

Dansk Ornitologisk Forening

BirdLife Denmark



**Locally Based
Monitoring and Management
of Natural Resources**

June 2014

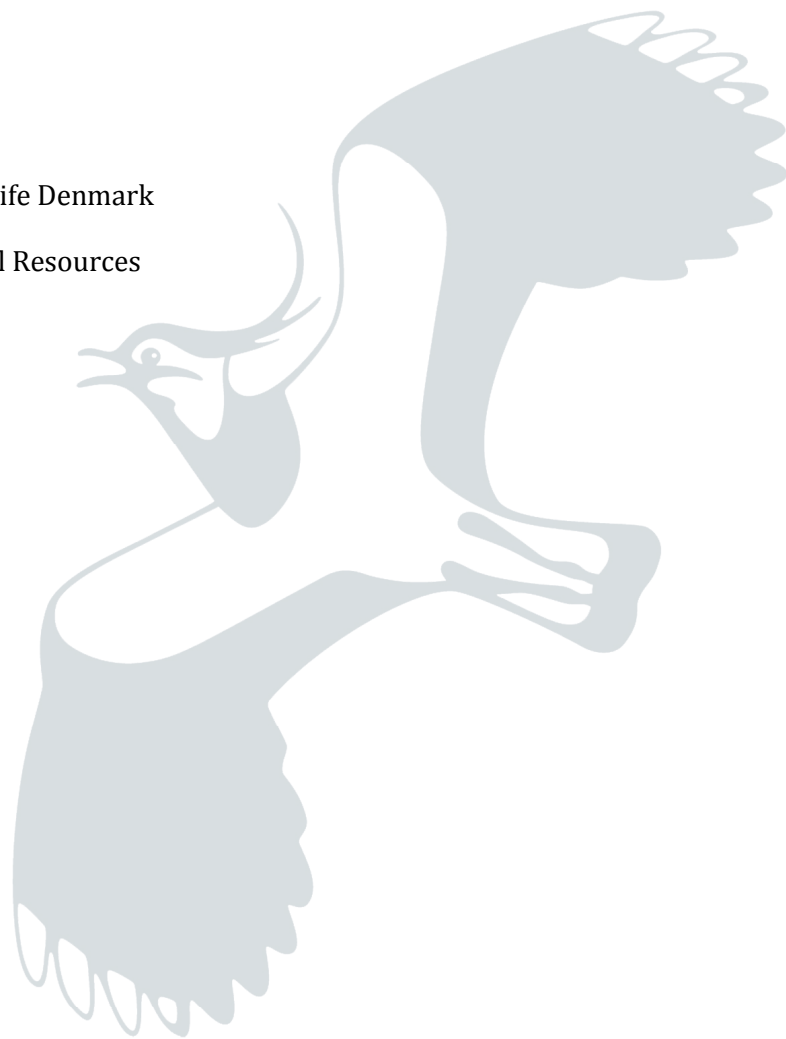
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Abbreviations

DOF	Dansk Ornitologisk Forening/BirdLife Denmark
LBM	Locally Based Monitoring of Natural Resources
NTFP	Non Timber Forest Products
ToT	Training of Trainers



1. Background

Locally based monitoring and management of natural resources (LBM)¹ is an approach to develop a simple and self-sustainable monitoring system targeting carefully selected variables like e.g. components of biodiversity, human natural resource use, ecosystem services² and other issues that are believed to be an integral part of sustainable management of natural resources.

The approach is informed by DOF's experiences of involving citizens in data collection in Denmark. These experiences form part of the concept of 'citizen science' in which volunteers play a decisive role in biodiversity- and other research - and in forest, wetland and coastal area management.

LBM (previously known as LKM) is specifically mentioned in DOF's International Strategy 2013-2016 as a concept that we strive to promote and further develop in our international work³. It has been implemented by DOF in the first and second phase of the *Sustainable and Integrated Management of Mbeliling Forest* on Flores in Indonesia and introduced to the *Improved Livelihoods through Sustainable Management of Forest Resources in and around Echuya Forest* in Uganda and to the *Harapan Rainforest Programme* on Sumatra in Indonesia.

