

Danish Ministry of Foreign Affairs
 The Research Unit
 Technical Advisory Service, BFT
 Asiatisk Plads 2
 1448 København K, Denmark
 E-mail: FFU@um.dk

Annual Report Form for research projects

UM j.nr.

Date of submission:
 1 Feb. 2007

The report must be in English and must not exceed 10 pages. The report must be submitted on 1 February the following year to the Ministry of Foreign Affairs, electronically to the address: FFU@um.dk. For projects with several partners, the reporting must be based on a mutually agreed text.

Attachments:

List of publications

For individual Ph.D. projects: Annual statement from the supervisor on the progress

Additional information, such as internal project reports etc., can be attached as it is found relevant.

Guidelines for filling out the report are attached to the form.

1. Project responsible Per Moestrup Jensen	Address	
	Email pmj@kvl.dk	Telephone
2. Financially responsible institution	Address	
3. Project Title	Monitoring Matters: Comparative Analysis of Innovative Approaches (MOMA)	
4. Homepage for the project, if any		
5. Grant (DKK)	Total	
6. Project period as approved	1 Jan. 2006 – 31 Dec. 2008	
7. Reporting period	1 Jan. 2006 – 31 Dec. 2006	
8. Previous annual reports	Date of submission	Period

A. Does this report contain information that, according to the Guidelines, will require immediate action from the Ministry of Foreign Affairs? YES X <input type="checkbox"/> NO <input type="checkbox"/>	Yes. We ask for approval of changes in the time allocation: (i) KVL, 13 mths from E. Topp-Jørgensen to M. K. Poulsen (9 mths) and N. Burgess (5 weeks/yr; total 4 mths) as Topp-Jørgensen prior to Danida project approval obtained new position in Nuuk. M. K. Poulsen was team leader during the original development of the locally-based monitoring scheme in Tanzania; (ii) Nordeco, 6 mths from F. Danielsen to A. Jensen (1 mth/yr; total 3 mths) and S. Holt (1 mth/yr; total 3 mths) to increase the overall project impact by strengthening developing country supervision and dialogue.
B. During the year, have there been significant changes in the preconditions for the project (changed objectives, time frame, shift in the involved institutions and responsible partners etc.)? YES X <input type="checkbox"/> NO <input type="checkbox"/>	Yes. Instead of working in Namibia, the project will work in Madagascar (approved by FFU according to email from J. T. Karlsen of 7 Dec 2006). In addition, there has been a change in the institutions leading the work in Nicaragua: the NGO Centro Humboldt has agreed to become the lead institution (instead of Centre of Malacology and Animal Diversity). This is expected to increase the efficiency of the project activities at the field level. There has been no other major change in the preconditions for the project.

C. Were any specific conditions given for the approval or extension of the project (i.e. in the Letter of Grant):

YES X NO

Yes. An assessment of the project management can be found in Section 8.

1. Summary of the project status:

Overall, the project has progressed as planned during 2006. Key developments towards achieving the stated project objective include: (i) Establishment of Danida standard Memorandum of Agreements and detailed Terms of Reference with seven key project partner institutions; (ii) A 3-day Project Kick-Off Workshop convened with the participating researchers and institutions to discuss and plan the research; (iii) Agreements reached with project participants on sampling strategy, statistical analysis and field methods; (iv) Project fieldwork initiated; (v) A proposed typology of monitoring schemes jointly prepared; (vi) A quantitative analysis of management decisions emanating from monitoring in the Philippines prepared; and (vii) Discussions on the application of the project results undertaken with stakeholders on five continents. The project is progressing well towards the indicators and 'milestones' listed in the project document. The project is multi-disciplinary in nature and involves 15 institutions spread over 9 countries. Nevertheless, in a fairly short time, the project has managed to obtain a broad consensus among the participating researchers on the research approach. It might, however, strengthen the impact if the project's 3-year lifetime were to be expanded by 6-12 months within the existing budget. The project assumption stated in the project document has largely been fulfilled and the project risk has not materialised. No further significant assumptions or risks to the project have been identified at this stage in implementation.

