

Between *Adat* and State: Institutional Arrangements on Sumatra's Forest Frontier

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In Indonesia, with the recent eruption of local struggles over resources and now with the new decentralization reforms, there is renewed interest in the role of customary adat institutional arrangements in village government, land tenure, and forest management. On the basis of research carried out in one locality in Sumatra over 1996–99, this article considers the nature of local institutional arrangements, how they have evolved under various conditions, their complex interaction with the parallel State order, their response to economic fluctuations, and how particular institutional patterns lead to certain environmental outcomes. This article finds that as farmers adjust to the economic and political dynamics and the changing scarcity and value of different resources in this site, the adat arrangements are constantly renegotiated. Adat customary orders are tied to local notions of identity and associated notions of appropriateness, and as such constitute patterns of social ordering associated with both implicit deeply held social norms and more explicit rules. Considering the institutional pluralism characteristic of this area, this article concludes that, while the State and adat regimes often compete to control the direction of social change, they also constantly make accommodations, and in some respects need to be considered as mutually adjusting, intertwined orders.

KEY WORDS: institutions; state; tenure; forestry; *adat*; customary law; Indonesia; Sumatra; South Aceh.

INTRODUCTION

In Indonesia, since the end of the authoritarian New Order regime (1966–98) local groups have invoked *adat* customary rights in a large

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number of struggles over natural resources. Following the implementation of decentralization laws, in many areas there have been efforts to reinstate *adat* as an alternative source of meaning and legitimacy for local institutions. Simultaneously, a national movement of NGOs and other reformist elements have been calling for new laws that more closely reflect the customary order of local communities (Acciaioli, 2000; Li, 2001; Warren and McCarthy, in press; Benda-Beckmann *et al.*, 2001). In 2001, the Indonesian Supreme Parliament (MPR) decreed the reform natural resource and land tenure laws and policies in accordance with principles that “recognize, respect and protect the rights of *adat* law communities.”²

While *adat* often takes on a coherent identity in these discussions, the term itself can be applied to a wide range of varied institutional arrangements found among the diverse indigenous populations across the archipelago. Moreover, the precise nature and status of *adat* is associated with long-standing problems within the Indonesian polity that resonate back to the unsettled arguments of Dutch colonial policy (Kahn, 1993; Burns, 1999) concerning how we can best understand *adat*, the precise role *adat* plays in land tenure and natural resource management, the imputed role of the *adat* order as a foundation or impediment for national development, its status as “*adat* law” (*adatrecht*), the relation of *adat* institutional orders to the State order, and the possible role of a revitalized customary order in sustainable management of natural resources. At the same time, this discussion resonates with wider questions such as how local institutional arrangements emerge and evolve under various conditions, and how particular institutional patterns lead to certain environmental outcomes. Given the unresolved nature of these questions and the weight given *adat* in contemporary discourse, it is timely to reexamine the precise nature, functioning, and role of *adat* in natural resource management in the lived experience of a particular village complex just prior to the current renewal of *adat* discourse.

The article is based on research carried out in 1996–99 in Aceh, just before the current conflict there, in a long-settled locality where villagers have largely depended on agricultural and forest products. It investigates the nature of local institutions, considering how *adat* institutional arrangements govern access and use of land and forest resources. More specifically, I am concerned with understanding how *adat* institutions operate, how they have evolved over time, how they have interacted with wider state institutions under varying political regimes, how they respond to economic fluctuations, and what have been some of the corresponding impacts on forest use.³

²Keterapan Majelis Permusyawaratan Rakyat Republik Indonesia NOMOR IX/MPR/2001 Tentang Pembaruan Agraria dan Pengelolaan Sumber Daya Alam.

³This case study forms the first part of three parallel case studies, McCarthy (in press).

First, the research finds that Sama Dua's villagers have largely depended on natural resources and agricultural products whose scarcity and value fluctuates wildly both in response to ecological dynamics and to unstable markets located elsewhere. *Adat* institutional arrangements function to support village livelihoods, and have been primarily concerned with property rights and village security under these varying conditions. Second, the article describes how *adat* arrangements need to adjust to the changing scarcity and value of different resources. As local people face rapid economic and political change, *adat* concepts and practices need to be constantly renegotiated to adjust to the shifting economic, social, and ecological conditions. Consequently, ecological change can more readily be understood in terms of the economic and political dynamics driving farmers to open land on the frontier or log the frontier forests rather to the intrinsic character of customary arrangements. Third, the article describes how *adat* arrangements incorporate legal, social, and supramundane religious functions. As these are closely tied to local notions of identity and associated notions of appropriateness, the customary *adat* system investigated here can neither be conceptualized as merely consisting of law-like formulations nor understood in terms of the logic of rational choice. Fourth, the author considers the legal or institutional pluralism characteristic of this area, and conclude that State and *adat* institutions are both competing and mutually adjusting regulatory orders that stand in complex relation to each other.

RESEARCH APPROACH

The theoretical framework used here draws on approaches developed by legal anthropologists that aim to understand how obligatory norms are generated and enforced outside the State and how they give rise to social orders that interact with State legal orders in complex and indeterminate ways (see Wilson, 2000; Moore, 2001). These approaches look at the interplay between state law, local ideas, and institutions of justice, conceptualizing the relationship between state and non-state legalities in an increasingly sophisticated manner (Wilson, 2000, p. 3).

In keeping with the political ecology approach, this research also applies historical political and social analysis to understand environmental change (Neumann, 1992, p. 86). As recent post-structuralist approaches to political ecology suggest, in the course of analysis it is important to consider how the identities and interests of various agents are constituted, oftentimes in a fashion that is both "contingent and problematic" (Brosius, 1999). Local communities and other local actors can be seen to be, in effect, caught between short-term needs (feeding their families in the face of

rapidly changing wider market forces) and long-term considerations of economic security, which in the final instance are tied to the integrity of the local ecology. This has significance for how various actors conceive of their interests, the meaning of *adat*, the significance of State legal rules, and patterns of resource use.

During four trips from 1996–99, I spent approximately 12 months living in villages in the district of South and South East Aceh on the Indonesian island of Sumatra, researching three specific sets of issues (McCarthy, in press):

1. The nature and history of local agricultural systems, particularly in relation to land tenure systems and the conversion of forest into gardens;
2. The history of local village governance structures, customary governance systems, and *adat* regimes;
3. State agencies and their relationship with *adat* regimes.

Interviews were conducted with informal leaders, heads of local *adat* institutions, former village heads and other villagers, and local government, forestry agency, and local NGO workers. These were supplemented with a range of other sources, including newspaper stories, government, conservation agency, NGO and consultant reports, as well as Dutch colonial texts on the area.

