

Mapping and Tenure Security in Cambodia's Indigenous Communities

Discussion Paper

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Abbreviations and Acronyms

3D	Three dimensional
ADHOC	Cambodian Human Rights and Development Association (French abb)
CBNRM	Community Based Natural Resource Management
CF	Community Forestry
CLUP	Commune Land Use Plan
DPA	Development and Partnership in Action
FA	Forest Administration
GIS	Geographic Information Systems
GPS	Global Positioning System
ICSO	Indigenous Community Support Organization
IOs	International Organisations
IPs	Indigenous Peoples
IRAM Network	Indigenous Rights Active Members Network
LNGOs	Local Non-Government Organisations
L&NRM	Land and Natural Resource Management
MAFF	Ministry of Agriculture, Forestry and Fisheries
MLMUPC	Ministry of Land Management, Urban Planning and Construction
MoI	Ministry of Interior
NFE	Non Formal Education
NGO	Non-Government Organisation
NTFP	Non Timber Forest Products
NRM	Natural Resource Management
PICA	Participatory Indigenous Community Appraisal
PLG	Partnership for Local Governance
PLUP	Participatory Land Use Plan
RECOFT	Regional Community Forestry Training Centre
RFA	Radio Free Asia
RGC	Royal Government of Cambodia
SD	Sub-decree
UNDP	United Nations Development Programme
VoA	Voice of America (Radio)
WCS	Wildlife Conservation Society
WWF	World Wildlife Fund for Nature

A national seminar on “Indigenous Peoples and Access to Land in Cambodia” held on February 7-8, 2007 made five key recommendations for future actions, including:

Assist indigenous communities to map the boundaries of their communal land, and provide interim recognition of these lands pending the legal registration of indigenous communities and of collective title.

The implementation of this and other recommendations was further discussed in May 2007 at a strategising workshop of key stakeholders involved in indigenous land rights projects, jointly organised by the Heinrich Böll Foundation and the NGO Forum on Cambodia. During discussions it became clear that the recommendation to provide assistance to communities to map the boundaries of communal lands as a means of providing interim recognition required further clarification.

Following from this the objectives of this paper are (a) to develop a clearer understanding of the ways in which various approaches to mapping undertaken in Cambodia’s indigenous communities have impacted on tenure security and access to natural resources; and (b) to inform discussion about how mapping might be used in the future as a tool to enhance tenure security and access.



Villagers using Land Use Maps, Ratanakiri Province. Photo: Mean Ratanak

This paper is based on a review of relevant literature, field work carried out in villages in six provinces in the first half of 2008, analysis of the legal framework for mapping activities and discussions with relevant experts. It should be stressed at the outset that in order to cover a range of contexts, field work in each village was limited to (a) one-day visit focussed on discussions with key informants and (b) a follow up fact checking session. On this basis the authors do not claim to generate insights into local dynamics of governance, power and land management for which much deeper ethnographic research would be required. Any concern that our conclusions overreach this methodology we hope is at least partially excused by the fact that the authors are able to rely on an understanding developed over more than 10 years working on land and natural resource management issues in the upland villages of Cambodia’s North-east. A fuller description of the methodology used is attached in Annex 1.

A number of studies have been published on the effectiveness of mapping in areas where indigenous people live, both in Cambodia and internationally.

From the international experience it is clear that mapping will not be automatically empowering for communities or protective of their lands. There are inherent tensions around maps and map making. On the one hand maps have always been instruments of the powerful or ‘technologies of power’ (cf. Harley 1988, Pickles 1995 and Abbot et al. 1998 in Bauer 2008). Produced by specialists and controlled by the state, they have been used to define territory from the perspective of those who have political and economic influence (Harley 1988). Mapping has therefore often been accused of reinforcing and re-creating the status quo of power relations (cf. Dunn et al. 1997 and Cooke and Kothari 2001), and being closely related to ‘practices of colonialism’ (cf. Edney 1997, Mignolo 1995, Warhus 1997 and Watts 1992 in Bauer et al. 2006: 32-33).

On the other hand, because they are such powerful tools, there is a long history of disenfranchised groups using (and making) maps to assert contrary claims to land (Fox 2002, Fox et al. 2005 and ILC 2008). Thus mapping may be viewed as potentially both “empowering and disadvantaging indigenous communities” (Fox et al. 2005:1-2).

With mapping and associated concepts of territory and ownership being deployed by the state and other powerful actors in areas where indigenous people live, there is an extent to which their lives are being transformed by maps whether they actively engage in the process or not. Once ‘modern’ mapping discourse is introduced into a geographical area, ‘pre-modern’ perceptions of space are rapidly challenged and pre-existing claimants to land are under real pressure to demarcate their own territory or loose out to actors who do (Fox 2002:76). Nevertheless, the adoption of modern mapping technologies by indigenous communities is not unproblematic, (a) because it disadvantages communities that have limited access to these technologies, and (b) because when adopted by disadvantaged communities it can contribute to the transforming of “relationships between human actors and their spatial environments in ways that correlate with the loss of indigenous spatial practices” (Fox et al. 2005:4).

In the best case scenario “[b]ottom up geo-referenced mapping can help rural communities’ land claims to be recognised by state institutions, particularly where the existing legal framework is supportive of these claims” (ILC 2006:3). A well accepted and accessible legal framework may render mapping a largely technical process – that of surveying what is granted by law. But where the enabling environment is less settled, as in the majority of cases involving indigenous communities and their lands in Cambodia, it must be acknowledged that mapping involves a contest. The more contentious the legal and political environment, the less likely is mapping to lead to smooth, across-the-board gains for communities. In the worst case scenario mapping may lead to the formalisation of realities that reflect and entrench the disempowered position of indigenous minorities (ILC 2008:14), rather than assisting such groups to “assert domain” (Peluso 1995:9).

Nevertheless there are instances, even in difficult circumstances, where mapping has been seen as a catalyst for effective collective action, and provided some improvement in tenure security. This has occurred “...via informal agreements between communities, their NGO partners and [local level] officials” (Fuys et al. 2006) or because communities have been able to use maps to legitimise a claim when conflict arises (Cronkelton et al. 2008).

Because change may not be linear, there is a view in the literature that even though not successful in the short term, mapping may have long term benefits for tenure security. For example, early attempts at mapping indigenous lands in Canada showed poor results for almost

20 years. However, as the political and legal environment changed, old maps were drawn on and used to document successful claims (Chapin et al. 2005). Similarly in the context of South and Central America, it has been found that “work of mapping and documenting indigenous territories ... is helpful, even if government does not immediately respond positively, because the work tends to support the emergence of indigenous polities unified toward a concrete end” (Stocks 2005:99).

As improved tenure security may realistically be a long term goal, it is sometimes argued that the immediate value of mapping should be assessed in terms of its effect on ‘community empowerment’ (Corbett and Keller 2005). Maps have been observed to build community ownership and confidence in circumstances where they allow people to base claims on documents that reflect their own perceptions of reality (Cronkleton et al. 2008:12). However, where mapping is imposed and/or controlled by outsiders, the results are often detrimental to communities (Harley 1988). “[T]he promise of community empowerment through mapping may be tempered by concerns that the mapping process – including control and management of its technology – can reinforce or reconfigure existing forms of power distribution and relations” (ILC 2008:14).

The literature also provides a basis for an initial analysis of the mapping experience in Cambodia’s indigenous communities, with two caveats: (a) the existing literature is based largely on work in Ratanakiri, the province where participatory mapping has both the longest history and the broadest coverage, and (b) most of the published studies are based on fieldwork completed in 2004 or before, making them somewhat out of date. This said, it is worthwhile to recount some of the key findings from these studies. These include:

1 Mapping is occurring in the context of changing patterns of land use, rapid in-migration and economic ‘development.’ Deforestation has accelerated as new roads and improved security have opened up previously remote areas (Fox et al. 2008). At the same time, government concessions and land transactions of questionable legality have decreased the amount of land available to indigenous communities and fueled conflict. Mapping was introduced as a tool that might support indigenous groups (as disadvantaged groups with legitimate historical claims) to assert their claims to land and natural resources (Prom and Ironside 2005), in response to increasing outside pressures and in the context of general support and encouragement from provincial authorities. The focus of mapping efforts was often on areas under most immediate threat (Veer 2006).

2 Mapping appears to be at best a second order factor when determining trends in tenure security and access to natural resources for indigenous communities. Thus the rate of deforestation and land alienation in Ratanakiri province has increased rapidly during the period that efforts at mapping have been underway. Factors that have been identified as the main (first order) drivers of tenure insecurity and loss of natural resources include: integration into market economy (with cash needs for health, education as well as household consumption); lack of alternative methods of generating income; increasing land value; improved infrastructure (particularly roads); demographic change/pressure (in particular population growth through in-migration of lowland groups); land concessions for agribusiness and other purposes; lack of enforcement of existing laws that protect state lands from encroachment; illegal land transactions; weak recognition of communities’ land rights and diminished community cohesion in the face of these changes (Fox et al. 2008).

3 Given these factors, mapping has been unsuccessful in securing access to land and natural resources on a broad or systematic basis. The forces that undermine tenure security and access to natural resources are complex, interrelated and supported by a system of powerful actors and incentives. The widespread use of power by both private and public interests through coercion, intimidation and illegal practices means that having a map or a particular kind of map is unlikely to be determinative (at least not in favour of indigenous people).

4 The potential strength of mapping efforts has been reduced because the maps produced in indigenous communities have never had a settled place within the legal framework, and also because mapping has generally been done on a ‘one off’ basis with limited community engagement or follow up. The one off nature of this work has meant that communities have not had the support to understand maps sufficiently so they can use them effectively. In addition, many NGO staff members who are assisting communities themselves lack the technical expertise and understanding to be able to effectively facilitate the exchange of skills and information. The clear message from international experience is that mapping has the best outcomes for communities when it is done within a supportive regulatory framework and with high levels of community ownership (ILC 2008). One or both of these factors have generally been absent in the Cambodian experience.

5 There are nevertheless well documented instances of villagers using maps as a tool to resolve land and natural resource management conflicts or increase their bargaining power in negotiations with outsiders. While map making may not have had the desired across the board effect of improving indigenous peoples’ access to or tenure over land and natural resources, there are a range of reported instances where maps have been used by indigenous communities to assert or defend claims to land and natural resources (Prom and Ironside 2005; Klot and Ironside 2005 and Hou 2005). Discussions with practitioners indicate that maps have been crucial in presenting and explaining indigenous land use and in advocating for tenure security with outside authorities. Thus the fact that community lands had been mapped in Ratanakiri province since the late 1990s was important for persuading decision makers to develop a legal framework that would allow indigenous communities to hold communal title (Ashish John, personal communication, 2008).

Prior to moving to a discussion of our own fieldwork, it is worth to provide some background to how we view issues of law and power in relation to land and natural resource management. The conceptual lens of legal pluralism is useful here. Put very schematically, we expect to find at least four sets of norms at work in upland Cambodia: (a) Social/cultural norms - referring to practices, the legitimacy of which is rooted in village level social structures and understanding of what is right and proper in terms of land use and management, and which remain deeply embedded despite civil war and changes in state law; (b) Administrative conventions - referring to a competing set of norms deriving from previous regulatory regimes and practices that give government officials at various levels de facto authority over lands within their administrative jurisdiction (even when this is inconsistent with formal law); (c) Formal law - referring to norms derived from the 2001 Land Law and other regulations currently in force; and (d) Newly imported international norms related to human rights, democracy, good governance and the like, which are rooted in Cambodia’s relationship with the international community.¹ Each of these normative systems is a potential source of power depending on circumstances. Understanding that mapping plays directly into a contest over power, we expect this framework to help analyse the way in which maps influence (or fail to influence) the outcomes of the struggles we observe in Cambodia’s indigenous villages. It also helps to explain why legal processes to grant formal titles or recognise customary rights often are unsuccessful in strengthening and stabilising local control over land and forest resources (Cronkelton et al. 2008).

