endeavoured to make progress regarding conservation management in areas identified as environmentally important. However, three quarters of the population are rural with many reliant on customary access to forest products in high-value conservation areas for a diversified livelihood strategy.

In Timor Leste the area deemed most important for habitat conservation management lies in the far east of the country (McWilliam 2006, 253). Located in Lautem district are prominent stands of unique forest, rich coral and Timor's only significant fresh water lake. Clarification of the area's biological significance (Trainor et al 2007), as well as long standing environmental concerns have led to the creation of the country's first national park (RoTL Government Resolution 8/2007). However, the area is still home to numerous communities that traditionally depend on agricultural livelihoods administered through customary systems of resource management.

This paper aims to present the preliminary findings of recent research striving to understand livelihood challenges of those living in the Nino Konis Santana National Park in the district of Lautem. The research was largely conducted through personal interviews with a wide spectrum of the community in each of the sucos, local NGOs and affiliated government departments. Rather than the exploration of inherent conservation management mechanics or critical theoretical engagement, this paper seeks to commence discussion on experiences of current livelihood adaptations and environmental discourses through a political ecology framework. This facilitates the investigation of linkages between environmental change and the positioning of political power through land tenure changes, and aims to present the findings in a fashion relevant to Timorese stakeholders.

This paper recognizes land tenure as the social relationships between different actors that govern use rights of access to land and resources (Jackson 1995). These relationships represent the institutional dimension of environmental sustainability. Although ownership of land is an important notion when discussing land use, the quality of access is what is most relevant in the provision of local livelihoods and determines the scope of property rights (Wiley 2008). In Timor Leste, local concepts of customary ownership and access are not clearly delineated, but entangled in a mesh of historical narratives. Traditional, Portuguese, resistance and new state heritages are inter-woven, making these terms difficult to clearly articulate.

Although private and state ownership of land exists in Los Palos (but may be contested), present land tenure regimes are generally related to clan and suco membership through complex informal

¹ See: Agrawal and Redford 2009; Birkes 2004; Chapin 2004; Escobar 1998.

customary systems. In general families use land for farming crops such maize, cassava, beans and sometimes rice. In addition to crop farming, access to forests, grazing and marine resources are also key livelihood activities.

Traditionally, the majority of agricultural gardens (*toos*) have been farmed with slash and burn techniques. Local farmers claim that the soil is quite poor and rocky in most areas and therefore nutritionally fortified by burning vegetation. This results in a strong harvest the first year with diminishing results in subsequent years. Generally most areas of the national park require farmers to move to a new field every 2-3 years. The old fields are usually left fallow and planted with coconut, teak or other useful trees that act as ownership/use markers. Second-generation trees and vegetation will begin to re-grow and the farmer will not return to clear the field for use again until after 10-20 years, although this varies. In areas that are steeply sloped and rockier, harvests are lower and a shorter use period is preferred.

Notwithstanding *toos* use, communities have traditionally possessed access to forest stands for timber, firewood and non-timber forestry products. A diversity of other livelihood activities are also crucial including fishing in communities with coastal access, and the large freshwater lake of Iralaolao. Hunting has also traditionally been a common activity with possum, monkey, deer and wild pig as favoured game. Many villagers claim a preference for the taste of “wild meat” to domesticated animals.

Background

In August 2008 the Nino Konis Santana National Park was inaugurated as an IUCN category 5 park, permitting a strong, sizeable community access to resources and purported co-management. The terrestrial area of the park totals 68 000 ha comprising 6 sucos: Tutuala, Mehara, Com, Barol, Muipitine and Lore. Although formal management has yet to be properly implemented, a number of rules were imposed in order to assist in proceeding with conservation aims. These included:

- Prohibition on clearing new fields;
- Prohibition of hunting; and
- Prohibition of cutting trees.²

To assist communities with transitioning to their new livelihood challenges the state purportedly arranged for greater availability of tractors and augmented access to new farming techniques.