This article consists of five sections. To understand the institutional dynamics under discussion here, it is first necessary to understand the ecological, agricultural, and market dynamics shaping agricultural activity. The second section discusses the evolution of political authority and territoriality in the study area, analysing how *adat* institutional arrangements have developed in the context of wider political developments. The third section explores of the nature of *adat* institutional arrangements pertaining to agro-ecological territories known as *seuneubok*, and discusses the logic underlying these arrangements, especially the nature of *adat* norms and enforcing functions. The fourth section explores how these arrangements have changed over time, and the fifth section considers the relationship between State forestry order and *adat* controls over forest access and use of surrounding forests.

LIVELIHOOD STRATEGIES IN SAMA DUA

Sama Dua subdistrict lies on the coast near the township of Tapaktuan, the capital of South Aceh district on the northwest coast of Sumatra. For the most part, the inhabitants of Sama Dua are of *Aneuk Jamee* ethnicity,

descendants of Minangkabau (or Padang) settlers from West Sumatra who migrated to South Aceh during the nineteenth century.⁴ Most of Sama Dua's 27 villages lie on a small coastal plain facing the Indian Ocean to the west where farmers cultivate a narrow strip of irrigated rice fields surrounded by arid, denuded foothills on three sides. Steeper slopes covered by leafy nutmeg gardens overshadow these hills.

The history of the agriculture in the hills behind Sama Dua can be divided into three periods, each relating to a specific land use. The first was that of the pepper boom, the period of settlement. During the late eighteenth and most of the nineteenth century the coastal districts of Southern Aceh ("the pepper coast") played a primary role in the world pepper trade (Bulbeck *et al.*, 1998). In 1920 pepper exports virtually ceased due to a sudden price fall that "played havoc with the plans of pepper farmers" (Kreemer, 1922, p. 477, 1923, p. 19). Particularly during this period the people of Sama Dua exploited non-timber forest products such as forest resins (*damar*) and native forest rubber (*getah*).

During the second period, up to 1965, the farmers of Sama Dua integrated swidden agriculture with cash crop production from permanent clove (*Syzygium aromaticum*) gardens. According to Conklin's typology of swidden agriculture, this was a "partial supplementary" swidden system in that the agriculturist "devotes only part of his agricultural efforts to the cultivation of the swidden" (Conklin, 1975, p. 3). However, around 1963 a clove pest struck and most of the clove trees died.

During the third period, farmers abandoned the cloves gardens on the foothills behind the coast and began cultivating nutmeg (*Myristica fragans Houtt*). Nutmeg cultivation was integrated into a new pattern of agroforestry: temporary dry plots (*ladang*) became a transitory stage in the preparation of a permanent garden (*kebun*) yielding perennial crops that provided cash income.⁵ From the 1970s nutmeg cultivation grew less important. First prices fluctuated widely from year to year, and even over the course of a single year. This dynamic was exacerbated by a second factor: the increased importance of the cash economy. Rather than wait long months for an uncertain nutmeg harvest, young men preferred to see direct results from their work in the form of cash, and over time work in the forest gardens came to have lower status than wage labor, including the logging of nearby forests (McCarthy, 2002a,b). The nature of nutmeg

⁴*Aneuk Jamee* is Acehnese for *anak tamu*, or "children of guests."

⁵Agroforestry has been defined as "a dynamic, ecologically based, natural resource management system that, through the integration of trees on farms and in the agricultural landscape, diversifies and sustains production for increased social, economic and environmental benefits for land users at all levels." International Council for Research into Agroforestry (<http://www.cgiar.org/icraf>). See also Lundgren, 1982.

cultivation supported these changing patterns. The opening of new nutmeg gardens entails a long-term investment of labor as well as the cost of buying and preparing seedlings. However, once established, nutmeg gardens can be maintained with only intermittent weeding so villagers employed in other sectors could maintain nutmeg gardens just working on holidays or Sundays. Consequently, for many villagers, nutmeg agriculture moved from being the central activity to being a secondary activity that ensured some degree of extra financial security.

Over the last decades Sama Dua has seen the progressive conversion of natural forests in the hills behind the coast into nutmeg gardens. Interviews with nutmeg farmers, village heads, and *adat* heads, including eleven heads of undulating territories known as *seuneubok*, indicated that while forest pioneering expanded rapidly in the 1950s, before 1965 farmers converted land close to the village into clove gardens. However, growth was greatest in the few years after 1965 when farmers abandoned the clove gardens to open nutmeg gardens further out. During the 1970s villagers found other sources of income outside nutmeg cultivation, and the rate of forest conversion slowed until the East Asian economic crisis of 1997, when large numbers of farmers again opened new plots (see Sunderlin *et al.*, 2000).

During the 1980s a caterpillar pest known as “trunk driller” (*Batocera hector*) began attacking the nutmeg by boring into the tree trunks causing them slowly to die. To make matters worse, during the 1990s a second, smaller insect pest known locally as *bubuh cabang*, began to attack the branches of nutmeg trees. According to an official in the district agricultural office, this was most probably because heavy logging in neighboring areas had disturbed the insect from its natural habitat. As the adult insect flew during its reproductive cycle, depositing larvae over a large area, the pest spread quickly up the hillsides of South Aceh.⁶ By 1997 the two pests had destroyed an estimated 20% of nutmeg trees, and by 1999 some farmers were reporting that most of their nutmeg trees had died.

After the onset of the 1997 East Asian economic crisis, with a falling rupiah, prices of export crops increased dramatically, and export-oriented farmers could enjoy a short-term gain. In the past, *nilam*, a crop introduced by the Dutch and long associated with shifting agriculture, was a significant cash crop in South Aceh’s steep hills.⁷ As the value of the rupiah sank, coincidentally the US dollar value of the patchouli oil produced from *nilam*

⁶Interview, Dinas Perkebunan, 14/1/99. In the neighboring community of Menggamat, *adat* rules attempt to protect the rice fields from pest infestation caused by logging by regulating where and when logging could occur (see McCarthy, in press).

⁷*Nilam* (*Pogostemon cablin*) is a cabbage sized leafy plant that grows to a height of 30–70 cm. From distilling the dried *nilam* leaves farmers produce patchouli oil, a product used in cosmetics, perfumes and aromatherapy.

skyrocketed. These twin influences led to a drastic increase in the local price of patchouli oil from around 35,000 Rp/kg in 1995, first to 150,000 Rp/kg in early 1997 and then to around 1,080,000 Rp/kg at the beginning of 1998. Villagers cultivating *nilam* cultivation could reap windfall profits. With spiralling prices and the collapse of many cash jobs due to the economic crisis, the contagion of “*nilam* fever” (*demam nilam*) spread across South Aceh. Shopkeepers, public servants, and even forestry officials began to cultivate unused areas of land. In Sama Dua villagers began seeking plots of land to plant cash crops and farmers enthusiastically began opening dry *ladang* plots in the distant forest up to a five-hour walk away. However, the *nilam* boom was based on a commodity price fluctuation. By mid-1998, prices began to fall just as many of the crops were ready to be harvested (see McCarthy, in press). With the collapse of *nilam* prices and the decimation of nutmeg gardens, for many villagers needing to find other sources of income, it was now worth the serious effort of carting timber down from the hills and they began to log Sama Dua’s forests.