The analysis below integrates our own fieldwork with an analysis of the existing legal framework for mapping. It is divided into four main parts. Firstly we set out the data we have available on approaches to mapping encountered in indigenous villages. Secondly we examine the way maps are used (or not used) with respect to specific land and natural resource management issues. Thirdly we present an analysis of the legal framework for mapping, and finally we present our conclusions and recommendations.

1 Adapted from Adler et al. (2006) and Adler, Porter and Woolcock (2008).

Indigenous communities have been supported to participate in a range of mapping exercises over the past decade or so. The four approaches described below were all designed to secure indigenous peoples' rights to land and/or natural resources. The section that follows provides some background to these different approaches, their objectives and outcomes.

Mapping for participatory land use planning (PLUP)

Issues noted with PLUP activities both during this research and elsewhere have included: (a) that the PLUP process emerged in advance of a clear legal framework for bottom up land use planning and is without a solid basis in Cambodian law; (b) that the government (provincial and district) teams carrying out PLUP lack incentives due to low salaries; and (c) that PLUP activities have often been conducted without sufficient village level preparation (capacity building and engagement) or follow up support.

Government partners with support from NGOs initially spent some time developing a process for doing PLUP in indigenous communities. This became a 22-step process that generally took over two years to complete. Because of this length of time a quick-step PLUP was developed and implemented in Ratanakiri province from 2003 to 2005. This was largely driven by donors of the Seila/PLG run Community-based Natural Resource Management Project, who felt that new measures were needed quickly to try and counteract the speed of land alienation occurring in the province.² By 2004, the Ratanakiri provincial GIS unit had completed PLUP maps (fast and slow step) in 23 out of 49 communes in the province (Fox et al. 2008:44), with NGOs adding three more communes to this total.

Table 1: Selection of villages surveyed through PLUP mapping

Village	Process	Signed off (Level)	Result
Mondolkiri			
Andong Krolung Village [Sen Monorom Commune, O Reang District] Data: Field Visit	Village is inside a conservation area. PLUP mapping commenced in 2003 with NGO support. Land use committees with by-laws established. Sketch maps completed. GIS maps mark village land, swidden areas, reserve swiddens and forest. Village is now recognised as a legal entity by the Ministry of Interior, capable of holding a communal land title.	PLUP: Village boundary agreed at the provincial level in 2007. PLUP is likely to be recognised in 2009. Legal entity - National recognition (2008).	Land use and tenure relatively stable, within a protected forest. Little in-migration. Few if any land sales and no concessions. Community leaders are clear that land cannot be sold. They say they would feel empowered to complain if it were, and would expect authorities to support them. Stability seems to come from a mixture of community solidarity, intensive ongoing NGO livelihood support and WCS/FA supported policing of the protected forest.

² For more detail of the PLUP process in Ratanakiri see Fox et al. (2008:44)

Village	Process	Signed off (Level)	Result
<p>Srae Preah Village [Srae Preah Commune, Keo Seima District]</p> <p>Data: Field Visit</p>	<p>PLUP mapping commenced in 2006 with NGO support. Village land committees organised and trained. PLUP activities suspended due to difficulties in engaging both villagers and local officials. NGO support seems not to have been sufficient to deal with land issues in close proximity to Keo Seima town.</p>	<p>None</p>	<p>PLUP mapping seems to have crystallised local conflicts over land use. Some villagers want PLUP as a means to protect land and forest for the future. Others (including local authorities) oppose the PLUP process as they see benefit from continued dealings in land.</p>
Ratanakiri			
<p>Krola Village [Poey Commune, O Chhum District]</p> <p>Data: Field Visit, Fox (2008), Prom et al. (2005).</p>	<p>Land-use mapping of communal lands emerged following a gradual process of engagement around land management and livelihoods. A community request led to NGO supported land-use sketch mapping and detailed land-use regulations in 1998. A scale PLUP map was finalised in 2006. A request for recognition as a legal entity is presently with the Ministry of Interior.</p>	<p>Provincial Governor signed a Commune Deika in 2007 recognising the PLUP and NRM committee. Legal entity recognition - pending.</p>	<p>Land tenure and land use stable. No land sales. Villagers wish to apply for communal title on the basis of PLUP maps and traditional management structures recognised as part of legal entity registration. Village NRM committee meets regularly with the community and sees itself as accountable to the community. The community and land management committee has received several years of NGO support in natural resources management & livelihood issues.</p>
<p>Leun Kreaeng Village [O Chum Commune, O Chum District]</p> <p>Data: Field Visit</p>	<p>One of the three original pilot communal land titling villages, with long term (since 1998) NRM support from the UNDP/Seila Programme. PLUP activities in 2004 followed a 22-step process over two years. Village is now recognised as a legal entity. Villagers feel insecure because land titling has not been finished.</p>	<p>PLUP, Provincial level (2004). Legal entity - National recognition (2008).</p>	<p>Villagers said many villages and government officials have come to learn from them about managing land and resolving conflicts. Map has been used in negotiations over boundaries with neighbouring villages. High levels of community solidarity with consensus to keep their land to meet their basic needs.</p>
<p>La-En Village [Teun Commune, Kon Mom District]</p> <p>Data: Field Visit (see also Table 7)</p>	<p>Another of the three pilot communal land titling villages. Moderate levels of NGO support and community engagement. Land and Community Forestry committees have been established. Along with the other two pilots, land titling activities have been progressing slowly since 2002.</p>	<p>PLUP, Provincial level (2004). Legal entity - National recognition (2008).</p>	<p>In 2002 around 60 outsiders had bought land but since then land selling has accelerated and much of the fertile red soil area in the village has been sold. Sales continued despite provincial level approval of PLUP map. There are indications sales have now reduced. The 2002 land use map now needs to be updated prior to titling. Authorities state that remaining community land will be titled but land sold will not.</p>

Village	Process	Signed off (Level)	Result
<p>Karteng Village [La Bang Pi Commune, Lom Phat District]</p> <p>Data: Field Visit</p>	<p>PLUP process for indigenous communities was followed. A district PLUP team was trained, which then trained commune and village NRM committee members. NRM committee and villagers carried out internal village mapping for one week. After 2.5 years the PLUP process was stopped due to the change of emphasis to CLUP. There is therefore no recognition of the PLUP map.</p>	<p>None</p>	<p>One committee member said: "A land use map without recognition is nonsense, like blank paper, and people don't respect it." Villagers face mining of an important hill/spirit forest that lies above their irrigation reservoir. Villagers were not consulted, don't know anything about the company and are prevented from entering the area. Villagers feel official recognition of their map and boundaries would help them deal with these issues.</p>
<p>Le Khun Village [Ke Chong Commune, Bokeo District]</p> <p>Data: Fox (2008)</p>	<p>Commune level 'Fast PLUP' taking just two weeks, was completed in 2003. Little participation from villagers. PLUP map based largely on information gathered from a former village chief. PLUP map lacks detail and shows only a general categorisation of land. When PLUP was done land deals were already underway in neighbouring villages – a problem not addressed in the PLUP process. PLUP done without follow up or ongoing support.</p>	<p>Quick-step PLUP recognised by the Provincial Governor (2003).</p>	<p>The commune PLUP map failed to achieve consensus on village, and even commune boundaries, and exacerbated inter village/commune disputes. Despite concerted community efforts the village chief reported in Oct 09 that around 40% of the village land has been sold. Community members have not been able to block the sales. There has since been a renewed effort to reach agreement with all families not to sell land. Local NGOs are seeking to create community dialogue to try and halt further land sales.</p>
<p>Tuy Village [Tingchak Commune, Bokeo District]</p> <p>Data: Klot (2005), Fox (2008)</p>	<p>Slow PLUP conducted by the CBNRM project starting in 2000. However, only 15 days of actual field mapping meant there was little time for broad community participation. GIS map completed in 2002. Community members claim that they were shown the final map but were never provided a copy. Little if any follow up. Neighbouring villages were invited to participate, but dispute the mapped boundaries and claim lands within the mapped area.</p>	<p>Provincial level recognition (2003).</p>	<p>Disputes over land sales from 1999 were the cause of further land sales both during the PLUP activities and after. In the PLUP map large areas of land are defined as private land holdings, but indications are that this area represents only a portion of the total area that has been alienated. However, villagers also report some success in using their map to defend against land clearing and further settlement. Local NGOs have also been trying to develop a village No Sales Agreement, with some in the village not respecting this. In 2005 the village split in two due to disputes over land sales and logging.</p>

Discussion: From the above we observe that mapping associated with land use planning processes has had mixed results. Three notable examples of mapping/land use planning contributing to a consolidation of tenure are Krola, Andong Krolung and Leun Kreaeng Villages. The hallmarks of these more successful processes appear to be: (a) effective, long term NGO support for community building and livelihoods development (of which mapping was just one part); (b) high pre-intervention levels of community solidarity; (c) processes that were designed with a view to engagement with and recognition by relevant sub-national authorities; and (d) low to moderate pre-intervention levels of outside pressure on land and forest resources (due to remoteness in the case of Krola and FA/NGO supported forest protection in the case of Andong Kralong). At a national workshop to feedback the results of this mapping research a representative from Leun Kreaeng said that people felt more confident because they have their map, regulations, knowledge of maps and good village leaders.

PLUP has been weakest in more accessible villages with high levels of in-migration, rapidly increasing land values and/or government promotion of intensive agriculture (whether through land concessions, informal grants or acquiescence), factors one encounters in an increasing number of indigenous villages. PLUP mapping has often been conducted as a one-off activity that can be quickly completed and handed over to community representatives. In such circumstances PLUP mapping may stall due to opposition from influential villagers and/or local authorities with interests in land transactions. Even if completed, it is little understood or used at the local level.

PLUPs approved at the provincial level have not prevented sales of or grants over indigenous community lands. Villages and communes mapped as part of the quick-step PLUP process and approved by the Ratanakiri Provincial Governor have since been allocated as economic concessions by national level Ministries. For example, parts of Phnom Kok Commune in Vernsai District have been allocated to a Vietnamese company to grow rubber despite a quick-step PLUP approved for this commune in 2003. The community and NRM committee feel powerless as the FA and district authorities have convinced them that the government will approve this land as a concession to 'develop' the area and create local employment. The community has also been told that this area is classified as forest land and therefore state public land. Similar stories are found in Ratanakiri province in Kar Chok Village, Kok Commune, Borkeo District; Karleng Village, Karleng Commune, Lomphat District; and Kong Yu Village, Pate Commune, Oyadao District. Kok and Karleng Communes are being impacted by gem mining. A quick-step PLUP map was approved by the Ratanakiri Provincial Governor in Kok Commune in 2003. Parts of Karleng Village were designated as a protected site for eco-tourism in PLUP activities. A quick-step PLUP was approved in Pate Commune also in 2003, but this has not prevented the clearing of forest land in Kong Yu Village for a rubber plantation.