Preliminary Findings

Since the declaration of the national park, livelihoods of those located within its borders have experienced numerous adaptations and impacts. Many of these impacts are intricately interconnected and relate to wider transformations occurring at district and national levels, as well as temporally. Some of the most significant outcomes include a general decrease in food security and access to land, an increase in land conflicts,

² At the time of research legislation existed governing prohibited activities in the national park area, but these were related to previous provisions such as UNTAET Regulation No 2000/17 prohibits cutting of forest for non-traditional purposes across Timor Leste; and UNTAET no 2000/19 which protects 15 zones, including areas now inside the national park, but allows for traditional hunting of non-endangered species and cutting of trees in a sustainable non mechanized matter. The resolution 8/2007 created the national park and listed the removal, capture and killing of plant or animal species as prohibited but also allowed for protection measures of collection due to normal agricultural activity. This makes the legality of certain activities in the area vague.

It seems that despite the passing of legislation, little by way of implementation and enforcement has occurred on the ground and such activities were widely practiced and not considered illegal. The vast majority of those interviewed (local villager and local agricultural department civil servants) commented that the inauguration was the event that ushered in the commencement of prohibited activities. Despite wide testament to these rules, no evidence of formal planning or management has been sourced.

changes in the methods and social arrangements of hunting, and impacts to traditional law and social capital. Such effects are unequally distributed through and across communities.

The most significant impact has been lowered food security in communities. Villagers in general have been restricted from clearing new land in the forest and encouraged to move or use fields close to village settlements. This limitation on land use has been problematic for communities because many are unable to perform slash and burn farming regimes and less land is accessible for preparing fields.

Many farmers depend upon access to new fields with large vegetation cover for burning to ensure crop growth at significant levels. Farmers generally cite poor soil, proliferation of rocks, sloped areas and a lack of chemical or natural fertiliser necessitating a slash and burn system. The prohibition on clearing vegetated land has contributed to significantly lower outputs with some interviewees expressing a lack of value in using old gardens because the outputs are so low. Many villagers claim their use of already cleared fields is hindered by a lack of “modern farming” skills that would be needed for flat land annual farming.

The deficit of available forested areas has contributed to increased contestation for previously cleared land close to the settlements as villagers strive to produce harvests at their former levels. The weather conditions of 2010 compounded problems of low harvests with some interviewees commenting that adjusting to the adverse conditions has been hindered by the lack of available land. The lower harvest has meant that most communities do not have surplus to sell, a livelihood necessity commonly used for education costs and the purchase of food staples such as rice. The rising cost of rice during 2010 created conditions of increased difficulty.

Land Conflicts

Competition for land not proscribed for *toos* use has contributed to increased land conflicts. Families have sought or are seeking to reclaim access to land close to settlement areas that they believe they have permanent use rights to. Often this is from other families currently using it. Land ploughed by state tractors to encourage use or invested with other and improvements is commonly targeted and often preludes rising conflict between multiple families.

Some villagers have expressed concern that tractor access is controlled through family or party relationships connected to bureaucrats. Although wariness is required regarding such assertions, it is interesting to note that one interviewee has claimed that political dimensions inherent in the dispensing of tractor use have hindered traditional “adat” processes of reconciling these disputes. The majority of those experiencing reduced access to land are concerned that there will not be adequate land or resources accessible for future generations.

In the past wide cleared grass areas close to villages have often been used for grazing. The movement of more gardens into such areas because of restrictions on forest clearing is creating competition for space. This tension will increase in the future with plans to ban domestic animals from the forest. Farmers are also concerned that grazing animals are invading fields resulting in greater maintenance time (which require the utilization of forest resources that villages believe they aren’t allowed access too) in fields where harvests are already low.

