

Participatory Action Research for Catalyzing Adaptive Management: Analysis of a “Fits and Starts” Process

C.J.P. Colfer^{1,2}, E. Andriamampandry³, S. Asaha⁴, E. Lyimo⁵, E. Martini⁶, J.L. Pfund⁷ and J. Watts¹

1. Center for International Forestry Research (CIFOR), Bogor Barat, West Java 16115, Indonesia

2. Cornell Institute for International Food, Agriculture and Development, Cornell University, Ithaca, New York 14853-4203, USA

3. Association Intercooperation Madagascar, Antananarivo, Madagascar

4. Limbe, South West Region, Cameroon

5. Dar es Salaam, 255 Tanzania

6. ICRAF, Jl. CIFOR, Situgede, Sindang Barang, Bogor, Indonesia, 16680

7. Rochettes 17, Bevaix, 2022 Switzerland

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Abstract: This paper argues that contextual constraints can significantly interfere with the conduct of research and development, and accordingly should be analyzed more honestly. It describes a five country research project, Landscape Mosaics, in which participatory action research (PAR) was intended as one of two central approaches in the original research design (the other approach being more conventional research). The five sites, in Cameroon, Indonesia, Laos, Madagascar, and Tanzania, are described, with an emphasis on their implementation of PAR. The fact that personnel and partners on three of the five sites failed to implement PAR is analyzed, to determine the constraints to such action. These findings are then compared with our experience with two other similar projects in which PAR was more widely implemented. We conclude by identifying the most important constraints to be overcome in implementing a PAR process, something we consider important in efforts to deal with change processes in developing countries.

Key words: Participatory action research, research approach, landscape, biodiversity, community.

1. Introduction

In this paper we look critically at the contextual realities that, taken together, contributed to preventing our accomplishment of successful participatory action research (PAR) in three of five planned PAR sites. Just as villagers operate within sociocultural contexts that constrain their actions, so do researchers; and we contend that the influences of such structural and values-related realities can have as much impact on the results of project level planning and management as village social structures have on villagers. Here we first describe what transpired on each of our five sites, and then analyze the constraints under which we operated,

making illuminating comparisons with two previous, more successful PAR efforts.

In April 2007, the Center for International Forestry Research and the World Agroforestry Center initiated a two year study (funded by the Swiss Agency for Development and Cooperation (SDC)), on “Integrating Livelihoods and Multiple Biodiversity Values in Landscape Mosaics”. The research took place in Cameroon, Indonesia, Laos, Madagascar, and Tanzania. Here, we focus on efforts to reach only one of our goals: to contribute to new ways of conducting landscape level research to support the integration of biodiversity conservation and adaptive management processes.

In pursuit of this latter goal, participatory action research (PAR), more typically used in small groups or single villages, was planned as a crucial part of our

Corresponding author: C.J.P. Colfer (1945-), female, Ph.D., M.P.H., main research fields: anthropology, governance and health of forest peoples. E-mail: ccolfer@cgiar.org.

work. The rationale for this approach came from our recognition that human and natural systems are characterized by complexity and change, varying by context, and the resulting need to tailor solutions to local conditions. Another important motivation has been our recognition of the shortcomings of project-based efforts, which tend to cease when funding ends. We sought mechanisms that could endure after a project’s end. Involving important actors at both local and landscape levels is one way to increase the likelihood that activities will continue into the future—both via improved local skills and understanding of local conditions, and in terms of motivation to continue activities that local and landscape level actors themselves select.

We recognized the critical role of linkages between local and decentralized institutions from the beginning (Refs. [1-2] for relevant experience in Cameroon and Indonesia, respectively). We wanted to build on the earlier experience of these researchers, linking levels (particularly local and district) thru PAR methods. In the earlier Cameroon case mentioned above, the initial effort (begun in 2000) involved selecting villages where PAR would be implemented, based on existing broader scale policy dilemmas, such as how to deal with the forest transition, conservation areas, and marginalized ethnic groups, among others.

The aforementioned Indonesia work, begun in 2005, built on these beginnings, but aimed for simultaneous “bottom up” and “top down” identification of problems and development of shared solutions. Komarudin and colleagues developed PAR groups in both community subgroups and with district level officials. Through this mechanism, shared concerns (such as tenure at the village level and land use planning at the district level) emerged and could be analyzed and addressed jointly. Another body of work involved negotiations among stakeholders in shared landscapes (cf. [3]), which we anticipated would occur late in our project, to formalize agreements among stakeholders.

The central goal of the Landscape Mosaics (LM) work has been to define common concerns that can mobilize social groups in particular locations to improve the management of their landscapes for livelihoods and at the same time maintain or enhance biodiversity. We have also wanted to examine how these processes may vary, depending on the accessibility/remoteness of the site.

The sites selected for our work shared a number of characteristics: All included some areas managed for conservation, as well as a patchwork of other uses. On each landscape a continuum was defined, from remote to accessible, and three villages were selected, falling along this continuum. We also sought cooperative partners on each site for a variety of reasons, including expanding our local level knowledge, accessing additional participatory skills, and sharing financial resources. Finally, we identified national level policies into which our work could feed.