ADAT AND VILLAGE INSTITUTIONS

“Territorial control” is the direct attempt to regulate the relationship between population and resources, for instance by drawing boundaries and attempting to control access to natural resources within these boundaries. It has been argued that tradition-bound precolonial political systems did not engage in territorial strategies of this type (Vandergeest and Peluso, 1995). Nonetheless, clearly local groups did have indigenous concepts concerning the extent of their territory. Historically the people of Sama Dua used to range widely across the mountains behind the coast gathering forest products, fishing in the streams and rivers, and hunting prey in the forest. At times farmers also opened plots within this area, and planted cash crops on suitable areas of land. According to older villagers, men of ascetic disposition used to withdraw into the forest to practice religious austerities. Over time, all these practices marked the features of the forest behind Sama Dua in the local sense of place. Natural geographic boundaries, such as the river watersheds and mountain ridges, and the presence of neighboring communities all helped consolidate local notions of territoriality.

In setting up a colonial State, the Dutch colonial government preferred to govern through indigenous elites, particularly in areas not closely tied to its interests. As a part of this system, as in other parts of the world, the colonial administration constructed a formal structure of indirect rule which was considered “customary” or “traditional” although it was based on a colonial

restructuring of existing indigenous forms of organization.⁸ Colonial administrative practice involved the identification and creation of “jural communities” or “*adat* law communities,” by adapting and co-opting indigenous institutions to maintain social control.⁹ However, especially in more remote areas (such as Aceh), village communities continued to make and enforce their own rules in accordance with long standing customary practices also referred to as *adat*. While the colonial presence undoubtedly affected *adat* in the villages, detailed information is lacking. Nonetheless, it appears that at this level, *adat* could continue to develop and adapt to change without help from state courts or legislators (Holleman, 1981).

The Colonial process of “territorialization”—setting out” to control people and their actions by drawing boundaries around a geographic space . . . and proscribing or prescribing specific activities within these boundaries” (Vandergeest and Peluso, 1995, p. 159)—entailed establishing territorial administrations in newly conquered areas by consolidating the population into definite groups under a centralized, hierarchical leadership through whom Colonial rule could be exercised. Dutch Colonial reports from the turn of the century describe how, after the conquest of South Aceh in 1901, this process took place in Sama Dua. Originally the Sama Dua villagers were organized as clans (*suku*), each with its own headman (*datuk*). While formally the *datuk* ruled the area together, the Colonial report notes that actually there was little cooperation and each ruled his own domain (BKI, 1912). One report described the process of finding “Self-governing head” (*Zelfbestuurder*):

In 1903 these *datuk* gave control over the whole territory or district (*Landschap*) to a certain Teukoe Paneu who as next of kin to one of the *datuk* stood above the heads in Sama Dua. The intention was that he would bear responsibility to the European government. (Kreemer, 1923).

In the Colonial system Teukoe Paneu became the “territorial head” (*Landschapshoofd*); older residents of Sama Dua refer to the position as that of a *raja*. From this time Sama Dua constituted what the Dutch considered to be an “*adat* jural community.”

As a clearly defined *adat* community needed to be associated with a circumscribed territory within the Colonial schema, territorialization involved the mapping of the administrative territory (*Landschap*) under each “territorial head.” By negotiating *landschap* boundaries with local groups and then fixing them on maps, the colonial government seems to have further

⁸For discussions of this process in Indonesia, see Warren, 1993; Kahn, 1993; Benda-Beckmann, 1985. For Africa, see Moore, 1986; Chanock, 1998.

⁹For a discussion of the effect of this process on the Minangkabau, see Kahn, 1993, for Bali see Warren, 1993, for more general accounts see Holleman, 1981, Burns, (1989).

fixed notions of local group identity.¹⁰ Territorialization also facilitated the control of natural resources by the State (Vandergest and Peluso, 1995, p. 388), so that the Colonial authorities could allocate leases for rubber plantations, for logging operations, or for forest reserves. However, Sama Dua's geography was unsuited to plantation agriculture and territorialization did not proceed any further here (McCarthy, in press).

After Indonesian independence, the national government faced the challenge of creating a unified and uncontested administrative authority, and State policy towards *adat* now involved establishing the primacy of the State system over other institutional arrangements.¹¹ Consequently, despite adherence to the notion of *adat* in nationalist discourse, the Indonesian Republic attempted to set up a unitary administrative system across the archipelago, abolishing the "native territories" and the pluralistic system of law and administration. In keeping with these wider changes, the structure of local government in Sama Dua also altered in two respects. First, the local *adat* head (*landschapshoofd/raja*) was replaced by a government appointed official (the *camat* or sub-district head). Second, Sama Dua's *adat* governance structure was brought into accord with the pattern now to be followed throughout the Special Region of Aceh and the *datuk* were replaced by *kepala mukim*, who were to be elected and became the *adat* heads under the sub-district head (*camat*). Village heads (*kepala desa*) were elected and village decision making was guided and advised by a permanent council of six to eight elders known as the *petuhapet*. The membership of the *petuhapet* could not be changed by the village head and the balance of power rested with this council.

After 1966 the authoritarian New Order regime set about restructuring village government further with a new Village Government Law (Act No. 5/1979) aimed at making the structure of village government across Indonesia uniform.¹² Under the new law the village head (*kepala desa*) was responsible to the sub-district head (*camat*). This meant that in Aceh the *kepala mukim* lost their official position in the structure of government and were reduced to symbolic *adat* leaders. Following the implementation of this law, village councils under the leadership of the village head replaced the local *adat* councils (*petuhapet*). This in effect ensured that the balance of power shifted toward the village head, who now became an executive

¹⁰For a discussion of the variable way this worked out across Indonesia, see Li, 2000. For a discussion of the process in a neighboring community, see McCarthy, 2002.

¹¹For instance, the Judiciary Act of 1970 laid down that "all administration of justice in the Republic shall be done by the State" (Sonius, 1981). In a similar vein, the Basic Forestry Law (Act No. 5/1967) stated "all forests within the territory of the Republic of Indonesia, including the natural resources they contain, are taken charge of by the state."

¹²For a discussion of the impact of the new laws on village government, see Warren, 1993.

who acted with considerable autonomy from *adat* elders and the new village councils.

THE SEUNEUBOK

According to Ismail (1991), in the nineteenth century on the east coast of Aceh, groups of 10–20 migrant farmers wishing to grow pepper would form under a single leader (*ketua seuneubok*). They would then locate an area of land suitable for cultivation. The boundaries were fixed only on three sides, leaving uncleared forest on the frontier side where, with the permission of the *ketua seuneubok*, *seuneubok* members or newcomers could open new pepper gardens as required. In essence then a *seuneubok* was a pepper agriculture complex that consisted of 10–20 pepper gardens; it constituted a form of territorial control over an area that included the intention of an expanding agricultural frontier (Ismail, 1991, pp. 67–69).

