

Do communities need to be good mapmakers?

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Introduction

Participatory mapping has become a common and valuable tool used by nongovernmental organizations (NGOs), local governments and other organizations for enabling rural communities to directly record and communicate their boundaries, land uses and resources (Peluso 1995, Fox 1998, Alcorn 2001). Yet the appropriateness of the level and type of communities' participation in different mapping activities is rarely questioned. Concepts of broad or ad hoc community participation drawn from mapping of local features in participatory rural appraisal (Borrini Feyerabend 1997) are often being applied to mapping of more formal and precise features such as political boundaries. We believe a more targeted and strategic approach to participation might be warranted.

We report here on findings from the Center for International Forestry Research (CIFOR) in mapping villages' administrative boundaries in Malinau, East Kalimantan, Indonesia.² Our experience indicates that it may be more important to ensure that mappers are accountable to communities than to seek broad participation when mapping. Rather than creating mapping teams in each village, as is often common (Eghenter 2000), it may be more efficient to identify the most qualified individuals locally and give them intensive training to become specialists that work across villages. We found that transferring technical map-making skills broadly through a community were less relevant to CIFOR's strategic goals of empowerment than skills in reading and making use of the map. Where practitioners external to the community facilitate boundary mapping, more emphasis is also needed on knowledge transfer that enables the development of strategies for using the map for working collaboratively with other stakeholders operating in the region.

CIFOR, with assistance from NGOs Bioma and Konsortium Sistem Hutan Kerakyatan Kalimantan Timur (SHK - KalTim) - facilitated participatory mapping of village boundaries from 1998 to 2002 in 27 villages (*desa*) along the upper Malinau River as part of a larger project on conflict and collaboration among forest stakeholders (Anau et al. 2001). Communities were eager to conduct mapping, in part to secure their claims to compensation payments available from logging and mining companies. Policy reforms recognizing customary communities and their rights also increased local people's interests in making claims to ancestral forest lands.

CIFOR facilitated mapping

We based our approach to mapping on methods followed in Indonesia by the nongovernmental community (Momborg, Damus et al., 1994, Eghenter 2000, Flavelle 1996), which included the training of community teams in the recognition of map

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components, and the use of Geographic Positioning Systems (GPS) and compasses for surveying and map production. We then met with representatives of the 27 communities during a mapping training workshop organized in late 1999 to create an implementation plan. We also had the benefit of two years of preliminary studies and numerous community consultations to inform decisions and to have developed a relationship. Thus, in early 2000 we formed a mapping facilitation team composed of five community members and five CIFOR and Bioma members. The team worked closely with villages to facilitate general meetings about the mapping and form village groups of 5-12 individuals who the team trained over one to two weeks in the use of GPS, compasses, simple interpretation of LandSat imagery and general map reading fundamentals. At the end of seven months, twenty-one villages had mapped their boundaries. The other six were unable to reach agreement with neighbouring communities about their boundaries, and so could not proceed with the mapping.

Participation does not mean becoming a mapping expert

We had hoped that villagers could become self-sufficient in mapping, at least in collecting field data. We were surprised, however, at the considerable time required for training individuals, the need to repeat training, and the villagers' requests for the mapping facilitation team to continue assisting. We found that the core team needed to take an active, facilitating role in nearly all phases of the process. We were concerned that this compromised our goal of empowering communities.

However, as noted by Fox (*In press*), lack of community self-sufficiency in map production is common in many community mapping ventures and may be less important than the issue of who controls the maps in terms of its impact on empowering local communities. Communities may not have the time, interest or capacity to develop the requisite mapping skills. As in Malinau, they may prefer outsiders to play a strong facilitating role. *Practitioners should review with communities which aspects of mapping require community participation and which parts communities would rather delegate to others.* It may be simply impractical for communities to become mapping specialists and resources might be more effectively allocated elsewhere. Methods need to recognize the importance for communities to control the process (and product) and take responsibility for key decisions. In CIFOR's case, this meant that communities determined and negotiated their own boundaries, and re-checked and approved all maps, which were produced by the mapping facilitation team. This suggests a fundamental shift in the approach to grassroots mapping. Rather than villagers conducting mapping as part of a village-wide participatory rapid appraisal exercise, villagers delegate the task to credible specialists from their own community.

