



International Workshop

“Sharing knowledge on Participatory Mapping for Forest and Pasture Areas - Combining different mapping techniques to address policy challenges in the management and use of forest and pasture lands”

Tirana, 27th -31st May 2007

Background paper 1:

ILC and participatory mapping as a catalyst for empowerment

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1. Introduction

Participatory mapping is well established as a tool of development intervention. The mapping elements of Participatory Rural Appraisal have gained increasing prominence since the late 1980s, and have allowed for improved information exchange between community members and outsiders (researchers, NGOs, government, etc.) in the design and implementation of development projects.

Today, however, community-based mapping approaches are also becoming important tools for many land stakeholders and are no longer confined to exchanges of information for project design and implementation. Mapping can be a powerful tool for communities and for civil-society groups working in collaboration with communities. Mapping processes can be used to help secure access to land and natural resources, to facilitate the management of these resources and in support of community advocacy on land-related issues. In other

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words, mapping is increasingly playing a role in the empowerment of people and communities.

This paper seeks to give an overview of the different roles participatory and community mapping can play in helping communities improve their control over their land and natural resources. In particular, it reviews the lessons learnt by International Land Coalition (ILC) network members and partners in combining participatory mapping and spatial information technologies to improve secure land access and control for poor men and women. While this overview does not necessarily cover the full range of the mapping toolbox, it does seek to frame how technology-assisted community mapping is related to the broader goal of empowering rural people that is a central objective for many of ILC's partners. This paper thus seeks to show how such mapping can facilitate community empowerment, but likewise how it must be employed with care, being mindful of the risks for communities that such activities can entail.

The International Land Coalition (ILC)

The International Land Coalition is a global network of intergovernmental, governmental and civil-society organizations, and works to increase secure access to natural resources, especially land, by poor men and women. Its operational focus includes support to rural people's organizations and their NGO partners, in order to increase opportunities for poor men and women to participate in policy- and decision-making processes that affect their livelihoods.

Opportunities and lessons

As a short summary of the main points made in this paper, the following can be said. Mapping tenure relations not only provides spatial information about the landscape of natural resources, their use and ownership; it also maps the socio-political relationships underlying this landscape, in particular the institutional structures that govern natural resource use. Mapping is an exercise through which tacit knowledge, as embedded in people's spatial memory, is converted into explicit and externally-usable knowledge. Herein lies the usefulness of mapping as a tool for empowerment, but also some of the risks that it entails.

Participatory or community mapping can be used:

- as a tool for advocacy and as a way to enhance community cohesion in the face of land-related challenges;
- as a way to identify rights, a way to make customary tenure relations and rights apparent for outsiders and a way to facilitate the official administrative recognition of these rights;
- as a tool for land-, natural resource- and territory-related conflict resolution; and
- as a tool for improved collaborative natural resource management and for cross-sectoral territorial planning.

In none of these areas is success automatic or even easy to achieve. There are no blueprint mapping processes that can be applied irregardless of context. Instead it is necessary to keep in mind a number of lessons like the following learnt from the experiences of ILC's members and partners:

- An enabling environment matters: mapping to secure rights works best by taking advantage of a political and legal window of opportunity. In this respect, developing a strategic partnership with government can pay off.
- Mapping needs to reflect all types of rights, not just the fixed territorial ownership rights that map-making may prioritize.
- The mapping process, building the capacity or the community, may matter more than the final map itself.
- Advanced mapping technology must include, not exclude.

- Making the map is not the end of the empowerment process but the beginning – the community's capacity to use the map for its own benefit must be enhanced.
- Mapping can highlight social relations. This can be a basis for improving natural resource management institutions.

2. The potential of mapping: the experience of ILC's partners

The experiences of the ILC's network members suggest that mapping initiatives are undertaken with at least five key purposes in mind: (1) providing community cohesion and leverage for collective action, (2) identifying, adjudicating and registering land rights, (3) improving land-use planning and management, (4) supporting land dispute or conflict resolution and (5) forming a basis for territorial planning and socioeconomic integration.

2.1.1. Mapping for community cohesion and advocacy

Mapping often contributes to building community cohesion and, especially in the form of 3-D modelling, can be used as a tool to pass historical knowledge down through generations, thus nurturing cultural identity (UNORCAC-Ecuador, CPI/AC–Brazil). This may be particularly significant for indigenous communities for whom cultural rights can be closely linked to territorial rights. For indigenous peoples, mapping can be used to buttress their own vision of the many interrelations between man and the surrounding environment, and between land and territory.