Today a *seuneubok* consists of a specific area—all the forest gardens lying along a certain forest path. Once a village path leaves behind the last rice fields and village gardens of the coastal plain, the path winds through valleys and climbs and descends the spur lines of successive ranges of hills. Moving in the direction of the mountains behind the coast, each path forks in several directions. A *seuneubok* begins with the first forest gardens to the left and right of a main forest path. All the gardens on all the paths accessed by the main path of a *seuneubok* belong to it. A stream or a hill usually marks the boundary with adjoining *seuneubok*, while the rear of the *seuneubok* still consists of uncleared forest. If a *seuneubok* continues to expand, eventually it becomes too large and the head can no longer manage the expanding frontier. He will then appoint a representative (*ketua kemplok*) to look after this area, and if farmers continue to open plots on the frontier end of the path, the area will eventually become a new *seuneubok* in its own right.

In addition to the territorial dimension, a *seuneubok* also has a social dimension: besides belonging to a village, all forest farmers with gardens located off a certain main forest path, belong to a *seuneubok*. While the original farmers opening gardens in a *seuneubok* might have come from the same village, as the *seuneubok* expands farmers from several villages might add gardens. Consequently, membership of a specific *seuneubok* does not correspond with a particular village. A *seuneubok* is not the territory of a village but rather a social and territorial entity in its own right. In the days when villagers lived for extended periods in their gardens, oftentimes the *seuneubok* would eventually split from the parent village and become

Table I. Regulations of a *seuneubok*

Meeting of Entire Management of *seuneubok*, Kecamatan Sama Dua.

30 September 1987

Residence of . . . , under the chair of village head.

With the decisions as follows:

1. Whoever imposes a fee (*memajakkan*) on someone else [in exchange for the use of] a nutmeg garden (*kebun*) must give notice to the *ketua seuneubok*. If notice is not given, the *ketua seuneubok* will take steps in accordance with the valid regulations.
 2. Whoever violates these rules, the *ketua seuneubok* will impose a fine, which will take the form of improving the *seuneubok* path for no less than 10 m.
 3. If a party is interested in selling a nutmeg garden in this *seuneubok* to another party, they must give notice to the *ketua seuneubok*. This is because in the past garden nutmeg have been sold without the knowledge of the *ketua seuneubok*, and the *ketua seuneubok* has been forced to become involved in this matter. If the *ketua seuneubok* is not given notice then the parties involved will have to take responsibility for all the problems involved.
 4. Concerning empty land in this *seuneubok* or in the respective garden, if another party is to work the land and notice is not given to the *ketua seuneubok*, and then a dispute ensues, the *ketua seuneubok* will not get involved in the problem concerned.
 5. A party who has a nutmeg garden in the *seuneubok* cannot take an outsider to carry produce except their own family. This is because already many times loss/theft of nutmeg has occurred—with the result that the owner of the garden accuses the wrong person when in fact his friend who accompanied him was involved.
 6. If the fruit of respective garden, for example durian or other fruit, are stolen in the garden of others, then the *ketua seuneubok* will take steps. This means a fine will be imposed such as constructing the path over not less than 10 m according to point 2 above. The exception is when there is already permission.
 7. Concerning the theft of nutmeg. If theft of nutmeg occurs in *seuneubok* then whoever discovers it must report it to the *ketua seuneubok* together with the evidence. The *ketua seuneubok* will report this to the responsible authority.
 8. These decisions are made with the serious intention that they are known by the members of the *seuneubok* and will be used wherever they are necessary. With the ascent of the Village Head (signature) *ketua seuneubok* (signature) [with names and signatures of seventy four *seuneubok* members, and nine village elders (*para cerdik pandai*)]
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Source: Results of *seuneubok* Meeting provided by *Seuneubok* head, November 1997.

a village itself. In South Aceh today some contemporary villages bear the names of former *seuneubok*.

Each *seuneubok* has its own norms and rule-making and enforcing functions (see Table I) which tend to vary somewhat. As each *seuneubok* was able to induce compliance amongst its members, at times with the support of wider *adat* institutions, each constituted a discrete institutional arrangement nested in the wider institutional order. The *seuneubok* are primarily concerned with the control of property in the gardens within the its territory. While the gardens are theoretically subject to the State legal regime, here the State legal apparatus is remote. Land titles are not

formalized with the government land office, and property disputes very rarely involve State courts. The personal property rights that a forest farmer enjoys over a garden are embedded in the collective arrangements that constitute the *seuneubok*. Within this *adat* regime, a farmer is considered to have permanent rights over a piece of land covered by perennial tree crops he or she cultivated, bought, or inherited. Each farmer's property rights depend on the existence of an authority structure to enforce them. By taking responsibility for many of the everyday functions of the *seuneubok*, the *ketua seuneubok* provides the first level of the authority structure. For instance, a farmer wishing to gain access to land at the frontier end of a *seuneubok's* forest path needs to ask permission from the *ketua seuneubok* who then accompanies him into the forest and allocates a piece of unused land. By clearing the land and planting trees a farmer becomes a member of the *seuneubok*. Similarly any one wishing to buy or sell a garden in a *seuneubok* also seeks permission from the *ketua seuneubok*.

While the *seuneubok* crafts rules to suit its own scale of organization, it is also nested within the wider village institutions, which support the authority of the *ketua seuneubok* and have a role in the resolution of disputes. Usually, if a *seuneubok* member has a problem with another member he takes it to the *ketua seuneubok* who, if necessary, organizes an *adat* session (*sidang adat*), calling in the village head and other *adat* functionaries (*para cerdik pandai*) for formal deliberation and sanctions.

Seuneubok rules then are "quasi-voluntary": *seuneubok* members choose to comply in situations in which they are not directly coerced. However, this is quasi-compliance in that non-compliance was subject to sanctions if the offender was caught (Ostrom, 1990, p. 94). However, there are no formal policing or monitoring systems apart from other *seuneubok* members noticing infringements (such as theft) and reporting them to the head or to those whose property rights have been violated. However, as in other institutions of this type, besides the risk of sanctions, a thief also risks losing his or her good name in the village, or perhaps (according to local belief) the attack of a vengeful tiger (McCarthy, 2001).

UNDERSTANDING ADAT INSTITUTIONAL ARRANGEMENTS IN SAMA DUA

Many theoretical models of institutions have used a logical framework derived from rational choice theory based on the assumption of a utility-maximizing, self-interested individual (Kato, 1996, p. 554). However, in addition to individuals engaging in a rational calculation about consequences and preferences, in Sama Dua there were "institutionalized conceptions of action" that were connected with what March and Olsen (1996)

have called “the demands of identity.” According to this understanding, within an institutional setting individuals take on identities and roles that

are expressions of what is exemplary, natural, or acceptable behaviour according to the (internalised) purposes, codes or rights and duties, practices, methods, and techniques of the constituent group and of the self. . . . Within an institutional framework, “choice,” if it can be called that, is more based on a logic of appropriateness than on the logic of consequence that underlies conceptions of rational action. Institutionalized rules, duties, rights, and roles define acts as appropriate (normal, natural, right, good) or inappropriate (uncharacteristic, unnatural, wrong, bad). (March and Olsen, 1996, pp. 251–252)

In Sama Dua, notions of identity—what it was to be a member of the village—were clearly important guides to action. Yet it was unlikely that there was a simple binary opposition between situations where “identity-driven conceptions of appropriateness” drive the action of individuals and conditions where “conscious calculations of costs and benefits” dominate. It is possible for these orientations to coexist: those conforming to a conception of proper behavior might also calculate the costs of behaving otherwise. Those who violated basic norms—particularly those connected with what it meant to be a member of the village—also faced social shame.