2. Status – project objectives:

Objectives. The project is progressing well towards the objectives stated in the project document. The objectives are still highly valid. The project objectives are: (i) 'Sustainable use of natural resources' (the overall objective); (ii) 'Local communities and national agencies have access to the most reliable methods for monitoring resource use trends' (the intermediate objective); and (iii) 'Improved understanding of the reliability of locally-based monitoring vis-à-vis conventional monitoring' (the immediate, specific objective). The detailed progress towards reaching these objectives is described in Section 3.

Indicators, assumptions and risks. All the project indicators are still relevant. The main assumption associated with the project (that 'staff changes in the governments do not significantly negatively affect' the work) has been fulfilled in 5 of the 6 countries where the project involves work in the field. The exception is Bhutan, where government staff rotation has delayed formal approval of project initiation although this delay is unlikely to compromise the project's overall achievements. The only major risk to the project ('unforeseen climatic, infrastructural or political conditions which e.g. may prevent access to the field sites') has not materialised. In fact, in most of the countries involved, decisionmakers seem to have given increased attention to climate change, and this may increase their interest in sustainable resource management and in the findings from this project. No further major assumptions or risks have been identified at this stage in implementation. The input of all institutions (except Ministry of Agriculture in Bhutan, see above) are now on track.

3. Status – activities and results:

The achievement of project 'milestones' stated in the project document is assessed in Table 1. Most of the milestones are not yet applicable.

Table 1. Status of MOMA project 'milestones' after the first 12 months.

#	Milestone (as presented in the project application of Feb. 2005)	Status of milestone by the end of Mth 12 (Dec 2006)	Comments
1	Locally-based monitoring established and in operation in Nicaragua and Bhutan (<Mth 6)	Locally-based monitoring under establishment and fieldwork initiated in Nicaragua.	In Bhutan, staff changes in Min. of Agriculture delayed field work
2	Conventional monitoring started alongside the locally based monitoring in all six	Conventional monitoring started alongside the locally based monitoring in five of six countries	As above.

	countries (<Mth 10)		
3	First national workshop in each country (<Mth 16)	Milestone not yet applicable	
4	International workshop convened (< Mth 20)	Milestone not yet applicable	
5	Second national workshop in each country (<Mth 28)	Milestone not yet applicable	
6	Project fieldwork finalized (<Mth 33)	Milestone not yet applicable	
7	Draft report (<Mth 34)	Milestone not yet applicable	
8	Final report (By the end of the Project)	Milestone not yet applicable	

To assess in more detail the activities and results of the project, we have summarized the activities undertaken by each institution involved, see Annex 1.

It should be noted that the shift in activities from Namibia to Madagascar has partly affected the role of the University of Florida (UF), which originally included support to the WWF implemented research activities in Namibia. A new agreement has been drawn up whereby UF will: (i) continue to provide overall input to methods development, and (ii) lead preparation of a paper on the management effectiveness of locally-based and conventional monitoring as part of the recommendations from the project. This is feasible within the original budget allocations and exploits UF's comparative advantages fully. The paper will be prepared in collaboration with Nordeco and involves compiling and supplementing existing data and knowledge from three established locally-based monitoring schemes (in Tanzania, Namibia and the Philippines).

Several scientific papers have been produced (Table 2). The most prominent result so far is a scientific essay which characterizes existing locally-based and conventional monitoring approaches - to our knowledge the first of its kind (Box 1). This paper is based on the discussions at the project Kick-Off Workshop. The paper was drafted at the invitation of the editors of *Conservation Biology*, one of the leading journals on natural resource management. This typology can serve as point of departure for data analysis in the present project. It is also valuable as analytical framework for an assessment of the world's existing natural resource monitoring schemes (being developed as a separate scientific paper). In addition, the findings are useful for 'levelling the playing ground' and e.g. prompting a more structured exchange of experiences between the many natural resource management initiatives worldwide which struggle with developing effective monitoring approaches.

Box 1. Abstract of a scientific essay providing a typology of natural resource monitoring approaches

Abstract: Monitoring of biodiversity and natural resources is undertaken in most developed countries, where it is funded by the state or large non-government organisations and often involves many thousands of skilled volunteers. Far less monitoring of biodiversity and natural resources takes place in developing countries as the state agencies are poorly funded, there are few skilled volunteers, and there is little leisure time for most people. As a consequence, knowledge of ongoing changes in natural resources in developing countries is often rudimentary.

