

Methods and tools for participatory biodiversity monitoring – some discussion points

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Introduction to theme 3 of the PAMEB workshop: Processes, methods and tools

Based on my experience in the Forest Conservation and Community Development Project in Yunnan, the SW Province of P.R. China, I would like to share some thoughts and discussion points on methodologies for PAMEB. The project aims to improve the integrated management of 6 nature reserves (mountainous forests, watersheds) in the Province.

- 1. The methodology for PAMEB depends on the objective.** Is it information needs only; do you want absolute figures or indications of changes; or do you also aim for mutual capacity building, awareness raising, transparency of decision-making? We developed three activities related to biodiversity inventory and monitoring, based on three different objectives.
 - A scientific inventory and monitoring system implemented by senior staff from provincial research institutes, with support from local nature reserve staff.
 - An improved monitoring approach for the main protected wildlife species by nature reserve staff during patrolling, with feedback from experts if required.
 - A participatory monitoring exercise by the local rural population and nature reserve staff, of resources such as timber, NTFPs and water, as well as some land uses and protected species. The local villagers and nature reserve staff were involved in the development of the methodologies from the start. Below, I will discuss this third monitoring system, as it is most relevant for this workshop.
- 2. Need for a supporting legal and policy framework and positive attitude of the forestry department towards participatory monitoring.** In our case, the rules and regulations for nature reserve management in Yunnan seem to enable sustainable use of some resources and joint management of parts of the nature reserve. The Chinese forestry sector has a history of top-down management, but also has decentralised forest management systems in the 1980s. We will be talking about the enabling policy environment and institutions in theme 6, but I wanted to mention it here, since in practice it is an important consideration when developing the methodologies.
- 3. Clarify perceptions of benefits and obstacles of all participants.** One obstacle mentioned by the villagers involved was that they were afraid that when these resources were monitored they would be even more restricted in their resource use. It is very important that local people take part in the analysis of monitoring results and decision-making in improved resource management, and that this is a two-way negotiating process between villagers and nature reserve management staff. This reveals a challenge: facilitate the expression of opinions by villagers so that management decisions are not only restrictive but also address sustainable or alternative uses.
- 4. The monitoring targets should be directly related to one's work or daily life.** It probably depends on the welfare status of the village, but in our context it was very hard to stimulate the rural poor to monitor all types of (scientifically interesting) biodiversity, if they do not have a direct interest in it. We took as a starting point the monitoring of resources which are important to local people's livelihoods, since in a way they were already doing that. From that starting point they proposed some

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additional monitoring targets, such as land uses, species that damage their crops (boar, bear, deer, macaque), and (other) species with an important role in the ecosystem (wild cat, predator birds, snakes). A prerequisite is that responsibility for the monitoring and also part of the analysis and decision-making lies with the villagers. If you ask local people to monitor, but then take the results away, analyse them somewhere else and take subsequent decisions, it will create lack of trust and unwillingness among the villagers to document valuable results or knowledge in the first place.

5. **Local monitoring partners should be preferably based on the heterogeneity of the village.** Within the village, biodiversity is valued differently (also see previous theme discussion). This means that you first need to have an insight in this heterogeneity within the village, before you can choose the right monitoring partners. We did semi-structured interviews with different groups within the village along age, gender and income lines (I admit a rather old-fashioned division), which did reveal differences among these categories.
6. **Involve local communities in the development of the methodology.** It makes no sense to develop your methodology in the office with your own values, concepts and perceptions and then ask local people to implement it. Moreover, direct involvement in the development will enhance the anticipated sense of responsibility among the local communities for the results. We organised a facilitated workshop with villagers, nature reserve staff and project officials, during which objectives, targets, indicators, methods, data analysis and dissemination were all discussed and determined.
7. **Start with simple methods and tools and grow into it.** Since our main strategy was ownership by the villagers and local staff, we started with simple indicators and methods. Moreover, in our case the villagers are busy farmers and (hunter/) gatherers – they do not have time to do scientifically based plot and transect investigations, nor all kind of PRA sessions and exercises. It is therefore important that most of the recording of indicators can be integrated in their daily schedule. Indicators for ‘abundance’ were qualitative but also included relative quantitative ones: frequency of seeing or hearing, time needed to collect the resource, estimation of amount in field, number of species (or their traces) seen, habitat condition etc. Indicators for land uses: total estimated area and growth condition. Indicators for resource use: estimated consumption, amount marketed, cutting quota, number of houses built per year, etc. Methods ranged from direct observation in the field (mostly by villagers during collection season), to interviewing village forest guards (often ex-hunters), market survey and mapping (mostly during staff visits in village). The paper work (e.g. scoring in tables) was left to the staff, since the villagers were not comfortable with that.
8. **The unreliability of monitoring by villagers: a myth or reality?** How objective or rigorous are data gathered by villagers? The question is maybe not to what extent participatory monitoring must fit into scientifically based (and therefore assumed to be reliable) formats, but what you want to do with it (see point 1; what is needed and who needs it). We have chosen for complementary systems, since we believe in the strength of the combination instead of putting all effort into one all-embracing monitoring system. But a challenge remains how to connect or communicate between them. See also Abbot & Guijt, 1998 about this discussion (and other interesting material about methodologies).
9. **Data dissemination is more than writing reports.** In our exercise, the villagers and nature reserve staff themselves chose the data dissemination methods and to whom to disseminate. The result was that dissemination to the rest of the village and other villages was mostly informal (orally), but also by means of radio and T.V. broadcasting, posters, blackboards and other visuals. To disseminate to higher levels (Nature Reserve Management Bureau, Forestry Bureau, local government) mostly written reports were chosen.

10. **Not paying villagers may be ‘politically correct’ but not always realistic.** I also prefer the not-paying principle, to appeal to the equal relationship you wish to enhance, or to the villager’s willingness to conserve instead of his hunger for hard cash. However, monitoring costs time and money, also for a poor farmer. Since it is a new activity, we decided to provide ‘stimulation fees’ as well as operational costs for data analysis (meetings) and dissemination. Later on we will see whether there is a possibility to further make it part of the villagers’ life.
11. **A lack of trustful relationship between staff and villagers is the biggest pitfall.** This participatory process of methodology development revealed very interesting and valuable discussions between the villagers and staff, which had not really happened before. The forestry department tends to have a history of top-down management; staff tend to view the villagers as ‘backward’ and not skilful enough to do monitoring. Through the process in these two pilot areas however, the staff admitted to have learnt from the villagers.
12. **Another pitfall is short-term needs versus the long-term character of monitoring.** The main worry of the villagers concerned their long-term benefits in this participatory resource monitoring. They suggested a training addressing long-term benefits and sustainable use issues to make them more familiar with this way of thinking.