Additional complexities have characterized the project itself. We have worked in a “transdisciplinary” fashion, which, according to Pfund [4], “...combines disciplines, takes ethical values into account and implies the participation of various stakeholders, academic and otherwise” (p. 5).

Leadership of the project has been shared between CIFOR and ICRAF, among which there have sometimes been unclear lines of decisionmaking, a variety of communication difficulties and differences in institutional cultures. Responsibility for the sites was divided between these two institutions (indicated in parentheses in the site descriptions below). Finally, the project has been designed to build on ongoing field activities in collaboration with partners who implement most of the research—each of which also has its own institutional culture, separate project deliverables and research plans.

2. Sites and Their PAR Experience

Turning to our efforts to use PAR to catalyze more adaptive management of local landscapes, we provide

an overview of each site and the fate of the PAR effort there. Our intent is to identify the *structural and evolving constraints*—constraints that are by no means unique to this project—that interfered with our efforts. Our research team was composed of committed and intelligent people; serious efforts were made to manage the project well. We believe that more attention to the contextual issues described below can help future projects to respond more successfully.

2.1 Cameroon (CIFOR)

The Takamanda-Mone Technical Operations Unit was the landscape selected, in the South-West Province of Cameroon on the border with Nigeria. The three villages included Assam near the Takamanda National Park (remote), Okpambe, near a timber concession (intermediate), and Mukonyong, near both a timber concession and the Mone Forest Reserve (accessible). The local LM team attempted to work with an established partnership of the Wildlife Conservation Society (WCS), the German Development Service [DED]¹ and the national government through the Ministry of Forestry and Wildlife (MINFOF)—with funding from the German Development Bank [KfW]². All were trying to improve the management of the Technical Operations Unit (including the National Park, the forest management unit and the Forest Reserve). Previous CIFOR research had determined that mixed teams of locals and international members could be more productive than teams composed of either alone [5]. To supplement the local team, a Dutch JPO (Junior Professional Officer) was selected who had demonstrated her knowledge of PAR.

Prior to the commencement of the KfW-funded project, long-term ecological and socio-economic research and land-use planning had led to the creation of the Takamanda-Mone TOU. This process had included close consultation with a wide range of stakeholders who had a clear role in the

decision-making process. After 2006, and the commencement of the German-funded project, a different approach was taken which essentially disaggregated conservation efforts (through the implementation of a less inclusive management of the Takamanda National Park, for instance) and development goals (where income generating activities were essentially imposed on participating communities as compensation for loss of access to forest resources). The de-emphasis on local consultation and participation has resulted in considerable social conflict in the area. The CIFOR team’s efforts to work with partners and district level actors met with the suspicion that the partners’ work was being evaluated. The in-situ partners did not buy in to the participatory action research process, as “participation” was not a major consideration in their project implementation. Relations with partners deteriorated over time, leading eventually to the team’s loss of their PAR specialist. Although efforts to work productively with the partners continued, particularly on issues where the partners saw clear benefits to working with CIFOR, such as the development of REDD initiatives, the LM team had to turn much of its attention to the more formal studies they themselves were scheduled to complete; they essentially abandoned their efforts to implement the formal PAR process.

Committed to participatory approaches themselves, the team still tried a variety of approaches. Cameroon has a policy that mandates payments from timber companies to local Councils. This money typically disappears into a “black hole” (see Ref. [6], for fuller discussion of this pattern elsewhere in Cameroon). The team tried to work with one of the communities close to the logging concession, Mukonyong, to identify the people’s needs and make more rational and beneficial use of these funds. However, their attempts to learn how much money the company gave and where it went met with a stone wall of silence. The reactions they received convinced them to desist. Villagers who wanted some sort of infrastructure development, seeing

¹ Deutscher Entwicklungsdienst.

² Kreditanstalt für Wiederaufbau.

no advantages from their own Councils, went directly to the company, which refused to contribute beyond the royalties they maintained they had already paid.

The team also conducted village exercises with men and women separately, and mapped their land use and practices. The team then projected these practices into the future with local people in Assam village (Ref. [7]). This process provided insights that the community members found useful and interesting, and resulted in local discussions about possible rules that the local village Council could produce that would address the issues identified. The people and the Council members wanted to include these in their constitution; and preliminary assessment suggests that this may indeed happen.

However, these kinds of activities, attributed in terms of budget and time to the partners, had to be fit into the CIFOR team’s other commitments to the project. They had time to do very little along these lines.

2.2 Indonesia (ICRAF)

The Indonesia site’s three villages are in Bungo District of Jambi Province, in Sumatra. The most remote site is Lubuk Beringin (bordering on Kerinci Seblat National Park), the intermediate site is Tebing Tinggi, and the most accessible site is Danau, near an oil palm plantation. The project has continued ongoing, longterm work in the region by ICRAF, in cooperation with the NGO, Warsi, and building on work done by CIFOR in other villages in Bungo district (see Ref. [8], for a comprehensive series of reports on recent research).