Instead of accepting that monitoring is not going to be an important issue in developing countries we have prepared a synthetic overview of the types of monitoring systems that might be relevant in developed and developing country situations. Five categories of monitoring scheme are described, ranging from those where all stages are undertaken by professional scientists, through to those where all stages are developed and undertaken at the local level. We characterise each category and identify their strengths and weaknesses, specifically in relation to the situation in developing countries, and the linkage to practical management on the ground.

Our assessment indicates that locally based monitoring can be sustainable and highly relevant, especially in the developing countries and in particular where local stakeholders are intimately involved with resource management and utilisation. Local monitoring often leads to rapid decision-making to solve the key threats affecting the natural resource and has a strong link to effective management. Another advantage of locally based monitoring schemes is their ability to empower local communities. Disadvantages are a likely reduction in accuracy and precision when compared with technocratic monitoring undertaken by scientists, and the relatively poorer ability to roll the results up to be used at the global level.

The continuum of monitoring approaches from technocratic/professional through to locally-based mirrors the devolution of management responsibility in natural resource management schemes. The most locally based monitoring scheme is equivalent to the "traditional or customary" management system. Here management responsibility has not really been devolved - it has historically been and remains at that level. The next most locally based monitoring schemes are equivalent to Community Based Natural Resource Management - where management decisions and other rights rest with the community - and linked to this is the responsibility to monitor the status of the resource. Monitoring schemes in the middle of our five categories mirror some of the more collaborative natural resource management schemes; for example Joint Forest Management where management rights and responsibilities have not been devolved from government, but where there is a sharing of management costs and benefits. Similarly the least locally-based of the monitoring schemes parallel the 'fences and fines' approaches to conservation, where there is no local involvement and decisions are made and imposed by outsiders.

We conclude that there is underutilised potential for locally-based monitoring to provide data that is accurate and useful for management purposes, primarily at the local level. However, further research is required on the best ways to generate accurate and precise data using local people, on how practically involve local stakeholders in monitoring of natural resources, on the most effective way to link the monitoring to resource management decisions on the ground and on how to feed locally collected data into national and global monitoring schemes

4. Changes concerning the relevance to Danish development Co-operation and to partner country development.

An assessment is required of the relevance of the research and of the project's interaction with bilateral projects and programmes.

Relevance of research. The relevance of the research to partner country development and Danish development cooperation has increased during 2006 due to several factors.

First, globally, there has been increased attention to climate change and the role of ecosystem services, also among senior policy-makers. Locally-based monitoring has a potentially very important role to play in encouraging realistic climate change adaptation in rural areas as well as in promoting sustainable natural resource management.

Second, during the negotiations on replenishing the Global Environment Facility (GEF), which is the world's largest financier of environment and climate initiatives in the developing world, agreements were made on how to improve the effectiveness of GEF-funded initiatives (GEF-4). It was agreed that there should, e.g., be better monitoring, more focus on 'management for results', more attention to building capacity of developing country institutions, and better integration of environment initiatives with country poverty reduction efforts. In all these areas, locally-based monitoring can be an important tool for improving the effectiveness of GEF initiatives (see also bullet on cooperation with GEF in Section 5).

These two recent developments are also expected to be mirrored in the developing countries' strategies for poverty reduction and sustainable development.

Interaction with bilateral programmes. The project has communicated with Danida-supported sector programmes and/or other bilateral initiatives in most of the countries where the project is active. In particular, the project is cooperating closely with the Danish-supported environment sector programmes in Tanzania, Nicaragua and Bhutan. In Tanzania, the project's national level activities (national workshops, meetings of a natural resource management reference group) are organized and facilitated by the Forest and Beekeeping Division (FBD) as an integrated part of the national Danida-supported Participatory Forest Management (PFM) Programme. In addition, FBD intends to support students from Sokoine University of Agriculture to join this research project in order to undertake fieldwork for their masters theses funded through the PFM Programme. In Nicaragua, the research is implemented through an NGO, Centro Humboldt, which is involved with related activities in the Danida-supported national environment programme, thereby promoting synergy and sustainability. In Bhutan, the national sampling strategy for the project has been developed by the Ministry of Agriculture in close coordination with staff from the Danida-supported Policy and Planning Unit, who are very keen to apply the research findings in their work; the Memorandum of Agreement for the project has however not yet been signed (see Section 2). In the Philippines, the research is building on and working through the same institutions as previous Danish-funded activities on biodiversity and natural resource management, contributing to the sustainability of the previous investments. In Madagascar, it is too early to assess how the research fits into the country's development strategies but the direct linkage to Danish development cooperation is limited.