The use of approved maps to defend community forests and land has therefore had mixed results. In La En Village, for example, land deals and deforestation commenced prior to the PLUP process and continued at an accelerated rate. Soon after the PLUP map and regulations were completed, the community felt that the map was useful for protecting against land and forest loss. The NRM committee tried to implement the regulations and map, and they stopped logging, confiscated equipment and fined loggers. The money from fines was shared amongst the community. However, the effectiveness of this depended on the level of recognition from outsiders. Now outsiders don't respect the village regulations, saying that villagers have no right to do this any more - they can only inform the FA or district authorities. The community feels that the rights bestowed by the PLUP are not strong, noting that even with maps and regulations they cannot stop these activities. They say the military and police are powerful and are working for people higher up to prevent communities from stopping their forest cutting.

Similarly in Tuy Village, PLUP mapping was instigated in a community already experiencing land alienation. Villagers say land selling began after officials intimidated villagers to sell 100 hectares of their land to a businessman in 1999. These conflicts were not addressed in the PLUP

Mapping for community forestry/protected area management

Many attempts have been made by communities and NGOs throughout the country to engage with the Forest Administration (FA) to gain recognition for community rights to manage forest areas. This process, outlined in the 2003 Community Forestry Sub-decree, involves producing a map and reaching agreement on the size of the community forest (CF) area, establishing a community forestry committee and developing by-laws and community forest management plans and regulations.³

Table 2: Selection of villages surveyed where CF mapping was conducted

Village	Process	Signed off (Level)	Result
Mondolkiri			
Pou Lek, Pou Chop and Pou Treng Villages [Dak Dam Commune, O Reang District] Data: Field Visit	CF mapping was initiated after PLUP activities were stopped in 2003 (see below). CF committees established. CF claims of approx. 1000 ha per village are being identified and mapped following FA guidelines and consultations.	None	Villagers have a greater awareness of maps and map making processes. PLUP mapping had little impact, but villagers would still like to pursue mapping as they see maps (particularly if they are officially recognised) as offering greater security and the ability to resolve conflicts.
Kompong Thom			
Smoanh Village [Panh Nheum Commune, Prasat Balang District] Data: Field Visit	Before mapping, a CF committee was recognised by a Commune Dieka. Mapping was done quickly and villagers have difficulty reading the map. The CF area was demarcated with 60 concrete posts but neighbours destroyed many of these. The FA wanted the village to choose an area far from the village for CF, but villagers did not agree.	None	The CF map is not recognised officially as cooperation between the NGO and FA was not good. The FA asked who did the map. Also there was no response by the district FA to a boundary dispute sent in by the villagers.

Discussion: The CF mapping process is aimed exclusively at achieving recognition of an area of a community forest. NGOs working with the communities we visited understood that a maximum of 1,000 hectares per village was allowed.

The CF mapping exercises do not attempt to address broader land tenure security issues. Indeed, in one case (the Dak Dam Village) the CF mapping was undertaken specifically because the broader land tenure situation in the area was considered (by the supporting NGO) to be too fractured and contentious for PLUP mapping (due to existing sales and concessions in the area). CF mapping may be a useful approach to securing a remaining common pool resource where broader approaches to tenure security are not possible. The CF process is highly dependent on following the requirements of an outside agency, however, and it is of note that none of

3 A representative from the Regional Community Forestry Training Centre (RECOFT) mentioned in the national feedback workshop that they will be assisting increasing numbers of communities to map their forest areas and get their community forests recognised by the FA over the next few years.

the villages visited had achieved final recognition of their CF from the FA.⁴ Nevertheless, CF mapping was perceived as a positive step by those involved in it. Some villagers recounted the experience of not having a map and being confronted by outsiders who base their claims on maps. As one of the members of the Dak Dam Community Forestry Committee explained: “We can’t see the future but we have to do what we can now or we will lose everything.” Following the earlier discussion of mapping as a contest, mapping is seen as a concrete step that helps the community engage in the contest over claims.

Villagers see a problem in their existing undefined boundaries. Maps are seen as a way of formalising these. “We have all this knowledge in our heads,” the same Dak Dam CF member explained, “but without a map nobody believes us. Without a map it’s hard to communicate our problems to others. If we had a map we could show this to the government. If they were allowed 100 m and they took 200 m we could show this. If we had a map it would be easier to resolve land disputes. The map would stop us from going on others’ land and others from taking ours.”

Given what we know about the experience of PLUP mapping in indigenous villages, one suspects that these statements are optimistic. Still there is no doubt that villagers are in search of new ways to deal with L&NRM challenges, and that mapping is seen as a potential tool for doing this.

Mapping as part of the ‘legal entity’ registration process

Following the issuance of the Draft Sub-Decree on Procedures of Registration of Indigenous Communal Land in Cambodia, the registration of indigenous communities as legal entities became a prerequisite to the recognition of land rights under the Land Law (2001). Some NGOs (in collaboration with the MoI) therefore have been supporting communities to become legally recognised entities capable of owning land communally. Three pilot land titling villages have been recognised to date, with several others either completing the required steps or being in process. In each of the three pilot villages (and also in Krola Village) legal entity registration followed detailed PLUP mapping. Many of the villages wishing to register as legal entities have not completed PLUP maps, however. In these cases it has become common practice for supporting NGOs to assist villagers in preparing a map of village boundaries and/or what they claim as their traditional territory.

Table 3: Selection of villages surveyed where ‘legal entity’ mapping was conducted

Village	Process	Signed off (Level)	Result
Kratie			
Knarch Village [Thmei Commune, Kratie District] Data: Field Visit	Community mobilisation for mapping and registration supported by local NGO. Training provided on land tenure, sketch mapping, map reading and basic GPS. Village boundaries agreed with neighbouring villages in a sketch mapping process facilitated by the commune chief. GPS points taken and trees marked with paint. Village boundary map endorsed by commune chief following community advocacy.	Village and Commune	Villagers feel as though their map gives them the ability to struggle (<i>torsu</i>) for recognition of their lands. Two members (one woman) of a national indigenous network (IRAM) in this village have been instrumental in bringing ideas of advocacy and legal recognition back to their community. Villagers say it will be difficult for outsiders (even powerful people) to take their land if they have a recognised map (this has yet to be tested).

4 In 2007 FA approved 37 potential CF areas, and on November 19, 2008 signed a Prakas recognising 87 further potential CF sites (in Kg. Thom, Koh Kong, B. Meanchey, O. Meanchey and Kg. Leang-Kg. Chhnang) totaling 126,917 ha. (RECOFTC press release, 2/12/08).

Village	Process	Signed off (Level)	Result
Treab Village [Tmei Commune, Kratie District] Data: Field Visit	A map for community legal entity registration has been prepared after a study tour to Mondolkiri. Mapping was carried out quickly to attach to the application. When taking GPS points they also painted on trees around the village boundary. A scale map was produced by the NGO and Kratie Department of Land Management. Capacity/knowledge of maps and their use is limited.	No recognition from local authorities.	Mapping activities have built solidarity and capacity in preparing complaints and resolving conflicts. Villagers worry that maps won't be able to help protect their lands as much as they hoped. During the mapping some land speculators tried to disrupt the process and asked the community why it was important. The committee explained the usefulness of mapping. Some village boundary markers have been destroyed.
Preah Vihear			
Perk Village [Put Trea Commune, Chey Sen District] Data: Field Visit	Mapping was done by community members with some training from provincial departments. NGO and government staff were not technically trained and so could not effectively train the villagers. The map delineates the area for which the community wishes to apply for communal land title. It was done quickly, so villagers/committee members cannot read it well. Village boundaries were discussed with neighbouring villages but not resolved. Villagers want to learn about mapping and using the map for advocacy.	No recognition from local authorities.	Recognition of the map from district and provincial authorities is limited due to limited detail on the map (the villagers think). Given the limited time in making the map, villagers were unsure how they could use it. Some in the village did not want to participate, but mapping has assisted in changing villagers' and commune authorities' attitudes to land selling (see Table 7). Mapping has also assisted with resource management and for comparing the available land area to population growth. Villagers fear they will not be able to defend their lands in the future due to talk of concessions in their area.
Other			
	See also: Krola, La-En and Leun Kreaeng Villages (Ratanakiri) and Andong Krolung Village (Mondolkiri)		

Discussion: The process for establishing legal entities in order to hold communal title has not yet been legally defined, though the MoI is in the process of preparing guidelines on this issue. Based on the experience of the three pilot villages, however, the focus of this process will be on drafting of by-laws, which will in turn establish a management structure for the community (Andersen et al. 2008). Mapping does not figure in this process.

According to NGOs working on this issue, villages considering an application for collective title are being assisted with mapping (a) in order to show that they meet the objective criteria for recognition as an indigenous community related to their cultivation of "lands in their possession according to customary rules of collective use," and (b) as a way of gathering evidence of a claim based on "the factual situation as asserted by the communities in agreement with their neighbours," pursuant to the Land Law (Arts. 23 & 25).

Reflecting on their experience of this process, some villagers commented that mapping (of the community's boundary) was done quickly, so they did not learn much about maps and mapping. It was not clear to them what legal standing these basic boundary maps would have. There was also some confusion as to whether the maps were merely clarifying the village boundaries or whether they established the community's land claim. Negotiations of village/claim boundaries could not always be brought to a successful conclusion with neighbouring villages or the local authorities.

Nevertheless, many of the villagers involved found the process worthwhile. In Knarch, one of the more encouraging examples in this category, villagers expressed the belief that their map would make it more difficult for outsiders to take their land without negotiating. "Now we have evidence," explained one of the villagers, "because our map is recognised by organizations [*angkar*] and authorities [*anyathor*]." As one representative of the local NGO supporting the communities in Treab and Knarch explained, the process "helps people to be brave. Now they dare to complain. They call their network and the authorities are scared that VoA or RFA [radio stations] will come to interview them if they do something wrong." While this confidence had not been tested, the experience of negotiating with neighbouring villages and the commune council over recognition of the map appeared to have been empowering, at least in the short term.

Mapping as part of participatory community development processes

A key focus of this research was looking at mapping approaches that are most effective in securing tenure and access to natural resources. As mentioned in the literature review, a central tension exists between sketch mapping, which may facilitate greater community understanding and ownership, and more technical scale mapping, which is more legible to outsiders. At the heart of the discussion about mapping are the dual goals of empowering communities and gaining recognition from the government of their existence and their rights. To date efforts to make scale maps to support official recognition of indigenous lands have often fallen short of their objectives. This experience has led some communities/NGOs to engage in more participatory processes which, initially at least, focus on building community solidarity and consolidating local understanding of land uses and claims.

Table 4: Villages surveyed where 'participatory community mapping' was conducted

Village	Process	Signed off (Level)	Result
Ratanakiri			
Krola Village [Poey Commune, O Chum District] Data: Field Visit, Fox (2008)	Krola was the first village in Ratanakiri to complete their land use plan in 1998. They wished to strengthen land security as a result of outside demands and internal population increase. Originally a sketch map was prepared, which has since been used to explain indigenous community land use to decision makers. This village has therefore been an important model for other villages. Village representatives have gained valuable advocacy experience.	Land use plan now recognised by the provincial level. National legal entity registration pending.	Krola has been able to manage land use developments over time, due in part to long term follow up support. They use their map to show outsiders that they have no free land for sale or for concession companies. This village has now been added as a fourth national pilot for indigenous land titling. Even with a map and regulations, however, they are not sure they can stop future land or forest concession companies.