Our experiences show that LBM can be understood and implemented in various ways. Though the concept can be framed as a methodology it is highly contextual. In order to enhance local ownership, it is important that local communities are involved in the design, and in choosing indicators that are meaningful from their perspectives and important for their livelihoods. This was the reason why local communities in Mbeliling Forest on Flores decided to shift from monitoring biodiversity to ecosystem services like water and forest resources that they depend upon for their livelihoods. DOF is aware that the experiences in Denmark with voluntary engagement in data collection cannot be directly transferred to developing regions⁴. Although biodiversity data (such as occurrence of threatened birds) would be ideal for measuring long-term success in conservation, it will rarely be a priority for local community members. This requires that parameters are chosen that are meaningful from the locals' perspective but which nevertheless are linked in some way with biodiversity values and therefore provide some guidance for the overall management and protection of the environment. LBM is a 'learning as we go' approach that can be modified in a lessons learned process.

2. What is Locally Based Monitoring?

LBM is - as already mentioned - an approach to develop a simple monitoring system that involves local communities and other stakeholders not only in data collection but also in data interpretation, analysis and decision-making on the basis of the results. It helps build capacity

¹ Several names are used for this approach. DOF has mostly employed the term Low Key Monitoring (LKM) or Local Level Monitoring (LLM). We decided that Locally Based Monitoring of Natural Resources (LBM) would best express the concept and will be used in our future international work

² E.g. non-timber forest products, fish, meat from game, fodder, and water

³ This is simple monitoring, which can be conducted by members of local communities, and sustained as a low-cost tool for planning sustainable use of natural resources; see for instance Danielsen et al. in *BioScience* 64(2014): 236-251

⁴ The approach has proven to be especially effective in developing regions, including e.g. the Arctic (see www.pisuna.org)

in resource management, awareness of sustainable development, local ownership to the area, resolve conflicts, and strengthen civil society. LBM is context-and site-specific and is developed in a participatory process with local community members and those authorities that are responsible for managing the areas. It is simple, easily managed and cost-effective and is designed to be long-term and self-sustainable beyond the lifetime of externally-supported programmes. It is based on the standardized collection of selected data at regular intervals using the same approaches (e.g. focus group discussions of experienced forest users, or well-defined routes/transects surveyed by community members at regular intervals). The data shall be easy to obtain in the field with no or a minimum of equipment necessary, be as easy as possible to store (for instance using simple binders), and be comparable and simple enough to allow for quick and clear interpretation.

For the monitoring to be useful in practice, it is exceptionally important that it is closely integrated into the existing local natural resource governance system. Likewise, it is important that the community members are in the 'driving seat' with respect to developing the system and collecting, interpreting and using the data. The data and information belong to the community members. If program staff or other people ask for a copy of the data set, the community members will usually allow it to be provided.

If for some reason, the monitoring system is not build into the existing local natural resource governance system and if data interpretation and analysis is led by program staff, then the results of the data analysis should be shared with and validated by the local community members.

3. The Purpose

The main purpose of LBM is to provide data and knowledge about biodiversity, ecosystem services and natural resources that can contribute meaningfully to the sustainable management of the natural resources of e.g. forests and wetlands. It can ensure habitat and biodiversity conservation as well as a sustained supply of, for example, Non Timber Forest Products (NTFP), and water resources.

One immediate objective of LBM could be to monitor trends over time in the abundance of e.g. deer or wild pig in order to establish how the local communities can benefit from important wild food resources without contributing to their loss. The objective and content of a specific LBM system is decided in a participatory stakeholder process that involves all main stakeholders and is founded in the local natural resource governance system within the framework of the overall program.

Experiences suggest that the monitoring is most effective when the target of the monitoring is kept small and limited to, for example, just 5 natural resources that are of high priority for the community members. It is also of high importance that a simple mechanism is developed to ensure that the findings from the monitoring are used for decision-making on natural resources.

4. Participants and stakeholders

LBM is carried out by people who are affected by and have a stake in a local ecosystem, for example a forest, and who are likely to contribute to the success of an intervention. These are usually local community members who depend on the forest resources but it can also be local program staff, local authorities and government employees (like forest and protected area rangers), local civil society organisations and others.

A participatory stakeholder analysis process is therefore an important first step towards identifying the right people for participating in and being responsible for LBM and for ensuring that the information from the LBM process is used for decision-making. Often forest users, hunters, fishermen and -women and other local people who are frequently in the forest and who depend on forest resources for their livelihoods will be the most important stakeholders in this process. They are likely to have a long term interest in and possibly (formal or informal) rights to the resources.

The main incentive for the community members to spend time and effort on monitoring is that it helps them ensure a sustained harvest of resources, and that it strengthens their rights to the resources.

Local community ownership is the key factor for ensuring sustainability of the LBM process, the landscape and its resources. Local communities, not the least indigenous peoples groups, often have profound and specific knowledge of their local environment that is valuable for sustainable management and use of resources. Women and men often have different knowledge of and access to resources and play different roles in natural resource management. The stakeholder identification process shall both be democratic, inclusive and gender sensitive and ensure that LBM practitioners are genuinely interested and the approach to monitoring build on what is locally meaningful and possible.