By mid-2009, two years into the project, the PAR process, as envisioned, had not yet begun. There were confusions within the project related to frequently changing leadership. One Warsi field team member had undergone a PAR training course several years earlier, but considered the approach too time consuming and was uninterested in implementing it. There was a lack of understanding within the team

more generally, composed of biophysical scientists, about PAR as an approach that was to be tested. Reasons given for not undertaking PAR made clear the lack of understanding of the approach: e.g., that the landscape context was too dynamic for *the team* to select the right issue (in fact a PAR approach requires that local group participants make such decisions); and two researcher-initiated plots were established as “entry points for PAR discussion” on land management needs, without villager input. Another aspect that proved problematic was the necessity to document the participatory work, a process to which the field teams were not yet accustomed.

Late in the project, the team, recognizing this problem, decided to document their significant successes with a new concept, *hutan desa* (or village forest)-some of the planning for which had been conducted in a participatory fashion. In the spring of 2009, the national government made a very significant step forward, in recognizing the village forest of the project’s most remote village, Lubuk Beringin [9]. Prior to that, no village or individual in Indonesia had recognized rights to traditional forest lands that were within the formal “national forest estate” (most such lands are claimed traditionally by communities in Indonesia’s Outer Islands). This success involved actions by many stakeholders at all levels, from the village to the Ministry of Forestry. However, a link to any planned, systematic participatory process like PAR, which could be evaluated as an approach, has been very difficult to make.

2.3 Laos (CIFOR)

The Laos sites are in the Viengkham District in Northeast Laos, adjacent to the Nam Et-Phou Louey National Protected Area. Phadeng is the most remote, and was administratively merged with the nearby village of Phoukhong during our research, although the actual new settlement is an hour’s walk away from the latter. Bouammi is the village with intermediate access; and Muangmuay is the most accessible (on a major

road). The national planning process to which the project initially considered contributing was land use planning, but the importance of resettlement soon emerged as another significant issue, as did the newly created village clusters [10].

The process of getting underway was very slow; the project was only approved to commence work in February 2008-nearly a year later. By mid-2009, however, things began to happen. Visioning exercises conducted at the village and district level revealed multiple domains where villagers and the district saw a need for improvements in the lives of the people, the use and conservation of natural resources as well as management processes.

At a 2008 LM meeting, the project team decided to focus on capacity building related to the newly formed *kumban pattana* (a village development cluster) administrative structure. The *kumban* has the official purpose of bringing village and district level actors together to work on diverse issues including village development, land use planning and natural resource management. As a relatively new institution, the project team perceived an opportunity for capacity building and ensuring a good level of participation, especially of women and ethnic minorities.

In 2008, the team also learned that the village of Phadeng was to be relocated to the nearby village of Phoukhong. The team experienced a period of significant uncertainty, unsure whether or not they could still work with the village.

Unlike the “ideal type” of PAR (in which a team/facilitator approaches a group of people to identify their own issues), the team perceived their next challenge to be discovering how the project could make a useful intervention that would engage actors meaningfully in PAR. Some team members suspected that villagers or the district would only be interested in a micro-project designed to bring quick and tangible results, focused on one of the topics from the visioning exercises.

A follow up mission was planned to get an understanding of how the *kumban* was functioning in

the project sites, and to identify a suitable intervention domain for capacity building. On the basis of the visioning results, the team selected livestock as the most relevant to landscape level issues-linking livelihoods, planning and natural resources, amongst others, but identifying a suitable development partner in time for the upcoming stakeholder workshop (in early February 2009) proved problematic.

As this key workshop neared, in the absence of any additional support, a broader focus was adopted. Workshop participants agreed that the project would link with a land use planning process at the village and *kumban* levels. The issue of the resettlement was to be addressed through more direct PAR activities between the two concerned villages, Phadeng and Phoukhong, and the district. One surprising aspect of the workshop was the interest of various actors, including the district governor, in capacity building at the village and *kumban* levels for a range of governance issues.

The PAR work at the *kumban* level commenced in early September 2009, with a range of participatory activities, designed to understand local land uses, from agriculture to NTFPs, along with the various visions of the villagers in the other villages of the *kumban*. These initial activities were intended to provide villagers with resources for negotiating land use planning as well as stimulating discussions about the landscape and the aspirations of villages within and between groups, and to contribute to individual PAR activities at the sub-village and village levels. An important element, however, was the generally participatory approach of the team. Although the formal PAR process was late getting started, much headway in terms of understanding and rapport building had already begun in the three project villages, via the more conventional research efforts there.

The team initiated work with villagers, in small groups and then together with stakeholders at higher levels, to see which of the issues they could resolve themselves and which should be addressed through a meeting of the *kumban*. Two additional *kumban* level

activities were anticipated: improving agribusiness marketing and land use planning, in order to strengthen, test and improve the institutional capabilities of *kumban* officials. PAR activities, while initially not fully understood by district and village level actors, were more readily accepted when framed in the context of improving the planning, management and monitoring capacity of mass organisations such as the women’s union or village and *kumban* level organisations. Crucial provincial and national level support emerged when the PAR activities were framed in these terms.

As the certainty of resettlement became clear, the team worked with the villagers of Phadeng and Phoukhong to ensure that the site chosen best reflected the aspirations of both villages. Techniques used for ascertaining these aspirations involved a mixture of focus group discussions, scenario mapping exercises and household questionnaires examining the impacts of various resettlement scenarios on the five Sustainable Livelihoods capitals (human, social, physical, financial and natural). A workshop was held in early July 2009 to bring together representatives from the two villages with district level actors, including a representative from the nearby National Protected Area, to plan the best way to relocate the village. After two days of detailed discussions and negotiations, an action plan for the development of the merged villages and a preliminary land use plan were developed.