In cultural mapping, information is not necessarily geo-referenced. Sketch mapping and ethno-mapping can be combined with geographical information systems when the knowledge generated in the mapping process is also aimed at land rights registration (PAFID-The Philippines, JKPP- Indonesia). Community mapping of local and indigenous knowledge, moreover, has the potential to facilitate local governance as a channel through which to defend or advocate for the rights of indigenous peoples to their ancestral lands (CEDETI-Bolivia).

2.1.2. Mapping for land rights identification, adjudication and registration

Geo-referenced community mapping can help rural communities' land claims to be recognized by state institutions, particularly where the existing legal framework is receptive to such claims. There are examples of this on both the individual and family levels, as well as of

land rights claimed and subsequently registered by communities (PAFID-the Philippines, APLR-Georgia).

Geo-referencing community spatial knowledge (e.g., PGIS, PPGIS, GPS, ortho-photo mapping, participatory 3D modelling, satellite imaging,) provides the accuracy needed in community-led processes for state authorities to recognize the results (FTierra–Bolivia, HARDI-Madagascar). Although the higher level of accuracy required (especially for individual titling of small plots) can make the process time-consuming, mapping for land registration enables information to be transferred and digitized into GIS. While land title deeds or certificates of occupation do not capture the overall complexity of land insecurity, a reliable and regularly updated cadastral system can enhance land security for the rural poor, particularly when maintained at the local level. Community-level organizations advocate for participatory-created and monitored, decentralized land administration systems. These are often perceived as more equitable and able to empower community-level land institutions because they make information available where it is generated and better reflect community-level land systems such as customary use rights (NACFP-Albania, HARDI-Madagascar, FTierra-Bolivia, GTierra-Nicaragua).

However, title deeds or certificates of occupation alone will not secure land rights for poor men and women unless enforcement is guaranteed and the process of identifying and issuing them is unbiased by vested interests. Indeed the mapping process may bring out latent conflicts. The process must also be affordable and its methods understandable by communities that use them (AFRA-South Africa).

2.1.3. Mapping for land use planning and natural resources management

Planning and managing land use is intimately linked to tenure security. Moreover, land planning goes beyond the determination of primary rights (ownership rights) to include secondary use rights (access to grazing land, water resources, fruit trees and forest). These are fundamental in defining the livelihood strategies of the communities' poorest members, and partially define the comparative advantage of a communal tenure system as an alternative or complementary to an individual ownership/tenure system.

ILC partners' experience in this area is often linked to broader strategies of land demarcation and/or territorial planning, as in shifting cultivation management or pasture management (NACFP-Albania, APLR-Georgia), or land and water use optimization (ACH/Grupo Tierra-Nicaragua, UNORCAC- Ecuador). When past, present and future patterns of natural resource use are taken into account, the mapping process can also help to create a learning environment in which landscape-nested institutions, and their strengths and weaknesses, appear more clearly to community members (ACH/CODER-Nicaragua). When community institutions or water users' committees are empowered as full partners in action research – rather than treated as mere subjects for data collection – mapping land and water use plans can become instrumental in negotiating better conditions for farmers (CEPES-Peru).

2.1.4. Mapping for land dispute or conflict resolution

Land conflicts, particularly in rural and remote areas, are multi-dimensional and complex in nature. Often the financial concerns of national and local governments generate policies that attract outside investment to areas in which disputes or conflicts already exist and where laws and policies related to land and territorial rights – and particularly those concerning indigenous peoples' rights – are not in place or not enforced. A blend of statutory, customary and hybrid (formal or informal) institutions and regulations may co-exist in the same territory, all having a de jure or de facto authority over land rights.

In such contexts, mapping can be a powerful mechanism to transform and possibly resolve disputes or conflicts, if it is accompanied by appropriate institution-building and a broader effort to empower people and communities. Community-initiated and collaborative mapping can assist the negotiation process in extractive exploitation (APA-Guyana, YTM-Indonesia). Furthermore, mapping can help manage conflict through the identification and strengthening of conflict management capacity both within the community (ACH/Grupo Tierra-Nicaragua) and among neighbouring communities (PAFID-The Philippines, NACPF-Albania).

2.1.5. Mapping for territorial planning and spatial integration

Decentralization processes are underway in many countries. With varying degrees of effectiveness, these are devolving powers to local and regional bodies. Within the newly empowered or established political or administrative units, therefore, new opportunities are emerging for community members to define paths of development. This is particularly important for rural areas, historically neglected in the design of national policies.