5. Co-operation with users at all levels concerning the dissemination and application of the project's results:

A number of activities have been undertaken to promote dissemination and application of the project's results. Some important examples are provided below.

- Web Site. A website with background materials and guidelines on locally-based monitoring has been established and maintained. During 2006, this site was visited 2160 times by 1539 unique users from 45 different countries (www.monitoringmatters.org). The website will be further expanded with information on the progress and recommendations of the present research.

- Web-based publication. Concrete steps to improve monitoring were the focus of a Danida publication for staff of Danish-supported natural resource programmes/projects, embassies and others in 2006. One of the researchers of the present research project was team leader for development of the text ('Monitoring and Indicators in the Sector of Environment and Natural-Resource Management', Danish Ministry of Foreign Affairs 2006; available at <http://monitoring.dccd.cursum.net/>)

- Meetings with Danish embassies. Discussions on the potential use of locally-based monitoring were undertaken with e.g. the Danish embassies in Bhutan and Nicaragua. The national environment programmes in Tanzania and Bhutan have both expressed strong interest in applying the project results in their work.

- Meetings with other Danish government institutions. The Greenland Home Rule has expressed interest in collaborating with the project on piloting and testing locally-based monitoring as a means of strengthening the dialogue between hunters and the government institutions and thereby improving capacity for resource management in the Arctic.
- Discussions with multilaterals. Staff of the Global Environment Facility and the World Bank have expressed strong interest in obtaining assistance from the researchers of this project for building capacity in locally-based monitoring in c. 25 concrete GEF initiatives in Africa, Asia and Latin America as well as for the entire World Bank and UNDP-managed GEF portfolio (comprising >300 environment programmes/projects worldwide). Unfortunately, there is currently no mechanism in place for enabling this assistance to GEF.
- Discussions with other government agencies and NGOs. Several government agencies (e.g. in China, Vietnam) and NGOs (e.g. in Kazakhstan, Kyrgyzstan, Nepal, Guinea, Solomons) have also expressed interest in obtaining assistance from this project for building capacity in locally-based monitoring.
- Media coverage. There has been coverage of the project activities in the written and broadcast media. The most prominent was on the BBC World Service, which featured 30 minutes on the Millennium Development Goals and how to monitor natural resources (electronic copy submitted to FFU in July 2006). Also coverage
- Lectures. A number of lectures on natural resource monitoring have been undertaken, particularly at the 7 university institutions which are directly involved in the project.

6. Co-operation with other researchers, international networks and research initiatives within the field

The project has established close cooperation with a number of institutions and researchers working on topics that are complementary but closely related to the project. For instance, the project has, on a more or less weekly basis, communicated with researchers at the Environmental Change Institute of Oxford University, Imperial College London, Cambridge University Conservation Science Group, University of Wales in Bangor, Royal Society for Preservation of Birds (UK), University of Science and Technology (Ghana), University of the Philippines (Philippines), the Participatory Forest Management Programme, Tanzania, and WWF-LIFE Programme, Namibia.

A presentation was given at an international workshop during the 2006 Annual Meeting of the Society of Conservation Biology in California, USA. Clip-board materials about our work were also presented at an EU conference in France on biodiversity management in developing countries. These meetings led to more than 100 requests for electronic materials about locally-based monitoring.

Meetings have also been held with Danish institutions and scientists involved in other research (e.g. in Tanzania, Ghana, Nicaragua and Bolivia) to improve coordination and exchange experiences. In addition, many of the visitors to the website (see Section 5) are probably other researchers, particularly from developing countries, where access to scientific literature is often difficult.

7. Obtaining of the necessary permits and authorizations according to current legislation in Denmark and partner country

All the necessary permits and agreements are in place, except in Bhutan (details in Section 2) and Tanzania. In addition, to our knowledge the project adheres to all local and international rules pertaining to the research.