The PAR process benefited from the empirical research, via the strong links between the project members at the District Agriculture and Forestry Office, who joined all project field activities. Through focus group exercises, including visioning, the challenges the villages were facing became clearer and the proposed PAR activities more relevant. These linkages were also strengthened through the local partnership with the Lao government’s National Agricultural and Forestry Research Institute (NAFRI) and the Northern Agricultural and Forestry Research Centre (NAFReC).

Although the PAR process began late on this site as well, it began to move in a productive and positive direction. The work on resettlement changed attitudes and developed solutions to landscape level problems that probably required the kind of face-to-face interaction that the team facilitated. These successes were surely aided by the strong support that some members of the team were able to garner at the district and higher levels of government, while other team members focused on village-level information gathering.

2.4 Madagascar (CIFOR)

The Madagascar landscape is near the mid-northeastern coast, in and near Manompana. The communities selected for intensive study were Maromitety (remote), Ambofampana (intermediate) and Ambohimarina (the accessible site). This landscape is rugged and even the most accessible site takes eight hours of walking to reach, with the most remote, a 2.5 day walk. The new national policy framework to which the project was designed to contribute is called Koloala, and has involved a transfer of management responsibility from the Forest Service to community associations and a program of capacity strengthening to local communities. This focused on rational forest exploitation in order to satisfy the country’s need for wood at local, regional and national levels.

The distances involved in reaching the project villages made a sustained PAR process improbable, in the absence of sufficient budget and available trained personnel to allocate one person to live in each village-the LM project has not had this. The teams conducted visioning workshops at the local level, focused on the five livelihoods capitals. Afterwards, at a workshop at the district level, some representatives of the main stakeholders (local population, local authorities, and decentralized technical services) identified appropriate roles for participants to contribute to the visions, and developed indicators designed to measure

their progress.

At the village level, only three visits had been made by October 2009: to conduct the visioning exercise; to learn about forest product use, the boundary of the community forests and village priorities; and to provide feedback to the village about the research results. These actions were led within a participatory framework. When conflicts occurred (typically related to boundary delineation), the project team brought together those involved, and facilitated the development of a mutually acceptable solution.

More activities were conducted at the *fokontany* level (a village cluster, similar to the *kumban* of Laos), as this level was so central to the Koloala plans related to transfer of management responsibilities for forests. The project personnel worked with communities to establish formal, *fokontany* level associations (COBA). These associations were intended to draw up plans to manage the forest in their areas for timber production. The plans, developed together with forestry and/or project personnel, were to specify the amounts and types of wood to be harvested, appropriate sanctions for scoff-laws, the royalties to be paid, and how benefits were to be shared. The national government provided a format for these associations and plans, but there was scope for flexibility in the contents of the plans.

Although this appeared to present a near-perfect context in which to implement PAR (except for the lack of involvement of women and non timber forest products), such implementation did not occur. The teams were under considerable pressure from their main donors to plan and finalize the procedures for 16 associations—spread over this very rugged and extensive landscape—by December 2009. The LM component represented a small proportion of their total activity, and the PAR process lost out in the allocation of time. The teams were also composed primarily of foresters, some of whom had participatory experience, but from a more directive, top-down orientation.

The team provided a significant amount of training

on topics like timber and financial management to villagers; and they confronted some village-to-village conflicts, for which they facilitated resolution through face-to-face negotiations. However, no systematic PAR process had taken place on this site by October 2009. At that time, after significant discussion with the team, a facilitator was identified and a plan was made to initiate PAR in three other, more accessible villages. These villages varied also on their accessibility, though all were more accessible than the “most accessible” of the LM sites. They also varied on the “dynamism” of the COBA groups. The intention was to use the COBA groups and initiate PAR processes within these, as a means of ensuring better and more equitable functioning of the ultimate management plan. The PAR process was seen as an opportunity to institute an adaptive process. It was envisaged to continue, through alternative funding, after the LM project ended in 2010.

2.5 Tanzania (ICRAF)

The Tanzanian sites are in the East Usambara Mountains, and include the two upland communities of Misalai and Shambangeda (in Misalai Ward), and one lowland community of Kwatango (in Misozwe Ward), adjacent to two forest reserves—in Muheza District [11]. Kwatango, also near a protected area in the lowlands, is most remote; and Shambangeda, on a road near a tea plantation, is the most accessible—though this continuum is not entirely comparable with the other sites, which are on a single landscape gradient. Here the Kwatango site is in a different landscape. The larger scale policy concern that linked these sites and the project was the governmental interest in participatory land use planning.

As with the other teams, getting started on the PAR process proved slow. But this team made good progress in 2009. After conducting a series of visioning exercises and focus group discussions, they introduced each community to the concept of PAR and organized groups in the three villages. In Shambangeda, the PAR group was mixed tribally (Sambaa and Pare) and by

neighbourhood, with four women and 12 men; it was formally linked to the village water committee. In Misalai, the PAR group had six women and five men from Sambaa and Digo tribes, working closely with the village environment committee, again from different neighbourhoods. The Kwatango group was all Sambaa, with four women and nine men, coming from two of the three neighbourhoods, also working with the village environment committee. Considerable effort went into determining local stakeholders and their problems, prior to planning and initiating actions.