Impact on Hunting Practices

It is certain that the new rules governing use of national park land have affected hunting. However, discerning the exactness of such occurrence is difficult. This is because villagers are aware the activity is prohibited and show concern about disclosing information that may implicate them. This difficulty is aggravated because the nature of hunting has changed from that of a common group activity frequently described as a social hobby, to one conducted alone. Therefore, the stigmatization of the act and fear of prosecution under government prohibition has led to a form of hunting performed in stealth from community viewing resulting in little opportunity for overt observation as was common before the park’s inauguration. The selling of wild meat has also progressively become more veiled and less likely to be sold

in the street or the market. It is now more likely to be sold quietly door-to-door or only to trusted acquaintances.

What has been observed is that different areas are experiencing different levels of hunting. Some (but not all) hunters have indicated a rise in the number of animals hunted and the need to travel further away from the village to locate game. This sometimes includes moving outside their suco boundaries. The activity is most apparent in areas where hunting is accessible and people have been experiencing greater livelihood shocks. This strategy ensures a steadier supply of protein and supplements lost income from low harvests. The failed harvests of 2010 exacerbated these shocks leading to greater hunting participation compared to previous years. Many hunters express vindication regarding their participation in an illegal activity because of a lack of alternatives. Those that do not participate regularly believe they are enduring a greater livelihood insecurity compared to those that continue to hunt, particularly if alternative livelihood activities are unavailable.

The shift from communal hunting to individual hunting has eroded some traditional social networking activities that involved group exchanges of game. This includes combined annual hunts that are used to act as a signifier of continued social cohesion between different communities. Another is the feasting of hunted deer in recognition of community efforts in preparing gardens for planting. Individual monetary payment is now expected in lieu of the feast, which only richer community members can afford.

Access to trees and timber

The prohibition on cutting trees has numerous created livelihood difficulties although many interviewees have also claimed environmental improvements such as better water access and rainfall. The cultivation of timber trees and their sale is an integral part of funding provision for education, future livelihood insecurity or events that necessitate large monetary inputs such as cultural ceremonies or weddings. Commonly trees such as teak are planted on land to mark use or 'ownership' and when children are young, so that harvesting for sale can take place when future education costs arise.

Upon the establishment of the national park a licence of three "cubics" (cubic metres) per family was enforced with greater cogency, usually limited to purposes of housing construction. Some villagers specify only trees originally planted by the owners as deemed accessible, but opinion seems to vary between communities. Many families claim that three *cubics* are not enough to build a house. Moreover, to pay for the chainsaw used to cut the timber usually means relinquishing 1 or 2 of the *cubics*. This ban is affecting families that rely on timber to assist in a diversity of livelihood strategies, particularly during times of stress. Some believe that they have an inalienable right to trees that their ancestors planted, indicating a struggle over re-determination of resource ownership.

Despite the prohibition on the felling of trees for timber and a general decrease in such activity, illegal cutting continues. In some areas where sandalwood is more prevalent, it was cut after the inauguration of the national park despite being immature and not yet of significant quality. Typically this was not done by owners, but by those that saw certain restricted trees as possessed through harvest rights and through the removal of these rights, open to exploitation. This was carried out before serious implementation of forestry protection. Some community members continue crossing village boundaries to cut sandalwood and illegally selling it to outsiders.

Firewood

Although firewood gathering is understood by local villagers as an unrestricted activity, only ground collection is sanctioned and sale is not allowed.³ Many claim their access to firewood has not been hindered by the declaration of the national park and source sufficient quantities are found in their own field areas or

³ Such restrictions are not limited only to the national park area but are applicable to all forested areas under UNTAET Reg 2000/17. Many local stakeholders interviewed indicated that the advent of the national park inauguration has led to such restrictions being put into practice and considered serious.

living site. However, when stocks run low they must go past park boundaries, competing with others who have stated they have encountered issues with firewood abundance.

Despite a supposed ban on the selling of firewood, the activity continues in all sucos, however mostly on a small scale. In some areas in Barol and Com, firewood is sold openly and regularly collected for transport to Los Palos or to Baucau for sale. This has been described as large trucks filled with firewood and transported to markets that prove more lucrative than individual sales.