In Tanzania, the official project research permit application has still to be approved by Tanzania Commission for Science and Technology (COSTECH). This has, however, not impacted on project implementation since, in the meantime, the project has been able to work through the existing Participatory Forest Management programme, which is active in the same villages and areas.

8. Progress in relation to the specific requirements for each project type as given in the application and project document:

For collective research projects, an assessment is required of the scientific progress and of the project management.

Scientific progress. The progress of the research activities is assessed in Sections 2 and 3. Below is a list of publications emanating from the project, with an indication of their publication status.

Table 2. List of publications

Title	Journal	Status as of Dec. 2006
Monitoring matters: Evaluating locally-based biodiversity monitoring in developing countries	<i>Oryx</i>	Published (40:14-15, 2006). A summary of previous discussions on locally-based monitoring. Pdf file in Annex 2.
Increasing conservation action by involving local people in natural resource monitoring	<i>Ambio</i>	In press (accepted Jan. 28, 2007). Paper based on data from the Philippine scheme. See Annex 3.
Monitoring matters: A characterization of monitoring approaches	<i>Conserv. Biol.</i> (on invitation)	In preparation. Major scientific essay largely based on discussions at the kick-off workshop
An assessment of communication in locally-based monitoring of natural resources by Ms M.A. Barcelona-Leones	M.Sc. thesis, Univ. of the Philippines	Dissertation based on data from the Philippine monitoring scheme

In addition, project staff used the present research network and published papers and made conference presentations on ecosystem services in developing countries, which all contribute to the overall objectives of the MOMA project (*Science* **310**, 643; *Science* **311**: 37-38; papers in press in *Agroforestry Systems*, *Int. J. of Remote Sensing*, and *Mangrove Science*, and conference presentations in Japan and USA, the latter organized by *Science* Chief-Editor, Prof. Don Kennedy). One of the articles in *Science*, lead-authored by MOMA project staff, was one of the most cited papers in conservation biology in 2006.

Project management. The management of the project, including activity planning, has been undertaken largely in line with the description in the project document. At the overall project level, a Project Steering Committee has been established, comprising one person from each participating developing country as well as representatives of KVL (Head), Nordeco and the Zoological Museum, Copenhagen. The Steering Committee has held one meeting. A Project Kick-Off Workshop has been convened. The workshop led to an agreement on the overall approach of the project and to the development of detailed national sampling strategies. The workshop discussions also led to the development of a scientific paper comprising a typology of existing natural resource monitoring approaches. The minutes from the Steering Committee meeting and the workshop proceedings have been disseminated to participants by email and via the project website accessible to project participants (copy submitted to FFU, July 2006). At the national level, in each participating developing country, government partner institutions and staff have been designated, and the first national planning workshops have been undertaken or are being scheduled for 2007.

9. Status concerning the sustainability of the results achieved

The project is examining whether locally-based monitoring can address the shortfalls of conventional monitoring, or compliment them. Locally-based monitoring is monitoring carried out on a local scale and by individuals with no or only limited formal training. This kind of monitoring requires only limited equipment and human professional resources. If well-established, the recurrent costs of locally-based monitoring are usually also minimal. The technical and financial sustainability of the project's results are therefore expected to be high. Preliminary indications from the first 12 months of project activities suggest that there is a very high likelihood that the institutions and researchers involved will be able to continue the activities initiated, and make use of the increased knowledge after termination of the project.

The project attempts to secure maximum possible sustainability in relation to the capacity created, by (i) using a participatory approach to project activity planning, thus encouraging 'ownership' of the project findings; and (ii) working through well-established institutions that have a long history of working with natural resource monitoring and management at the field level, and who will continue to work in this field beyond the project, thereby enhancing the organizational sustainability of the project results.

10. "Others":

There are been no major deviations or problems in the project.

11. Lessons learnt

One important lesson has been identified so far : a critical aspect of multilateral collaborative research projects such as this is the ability to strike an appropriate balance between addressing overall, cross-cutting aims and objectives (e.g. cross-national comparative analysis) while at the same time ensuring that the national and/or individual interests of the collaborating partners are also addressed. Finding this balance can be tricky but it is crucial if *de facto* partner engagement is to be sustained.

Signatures:

(Responsible project leader as well as responsible institute)