All three groups focused on water management issues. Agreement among three village groups on one topic is unusual, but in two of the areas this was a dramatic problem related to the drying up of streams and springs, with implications both locally and throughout the broader landscape (including nearby towns). In the third village, this was a secondary priority (related more to wells), but their first priority had been roads, which (1) the team did not have the networks to promote, and (2) would likely have had adverse effects on the landscape they were all trying to manage better.

These groups began meeting in 2009, and have had serious discussions about formal water management requirements, the specific problems that trouble their villages, possible solutions to these problems, and constraints they must face or avoid. They have also produced some possible ways to address these constraints. The PAR process was very much underway as the project neared its end.

Although initially committed to developing the planned parallel PAR group at the district level, this proved impossible. The officials needed budgetary support to organize meetings, and there was no funding for such an effort. Another problem, also encountered in comparable earlier work in Indonesia [12], was the shifting of government officials from the field site to other areas. This meant the loss to the project of important partners, now familiar with action research. Ongoing delays in the development of the land use plan,

the central link to national-level policy, by a consultant, also interfered with progress.

3. Analysis

When this approach was selected, we were drawing on the experience of a major program at CIFOR (Local People, Devolution, and Adaptive Collaborative Management of Forests, also called ACM, see Ref. [13], for an early evaluation, and Box 1 for its definition) and a subsequent CAPRI project, “Collective Action to Secure Property Rights for the Poor: Avoiding Elite Capture of Natural Resource Benefits and Governance Systems” [12].

Box 1: Adaptive Collaborative Management-CIFOR’s Original Definition, Plus

Adaptive collaborative management (ACM) is a value-adding approach whereby people who have interests in a forest agree to act together to plan, observe and learn from the implementation of their plans while recognizing that plans often fail to achieve their stated objectives. ACM is characterized by conscious, facilitated efforts among such groups to communicate, collaborate, negotiate, and seek out opportunities to learn collectively about the impacts of their actions. Work with a given group of people requires involving actors at multiple scales-usually at least one level down and one level up (e.g., user groups within a community and district officials above).

The ACM research, involving 30 sites over 3-6 years, had typically begun at the village level, gradually moving out to include the district. The later CAPRI project covered two districts, with one village in each, and attempted to initiate PAR activities at both levels simultaneously. The outcomes of both were encouraging. With this experience in mind, we expected to accomplish the following in the LM project:

- Greater understanding among some of our partners of the complexities of landscape management and greater respect for local people’s potential contribution;

- Improved skills at self-analysis, problem identification, networking, negotiation, proposal writing, monitoring, conflict management and self-evaluation at both village and district level (i.e., empowerment, checks and balances);
- Improved coordination among sectors at the district level, and between district and village level;
- More equitable involvement of marginalized groups in the management of local resources and distribution of local benefits, at both village and district levels;
- More effective resource management by local people, e.g. clearer local rules, better adherence to them, more effective sanctioning, better collaboration between local and district decision makers.

Insofar as some of these desired impacts have been achieved on three of the five sites, it has not been through the formal PAR process we had hoped to test. Here we put forth some ideas about the possible sources of problems—in hopes of strengthening future possibilities for success. We focus on four differences that seem to have made a difference: knowledge base about PAR, centrality of the method in the overall approach, complexity of project structure, and funding. We then propose some short “take home” messages (see also Ref. [14]).

3.1 Knowledge Base: There Was a Lack of Understanding of the PAR Process in Some Cases

The Bogor team realized that there would be variable knowledge about PAR, and tried various strategies to overcome this. The first was the development of a manual of methods. Indeed, such a manual-for improving management for biodiversity and livelihoods at the landscape scale-was anticipated to be an important output of the project. The intent was gradually to improve this manual over the course of the project, as our experience increased, ultimately for wider use [15, 16].

Only nine months into the project (in February 2008, when a number of the teams were just getting underway) did the first draft of this manual become

available to site teams. It included the PAR steps in the manual itself as well as a large number of practical explanations and references on how to conduct a PAR process.

However, in retrospect and with the benefit of hindsight, there were two important problems with the manual. It was insufficiently directive about the importance of starting the PAR process early on. Tools were provided that made the long term nature of the process clear, but many team members either did not read the tools or did not understand them. Further, it was structured as a series of steps. The “step,” which described the long term nature of PAR and the need to begin as soon as possible, was Step 5.5-so some interpreted it as something that could be put off until later. The methodological tools were distributed on line and on a CD to workshop participants in December 2008, but in some cases this was not shared with other team members; in others, the English language proved problematic. A number of team members, all in areas with difficult internet access, seem not to have read the literature on methods.

More focused training was also provided in some cases. In a May 2007 trip to Madagascar, although the site team had not yet been formally formed, Colfer explained the PAR component of the project to the partners (staff members of the NGO AIM). In the fall of that year, a consultant was sent, after the field team had been assembled, to provide two weeks of focused, location-specific training on visioning, monitoring and PAR. This consultant was joined by another who focused more on livelihood issues, but who had considerable participatory experience as well. In the course of that training, visioning workshops were also held. However, the AIM site coordinator changed mid-way through the project, and the subsequent site coordinator had not participated in the training.