Village	Process	Signed off (Level)	Result
Darn Village [Ke Chung Commune, Borkeo District] Data: Field Visit	An NGO has been applying the Participatory Indigenous Community Appraisal (PICA) sketch mapping process. This tries to encourage the involvement of people by drawing on their knowledge of natural resources, conflicts, etc. Committee members have been selected and trained.	Recognised as a quick-step PLUP by the provincial authorities in 2003.	Villagers said the sketch map helps to define the village boundary, and can help draw attention to the need to protect the village land, culture and traditional management (see also Table 5).

Discussion: The drawing of the map in Darn Village combined specific information from different groups in the village - elders, women, youth, etc. The importance of involving elders and women in mapping processes was stressed by participants in regional feedback workshops. Sketch mapping helps to nullify the problem of illiteracy among women and elders in many indigenous villages, allowing these groups to contribute important information. Women's groups in these feedback workshops said they preferred to read sketch maps rather than scale maps, as they don't have a lot of time to regularly join in mapping activities and therefore cannot easily read what is written on technical maps. In this way sketch maps have been found to be a good tool to allow women to present issues and speak out about them.

Community representatives in several villages said they used their sketch maps for internal discussions. However, they felt that the authorities would only accept technically accurate maps, so they need a scale map for presenting to outsiders. Villagers consistently said they wanted to have their claims to land recognised by government authorities, and requested assistance in making maps that authorities would accept. For example, women from Kampong Cham and Kompong Thom Provinces who participated in the regional feedback workshops stressed that if they had official approval of their villages' maps they would feel able to claim their land when conflicts arise.

There appears to be a good argument for a two-step process, with sketch mapping used to facilitate wider community engagement (embedding mapping in the institutions of local social norms), and scale maps produced for the purposes of communicating with the outside world. This mirrors the processes followed in some of the more successful PLUP villages.

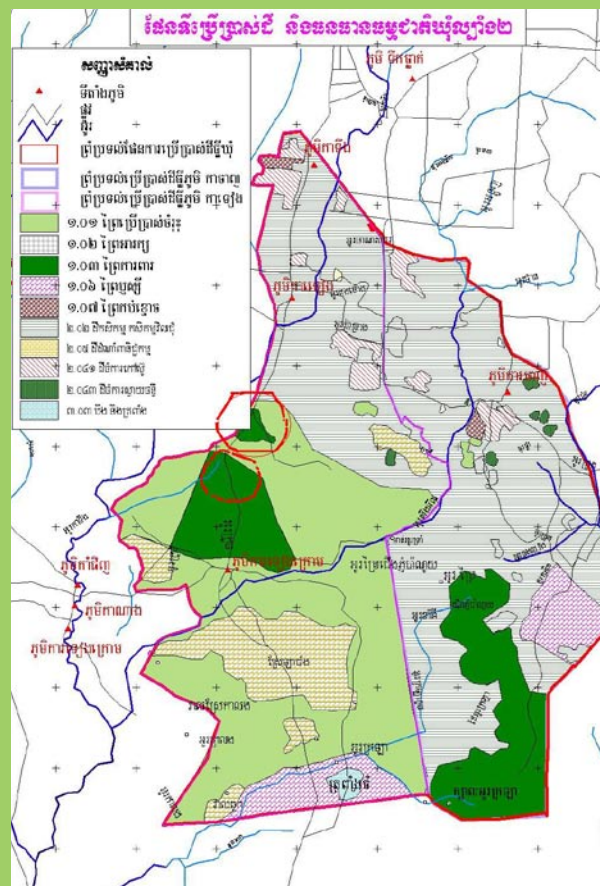
4 Mapping and Specific L&NRM Issues

In this section we attempt to categorise the main land and natural resource problems encountered by indigenous communities. Such typology is necessarily arbitrary; nevertheless it provides an overview of the major L&NRM problems encountered by indigenous peoples and the ways in which mapping has (or has not been) relevant in addressing them.

Village boundary disputes

According to an indigenous NGO GIS technician formerly with the Ratanakiri Department of Land Management, the major reason for people selling land is unclear boundaries. He explained that people don't feel that their tenure is secure, so they sell land before their neighbours do. This echoes the findings of Fox et al. (2008) in their study of land use change in three villages in Ratanakiri, who pointed out that those with weakest land claims are the first to sell their land.

NGOs and villagers often cite 'defining village boundaries' as one of the advantages of mapping. This is important because (a) government appointed village chiefs are often called on to witness land transactions, and it is assumed that only a village chief has the jurisdiction to witness a land sale within his/her own village, and (b) it is also assumed that villagers can only enter into contracts to sell their land within the administrative boundaries of their own village. While neither of these assumptions has a strong basis in formal law, their importance at the level of administrative convention and social norms means that defining village boundaries becomes an important part of many mapping exercises.



La Bang Pi Commune land use map, Ratanakiri Province. Photo: Mean Ratanak

Table 5: Overview of villages surveyed where village boundary issues were raised

Village	Mapping type	Description of Issue	Role of Mapping
Ratanakiri			
<p>Karteing Village [La Bang Pi Commune, Lom Phat District]</p> <p>Data: Field Visit</p>	<p>PLUP activities (see Table 1)</p>	<p>Some villages didn't accept the boundary agreed by neighbouring commune representatives. Karteing Village said their map is not yet officially recognised and so outsiders do not obey or respect the agreed boundary. They said this is the reason land encroachment occurs.</p>	<p>Villagers say recognition of the village boundary is urgent. They hope that a map signed by the neighbours and authorities will solve their problems. After that they will define with their neighbours where to put boundary posts, and this will give them some security.</p>
<p>Darn Village [Ke Chung Commune, Borkeo District]</p> <p>Data: Field Visit</p>	<p>Quick-step (commune level) PLUP process carried out by the Dept. of Environment and local authorities, completed in two weeks in 2003.</p>	<p>This community is resisting land selling pressure, while several of its neighbours are selling land. Disputes over boundaries between villages (which previously shared their land) led to the community selling 60 ha to make a buffer and clarify the boundary. District and commune authorities were involved in the commune boundary negotiations, but the quick-step PLUP process did not deal with the key issue of defining village boundaries.</p>	<p>PLUP was done rapidly and only the commune NRM committee received any training. The completed map was kept at the commune office. Villagers found it confusing as the village boundaries were not marked. Even though recognised, the PLUP was not successful in stopping land selling by neighbouring villages. Mapping can exacerbate disputes as villages that have been selling land seek to claim larger area, even if it is not their traditional land.</p>
Kratie			
<p>Treab Village [Tmei Commune, Kratie District]</p> <p>Data: Field Visit</p>	<p>Village boundary mapping for recognition as a legal entity (see Table 3)</p>	<p>This village is caught in conflict over the Kratie/ Mondolkiri provincial boundary. A company came and surveyed in the community's wildlife area, which they said was in Mondolkiri Province. Villagers felt that the company said this to stop villagers opposing them. The company said the community should accept money as they will lose this land anyway. The workers also shot a gun to intimidate villagers.</p>	<p>With their map, villagers explained their traditional village area is in Kratie Province. The company workers did not recognise the village's map, saying it was not official. The company workers presented their own map, but not all the villagers could read it. It also didn't show their village location and the missing information was confusing. Villagers want to identify where and how big their land is so they can protect it.</p>

Discussion: Table 5 illustrates problems that are widespread, emphasising an important need to clearly delineate village and commune boundaries. Clarifying boundaries would assist in reducing competition for land between villages and reduce the tenure insecurity this creates. Boundary delineation was one thing that PLUP was supposed to achieve, but the fact that it often didn't highlights the dangers of following steps and procedures that do not accommodate local situations and needs. This also highlights the need for neighbouring communities to resolve boundary issues as much as possible (and where necessary with mediation support) before government processes such as community forestry or communal land titling are initiated. Women's groups in the research feedback workshops felt that maps can assist in these important village boundary negotiations with their neighbours.

Engagements with concessionaires

Concessions are rights to use land or natural resources granted by the government. These include logging concessions for timber, economic land concessions for agribusiness and mining concessions. Our research indicates that concessions are most often approved without consulting affected communities, and that companies don't feel the need to explain anything to the communities.⁵



Loss of community land to concessions, Ratanakiri Province. Photo: Mean Ratanak

5 See Section 5 for discussion of the legal aspects of granting concessions. See PLUP section above for examples of previous attempts to establish claims being disregarded by higher levels when allocating concessions.

Table 6: Overview of villages surveyed where concessions were an issue

Village	Mapping type	Description of Issue	Role of Mapping
Ratanakiri			
<p>Koun Village [Kors Peak Commune, Vern Sai District]</p> <p>Data: Field Visit</p>	<p>Community forestry activities have been underway since 2003. Mapping activities were stalled for two or more years and some data was lost.</p>	<p>Before the arrival of a land concession this community fought logging concessions. The community agreed to give 10 ha to a cassava company but the company cleared 1,000 ha. The authorities say the land belongs to the company. A high-level official wants to change land use boundaries agreed upon during a PLUP process.</p>	<p>Villagers lacked a scale map to negotiate with the company. They didn't use their sketch map because they thought it can't be used with outsiders for negotiation. The community says they need a scale map. They were also unable to read the company's map and could not read the agreement they signed with the company.</p>
Kampong Thom			
<p>Smoanh Village [Panh Nheum Commune, Prasat Balang District]</p> <p>Data: Field Visit</p>	<p>Two types of maps were made - a village boundary map (trees were also marked) and a map for community forestry (see Table 2). Both mapping activities were done quickly.</p>	<p>Natural resources have been depleted by a Chinese company (growing eucalyptus for paper). Neighbouring villages are also encroaching on the village's forest and land to extend their paddy area, and they are also claiming and clearing forest land so they can sell it to the Chinese company.</p>	<p>Villagers found that maps can build their capacity to solve problems. However, the attitude of neighbouring villages and weak recognition from commune and district authorities make some villagers feel that mapping activities are not important. Complaints to the authorities have been largely ignored; the community's influence is weak. The maps also don't show important village features.</p>
Kampong Cham			
<p>Chongkum Timouy [Ton Lung Commune, Memut District]</p> <p>Data: Field Visit</p>	<p>A quick mapping process of the village boundary was conducted as part of an application for recognition as an indigenous legal entity.</p>	<p>Villagers report that between 2006 and 2008 at least 2,000 ha of Chongkum Timouy Village land and 3,000 ha of neighbouring Koh Tmor Village land were taken by two concession companies supported by powerful people. Land and forests have been completely cleared as far as 7 km from the Vietnam border.</p>	<p>Villagers say they have tried everything to get their land back including mass protest in the capital, petitioning the President of the National Assembly and the Ministry of Land Management. Villagers began legal entity registration and mapping to gain some recognition and authority. However, district authorities have not accepted their request so far.</p>

Village	Mapping type	Description of Issue	Role of Mapping
Preah Vihear			
Bongkeun Phol Village [Rom Tom Commune, Roveang District] Data: Field Visit	Simple scale map of the village boundary and trees marked (some trees had their bark re-removed). Previously CF mapping was supported by an NGO. This was stopped due to lack of funding.	A mining company used chemicals and acid, polluting the village's water source and killing some of their cattle. Villagers carried out patrols and tried to stop the company, but the company continued. Villagers sent a complaint to the commune and district, who only came and looked. They also sent a petition to the provincial FA, governor and ADHOC. The governor assigned a district working group to the problem.	The map has helped communities clarify where their boundary is. Mapping was done quickly and therefore villagers' knowledge is limited. Villagers feel their map is not complete and hesitate to use it in negotiations. When the committee presented their map to commune and district authorities, the map was ignored. The FA said that the earlier CF map is still not clear, so there is no approval.