For instance, in Sama Dua *seuneubok* there was a rule that farmers should not pick the highly valued thorny fruit of the durian tree; rather, they should wait until the durian ripens and falls of its own accord. To be sure there were other ways of testing the ripeness of durian. However, the virtue of this rule was that it guaranteed that Sama Dua durians enjoyed a high reputation: as buyers could be assured that the Sama Dua durians were good, Sama Dua durians earned higher prices. However, the rule also caused some inconvenience: if farmers were to harvest the durian, they had to stay in their garden during the durian season to ensure that forest animals or passing farmers did not consume the succulent fruit. Interestingly enough, this rule was not enforced by sanctions, but rather by the weight of shame attached to breaking such a strongly held norm of village life: if a villager earned a reputation for selling unripe or inedible durian, or was discovered picking durian from a tree, they would lose their reputation in the village. As an informant explained: “they would be considered evil, because if one person does it, all can be affected. As there are no sanctions durian from Sama Dua are highly appreciated in Banda Aceh.”

Another example of such a phenomenon involved the social norms inhibiting irresponsible use of the land. While shifting agriculture was once acceptable, nowadays if a farmer kept shifting his plot of land, “he will feel ashamed (*malu*).” Other farmers did not want to be affected by the misuse of resources by their neighbors, by land degradation and erosion caused by careless use of steep land. Although the *seuneubok* rules (see Table I) that one *seuneubok* formalized in a letter of agreement failed to

mention this, there were strong feelings about this type of practice. If a farmer shifted plots without the *ketua seuneubok*'s permission, he would no longer assist the offending farmer in the resolution of disputes and deny him other social functions provided by the *seuneubok*. But what was worse, they would lose perhaps their most valuable possession—their good name in the village.

As a customary *adat* system, the *seuneubok* incorporated religious, legal and social functions. For example once a year the *ketua seuneubok* called a *kenduri seuneubok*, a gathering of farmers and their families that involved a ritual feast and prayers, as well as discussion of the functioning of the *seuneubok* and any conspicuous problems.

Farmers generally chose someone of standing as the *ketua seuneubok*. While the *ketua seuneubok* did not receive a salary, he did receive an honorarium: members of the *seuneubok* covered *seuneubok* transaction costs by paying the *ketua seuneubok* a contribution at the time of the nutmeg harvest as well as at the time of the *kenduri*. The party held to have offended *seuneubok* regulations usually met transaction costs for meetings to discuss transgressions. The *ketua seuneubok* often also received a payment or contribution in kind on wood cut or hunting done in the forest behind the *seuneubok*.

INSTITUTIONAL CHANGE IN THE SEUNEUBOK

When I first visited Sama Dua during 1996–97, several informants explained how the *seuneubok* had fallen into decline as a consequence of several changes affecting village life. First, the *ketua seuneubok* used to have about as much authority and respect as the village head. With the decline in nutmeg cultivation, farmers invested much less time and energy maintaining their gardens and the *seuneubok*'s institutional arrangements. As a consequence, the *ketua seuneubok* functions declined. Second, according to a former village head, as the cash economy penetrated Sama Dua more thoroughly, “people now look for money and do not pay as much attention to *adat*.” As villagers aspired more to the trappings of “development” (*pembangunan*), traditional arrangements were challenged, including the *seuneubok*. Third, many of the younger generation of *ketua seuneubok* were less capable of fulfilling the role. Without a charismatic, knowledgeable, and respected *ketua seuneubok*, a *seuneubok* functioned less effectively.

Fourth, the increased activity of local government agencies also affected the status of the *ketua seuneubok*. As some farmers came to understand that the State failed to recognise the *ketua seuneubok*'s authority, they were less inclined to do so themselves. In the case of a dispute, rather than relying on the *ketua seuneubok*, if they saw some advantage in doing so they

could choose to take a case to the police. Fifth, the *seuneubok* was an institution suited to the frontier, offering farmers carving new plots out of an area of remote, wild and lonely jungle support and solidarity and it became less important in long established agricultural areas. The decline was more pronounced in older *seuneubok* many of which no longer had a *ketua seuneubok*. For this reason, the agricultural areas closest to the village were no longer organized into *seuneubok*.

Interviews in January, 1999 with farmers and *seuneubok* heads revealed a complex range of situations.¹³ In some places the *seuneubok* still had a name but no head; in other places the *seuneubok* had a name and a leader, but it was unclear to what degree it still functioned. In yet other areas the *seuneubok* retained their vitality. In two cases, the *seuneubok* head had died and villagers were unsure whether they had been replaced. In one village three *seuneubok* continued to function without a *seuneubok* head. In these cases, other village institutions had taken over *seuneubok* functions. The village head carried out the dispute resolution functions while the religious head (*imam*) fulfilled the ritual function of leading the *kenduri seuneubok*. In other areas, farmers have to solve problems on their own.

Where *seuneubok* no longer functioned, disputes could be taken directly to the village head, and many cases were also taken straight to the police. If *ketua seuneubok* were still to function, they needed to re-establish their authority. One strategy involved finding ways to support their authority and the customary principles governing the *seuneubok* within the wider State authority system, as illustrated by the problem of theft. A *ketua seuneubok* explained how during the 1970s theft in his *seuneubok* began to become a problem that he had difficulty handling. Eventually, in 1987 he called a meeting of *seuneubok* members regarding the rules that applied to theft and other important problems. The meeting led to a letter of agreement that all members of the *seuneubok* signed. (Table I) The letter did not present an exhaustive list of regulations but rather specified the principal *seuneubok* regulations relevant to the most salient problems at this time. As this was a legally binding agreement under the official legal system, an infringement could be taken to court. The *ketua seuneubok* also obtained

¹³An understanding of these trends emerged only slowly through repeated interviews with many informants. The meaning of a particular *seuneubok* for its members involved understanding the specifics of a particular institutional history. Perceptions regarding the degree of functioning of a *seuneubok* tended to vary between informants. This made it difficult to make definitive conclusions about whether a *seuneubok* that existed in name still functioned in any real meaningful sense. The picture that finally emerged through interviews was that there was a wide spectrum of situations ranging from functioning *seuneubok* to *seuneubok* that only existed in name (McCarthy, in press).

a letter from the police and the army explicitly recognizing his authority.¹⁴ After this, if an offender continued to offend and disregarded a decision of the *ketua seuneubok* he or she would be taken to the police. Under a court's discretion, a letter could then be issued stating that if the problem reoccurred, the culprit would be taken directly to jail without further investigation, and held for a period of time proportional to the severity of the violation. This innovation led to a large decrease in cases of theft.