Colfer had planned a trip to Laos in March of 2008, to provide some informal training to the team there (linked to other trips). However, when she got there,

the team had not yet been formed. She went to visit the district and two of the field sites with a NAFRI researcher who later joined the team. They had long discussions about PAR as an approach. Although clearly new to him, and somewhat alien to usual bureaucratic process, he seemed interested and receptive. Gradually, over the next year, a number of researchers joined that team who had experience with social science and/or participatory approaches. Watts, the Bogor team member who had been primarily responsible for finalizing the first draft of the manual, joined the Laos team in April 2009. After that local interest in implementing some form of PAR increased.

In April 2008, Colfer and the Tanzanian site coordinator conducted a one week training course on PAR and PRA tools, with a group of district level officials and a team member. The course included both classroom instruction and practice in the field. Although the site coordinator had not done PAR before, she was experienced with PRA tools and committed to seeing the team use the participatory methods. As with Laos, there were gradual additions to the small core team, including more social science expertise.

In Cameroon, the site leader and the site coordinator had long experience with other participatory approaches; and the Dutch JPO had been trained in PAR, so no additional training was provided. Nor was any training on PAR provided, beyond the manual, to the Indonesia team. Offers were made, but not accepted, which proved to be an important constraint to its implementation.

In addition to the resources and training outlined above, Colfer was fairly consistently available by email and/or in Bogor. She provided timely responses to queries, reviews of draft papers, and periodic reminders about PAR and other research activities. Laura German, another CIFOR social scientist, also contributed her expertise, particularly at the annual project meetings.

In contrast, within the earlier ACM project, there had been an initial training program in Bogor for the researchers who would be leading the projects. There was at least one social scientist who fully understood PAR on each site (two of the failed PAR processes in the ACM program were in a site where the planned social scientist hadn't materialized); and there was regular communication between Bogor core team members and site personnel. An attempt was made to ensure documentation of the PAR process—through a routine record keeping form—which, although incompletely used, still served to acquaint new PAR researchers with how the method should work and put some pressure on them to do the work as planned. Additional informal training was provided by global experts in PAR at the yearly International Steering Committee meetings, to which some field staff were always invited. These also served as critique for the core team on their overall progress.

Another element that enhanced training, as a side benefit perhaps, was the ACM project's emphasis on intra-program communication. Great efforts were made to strengthen cross-site and site-to-Bogor communication, including a project newsletter (*ACM News*), which contributed to junior team members' experience writing and analyzing their experiences and served as an informal training vehicle. An interactive website didn't work particularly well, given the bad internet connections, but did demonstrate the leadership's interest in communication. The program leader was committed to prioritizing site level problems, feeling the sites were where the significant action was occurring. She put the names of key site personnel on her wall in large letters to help counter the “squeaky wheel gets greased” dictum that usually served to give those geographically close greater access. A writing workshop served similar functions as the field activities progressed. None of these efforts was perfect, but all contributed to maintaining the focus on and improved understanding of the PAR process.

3.2 Centrality of the Method in the Project

The LM project was designed to develop mechanisms for better managing the landscape so that biodiversity and livelihoods were maintained or enhanced; and many within the project saw PAR as a tool to accomplish these goals, much more than a research issue in itself.

In the earlier projects (ACM and CAPRi), the same general goals held (maintaining or improving environmental and human conditions), but testing and improving on the ACM/PAR process had been a central feature and focus. This made dropping the PAR component very difficult for team members (though there were seven of the 30 ACM sites, which more or less did drop it—three for reasons comparable to those within the LM project, and four because of the change of a PhD supervisor).

There was also perhaps stronger commitment to implementing PAR in the earlier projects, as well as more in depth understanding of the approach, as they were led by a social scientist interested in researching how PAR worked in forest contexts. The LM project was led by a biophysical scientist—interested in the approach, but primarily as a tool. The idea that one would want or need to do research on social processes *per se* is perhaps less interesting to biophysical scientists (including extremely competent ones). The power dynamics within and between communities and other stakeholders, the entry points and manners for research teams, the way facilitation is done, the significance of ethnicity, caste or other social categories—these kinds of elements are extremely important for understanding and effectively implementing a process like PAR. The part time roles of the leading social scientists within the project meant they could not devote sufficient time to ensuring that these issues were being addressed as fully as needed on the sites.

Both the LM project and the earlier projects included both participatory and extractive elements. But the priorities were reversed. In LM, the PAR was widely

(though not universally) seen as a tool to supplement the extractive research. In ACM and CAPRi, the extractive research was seen as a tool to complement the PAR activities. There was a stronger commitment within the earlier programs to the idea of bottom up planning. As the LM project progressed, with its emphasis on the landscape level, the voices of district level officials grew stronger, but attention to community voices, in some cases, virtually disappeared. And there were strong pressures from researchers to collect the extractive research data—necessary for biophysical scientific outputs. Toward the project’s end, with the concluding stages of a formal interactive database and the need to fill it in, such pressures increased.