Discussion: No matter how secure they feel or what successes communities have had in confronting concession companies, the fear of losing land and livelihoods to concessions was expressed in many communities. Communities say they want a map of their land to show to companies, because they often cannot read the map the company shows them. Often they say the maps the companies use are out of date and do not show key information such as the locations of their villages.⁶ Updating this information could and should be a key objective of a wider mapping support process, to make sure key community level information is on government databases and maps that are then used by concession companies. Some positive experiences of villagers who were able to confront companies highlight the potential of this mapping process. Krola villagers, for example, used their map to explain to companies that there was no free land in their village. Dak Dam villagers also mentioned a case of a concession company leaving a map of key village cultural resources with the villagers after they had finished their assessment. Villagers appreciated the respect shown to them and their culture.

Other land transactions

Land transactions are an issue in many indigenous villages. These are most often illegal as the sale of indigenous communal land is not permitted under the Land Law (2001). Nevertheless, as documented by a recent study on land transactions in three villages in Ratanakiri:

Most ethnic minority families have sold land but they were reluctant to tell their community or outsiders because they were frightened of being fined as determined by the community rules. According to the study..., only 37% of [landholders] admitted that they sold land. The main reasons that they sold land were: lack of food, degraded soil fertility, indebtedness, buying a motorbike and acquiring other assets (Pel, et al. 2008: 172).

While we would suggest that Pel et al. underemphasise the dynamics of disempowerment and tenure insecurity that underlie all of these transactions, their study is important in documenting the complex layering of small scale local dealings (administrative transactions, grants, land clearing, inheritance, gifts, sales, renting, sharecropping, etc.) that characterise the land market in upland areas. The study also documents well the ambiguous role that local authorities play in brokering, witnessing and thus more or less explicitly endorsing land transactions of dubious legality.

6 Out of date maps have also been a problem for forest demarcation, as for example in Preah Vihear, where the 2002 forest cover maps used by the FA do not include large towns and villages (WCS et al. 2008).

Table 7: Overview of villages surveyed where land sales were an issue

Village	Mapping type	Description of Issue	Role of Mapping
Ratanakiri			
La-Enn Village [Teun Commune, Kon Mom District] Data: Field Visit	PLUP (see Table 1)	Because of the availability of fertile land, La En Village has been under buying pressure since the late 1990s. Land has been acquired by local officials, neighbouring villages and then migrants. Land buying pressures have caused divisions in the community. As a result of land selling, villagers have been clearing forest areas that have led to a dispute with the FA.	In the beginning the community found the map was useful to protect their land and forest. But they found the effectiveness of this depended on the level of recognition from outsiders. The map has not been effective in stopping land selling. Outsiders don't respect their regulations.
Preah Vihear			
Perk Village [Put Trea Commune, Chey Sen District] Data: Field Visit	Village boundary mapping for recognition as a legal entity. (see Table 3)	Some villagers act as land brokers and have tried to get the community to stop the mapping process. They have also tried to stop the community's organising for communal land ownership.	Once the map was done, those who had sold land stopped selling and got involved in mapping activities. The map is displayed at the commune office and the community meeting house and this has spread awareness. The commune chief also stopped signing off on land transactions. Land grabbing is also reduced.

Discussion: Fraud and duress are common in land dealings, and tenure insecurity is a universal characteristic of the vendors. Nevertheless, contracts of sale are drawn up and in many cases witnessed by local authorities. Invariably conflicts arise as: (a) buyers expand the area beyond what the sellers understood they had sold, (b) villagers renege on sales, claiming fraud or duress, or (c) members of the village (or neighbouring villages) challenge the legitimacy of the sale. Representatives of a number of villages stated that one of the objectives of mapping was to stop the trade in land with outsiders and thus preserve land and natural resources for future generations.

Several examples were found in this study where this sort of solidarity was maintained including Krola, Leun Kreaeng and Koun Villages, Ratanakiri Province; Andong Krolung Village, Mondolkiri Province; and Treab and Knarch Villages, Kratie Province. However, several other of the study villages demonstrated the difficulty in maintaining community cohesion in the face of outside pressures, resulting in the selling of their land. These included La En Village, Ratanakiri Province and Sre Preah and Dak Dam Villages, Mondolkiri Province.

5 Indigenous Minorities, Mapping and the Law

The objective of this section is to give an overview of the legal framework for mapping activities in relation to indigenous lands in Cambodia. It examines: (a) the regulatory processes that allow/require mapping, and (b) the processes where maps could be used as evidence of claims, both from legal and practical perspectives. It also summarises issues regarding the legal basis for PLUP/CLUP mapping. As an overview it does not attempt to provide a full description or analysis of any of the processes described. As the earlier discussion and the literature review point out, there is typically a significant lack of congruence among the complex pre-existing mosaic of rights, indigenous perceptions of patterns of forest use and the formal rights that are granted to them (Cronkelton et al. 2008). As such there is a significant gap between the emerging legal system and practice. A summary of progress in relation to the implementation of each legal process is captured under each section.

Traditional management and communal titling of indigenous community land

Land Law (2001); Sub-decree on the Procedures of Registration of Land of Indigenous Communities (June 2009)

Overview: Articles 23-28 of the Land Law provide for collective ownership of the lands of indigenous ethnic minorities. These provisions give rise to two important rights: (a) provisional right to “manage community and immovable property according to [their] traditional customs” (Art. 23), and (b) the right to have their collective property demarcated and registered in the Cadastre (Art. 25).

In June 2009 the RGC passed a sub-decree establishing the process for registering indigenous peoples’ claims for collective title. Key elements of the process include: (a) being recognised as an indigenous group, (b) registering as a legal entity, and (c) reaching an agreement on the boundaries of the claim with neighbours and local authorities. If (c) is not possible then a more complex process of state land mapping and dispute resolution is mandated.

Relevance for IPs’ Mapping: The provisional right to “manage community and immovable property according to [their] traditional customs” (Art. 23) rests on evidence as to what land is subject to traditional land management practices. Mapping and/or demarcation based on consultations with the community may be useful in this respect. If a community wishes to apply for registration of collective ownership, the easiest way to do this will be to present the cadastral authorities with an uncontested claim. A map that is recognised by neighbours and administrative authorities would form the basis of an uncontested claim (Art. 25). Alternatively communities may decide that it is strategic to map broader (ambit) claims with a view to keeping a larger area of land under contest.

Implementation Status: As discussed earlier, three pilot villages are currently going through the process of applying for collective title under the Land Law. In each of these cases a PLUP map was prepared prior to applying for title. As such, PLUP style mapping may be seen as an accepted part of the process of preparing an application for collective title.

The Sub-decree on the Procedures of Registration of Land of Indigenous Communities dictates that registration as a legal entity with the Ministry of Interior is a pre-requisite for a community to apply for collective title. Currently the Ministry of Interior expects to register around 16 communities by the end of 2010. The Ministry of Interior has identified a total of 139 villages in Mondolkiri and Ratanakiri that are likely to proceed down the track of registration. Similar exercises have not yet been conducted in other provinces. Based on current experience, these registration processes are likely to proceed slowly and with difficulty.

State land management processes

Under Sub-decrees on State Land Management (SD 118/2005), Economic Land Concessions (SD 146/2005) and Social Land Concessions (SD 19/2003)

Overview: These sub-decrees are grouped together because they each define procedures for the management of state land under the Land Law (2001). The overarching feature of each of these is the principle that government must register state land as state private land before it can be sold, leased, subject to land concession, etc.⁷ At a minimum this requires that the land in question be surveyed with the results posted publicly for 30 days prior to registration.⁸ Additional requirements for public consultation and windows for objection are required depending on the process being followed.

Relevance for IPs' Mapping: The requirements of the above regulations provide IPs with formal opportunities to have input into decisions relating to the allocation and usage of state lands in which they may have an interest. While opportunities for inputs into these processes have been limited to date, being able to refer to maps of their traditional lands may put IPs in a better position to influence land allocation decisions using these processes. With regard to the state land registration process it may be important to lobby for the recognition of indigenous claims on the state land map. At present there is concern that lands claimed by indigenous people will either be mapped as state public or state private land without reference to any possible indigenous claim.

Implementation Status: The extent of compliance with these regulations is unclear. State land is being formally registered in order to allow for donor supported social land concessions in Kampong Thom, Kratie and Kampong Cham Provinces. Compliance in other areas is patchy though pressure to enforce these rules may build over time. In any case, experience suggests that having a community or locally recognised map may not be particularly persuasive in dealings with government. This brings us back to the question of whether the costs of producing a map (particularly in terms of community engagement and associated opportunity costs) justify the benefits of having a map, and if so, then what sort of mapping makes the most sense.

Forest demarcation

Forest Law (2002); Sub-decree on Procedures for the Establishment, Classification and Registration of the Permanent Forest Estate (SD #53/2005); Circular #2 on Measures Against the Illegal Holding of State Land (February 2007)

Overview: The FA together with various sub-national authorities is currently taking measures to legally demarcate and register the boundaries of the permanent forest estate. The legal basis for this exercise is found in the Forest Law, Article 11, and the Sub-decree on Procedures for the Establishment, Classification and Registration of the Permanent Forest Estate (SD #53/2005).

Article 11 of the Forest Law provides that “in carrying out [forest demarcation] MAFF shall coordinate with local communities, concerned authorities and the MLMUPC in order to assist in the registration of the communal lands of indigenous peoples...” SD #53, on the other hand, is silent as to the issue of how to deal with IPs' communal lands. Thus the legal question of how to deal with the traditional agricultural land of IPs during the forest demarcation process is left unresolved (Andersen 2008).

Work on forest demarcation commenced at a practical level in 2007. The procedure being used by the FA is based on SD #53 and can be summarised as follows: (a) Forest boundaries are proposed on the basis of 2002 forest cover maps (1:50,000 scale); (b) Once the proposed forest boundaries have been identified on the forest cover map, the FA leads consultations

7 Land Law (2001), Art. 16-17; SD 118/2005, Art. 3(d); SD 146/2005, Art. 4.

8 SD 46/2002, Art. 11 & SD 48/2002, Art. 13; SD 118/2005, Art. 15(d).

with sub-national authorities and local people and organises for provisional demarcation using temporary poles (FA 2007); and (c) GIS coordinates taken for the temporary poles form the basis for the preparation of a scale map, which the FA posts at local commune (*sangkat*) offices. The map is posted with a note stating that if there is anyone who does not agree with the drafted boundary, they have the right to protest to the provincial committee on forest clearance or to the court within 90 days. If there is no protest, the drafted forest boundaries will be automatically regarded as legal forest estate boundaries (FA 2007).

Where objections are registered, these must be resolved (a) by a National Committee (Art. 5, SD #53), or failing this (b) by a decision of the Royal Government (Art. 7, SD #53). In the interim period the land must be preserved in its current status and “no institution or authority has the right to issue a letter of approval, certification or title on the conflicted permanent forest reserve area” (Art. 7, SD #53).

Parallel provisions for dispute resolution with regard to forest areas are provided under Circular #2. However, it is not clear from FA documentation to what extent these will be applied. Of particular relevance to IP issues, Circular #2 provides that the procedures for reclaiming state land will not be implemented with regard to land over which indigenous peoples claim collective ownership. In such cases the state land registration process is to be applied before any decision on the status of the land is made. On this point Article 6.3 of the Circular states that land reclamation must be postponed “until the land is registered as state land (and not land of an indigenous community)” (Art. 6.3).