Consultation concerning the purpose of the National Park

Although some state actors claim otherwise, none of the interviewees indicated that consultation regarding national park implementation and related issues to their livelihoods had taken place. Some community members were given information but this was not distributed evenly and not well explained. The majority of residents inside the national park are unaware of its exact purpose, unsure of future management plan changes and any benefits described have been conveyed to them by state agencies and are not well understood.

For example, a common belief amongst local residents is that the park is to preserve resources for their future generations who will then be granted full access. Many also cite that the prohibitions in place are having a positive effect on climate change and encouraging more wild animals. Aside from more wild animals for hunting, village members are unable to give responses indicating why such a phenomenon is positive or how the cutting trees leads to climate change. Other communities believe acts of individual tree cutting are the cause of non-desired weather. This reflects incorporation of the new term “climate change” (*mudansa klimatika*) into local epistemologies that can be potentially dangerous to future resource management and social cohesion.

New understandings of social relations to resource access and historical heritages of past social-political institutions are infusing with new State expressions of conservation. These are producing an entanglement of differing expectations and resource use challenges across the national park. Two examples that highlight the myriad of complexity bound up with the implementation of conservation land tenure take place within Suco Barol and Suco Com.

Barol is a village that will potentially encompass the least amount of core conservation areas in the national park. In a sub-aldeia of Sepilatan some of the villagers have received farming training in “modern methods”⁴ from a local NGO and the government tractors have plowed their fields. In general these families claim they are now harvesting a greater amount than before the national park declaration. However, the general rockiness of soil in the main aldeia renders the area untillable by tractors. The majority of local households here are experiencing crop harvests far below pre-declaration levels resulting in economically diminished power. Attempted adaptations to livelihood strategies are being made through the sale of firewood but are they still experiencing a greater deal of food insecurity.

Com village is separated geographically into 2 groups of aldeias; the “up” (three aldeias elevated on the hill south from the coast) and the “down” (three aldeias along the beach where the majority of tourism businesses are located). The coastal area is claimed through traditional tenure by the aldeia Vailovae, but now also accommodates two other aldeias moved by the Indonesian government. Generally, the newer aldeias make greater use of fields further from the village area in the forest. Vailovae have experienced less livelihood impact from the national park declaration as they hold access to land close to the village and have diversified livelihoods into tourism businesses and kiosks. The other aldeias have been restricted from similar activities due to prohibitions made by the original owners in the interest of their aldeia and their desire for the two relocated aldeias to return to their original land. The large disproportion of livelihood impact experienced by the two aldeias has compounded adjustments to the problematic weather of 2010.

⁴ “Modern Methods” is the syntax used by local residents for the farming methods encouraged by the Dept of Agriculture which is differentiated from swidden farming through mechanisation, occasional focus on chemical inputs, new seed varieties and a sedentary approach to the tilling of land.

Many of these residents have shifted to fishing despite a lack of experience creating greater competition for inshore fish stocks and a greater focus on hunting. Some claim that the greater competition for fish sales in the market is resulting in experienced fishermen expending greater efforts on hunting so as to ensure income from the sale of wild meat.

Discussion

The conservation values inherent in the establishment of the national park have occurred through the implementation of a burgeoning environmentalist discourse fostered by the state and conservationist INGOs. Thus, in many ways the struggle for resource management in the national park is a struggle over meanings (Lia 1996; Berry 1988). Communities are experiencing livelihood challenges transpiring through a modification of customary tenure towards a conservation tenure sustained by an ontological system that frames government expertise and scientific concepts (such as climate change) as more legitimate than local management systems which are regarded as unsustainable. The state has sought to redefine the area locally as ecologically rich and significantly bio-diverse, rather than that of resource necessities and ancestral claims to land use. Local people generally experience difficulty comprehending these new knowledge systems or locating pathways for the articulation of “legitimate” claims. The outcome is diminished community control over customary land and greater state control over usufruct rights through semi-formal management.