In early 1998, villagers responded to the economic crisis by turning back to agriculture. At this time, a *ketua seuneubok* noted that a consequence of the economic crisis was the revival of *seuneubok* institutional arrangements. "If prices of *kebun* products are high," he said, "many people go to their garden. People support the *seuneubok* and are enthusiastic: the *seuneubok* is strong." Farmers formed groups of 10–15 to cultivate *nilam* in newly opened forest. Each group also selected its own head (*ketua ladang*). Before heading off into the forest, according to long-standing practice, each group reported first to the *ketua seuneubok* ensuring that he would provide advice and guidance as well as help to resolve problems.

The economic crisis demonstrated that *adat* arrangements remained important: at a time of need farmers would fall back on *adat* property arrangements that offered them some degree of social security.

OVERLAPPING TERRITORIALITIES: RIGHT OF AVAIL IN THE STATE FOREST

Under the state territorialization undertaken by the colonial state, the forest in Sama Dua was not zoned for timber exploitation or for plantation use. Later, after a long hiatus, a series of State sponsored mapping exercises during the New Order period renewed this process.¹⁵ In Aceh the governor coordinated a team involving several provincial-level agencies which produced a set of forest consensus maps (TGHK) that subsequently served as the framework for allocating forestry concessions (*Surya Karya*, 1990). State planners calculated an area that villagers would need for agricultural expansion, and classified an area of forest near villages as "Unrestricted State Forest" (*Hutan Negara Bebas*) leaving outside the permanent forest zone (*kawasan hutan*).¹⁶ Accordingly, the revised RePPPProt map (1988) for the Sama Dua area shows a thin band of forest behind Sama

¹⁴Interview, Sama Dua, 2/2/98. Interviews with the leader of a neighbouring *seuneubok* indicated that several other *seuneubok* also held meetings at this time and had members sign similar letters.

¹⁵For a discussion of this process, see Peluso, 1995.

¹⁶This exercise that was reviewed by RePPPProt (1990) to produce the RePPPProt maps.

Dua classified as “unrestricted State forest” This area did not extend further than 5 km from the coast. (Although these classifications did not correspond to local notions of the extent of Sama Dua territory and although the process was hardly consultative, government planners had some knowledge of *adat* assumptions and made allowances for the existence of community *adat* territory.) This strip of land expanded from a width of around 5 km at the northern end of Sama Dua to around 10 km in width further south to include the Kluet River (RePPPProt, 1988). Forest legislation held that this forest formed a part of the State forest estate (*kawasan hutan*), and as such should not be converted to other uses but be maintained under permanent forest cover. Nevertheless, State forest policy designated it “limited production forest” that could be exploited for logging, and in 1977, the Ministry of Forestry issued a timber concession in the steep mountainous forest of the Kluet watershed behind the coast, and another just to the north of over 40,000 hectares in the limited production forest. By 1990 the activities of the timber companies logging these concessions had evoked local protests. In a series of colourful and emotive articles, in July 1990 the Medan-based news paper *Waspada* reported that the Kluet concession included thousands of hectares of local people’s plantations, graveyards, *adat* land, and other community areas. As the concession encompassed very steep mountains containing the headwaters of rivers subject to flood, *Waspada* reported that seven subdistricts (including North Kluet and Sama Dua) were “threatened with sinking” (*terancam tenggelam*) (*Waspada*, 1990).

The District Head (*bupati*) at that time was also vehemently opposed to these concessions (*Kompas*, 1991). He pointed out that government regulations did not allow logging on slopes greater than forty degrees. However, the forestry department had issued permits on even steeper land based on the TGHK classifications but without accurate information concerning local conditions. The *bupati* had seen the consequences for local people of the logging of steep mountainous areas behind village settlements: “It is very rich forest here, with *Kruing* and *Damar* trees, but is also very steep. The rivers are very swift and so if the upstream areas are cut, the areas of settlement will be damaged.”¹⁷

After the company tried to bribe him and although the forestry department opposed him, the *bupati* organised local meetings to mobilize villages against logging companies.¹⁸ In Sama Dua, the villagers decided they would allow logging to occur in their territory only on condition that 1500 hectares of arable land at Alur Rimbia be given to Sama Dua

¹⁷Interview with former *bupati*, Medan, 15/12/97.

¹⁸For a discussion of this process in the neighbouring Kluet community, see McCarthy, 2000.

residents. Moreover, the company would have to build a road to enable local farmers to settle there. The issue came to national attention, and after meetings with the Governor in Banda Aceh and the Minister of Forestry in Jakarta, the Minister of Home Affairs agreed to review the two timber concessions. Eventually, the company decided not to go ahead.

At the same time, another development threatened the Sama Dua territory: the Department of Transmigration announced a plan to settle 200 transmigrants in Alur Rimbia, the arable area behind Sama Dua already claimed by Sama Dua residents. To prepare for a transmigration settlement, the land would have to be cleared. As in other areas, this involved granting timber interests a Timber Harvest Permit (*Ijin Pemanfaatan Kehutanan* or IPK) to remove and process valuable logs. In response, the villages of Sama Dua pooled their resources and built a road with village development funds (*bangdes*) and voluntary labour (*gotong-royong*). The idea was to open land, plant crops and establish a village before the government gave the area away for transmigration or for logging. One villager commented “. . . really this is our ancestral land—not for them. . . . But after we built the road around 1980, nothing happened and the road turned back into forest or was subject to landslide.”¹⁹

These incidents revealed that, while the Sama Dua *adat* territory had no official status, local residents, supported on this occasion by the district head and local journalists, were prepared to defend their *adat* territory. As far as Sama Dua could corporately contest development plans based on the territorialization process carried out by State agencies, these forestry boundaries remained so many ink markings on maps.

These cases also demonstrated that, contrary to many accounts that portray local communities as mere victims of development projects imposed from the center during Suharto’s authoritarian regime (1966–98), at times local communities have defended property rights in their own territory.²⁰ Yet, because of two exceptional circumstances the Sama Dua community was unusually successful in defending its turf. First, the personal qualities of the district head at the time when the logging concession and transmigration proposals arose played a key role. Sayed Mudhahar, the *bupati* at that time, refused to accept bribes offered by the logging companies. Moreover, he showed unusual courage in standing up to the Ministry of Forestry. As the national daily Kompas reported, “district heads usually always agree with projects from the centre,” yet, “for the sake of the environment” Sayed threatened to resign if the Ministry of Forestry agreed

¹⁹Interview, Sama Dua, 26 January 1998.

²⁰See for instance Arimbi (1994), Moniaga (1994), Rahail (1996).