Relevance for IPs’ Mapping: The forest demarcation procedures offer the potential for having areas of land declared as being inside the permanent forest estate. This will have a number of consequences, both legal and practical. For example, areas within the permanent forest estate (a) have a level of legal protection from sale or use as an economic land concession; (b) are subject to traditional usage rights as set out in Article 40 of the Forest Law; (c) may be subject to restrictions on usage that would not apply with regard to non-forest areas; and (d) may be subject to forest concessions.

Registration as part of the permanent forest estate is not a legal barrier to the collective titling of land under the Land Law (Art. 26.1). The forest demarcation process could be seen as an opportunity for IPs to make claims for collective title. This might be strategic for two reasons: (a) because the FA would have a legal duty to assist in this process (Forest Law, Art. 11), and (b) if IPs objected to the registration of lands as part of the permanent forest estate, the land would be given protected status pending a Council of Ministers decision on the status of the land (SD #53, Art. 7). Donors supporting the FA could be approached on this point and asked to support a request that the FA develop specific procedures for engaging with indigenous communities and dealing with their claims during the forest demarcation process.

Implementation Status: The FA has commenced forest demarcation in a number of provinces including Mondolkiri, Preah Vihear and Kampot. Similar work is ongoing in collaboration with the Ministry of Environment with regard to protected areas. Both of these areas of work are being supported by government, NGOs and donors, and are likely to expand in the future. Results in areas with indigenous populations have not been documented.

Participatory land use planning and commune land use planning

PLUP mapping emerged as a strategy for village level engagement around land and natural resource issues in Cambodia in the mid 1990s. Since then it has been implemented in a range of communities by both government departments and NGOs, particularly in areas where there were existing or potential land conflicts and where access to natural resources was seen as contested.

PLUP has been criticised for existing in a legal vacuum with PLUP outputs “merely accumulating at the MLMUPC, with no clear follow up” (DANIDA/DFID 2007:19). This is despite significant effort in adapting the basic PLUP process to different land use and governance conditions. Following a national review of PLUP activities (Veer 2006), Commune Land Use Planning (CLUP) was developed as a response to three criticisms of PLUP: (a) that it was too labor intensive/small scale; (b) that it existed outside a formal legal framework; and (c) that with no clear follow up, the results of PLUP exercises were not being used in commune level or other higher level plans.

The legal basis for CLUP mapping rests on the Sub-decree on Commune Land Use Planning Procedure (ANK72/2009). Following the passage of this Sub-decree, the CLUP mapping process will be initiated by commune councils, with technical support provided by district land management working groups. Final sign-off will come from the provincial state land management committee. The process is designed to tie land use planning in with the broader commune level planning process, as well as provide a basis for discussions between citizens and various levels of government.



Villagers and committee members discuss topographical map, Ratanakiri Province. Photo: Mean Ratanak

Relevance for IPs' Mapping: CLUP is a method for mapping present and future land usages within a commune. It is not “an actual land grant or land allocation exercise”⁹ nor would it create legally binding land use zones. A draft MLMUPC manual on CLUP re-enforces this point by stating:

A Commune Land Use Plan consists of a present land use analysis and future land potential and constraints; it cannot resolve land tenure issues and land conflicts. Land tenure issues will be dealt with in separate processes (MLMUPC 2008:12).

9 Sub-decree on Commune Land Use Planning Procedure (ANK72/2009), Art. 5.

With regard to IPs' land the MLMUPC draft manual states that:

CLUP will help to identify communal land and include this in the overall planning process. Communal land will be shown on the present land use map (when approved) and on the future land use map (request for registration) (MLMUPC 2008:12).

While it is positive that the government envisages using the CLUP process to identify IPs' land, it is problematic that communally used lands are not to be included on present land-use maps prior to formal registration. This would appear to be in tension with the Land Law and the Forest Law, both of which acknowledge IPs' rights to traditional use prior to formal registration.

Commune and village boundary demarcation is identified as a significant issue in many areas where IPs are living, and it has been suggested that the CLUP process may assist in clarifying commune and village boundaries. According to Sub-decree #72, Article 2, a CLUP map "refers to a map which contains information on ... existing commune administrative locations". The CLUP process itself will not, however, determine commune boundaries, as explained in the draft CLUP manual:

Commune land use planning will be based on existing boundaries When problems exist with the commune boundary ..., the CLUP team can assist in commune boundary demarcation, or can identify areas for boundary revision and support the mapping as an input to an official demarcation process (mandate MOI) (MLMUPC 2008:10).

The issue of village boundaries is not taken up in either the CLUP Sub-decree or the manual. Recently two communes per province have undergone pilot administrative commune boundary delineation. This is facilitated by the provincial Department of Land with a boundary demarcation committee at the district and provincial levels. Training is provided by the Ministries of Land and Interior. In Ratanakiri the two communes chosen were Teun and O Chum, as the two pilot indigenous land titling villages are located in these communes. In the case of Teun Commune, delineation of the commune boundary also entails reaching agreement with Stung Treng Province over its provincial boundary with Ratanakiri.

Role of Existing and Future PLUP Maps: Based on the above, existing PLUP maps could be used as a source of information for CLUP maps. Alternatively, in the case of communes where CLUP precedes PLUP, there is no reason why a PLUP map could not be appended to an existing CLUP map, providing added layers of detail for a particular village. Indeed the draft CLUP manual envisages that:

During CLUP a commune can request a PLUP for a more detailed land use plan for a specific (smaller) area. These areas may include land conflicts or problems presented by land mines (MLMUPC 2008:9).

Implementation Status: The Sub-decree on Commune Land Use Planning is in place and implementation has commenced with support from the DANIDA/DFID/NZAID Natural Resource Management and Livelihood Program. Results in areas with indigenous populations have not been documented.

6 Conclusions, Reflections and Recommendations

Mapping activities have formed part of the efforts of indigenous communities, supported by NGOs/IOs and government departments, to claim and protect their lands and forests. As this report highlights, both from the literature review and from research conducted in 16 villages in six provinces, results of this work have been mixed. A map is unlikely to significantly alter the existing power imbalances that indigenous communities face in maintaining access to land and forests. However, the process of mapping and the existence of maps that are accepted by rights holders and stakeholders can work as catalysts for changing attitudes within communities and amongst local authorities. There are instances in which this process appears to have tipped the terms of negotiation or the weight of evidence slightly in favour of indigenous communities. Some general conclusions from this research therefore include:

1 Demand

Indigenous people are in search of ways to increase their power in dealing with the land and natural resource challenges that confront them, and mapping is seen as a potential tool for doing this. In most villages, especially in the early stages of mapping, expectations of the effectiveness of this tool to deal with land and forest issues are high. Villagers explain that they hope that mapping will serve a range of purposes, including stopping land encroachment; protecting village resources; resolving conflicts; reaching agreement, particularly over village boundaries; raising awareness; strengthening internal management and planning of land uses; presenting the village situation and claims to outsiders; achieving recognition of those claims; securing livelihoods; and maintaining culture, traditions and community solidarity. Despite the demonstrated insufficiency of mapping as a broad solution to indigenous tenure security issues, there is ongoing demand from indigenous communities for support in mapping their lands. In one of the research villages - Karteing in Ratanakiri Province - NRM committee members said that while in the past they could live without a map, this is not possible now, as they could lose all their resources and would not have sufficient land for agriculture. Because of this demand, there is a danger that maps could be seen as the one solution to resolve many problems.

NGO workers have largely supported indigenous communities' desires to use maps to help recognise ownership and usage rights. However, they also stressed other uses of maps. NGO representatives saw maps as tools for participation and commitment, tools to build interest, self confidence and community knowledge. They felt that maps were important for managing and protecting resources, overseeing village development activities, and understanding land use and land titling. NGOs also stressed the importance of the use of maps in presentations, village meetings and workshops for purposes including: (a) advocacy; (b) demonstrating linkages between culture and village natural resource use; (c) presenting negative impacts of selling land; and (d) showing what land and forest area remains in community control. The importance of maps and map information for attaching to reports and as summaries of village information that can be easily stored and retrieved was also mentioned.

2 The best case scenario - maps made and used with effect

The strategic use of maps in defending community interests was found to be most effective in villages that combined: (a) effective, long-term NGO support in community building, livelihood development, awareness raising, etc.; (b) high pre-existing levels of community solidarity; (c) processes that were designed with a view to engagement with and recognition by relevant sub-national authorities; and (d) low to moderate pre-intervention levels of outside pressure on lands. In the best case scenario, mapping supported the development of community solidarity and competency around land issues. This, however, had occurred only in a minority of the villages studied.

While (a) and (c) are subject to relatively straightforward interventions, (b) and (d) are structural issues that reflect the increasingly perforated nature of indigenous communities. The difficult question of how to work on land issues in villages that have already seen high levels of fragmentation through in-migration and land alienation is largely unanswered by this study. However, women's groups in the regional feedback workshops described the solidarity that still persists in some villages, saying how women's and men's groups participate in patrolling their village boundaries, even if they don't know much about maps, don't have one, or have one that isn't recognised yet. They also said that in some villages all village members, women and men, participate in community mobilisation, natural resource management and advocacy.

3 The general case - mapping with disappointing results

By way of contrast, many of the mapping efforts encountered in this research were being led by LNGOs with limited capacity in dealing with land tenure and communal governance structures already in a state of crisis when mapping commenced. Alternatively, mapping was initiated by government departments or NGOs in a more or less rapid process with little community engagement, capacity building or follow up. In these cases mapping did not have the desired effect. Mapping exercises were often suspended before completion or the map was never delivered to communities. Completed maps were rarely used with effect. In the regional feedback workshops the importance of resolving land conflicts both during and after mapping activities was stressed to demonstrate the usefulness of maps. Without follow up, however, maps completed as recently as two or three years ago have become obsolete and there are no references made to them. In these circumstances mapping can be seen as a possible ingredient in a strategic mix of activities that need to be developed in response to the circumstances of a particular community and the resources available to support them.

4 NGO support is of inconsistent quality

A changing context means that an NGO may suddenly become involved in advocacy, mediation, land dispute resolution and mapping without the necessary capacity or resources. The NGOs are often working on a range of issues. The majority of the NGOs visited during this study fundamentally lack the capacity to undertake the mapping activities they end up getting involved in. This lack of capacity relates to technical, advocacy and community development aspects of their work. Participants in the regional workshops pointed out that NGO representatives talk about the importance of maps with communities, often knowing very little about maps themselves. NGO mapping staff are also invariably male and technical aspects are generally emphasised over community empowerment. NGOs said there was an ongoing need for training in mapping and in facilitating activities such as sketch mapping in villages.

Several of these NGOs have also had to deal with restrictive and intermittent funding. This in turn leads to activities not being completed, and a high turnover of technical staff due to lack of funds to pay adequate salaries. Limited resourcing means that if a particular individual leaves there is insufficient staff to carry on with the work effectively. Some villages mentioned this 'stop-start' support they received, and some NGO technicians mentioned the unsustainability of a lot of the mapping work. In addition, there is little learning occurring among NGOs working on indigenous land tenure issues. Much could be done to enhance the work of NGOs in this field by providing more secure funding arrangements, ongoing learning opportunities and exchanges, and technical backstopping. At the same time, due to the often technical nature of mapping work (as discussed in an earlier part of this report), there is an issue about how much NGOs lead communities and how much communities feel they can direct the NGOs.