The state has sought to reassure residents that traditional cosmological ties to land are recognized, as demonstrated through actions such as the preservation of lulic markers and strong indications towards recognition of customary resource management (McWilliam 2006). Nonetheless, the quality of access organized through customary relationships to land has been substantially reduced. Due to the complexity of access and ownership rights in Fatuluku resource management systems, it is uncertain how the recognition of ownership has impacted marginalized groups such as those that historically have been granted use rights by customary powerbrokers but lack traditionally recognized “ownership”. The willingness to appreciate traditional ownership but diminish rights of decision making sidelines the legitimacy of customary land management and claims to use.

Critical analysis of livelihood adjustments to national park management plans have not occurred and therefore local communities that rely on farming or access to forestry are experiencing impacts. Before the establishment of the national park McWilliam speculated that restricting local access and exploitation of forest reserves in Timor would prove counter productive (2003), which seems to have been a sound conjecture. Communities are struggling to adapt livelihoods to the changes sought by conservation outcomes and seek support mechanisms through a variety of different resource uses include illegal ones that are detrimental to conservation aims.

These actions may be framed as acts of passive resistance to a foreign knowledge system of resource management (Scott 1985; Escobar 1996, 339) and take place for a variety of reasons that differ in importance across the national park. Livelihood struggles, lack of consultation, a perceived loss of ownership of resources and cultural management of land, and anger directed against the idea of conservation are all reasons prompting resistance in varying degrees of importance across national park communities.

If the State desires local communities to cease illegal activities, programs or planning that can offset the need for activities counter-productive to the aims of national park conservation by state agencies are required. Interestingly many communities still seek job creation through opportunities such as the establishment of “factories” in their village areas. How these would fit in the national park model is unknown, but mostly unlikely. Such desires reinforce the misunderstanding of national park concepts and failure of these concepts to be communicated to communities.

Communities with strong intact cultural systems and good control over community land seem to be less vulnerable than communities that have been trans-located under Indonesian rule and lack cultural validity to the areas they now occupy. This is becoming increasingly relevant as more community members begin to challenge each other over available land close to settled communities.

Conclusion

The implementation of a national park conservation regime has significantly altered the way local families interact with their environment and hence their livelihoods. Although the co-management model of conservation aims to emphasise local involvement in decision-making as well as retention of “customary ownership”, preliminary findings suggest that local management input is lacking and traditional access to land use has been significantly curtailed.

Those that rely heavily on slash and burn agriculture for standard harvest levels have been affected the most. Hunting operations have changed but it is difficult to yet discern all dimensions although a decrease in some areas and increase in others, particularly since the rains of 2010 seems likely. Many stakeholders do not understand or hold conflicting views regarding the purpose of the national park.

Conflicts over land have occurred and will likely increase in the future. It has been emphasised in previous research that development of effective local institutions as representative partner organisations and conflict management mechanism for forestry resources is required to achieve operational efficiency in Timor (McWilliam 2003). The prohibition on cutting trees has affected many who rely on planted trees for a diversity of livelihood options during times of stress. The community desires stronger consultation from the state to assist with better management planning. These effects are felt across all sucos in the park but not distributed uniformly amongst communities particularly, those that are aided by State tractor programs or those with access to a greater diversity of livelihood opportunities. Inevitably formalised comprehension of land rights regimes through the implementation of the national park is now marginalising local traditional ones. It is important that local discourses are afforded equal legitimacy in the voicing of concerns over resource management.

The six sucos are sites where conservation aims and prestige at national and international political spaces intersect with local community livelihood strategies. This occurs through a discourse that sidelines local social constructions of their environment and resource management. Without accounting for local livelihood needs the implementation of national park conservation strategies has in many places caused detrimental effects. This is the opposite of what the park endeavours to achieve and has impacted numerous local livelihoods creating an environment of greater vulnerability.

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