3.3 Complexity of the Project Structure

The LM project was a joint endeavour between two research centers, both of which were part of the CGIAR (Consultative Group on International Agricultural Research). There had been a long history of difficult collaborations between them, partly due to their overlapping mandates (both doing research related to trees) and recurrent calls by external parties to merge them. There were also serious differences of institutional culture between the two organizations. At the beginning of the project, there was some uncertainty as well about how much direction should come from each institution, although CIFOR held the central authority with the donor.

Within the project itself there were five sites in two continents and four main themes, as well as, initially, two coordinators. Each site and each theme had a leader. Although the initial plan required nine of these leaders, there were in fact more. On one site, there was never clarity about who was in charge. At least five different actors remained involved, with no one ever clearly the leader. Two theme leaders were problematic—one had been coerced into taking on the added job (which was mainly part of the host institution’s counterpart financial contribution) and

was eventually replaced; the other had taken it on apparently willingly, but had over-estimated his time availability. He was also eventually replaced.

Adding to these institutional complexities were the project’s commitment to working at multiple levels on the sites (village to district at least, within some sort of national policy framework); and the desire and need to work with partners. Partners were desired because of the recognition of their greater knowledge of local realities and in some cases greater access to communities, and they were needed because of the minimal financing available for such an ambitious effort. In one of the sites, partnership relations proved so problematic that all progress came virtually to a standstill. In all sites, compromises were necessary due to other existing project commitments, and institutional differences and priorities.

In one site some 80% of the project activities were funded by other sources, and in that case, the priorities of the other donor held sway. In this case, PAR had to be put on a back burner, because of deadlines that necessitated greater haste and more superficiality in dealing with communities than a PAR process would allow. Site selection also proved problematic in this case, the “accessible” site being too far from the field team.

In another site, the project had been designed assuming ongoing activities (both partner and institutional), but just as the project began, all other sources of funding dried up. The institution coordinating that fieldwork had major difficulties getting anything done early on. Eventually supplementary funding surfaced, but rather late for initiating PAR, even had there been strong inclinations to do so (which there were not).

One attempt to deal with the uncertainty deriving from such dependence on partners was the inclusion of doctoral students on field teams. These individuals have added greatly to the rigour of the project, but they have also had constraints that militated against PAR. Universities are notoriously skeptical about the PAR

process because of its uncertain timelines—one can continue doing PAR forever, which is not something a university (or for that matter, a project) wants its students to do for their theses. Professors tend to be worried and reluctant about PAR processes.

In contrast to this complexity, both ACM and CAPRI had been coordinated clearly within one institution. There were individuals who coordinated the site activities in nested geographical areas. There were also some conflicts and problems related to uncertain lines of authority, but they occurred at much lower levels within the overall program and caused fewer problems for the PAR work.

Within the ACM team, there was a strong emphasis on teamwork, including recurrent informal mentoring and communication, both within each location-specific group of researchers, and between the Bogor core team and those on sites. One of the important elements in the successful ACM implementation of the PAR process was the degree to which site members felt a part of the larger global effort, with less successful sites less integrated.

We recognize the value added by addressing so many levels (village to national), as has been the case in the LM project; and we remain committed to partnership approaches. But in this case, it seemed to prove a little too complex for people to deal with effectively while also trying to conduct PAR.

3.4 Resource Constraints

The shortage of personnel, time and money have accounted for some of the PAR difficulties. A complex, transdisciplinary, three year program was planned in five countries with only \$750,000 of core donor funding, with the expectation of substantial contributions from ICRAF and CIFOR. ICRAF and CIFOR administrators proved reluctant to allocate counterpart researcher time to the project (despite promises to do so); and the result was recurrent, sometimes difficult bargaining for more time funded by the host institutions. Researchers found themselves

squeezed between administrative reluctance, donor commitments and project needs.

The site budgets were also small, anticipating and relying on ongoing partner activities. This reliance, however, reduced the core team’s ability to insist on the implementation of specific elements of the research design. In one site, for instance, because there were no funds to entice district officials to PAR meetings (the norm in that country), the team simply could not work routinely with them in the manner originally intended. The team developed personal links with the important stakeholders as a substitute, which provided some of the benefits of PAR, but allowed neither for the planned testing of PAR groups at the district level nor for the expected capacity building among participants. The funding problems on another site have already been mentioned in connection with partner relations, above.

The theme leaders all felt serious time constraints. The governance theme leader (also the social scientist responsible for PAR), for instance, had hours, not days, weeks or months, paid from the project in the first half of 2009. This was due to changing personnel, procedures and hence priorities within CIFOR that rendered our previous financial expectations of additional CIFOR support obsolete. Since she was in a phased retirement process, she was freer than most to disregard this time constraint, though as part of her phased retirement, she was also absent from CIFOR for months at a time, each of the previous years. While she tried to remain connected, the project definitely had reduced access to her inputs. Other theme leaders felt comparable constraints, due to resource shortages.

The ACM and CAPRi teams were well enough funded. Indeed, in a preliminary comparison of funding levels and successful implementation of ACM (including PAR) within that program, Colfer found no relationship [13]; or Ref. [17] for similar ACM experience within Nepal. There was huge variation within the global ACM program regarding distribution of funds within a country. In Indonesia, almost all the

funds were allocated to two landscapes, one with one village, the one with two [18]. In Cameroon, roughly the same amount of money was divided among six themes, with a large number of researchers, working in quite diverse locales (with some of the resulting problems that plagued the LM project [19]). But the commitment of team members, their feelings of integration within the broader global team, and the interest they were able to elicit from communities were much more important factors than finances. Still, there was full time funding for the leaders, and at least one fully funded researcher on each site, usually more than one.