5 Communities lack the confidence and capacity to effectively use their maps

Given the problems of limited NGO support and community understanding, indigenous communities are not receiving focused support, nor do they have the confidence they require to reinforce their claims as outlined on a map. Community representatives in the regional

feedback workshops again stressed that many of them find mapping and land protection to be complex issues involving difficult tasks. Often there is limited support from the outside, and even when they do have maps they do not feel that their land and forests are secure. However, an NGO representative at the national workshop commented that even displaying maps publicly in the village is good to spread information to outsiders.

There were several cases identified during this study where local authorities challenged a community's ability to make and understand the map they were presenting. This highlights the point that the effectiveness of maps also depends on the effectiveness of the community representatives to use the map. People also need to understand the law in order to have the confidence in making a complaint. One off mapping activities, often done rapidly, and lack of follow up support meant that communities were ill equipped to defend their interests with their maps. Clearly there is a trade off between producing a map (which as found in this study has often been a rapid process) and building community understanding. Fox (2002) suggests that it is community control and particularly ownership of the process that is key to successful community mapping (rather than community execution). Also, in poor and remote areas the "adoption of technologically complex [mapping] technologies could marginalise many of the targeted communities" (Fox et al. 2005:9).



Using Land Conflict and Land Use Maps in a presentation, Kampong Cham Province. Photo: Mean Ratanak

One key conclusion from this study is that communities need ongoing support after the mapping activities have been completed. Anau et al. (2001:1), in a study of community mapping in Kalimantan, Indonesia, found that "transferring technical map-making skills broadly through a community was less relevant to ... empowerment than skills in reading and making use of the map" and that "more emphasis [was] also needed on knowledge transfer that enables the development of strategies for using the map for working collaboratively with other stakeholders ...". In this context active non-violence was also suggested as a useful tool for communities to use in case of encroachment.

A further key issue limiting community self confidence in using maps was that most often there was only one small map in the community, and this was often in the house of the village or NRM committee chief. Community members do not regularly see their community's map, or have difficulty accessing it. Map literacy would be greatly improved, as in some villages studied, by having maps prominently displayed on signboards or in the village meeting house, where villagers are encouraged to read and understand them. Learning about maps can also be incorporated into village NFE classes. Posters that were prepared for the feedback workshops could form the basis for presenting village issues and the role of maps in resolving these. This underlines a key wish from the communities, as expressed during the research and the feedback workshops, to have maps as tools for communication with outsiders.

6 The involvement and understanding of village women is a particular challenge that needs to be addressed

During field interviews we found that women participate in mapping activities far less than men. Men have generally received mapping training and have been mainly involved in community mapping activities. This has resulted in a gap between men's and women's knowledge of maps. The women who participate in mapping work are generally elders, who are either assigned as NRM committee members or heads of women's groups. When attending discussions about mapping the women generally do not speak. Male elders are often the ones who have specialist knowledge of the more distant areas of the village forest and land, and are traditionally involved in negotiations with neighbouring communities regarding village boundaries. However, final decisions will often require the approval of the whole community.

Using indigenous female facilitators who speak the local language, even with limited knowledge of maps themselves, has been a good strategy to improve the participation and understanding of village women, and to increase the contribution of their ideas in the mapping process. An indigenous Tampuen woman who acted as a translator during the mapping and legal entity registration in both of the Ratanakiri pilot land titling villages (La'en and Leun Kreaeng) noted the difference that quality facilitation had made with women in Leun Kreaeng Village. More time spent in explaining to villagers and getting their ideas in Leun Kreaeng has meant that women were able to explain their village map and could participate in village discussions about their land more strongly than women from La'en. The translator felt that as a result of the good facilitation work, people in Leun Kreaeng had a better understanding of the issues and thought more long-term than did the people in La'en.

Forming separate women's and men's groups when conducting mapping activities has also been found to be a good way to gain women's specialist knowledge. Merging maps resulting from separate women's and men's groups can give a greater sense of community ownership and understanding of the map, and a better overview of the area and resources the community wishes to protect. As discussed earlier, women in the regional workshops also requested training in maps. They also wanted maps of their village to be officially approved.

7 Few avenues for communication between communities, NGOs and government authorities

Given the weight that communities place on getting government recognition of their lands, there are few avenues for communication among communities, their supporting NGOs and government authorities. Recalling that the best examples we found involved communities that were able to engage with government authorities, more efforts could be made to structure regular dialogue with relevant agencies. As outlined above, there is a host of ongoing processes that provide potential hooks for mapping activities, such as forest demarcation, CLUP, state land mapping, land titling and spatial planning. These need to be reviewed as they apply to individual communities. In addition to the community titling processes, more engagement with the FA over the forest demarcation process may be fruitful. There are also indications from

our fieldwork that villagers may be able to engage their commune councils with a view to getting local level recognition of their maps and claims. Finally, making sure that key community information is on government databases and land use maps, which are then used prior to the issuance of concessions, would be a crucial step forward.

8 No single solution...

It should be clear from the above that the authors do not believe that mapping is a 'silver bullet' that will solve IPs' land tenure issues. Indeed, we do not think that there is such a silver bullet. Keeping in mind the multiple layers of power relationships in which these villages exist, village land tenure strategies will need to tap into multiple sources of power (community solidarity, local administrative recognition, legal recognition as well as international public opinion). It is also of note that communities are impacted by issues such as land tenure, relationships with local government, external support, threats and community solidarity in very different ways. The inside-outside distinction is also increasingly blurred as local leaders broker relations with outsiders who may migrate to or acquire land in the village. Strategies to maximise land tenure need to be defined at the community level to respond to these factors.

9 ... but some general lessons to be learned

We can, however, make some generalisations from the experience of mapping to date. Firstly, in the absence of full legal recognition, most of the processes observed rely significantly on a community's capacity to use a map for advocacy purposes. This will only be achieved with (a) time intensive preparatory and community participation processes, and (b) follow up engagement, cross community networking and advocacy support. An indigenous mapping technician felt, for example, that study visits to land and resource conflict areas have helped villagers realise their dependence on their resources.

Other issues that need to be considered are simplifying scale maps so they are as easy to understand (for elders, women, youth, etc.) as sketch maps. Clearer symbols and the use of colours have been suggested to improve the understandability of scale maps. Other suggestions include printing large scale (Ao) maps for ease of reading. Some NGOs have experimented with 3D maps. However, preparation of 3D maps can be very resource intensive and as for all mapping processes observed, the key to the success of 3D mapping activities is the degree to which it is community driven. Department of Land Management staff in Ratanakiri Province mentioned that in order for people to be able to understand and use their 3D map, it is important they are involved in the process of preparing it.

Other follow up activities for which communities themselves have advocated are the physical demarcation of boundaries with concrete posts and signs. The success of this has been found to depend on the degree to which neighbouring communities are involved and agree with the demarcation. Other suggestions from the regional feedback workshops were to conduct extension workshops on mapping and resource protection; set up regular patrolling; build capacity in preparing petitions and complaints; issue a Provincial Dieka to define responsibilities of commune and district authorities on controlling land transactions, and display public notices about these controls; strengthen traditional land conflict resolution processes; strengthen advocacy networks; document and share successful examples and experiences; and assist communities to participate in public forums to communicate their situation. Participants also mentioned that maps can be used to follow on and analyse changes in the natural resources of a community.

This is not work that can be done quickly with broad coverage. Financial support for this work was a key request coming out of the feedback workshops. If donors are serious about supporting government and non-governmental organisations to secure indigenous peoples' access to land and natural resources, work at the community as well as the policy/advocacy levels will need to be resourced much more intensively.

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Annex 1 Methodology

To organise this work a team of three consultants was established and a list of organisations involved in mapping of IPs' land and forests in Cambodia was developed. This work was designed to build on previous assessments of mapping activities carried out by the NTFP Project and Seila/Department of Land Management in Ratanakiri Province in 2004. As part of updating/recapitulation of this earlier work, a list of all villages known to the consultants was made and the existing information about them was organised according to the following:

- Background to village and land tenure;
- Description of mapping process;
- Development of land tenure situation; and
- How the map was used.

This scoping exercise was added to thorough discussions with relevant NGO staff working in Ratanakiri, Mondolkiri and Preah Vihear Provinces. From this it was decided to select from 10-20 villages for further research that would reflect a cross section of mapping activities, organisations and target communities. Initially an attempt was made to select villages that had mapped their lands for at least six months or more. In some areas mapping activities were relatively new, however, and it was decided there was value in understanding the impact from mapping activities in areas where these had been newly introduced.

Given that two key motivations for mapping activities have been to build community participation and understanding, and to gain recognition for the communities' claims from government authorities, it was decided to select villages for further research based on these two criteria. Table 8 presents the villages in which research was carried out along with a subjective assessment of how the mapping activities in these villages conformed to the above criteria. A key motivation for mapping in several of the study villages was as part of processes to register as legal entities. In general though, villages selected for this study demonstrate a range of situations faced by indigenous communities throughout Cambodia. Research was conducted in total of 16 villages, in partnership with 10 NGOs working in six provinces. Relevant data was also collected from closely related reports about villages that were known to the consultants but were not visited for this research.

A Cambodian research consultant led the research process, accompanied at times by the international consultants and by representatives of the participating NGOs. A list of guiding questions for use in the participating villages and with their partner NGOs was developed based on the questions used for the mapping research carried out in 2004. This was tested in a visit to Knarch Village, Kratie Province by the three consultants and further modified (see below). As well as interviews and semi structured discussions, different kinds of maps were presented and discussed in the villages to assess the understandability and usefulness of these. Village walks to areas of conflict were also conducted.

Steps in the study process

The steps followed in the research process proper were:

- 1 Review of relevant literature, of both international and Cambodia specific community mapping experiences;
- 2 Make contact with relevant organisations and select study areas;
- 3 Site visits to villages to review mapping processes by the consultant team and participating organisations according to the guidelines developed;
- 4 Reporting, processing and summarising village research following a reporting framework;
- 5 Conduct legal analysis of the place of mapping in Cambodian laws and legal documents;
- 6 Summarise research information in a series of posters for further discussion and analysis during the regional stakeholder workshops;
- 7 Conduct two regional stakeholder workshops (involving participating villages, NGOs and local authorities to present preliminary results in Kratie and Kampong Cham Provinces);
- 8 Develop and implement a strategy for dissemination of the research results;
- 9 Conduct discussions to define an institutional base for ongoing support for mapping activities;
- 10 Report writing; and
- 11 Conduct national level workshop to present results and define next steps.

Next steps will include developing coordination between NGOs and participating communities for strengthening mapping/demarcation approaches and activities.