Towards better accountability

We were also disappointed by the low proportion of the community involved in decisions about mapping. General village meetings sometimes drew as little as twenty percent of the community, with women always underrepresented. There was a general lack of adequate representation and accountability of leaders to their constituencies. Internal conflict in the community was common where a few select village leaders conducted negotiations in non-transparent ways. In our four years of working in Malinau, we now recognize that this level of community participation is typical. It does however raise questions about the accountability of those involved in mapping to village members.

Rather than focus on enhancing community participation in the technical aspects of mapping, which requires skills that may be seldom used after the mapping activity, we feel that efforts to increase participation would have more long-term implications for empowerment if they focused on community governance and decision-making. *The mapping creates a concrete opportunity to review and stimulate awareness within the community about governance issues by raising questions about how community interests are represented in decisions.* By better understanding communities' internal accountability mechanisms, facilitators can also improve their own accountability to the community. Where problems are expected with representation, more time should be allocated to engaging a broader spectrum of people in the community directly.

Participation beyond the community

Participatory mapping can generate its own momentum that causes participants to overlook the need to involve other stakeholders beyond the "community". In the interest of empowerment, it is also common to work with the disadvantaged groups first by themselves, to enable them to be better prepared to face more powerful opponents. Yet, as we learned, not seeking more participation from other stakeholders has its costs.

In Malinau, most communities treated the maps as ends in themselves (despite efforts by CIFOR and local government to the contrary) without seeking formal legal status from government or cooperation from neighbors or logging companies. They then used the maps as evidence of their ownership and control over the territories. Conflicts between older and newer villages became entrenched because of the lack of a clear policy from government authorities. Newer villages that had received cessions of land from older villages insisted that these cessions should be recognized, while older villages attempted to have the cessions revoked. Boundary agreements turned out to be highly fluid as there was no authority to approve or enforce agreements. By December 2000 all villages requested CIFOR to make changes to their mapped boundaries.

The failure to adequately involve other parties in Malinau was partly due to timing. The mapping occurred during a period when the authority for determining criteria for boundaries, settling inter-village conflicts, approving boundaries and even defining the term village was in transition due to national decentralization legislation. At the village level, it was not sufficient for villages themselves to determine the framework to resolve this discord or for even an outside relatively neutral party such as CIFOR to play this role. Disagreements and changes of heart are inevitable, thus there is the need for *a supra-village institution with the legitimacy and authority to make, validate and enforce decisions is necessary.* We recognize now that a *firmer shared framework of criteria* for determining what constituted a village or a village's legitimate boundary would have helped to settle conflicts and prevent the fluidity of boundary revisions. As a new district, however, government officials were understandably busy with other matters, including developing their own policies about village boundaries.

We suspect that it may be common during major political reforms for such institutional frameworks to frequently lag behind the mapping needs of the communities. In these cases it may be more expedient to at least develop mutually agreed informal frameworks for guiding decisions and enforcing agreements.

Rethinking Participation

Our experience in Malinau made us more aware that we spent too much time on facilitating community participation in technical aspects and less on the more unwieldy aspects that ensured accountability and ownership by the necessary stakeholders. Furthermore there is a need to be careful about allowing success in the one to become a substitute for the other. The context in which mapping takes place is as important as the mapping. As much attention should be given to enabling communities to empower themselves in these contexts, as to the maps.

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Additional information about the technical aspects of the mapping can be found in Van Heist, M. 2000. [Participatory Mapping of Village Territories, Malinau, East Kalimantan, January-December 2000: Some lessons in 'Adaptive Use and Management of Geographic Data'](#)

A detailed report about the larger research project in which participatory mapping took place can be found in Technical Report to ITTO: Forest Science and Sustainability: the Bulungan Model Forest, 2002, which is available on CIFOR's web page <http://www.cifor.cgiar.org> or can be requested from n.sabarniati@cgiar.org at CIFOR.

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