Table II. Protected and Cultivation Areas in Sama Dua Subdistrict according to district Spatial Plan

Status	Total
Protected Area	
Nature Reserve (Hutan Suaka Alam)	0
Protection Forest (Hutan Lindung)	9,671
Cultivation Area	1,129
Total Area	10,800

Source: Pemerintah Kabupaten Daerah Tingkat II Aceh Selatan (1991/1992).

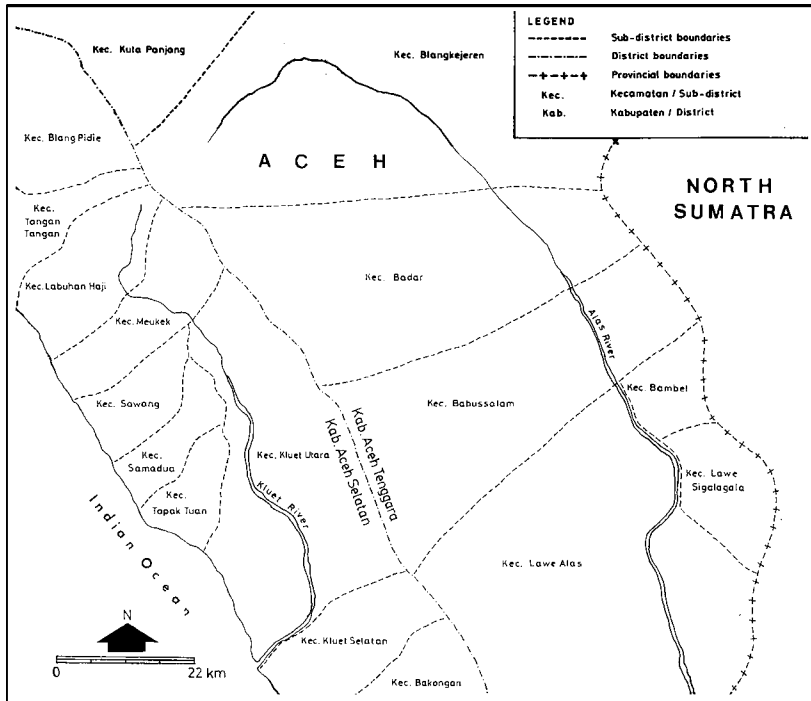
to the new logging concessions. Sayed's behavior was extraordinary, and he became somewhat of a hero for the environmental movement (Kompas, 1991). Second, compared to other districts in South Aceh, besides the area of Alur Rimbia, Sama Dua territory is mountainous and relatively inaccessible. This meant that outside interests tended to concentrate their efforts elsewhere.

As the TGHK maps were associated with many problems and conflicts, the 1992 Spatial Planning Act required each level of government to prepare a Spatial Use Management Plan. Because most of the hilly forest areas surrounding Sama Dua had a slope of over 40%, the South Aceh district government's spatial plan reclassified it as a "protected area" (Pemerintah Kabupaten Daerah Tingkat II Aceh Selatan, 1991/1992). Subsequent district and provincial government regulations specified that most of the Sama Dua territory previously listed as "limited production forest" should be excluded from logging and agricultural use (see Table II) (Serambi Indonesia, 1995).

OFFICIAL AND DE FACTO CONTROL OF FOREST TERRITORY

During the late 1990s, as several villagers told me in an official legal sense the unopened forest behind Sama Dua belonged to the State. The law has failed to recognize *adat* claims over surrounding forest territory. Land only became subject to the *adat* regime once an individual had opened it and planted it with trees. Yet, in practice the residents of Sama Dua maintained that the *adat* territory extends to *Tanah Hitam* (see map). As one informant noted, "up to *tanah hitam* this is land for all Sama Dua people to open, and if someone else wants it, Sama Dua will not give it up."

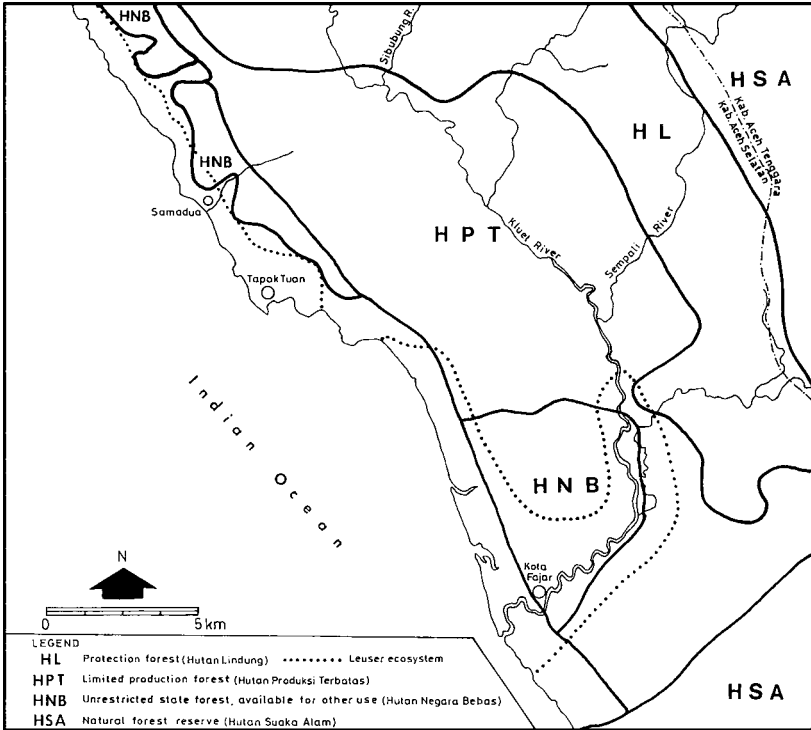
The *de facto* rights enjoyed by local villagers continue to be embedded in village practices. Interviews with villagers and officials alike led to the conclusion that the local forestry regime allowed for a local "right of avail": local villagers opened plots in the "unrestricted State forest" immediately



Map 1: South and Southeast Aceh: Sub-district boundaries.

behind Sama Dua without asking for permission from local State agencies. Although villagers did not use the term, this “right of avail” also allowed them to cut wood for non-commercial uses. Villagers have always obtained timber from the forest to build houses, hillside huts fishing boats or meet some other timber needs.

Although, given the sensitive nature of the issue, generally *ketua seuneubok* avoided discussing logging in their *seuneubok*, during the course of research it became clear that in various ways *seuneubok* allowed for timber extraction within their territory. Villagers noted that, when opening new plots of land rather than leaving valuable timber to rot, *seuneubok* norms allowed farmers to cut wood into planks and carry it back to the village for use or for sale. In addition to cutting wood on their own plots, those wishing to obtain timber could negotiate with farmers with significant trees on their land. Alternatively, they needed to travel to the *seuneubok* frontier where all *seuneubok* members enjoyed timber rights to what constitutes a common pool resource. However, as the forest frontier moved further out, given the distances and the type of terrain involved, carrying more significant quantities of wood back to the village had become increasingly arduous.