Table 8: Classification of villages (subjective)

Recognition	Low Community/Village or Commune Only	Medium District or Province	High National/Formal Legal
Participation			
No Map Villages with no experience of mapping	-	-	-
Low No participation or selected leaders only	-	-	-
Medium Participation of selected leaders and some follow up and capacity building	Koun, Bongkeun Phol and Treab Villages	Karteing Village	La-En Village
High Broad participation or representation	Darn, Perk, Smoanh, Chongkum Timouy, Srae Preah, Pou Lek, Pou Chop and Pou Treng Villages	Knarch Village	L'eun Kreaeng and Krola Villages

Table 9: List of cooperating NGO partners

Partner NGOs	Contact Person	Partner Communities
Ratanakiri Province		
Non Timber Forest Products Project (NTFP)	Vansak	Krola Village Koun Village
Development and Partnership in Action (DPA)	Klot Sarem and Nan Chrong	La-En Village
Indigenous Community Support Organisation (ICSO)	Sokun, Van Nai and Sokunthy	Darn Village
Seila/PLG Land Management Component	Chron Sombo and Mao Sareth	L'eurn Kreaeng Village Kartieng Village
Mondolkiri Province		
My Village	Nhean Sopho and Gnor Ra	Dark Dam (Pou Lek, Pou Chop, and Pou Treng Villages)
DPA	Tol and Eu Som Ol	Srae Preah Village
Kratie Province		
Cambodia Economic Development (CED)	Dara	Knarch Village Treab Village
Preah Vihear Province		
Organisation to Promote Kui Culture (OPKC)	Sao Sokol	Bonkuen Phol Village
Ponlok Khmer	Ang Cheat Lom	Perk Village
Kampong Thom Province		
Cambodia Indigenous People Development and Cooperation (CIDC)/OPKC	Sao Sokol	Smoanh Village
Kampong Cham Province		
New Vision	Rong San (villager)	Chongkum Timouy Village
Organisations interviewed		
WWF (Mondolkiri)	Ol KimSea Mail to: amy.maling@ wwfgreatermekong.org	-
Wildlife Conservation Society (interviewed)	Ashish John	-
South East Asia Development Program (SADP)	Peter Swift	-
Danida/Ministry of Interior (interviewed)	Chea Phalla	-

Mapping research guiding questions

The following questions were adapted from an earlier evaluation of mapping, which was done in 2004 with NTFP and the Ratanakiri GIS Unit.

For the Community

Research questions:

- 1 In what ways are community maps and land demarcation being used for establishing resource tenure security and for ensuring sustainable land use and livelihoods?**
- 2 How do community people use and understand maps after NGOs and government agencies have conducted mapping training in their village?**

Research sub questions:

- 1 Village land and forest situation analysis**
 - What are the changes in land and natural resource use in your village?
 - How does the community protect their natural resources?
 - Who in the village is consulted about mapping and delineating the land use areas and the traditional boundary?
- 2 Why do villagers want a map?**
 - Why and how do villagers think that maps are important and useful?
 - What do they hope a map will do for them? How will a map do this?
 - What were the original expectations of villagers when they began community mapping?
 - What is it that villagers expect that NGOs or government mapping agencies can do for them?
- 3 What has been achieved? (Have expectations been met or not?)**
 - Does the map help the villagers? How?
 - How are maps being used?
 - Does mapping help with land management, land and forest protection, etc.?
 - Does mapping help to build the capacity of the community to protect their rights? How?
 - Does mapping help to maintain culture, gain land security and resolve conflicts? How?
 - What do villagers think is the best kind of map to do this?
 - What examples are there where maps have assisted villagers?
- 4.1 How well are maps understood in the villages?**
 - What problems/difficulties have been encountered in understanding and using these maps?
 - Can you understand your village map (can the person understand the map when given some place names on the map)?
 - Has anyone ever explained the map of your village to you?
 - Have you ever had any mapping or map reading training?
 - If so, what do you remember from this training?

- Do you think it is important that you understand your village map?
- Have you ever been to a meeting where your village map was explained?
- In what ways do villagers think that mapping training has helped the community?
- What further mapping and map training do villagers want and need?
- Does using local languages improve understanding of mapping concepts?
- How many types of map do you know?
- Do you understand about scale maps?
- Do you understand about sketch maps?
- What do men, women, elders and young people think about scale and sketch maps?
- What is the easiest map to understand?

4.2 What different expectations are there with different kinds of mapping?

- What is the difference in expectations of sketch and scale mapping?
- What are the expectations of physical demarcation?
- What problems/difficulties have there been in making the community map - facilitation, training, etc?

5 Are men and women participating in mapping? Who and how?

- Did you participate in any way in the mapping activities that were conducted in your village?

6 Are men and women participating in using the map? Who and how?

7 Who owns the maps and associated spatial information produced during this land titling process?

- Where is your village map kept? Can you and other villagers see the map whenever you want to?

8 What type of maps have been the most effective and most easily understandable by villagers?

9 What suggestions for improvement do you have?

10 What impact on traditional management and on inter village dynamics does boundary delineation (mapping) cause?

11 What do you think should be mapped in your community: the whole traditional territory, the area the community wishes to request for a communal land title, area for a community forest, etc?

12 What is the wider environment of the village?

13 What networking and community dialogue exist?

14 Who should be involved in mapping and boundary delineation discussions?

15 What problems are caused by different land boundaries: community user/traditional or government administrative boundaries?

For NGOs and Government Departments

1 What does NGO/government agency staff hope/think they can do for villagers?

- What does NGO/government agency staff hope a map will do for villagers?

- How does NGO/government agency staff think mapping helps to build the capacity of the community to protect their rights?
 - Does NGO/government agency staff think that mapping helps to maintain culture, gain land security, resolve conflicts, etc?
 - How is NGO/government agency staff using maps in the village, with government, etc?
- 2 Do maps help you in your work?**
- How well does the NGO/government agency staff understand maps and mapping themselves (can the person understand the map when you give them some place names)?
 - Do you think it is important that you understand maps when working in the village? Why?
- 3 How well does the NGO/government agency staff facilitate mapping?**
- What is the process in which NGO/government agency staff facilitates (explains, builds capacity of villagers, etc.) mapping in the village?
 - Has anyone ever explained or trained NGO/government agency staff in community mapping, map reading and map using?
 - Has the mapping training helped NGO/government agency staff to build its capacity to facilitate mapping, promote the use of maps in the community to protect community rights, resolve conflicts, etc?
 - Who from NGO/government agency facilitates the sketch mapping and who facilitates the scale mapping?
 - Is NGO/government agency female staff involved in mapping activities? How?
 - With whom does NGO/government agency staff work when mapping in the village?
- 4 What does NGO/government agency staff think is the most effective and most easily understood kind of map? Why?**
- 5 What different expectations are there with different kinds of mapping?**
- What is the difference in expectations of sketch and scale mapping?
 - What are the expectations of physical demarcation?
- 6 What has been the impact of NGO/IO/government agency mapping activities?**
- What examples are there where maps have assisted villagers?
 - Have mapping activities had any impact in improving government policy and planning processes?
 - How are existing community mapping procedures being adapted for different uses, such as community strengthening, communal land titling, physical demarcation...?
- 7 How can the NGO/government agency better support villagers' mapping needs?**
- What further mapping and map training do villagers want and need?
 - What do communities need to help them link with staff who is producing the maps, to help them use and make maps?
 - What ideas do you have to better support villagers' mapping needs?
 - Are there any other forms of mapping or land demarcation that will better meet communities' needs and priorities?

Annex 2 Recommendations from workshop to review mapping activities (2004)¹⁰

1 Training for community members

- Before mapping, need to train the elders and other villagers so they understand.
- Trainees should include elders, NRM committee members, people who know about community user areas and their village boundaries, women and young people.
- Training should be translated into the local language.
- Literacy and numeracy training is needed for those who have to work with maps.
- Eight to ten focal people (NRM committee members and others) should be selected per village and these peoples' capacity should be built.
- Conduct training often. The CBNRM staff should train the focal people two to four times per year and this group should be assisted to practice often what they have learned.
- Develop more community level mapping trainers and local experts. Villagers should be used to train other villagers. Community mapping trainers were tried but government bureaucracy didn't allow it in the CBNRM project, so it was stopped.
- Courses in GIS use and map reading should be included in the school education curricula and NFE classes.

2 Making and using maps

- Use grids for more participatory calculations of areas rather than doing it with the computer. Villagers can calculate their village areas themselves by laying these grids over the map and counting up the squares.
- Other mapping methods could be tried like 3-dimensional maps. These would be easier for community people to read and understand, and to present to other people.

3 Map reading and understanding

- Improve the colouring of maps so it corresponds more with reality.
- On the maps there should be symbols (not words) (e.g. showing forests, houses, swidden areas).
- All landmarks need to be included on the maps, including small streams with their names.
- Put both the village sketch and scale map side by side in a prominent place so people can look at them together.
- Maps need to be big enough, and any writing on them needs to be easily readable by people with poor eyesight. Writing should be kept to the barest minimum.
- The final scale map should only have symbols without much writing.

4 Map storage and ownership

- Appropriate places for the map are the NRM committee members' houses, the commune resource centre, community information board and NFE library. The area should be sufficiently light for reading and maps should be covered by plastic.
- A large village land use map and rules and regulations information should be placed prominently on a notice board at the entrance to the village.
- Several copies need to be distributed in the village to avoid the problem of the map being in someone's house and not being accessible.

¹⁰ From Ironside and Soeng (2004)

5 Improving community NRM

- NRM committees should be assisted to disseminate information about their village rules and regulations in their own and in neighbouring villages.
- In certain cases facilitation by government staff and NGOs/IOs is required to mediate in some boundary disputes.
- Commune councils and village chiefs should be encouraged to control land selling in their management areas. Continued involvement in land selling and illegal logging activities should be grounds for dismissal from their positions and/or they should be forced to leave their village land and be denied membership in their village.
- Study tours should be conducted for commune councilors, village chiefs and NRM committee members to areas where communities have lost their land and forests.
- The development of rules and regulations should carefully cover the issue of land selling.



Using Land Use Maps in a presentation, Ratanakiri Province. Photo: Mean Ratanak

Annex 3 Summary of feedback workshops (2008)

On completion of the research three workshops (two regional and one national) were held with representatives of participating communities and NGOs, local authorities and other interested organisations. The results of the research were fed back, further clarification and updates were provided and follow up activities were discussed. Posters summarising mapping activities and information about the participating villages were also displayed during these workshops. The posters allowed for informal discussion and comparison of the different mapping approaches used, and the land and forest problems this mapping was intended to address.

Community representatives said that having a map can give communities a greater sense of ownership and assist to build solidarity. Even without a map, however, some communities advocate for their interests and patrol their lands and forests. A lack of knowledge and experience make it difficult for communities to explain the need to respect their maps and regulations to neighbours and outsiders.

NGO discussions stressed the need for maps for advocacy, and the fact that several communities do not have maps. Some NGO representatives felt that community ownership, solidarity and strength in communicating with the outside were more important in protecting land than official recognition of maps. In the regional workshops some NGOs said they do not clearly understand the different mapping processes for PLUP, CF and communal land titling.

Community and NGO representatives expressed some frustration at the lack of national level approval of the communities' maps, at times the lack of involvement of authorities in mapping, the lack of resources for mapping and in some cases the lack of interest in some communities where land selling is providing short term benefits.

Commune Council representatives said they have limited experience in mapping and have difficulty in understanding technical mapping words and how to use maps. Commune Councilors also lack financial support for mapping activities. They also said they are unable to stop some villagers from acting as land brokers who then accuse the Commune Councilors of approving these sales. Commune Council representatives also mentioned their lack of authority in making decisions about land and resources as they have to wait for authorisation from the provincial and district levels.

Suggestions for follow up activities from NGOs included the following: (a) build cooperation with authorities for mapping; (b) strengthen capacity to make and use maps; (c) conduct regular meetings in the villages for dissemination of activities; (d) invite commune and district authorities to village meetings and conduct workshops for dissemination to the authorities to encourage them to recognise the maps; (e) conduct regular cross visits and networking for information sharing and learning; and (f) support communities to patrol their village areas. Commune Councilors also recommended that authorities should participate in mapping activities and that they should encourage communities to use maps for delineation, resolving conflicts and preserving land and resources for the future. They also said that many maps need to be printed so communities can use them, and workshops should be conducted to disseminate land and natural resource laws. They requested refresher training in mapping, map reading and GPS use.