5. The six steps process

The LBM process is based on six major steps:

1. Preparation

First of all, the possibility of establishing a LBM system should be discussed with representatives of the local leaders. During these discussions, it should be made clear that the system is intended to serve as a tool for the benefit of the local communities and their sustained use and protection of natural resources. The participants in the monitoring will not be paid, but nevertheless many communities across the world have found it very useful to participate in LBM. If a community is not interested, this should be respected. The project will then work with another community. If the local leaders are interested, the project will work together with the local leaders on developing and establishing the monitoring system.

Representatives of the local leaders should propose participants to be involved in developing the monitoring system. Project staff should discuss with the community members what are their main challenges in terms of natural resource management

and conservation in the area, and how improved information about natural resources can encourage a more sustainable use of the resources.

It is important to obtain a clear understanding of the main challenges and opportunities in the area with respect to natural resource management. The preparation of LBM also includes compilation of available background information (e.g. information on legislation, formal and informal ownership of areas and resources, current and planned land use, and any other data available for the area to be monitored and managed), assessment of relevance to program objectives, stakeholder analysis, time planning, initial discussions of coverage, content, duration, management relevance, budgets etc. all relevant for the design, implementation, management and use of the monitoring system.

2. Mobilization

The mobilization process includes gender sensitive identification of individuals from the defined stakeholder groups to be involved, information-sharing with stakeholders (what is LBM, what are the plans and the goals, and how are the data to be used, by whom and when), and the agreement on roles and responsibilities until the system is ready for use. At community level, the identification of participants should be non-discriminatory and e.g. also take age and social equity as well as differentiated knowledge about and access to the local landscape and natural resources into account. When relevant, indigenous groups are specifically involved.

3. Design

The context-specific design of the LBM system takes place in one or more participatory workshops where all relevant stakeholders are represented and actively contribute to an agreed first version of the system, and initial agreements are made on roles and responsibilities for all aspects of the management and use of the system (recording forms, what to record, definition of community monitoring groups or transect routes, frequency of focus group meetings and line transect survey, etc.). It is also important to agree how data should be stored and interpreted, and how, when and by whom decisions based on these data can be made (for instance in village assemblies, or at regular meetings with authorities).

4. Testing

Before implementation the system is repeatedly tested until a fully agreed and functional LBM system design and framework is ready. This includes a thorough and participatory field-testing of the first version of the LBM system, incorporation of all aspects that need to be revised or improved, quality assurance of data formats and types to ensure that storage and interpretation is functioning, and that results of the analysis are clear and useful for community members and local authorities and their decision-making on forest management. The testing includes assessing the LBM system for its overall user-friendliness, low-cost sustainability prospects and general usefulness to all involved stakeholders.

5. Implementation

Implementation begins with a series of Training of Trainers (ToT) workshops to reach a critical mass of able implementers so that the LBM system can be rolled out as agreed. Monitoring in the field, data compilation and storing, and regular compilation of lessons learned and experiences by involved stakeholders are all part of the implementation process. It also involves continual and participatory revision of the system on a regular basis and the analysis of data for forest management purposes. Often there will be a rapid turnover of community members in the beginning but after a while there will be a consistent base of interested and committed people. Sometimes there will be a bottleneck in that data and results are not fully being used for decision-making. It is therefore crucial that the program carefully follows the process and ensures that the findings are in practice used for decision-making, and that the results of the decision-making are communicated back to the community members involved with collecting and interpreting data as this is a key incentive for their work.

6. Monitoring, Evaluation and Exit

The LBM system is continuously monitored and it is a good idea for stakeholders to jointly evaluate the process after a year or so in order to adjust it to needs and experiences. A participatory workshop with all involved stakeholders is held when the program is approaching its termination to formulate and agree on the most feasible strategy for long-term continuation covering aspects pertaining to roles and responsibilities (also of data), sustained funding of management and use of the system, and the formalities in relation to a final hand-over.

The main expected results are:

- Comparable data and observations on natural resources and natural resource use
- Improved natural resource management
- Multi-stakeholder involvement
- Ownership to natural resource monitoring and management at community level

Conclusions

DOF commits itself to share with partners and implement this working paper in international development cooperation and to concretize it in approaches and activities in the program and other development interventions. DOF's LBM approach is aligned to our Nature Policy guidelines, and policy papers on gender and indigenous peoples.