4. Take Home Messages

Our goal in this article is not to escape responsibilities for our failings, but rather to encourage others to acknowledge the profound effect that contextual factors can have on all of our efforts to address conservation and development issues (see Ref. [20] for a full rationale for this approach).

A full understanding of and commitment to the PAR approach are important within the team, if the approach is to be effectively implemented. Ongoing communication with others involved in similar work and access to related research results are probably as important. Implementing this approach is demanding; and it is often not understood or enthusiastically supported by local authority figures and partners. Facilitators need support and encouragement from beyond the village or district.

The project’s complexity derived from very good reasons. The systemic nature of human behaviour is a strong argument for looking at it holistically, yet this is an alien perspective for many scientists, so used to separating out one element to test (e.g., with treatment and control plots). Addressing landscape levels problems at so many levels (village to national) is clearly desirable, and we are not suggesting the attempt be abandoned. The importance of linkages among levels has also become increasingly clear as the project

has progressed. The fact that things are constantly changing in all these different scales and different systems does not make anything easier. The importance of partnership and collaboration among institutions also has a firm basis. However, we (researchers, donors, and supervisors) probably paid insufficient attention to the resulting transaction costs.

The amount of complexity a project can deal with depends on the resources available to deal with the resulting transaction costs. Projects always evolve with an element of serendipity. Plans are wonderful, but they always have to be adapted. The following would seem to be ideals, based on the LM experience with PAR: Having one institution clearly leading from the beginning; getting firmer commitments from all institutional partners; selecting fewer sites or obtaining more funding; improving teamwork within, but particularly across sites; giving stronger, more defined responsibilities (which probably means more funding) for theme and site leaders.

Returning to the centrality issue, there is no necessary conflict between PAR and empirical or extractive research. Indeed, the former needs the latter (and of course PAR proponents would argue the reverse as well), if it is to be carried out well. But there has been some misunderstanding at various levels within the LM project about the degree to which it is possible to conduct these two kinds of activities simultaneously.

One constraint has been related to disciplinary differences regarding the issue of objectivity. Within the social sciences, there has been increasing awareness of the impossibility of being totally neutral and objective when dealing with human issues. Researchers are human and cannot totally extract themselves from either their own backgrounds or the human contexts they study. Social scientists interested in biodiversity typically strive either for something approaching objectivity or the self-awareness to recognize their own biases. Obtaining the views of diverse stakeholders is another tool for dealing with the

inevitable human biases. We are convinced that the ability to manage landscapes in a better way will require the involvement of the people who live on those landscapes. This requires us to deal with the objectivity dilemma. There is great potential for combining the PAR approach with the needed empirical (“objective”) research, potential that can enhance the capacities and knowledge of both local people and scientists. The sharing of perspectives between the people who live on the landscape and the researchers who study both will become increasingly important as the world becomes more connected and we struggle to deal with global issues like climate change. PAR can play a crucial role in bringing such perspectives together, if researchers use it properly.

In the LM project, many opportunities for combining the two approaches seem to have been missed. In at least one site, there were focus group sessions and other methods that could have, but did not, build on the potential for collective action, as needed within the PAR process. Many elements, for instance, of the cross-site study of governance could have been conducted within or in conjunction with the PAR context—likewise socio-economic and non timber forest product surveys, and more. This lack of integration is most clearly demonstrated in remarks from another site, where one of the leaders attributed the PAR failure to its lack of a separate budget line. Yet PAR is not possible, if correctly implemented, to disaggregate from other site level activities; with care, it can be combined with virtually no additional cost and considerable benefit.

This leads to the question of finance. More important than the amount of money available, of course, is linking the amount with what one hopes to accomplish. The LM project was perhaps too ambitious. But a more significant problem that affected all three of these programs (LM, ACM, and CAPRI) is the short time scales (two to three years) donors allow. The duration of the PAR process is impossible to plan accurately. The pace of activities is dependent on a variety of

factors outside the control of the facilitator/researcher. And managing a landscape in an effective manner will require the development of skills, networks and experience that cannot be produced overnight. Rapport needs to be built with actors at various levels. Understanding of local politics, values, capacities, and goals needs to evolve. Village and district level skills-self-analysis, planning, implementation, monitoring, and re-assessment and re-planning—need to be developed. Donors need to understand that and accept some loss of what is now only a false perception of control, the pseudo-control that comes with logframes and short funding cycles.

In sum, the Landscape Mosaics project has just ended. The PAR process got a very slow start, and only on two of the five sites. Certainly there has not been enough progress made on our sites to evaluate PAR as a suitable approach in dealing with landscape level issues of biodiversity and/or human well being. The previous positive experiences with both PAR itself and its evaluation as an approach in the ACM and CAPRI contexts suggest that it holds promise; and we hope that this analysis of the contextual factors that inhibited our ability to contribute to more effective PAR implementation at the landscape level will help others both analyze their own constraints and deal more effectively with them.

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