For decades, the planning has been urban-biased and done on a sector-by-sector basis. There is now some movement towards inter-sectoral and spatially-integrated territorial planning. In this context, mapping can support the process of identifying territorial units of management, while helping rural communities to include their concerns in an enlarged, integrated vision of local realities. Mapping allows the spatial visualization and recording of the social, economic and natural dynamics of a given territory. This includes routes of communication and commerce, natural resource management systems, water flows and commercial flows. In other words, by using a common spatial framework, maps can fortify the users' understanding of how physical, social and economic factors interact. Spatial integration thus becomes a step toward socio-economic integration (PhilDHRRA-The Philippines, JKPP-Indonesia).

2.2. Mapping as a tool for Empowerment: Lessons Learned

Mapping, when combined with geographical information technologies, can be highly supportive in advancing the land rights agenda of rural communities. For rural communities, maps often represent a step toward grass-roots empowerment for better land access and tenure security. Rural maps, in the experience of ILC's partners, have shown themselves to be useful tools, increasing the users' capacity to advocate, lobby, plan, manage and monitor territorial and land-related issues within the mapped area. It must be said, however, that the promise of community empowerment through mapping may be tempered by concerns that the mapping process – including the control and management of its technology – can reinforce or reconfigure existing forms of power distribution and relations.

There are several recurring issues that arise when discussing mapping as an empowerment tool:

1. ***An enabling environment matters.*** Mapping helps communities take advantage of a political window of opportunity. Mapping is most successful in helping gain security of tenure and use rights when land administration institutions and decision-making processes are to some extent accessible and accountable to rural people. Many ILC network members develop strategic partnerships between government and civil society in an effort to make mapping outcomes binding. This has proven to be a viable strategy – although one that is difficult, delicate and time-consuming. It increases the likelihood that the state will recognize land claims by rural poor and indigenous groups, including those documented through mapping.

2. ***Mapping needs to reflect the full bundle of rights.*** Secondary rights – including rights to use, improve, assign, and transfer natural resources – are highly relevant for rural people. Ownership rights may appear more clearly than others, though, and if registered via a mapping process can obscure the bundle of secondary rights, thus reducing the livelihood options of those relying on them. There is also a trade-off between map accuracy and respecting the fluidity of some use rights. In many rural areas land rights are founded on voluntary-based flexibility and mapping carries the risk of freezing the fluidity of those tenure arrangements. Accuracy of boundaries – necessary for dispute and conflict resolution, natural resources management and land demarcation – should aim to reflect the agreement reached by mapping users concerning the trade-off between fluidity of land rights and their relative security.

3. ***The mapping process may matter more than the results.*** In the experience of ILC's partners, the ultimate aim of land rights mapping may not be the final lines on a map so much as developing the community's ability to resolve conflict, build consensus and take collective action. With this in mind, it is important to establish guidelines to make the whole process as transparent as possible.

4. ***Technology must include, not exclude.*** More advanced technologies, such as those related to GIS, permit a wider use of vast amounts of information but run the risk of increasing the conceptual distance between those making the maps and those providing the

local knowledge that nurtures the maps. All too often, it is difficult to make the technology available at the local level because software is either too costly or available only in English (a major constraint in countries where English is not even the second language), or simply because of frequent disruption of the electricity supply. Capacity-building in the use of mapping technologies can represent an empowering experience for some rural people, but this may happen at the expense of other community members (women; elders; orphans, returnees). Experience shows how, in some cases, communities strategically choose not to master new mapping technologies unless the mapmakers themselves are accountable to community members. Training – including the production of important reference materials in the local language – is important in improving the capacity of community members to monitor and intervene in the mapping process.

5. *Maps are the beginning of the empowerment process, not the end.* Maps are made to be used. The idea that the map can be an empowering tool implies not only that there must be local demand for mapping, but also that communities should have an improved capacity to develop map-use strategies. Community institutions and their members should be able to update the maps according to their needs. The long-term usefulness of a mapping exercise depends on the initial strategy – i.e., whether capacity-building for these long-term uses is built in.

6. *Maps visualize the social world as well as the natural.* Mapping not only helps to identify physical resources, it can also identify customary institutions that manage these resources and regulate power among different territorial stakeholders. Maps may thus not only reveal rights that community members wish to preserve and secure, but social relations that they may wish to change. This can provide a basis for reviving and strengthening local NRM institutions that may have grown weak over time. This can contribute to greater environmental sustainability and reduced conflict. This institutional dimension of mapping must be taken into account from when setting out the strategy, so that the final map product is not a mere “museum item,” but a real tool for community empowerment and sustainable development.