Map 2: South Aceh: forest boundaries (RePPPProt)

The economic crisis that struck Indonesia during 1998 once again revealed how, by providing resources for villagers at a time of crisis, *adat* territory served as the villagers’ source of social security of last resort. Even at this time, to some extent *seuneubok* controls over logging continued. Whilst reporting to the *seuneubok* head and paying a fee was voluntary, a villager who logged the *seuneubok* forest without obtaining permission risked alienating the *seuneubok* head. However, there was a degree of tolerance on the part of the community and the *ketua seuneubok* for poor villagers logging the forest. There were also clearly limits to exploitation. Village norms precluded taking more than one’s fair share.

Following the fall of Suharto and at a time of increased tension in Aceh just prior to the outbreak of violent conflict, it was clear that the State forest authorities were even less able to control this logging in what was nominally State forest. According to one villager, if the forestry office was notified, the loggers might be arrested and the chainsaws confiscated. But now, as in other areas, the State forestry agencies no longer had the capacity to implement these laws (McCarthy, in press).

CONCLUSION

This article has discussed how a particular set of customary (*adat*) arrangements operated with respect to forest and garden territories in a particular Sumatra context. While agricultural practices have varied, historically farmers have gradually moved from a system that integrated shifting agriculture with the production of cash crops for export to more settled tree crop farming. Nonetheless, *adat* arrangements pertaining to local resources have continued to provide a framework for the transformative use of the forest—converting native forest into hillside gardens at the forest frontier. With the importance of permanent gardens producing cash crops increasing over time, customary rules have focused on protecting the property rights of farmers in permanent tree gardens.

At the same time, surrounding forests remained important to village livelihoods, constituting a reserve of agricultural land available to future generations of farmers and providing valuable forest products. Yet, the characteristics of forests as common pool resources did not lend themselves to management by instituting tenurial rights. In contrast to the agricultural products generated from cultivated lands, forest products were generally attained without the sustained investment of labor. Many of these resources tended to be difficult to regenerate within a short time, or their regrowth and distribution were hard to predict. Even for resources that could be subjected to a sustained management regime, such as *damar* trees tapped for their resins, the trees were widely scattered through the forest. Furthermore, as the market prices of forest products tended to be subject to wide fluctuations, villagers could not altogether depend upon the gathering of forest products as a source of livelihood. Yet, dependence on a resource system increases the likelihood that self-governing institutions will form to avoid the losses associated with open-access, common-pool resources (Ostrom, 1997, p. 6).

As *adat* arrangements responded to agro-ecological and social constraints, this led to the development of particular forms of property relations. A property regime gains its character largely from what the decision-making group believes to be scarce and valuable, and hence what needs to be protected with rights (Bromley, 1989). Unless resource units are relatively scarce, there are few reasons for appropriators to invest costly time and effort in organizing to control access and use (Ostrom, 1997, p. 9). In the past the immediate area contained extensive, mountainous lands covered in forest. Uncleared forest was abundant, and the population was comparatively small. So *adat* property regimes tended to be concerned more with what was scarce: labor and the productive agricultural land created by its deployment. These factors have meant that there was

less incentive for communities to invest the time and effort in developing a sophisticated property regime requiring monitoring and the imposition of sanctions.

Nonetheless, villages did attempt to control access and use of surrounding forests through a diffuse form of territorial control known in the Indonesian legal terminology inherited from the *adatrecht* scholars as *hak ulayat* (“right of avail”). With the permission of the customary leadership, villagers would ordinarily open land within community territory. They also had free access to the forest surrounding their villages for their everyday needs. Local heads also collected taxes on forest products harvested or purchased from the area on behalf of the community, taking what they considered to be their due as administrators while passing some tribute to higher authorities.

Recent history demonstrates the shifting nature of local livelihoods. Local livelihood strategies alter in response to local ecological changes—such as those affecting the viability of local agricultural systems—or fluctuations in the price of key agricultural or consumer commodities due to political and market instability. *Adat* institutional arrangements in Sama Dua had to govern access and use of land and forest resources under varying conditions. As the adjusted to the shifting character of local livelihoods, the meaning of *adat* categories has shifted: as *adat* arrangements have altered, they have proved to be both resilient and dynamic.

The *adat* order in Sama Dua incorporated legal, social and supramundane religious functions; it encompassed local notions of identity and associated notions of appropriateness as well as a property regime pertaining to hillside gardens and natural forests and the socio-religious order sustaining local life. This suggests that, while at times individuals do engage in rational calculation concerning consequences and preferences, it is misleading to assume that local institutional order is built on a logic of rational choice.

While it is tempting to see the State and *adat* institutional arrangements as standing in opposition to each other, the situation is somewhat more complex. Since the State regime started to show an interest in this area, there have been mutual adjustments between *adat* and official state order. For instance, over recent decades, the *seuneubok* has come to depend upon external sources of authority and legitimacy. Where *adat* leaders could locate corresponding priorities in the State order, at particular moments they found ways to mobilize the State regime to support customary *adat* arrangements. This suggests that the binary approach of contrasting state law and local customary institutional order, of dominance and counter-resistance, can fail to see the real connections between local customary arrangements and State law. As a close examination of this situation

reveals, as well as being at odds, over time these two orders have constantly made mutual adjustments and accommodations. This suggests that, rather than focusing on how a discrete normative field (*adat* or the State) regulates resource use, it is necessary to understand how resource management outcomes emerge amidst the complexity of “shifting patterns of dominance, resistance, and acquiescence, which occur simultaneously” (Wilson, 2000, p. 16).

Finally, this discussion suggests that analysts should avoid simplifying, reifying or romanticizing *adat*. Campbell has called for a “nuanced understanding of *adat* as a dynamic and evolving process of *adat* decision-making interacting and interlocking with external legal, political, social and religious influences” *Adat*, he has suggested, is not necessarily “a glorious living tradition of harmony with nature that is fully operative in forest dependent communities” (Campbell, 1999, p. 4).^{21,22} In Sama Dua at least, as farmers have converted native forest into cash crop producing gardens, property rights rather than ecological sustainability remain a central preoccupation. In Sama Dua, as *adat* has developed over time, it has been extremely adaptable to new economic situations. This *adat* order proved to be neither principally opposed to commercial, economic development, nor has it necessarily supported sustainable forest use.

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²¹Over time villagers have developed a consciousness of the limiting conditions under which agriculture takes place. For instance, in Sama Dua farmers were aware that careless farming or logging in steep areas would affect the productivity of surrounding agricultural land. Consequently, villages here had (to some degree) developed rules to prevent irresponsible farming and environmental damage, such as cutting trees in appropriate places. Yet, collective action, when it occurred, tended to be motivated by the defence of property rights rather than by the need to stabilize environmental conditions.

²²For a discussion of this issue, see the work of Li, 2000; Milton, 1996; Brosius, 1997.

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