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As a Union, IUCN seeks to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.

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IUCN Bangladesh Country Office, established in 1991 has been providing support to the national institutions both government and non-governmental by advising them on environmental planning and management, sustainable management of natural resources, formulation of environmental policies, habitat conservation and restoration, ecosystem and livelihood management, water management, biodiversity conservation, demonstration of knowledge application through pilot interventions, institutional capacity strengthening, environmental education and awareness promotion, environmental law and water and climate change issues.

Monitoring and Evaluation Guidelines for Community Based Wetland Resource Management

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for Community Based Wetland
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Community Based Haor and Floodplain Resource Management
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Monitoring and Evaluation Guidelines
for Community based Wetland Resource Management

Text
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FOREWORD

M&E is a most frequently used and globally familiar abbreviation today, which stands for ‘Monitoring and Evaluation’ and regarded as an integral component of the planning and management process for any well meaning development intervention anywhere. In a project’s life-span, M&E remains a cross-cutting activity conducted through the project tenure up to the phasing out and terminal evaluation of a project, which may continue continually till several years after physical termination of the project activities. It is an accepted prerequisite for successful completion of a project, ensuring maximum utilization of resources and attainment of the envisaged goal and objectives.

SEMP or Sustainable Environment Management Programme being implemented in Bangladesh is aimed at fulfilling the commitments of effecting the reversal of environmental degradation through ensuring sustainable livelihoods for the disadvantaged including women and bringing about the uplift of the quality of life in general, as contained in the National Environment Management Action Plan. IUCN Bangladesh (IUCNB) has been implementing two out of the twenty-six SEM components viz. Community Based Haor and Floodplain Resource Management since October 1998. As a regular large-scale development intervention, SEM activities carried out by IUCNB have so far been subjected to regular monitoring and evaluation done by the IUCNB M&E team.

The M&E system depicted herein has been in operation since the inception of the SEM interventions. The participatory M&E tools and methods used under the system have been tested, refined and found provenly adequate for the SEM field sites in the northeastern haors as well as the central floodplains of Bangladesh. This guide may be useful to the managers implementing other SEM components and similar natural resource management and development projects for maximising resource use and achieving sustainability through conducting regular M&Es.

Dhaka
December, 2003

Sabiuddin Ahmed
Secretary
Ministry of Environment and Forest
People’s Republic of Bangladesh
ACKNOWLEDGEMENT

Keeping track of the performance of any development project is vital for increasing the probability of its success. In case of the projects of far reaching goals, sequential steps of the subject logical framework should be monitored intensively for understanding the immediate and midterm outputs. Monitoring and evaluation practice helps to identify the output and gaps in the process for rectifying the logical framework opportunity with a view to pooling the project towards its goal.

In the community based wetland resource management projects of IUCN Bangladesh, monitoring and evaluation has been aiming at obtaining the periodical assessment. The valuable guidance of Mr. Alejandro Imbach, Asia Programme Coordinator, IUCN Asia Regional Office, Bangkok, is gratefully acknowledged in this connection. The Monitoring and Evaluation team of IUCN Bangladesh has been carrying out the M&E activities in close collaboration with Mr. Imbach since 2001. The assistance from Mr. Imitaz Alvi, erstwhile Advisor IUCN Asia Region is also cordially acknowledged, who had provided us with a number of monitoring & evaluation manuals, books and guides for initiating the Monitoring & Evaluation exercises at IUCN Bangladesh Country Office. IUCN Bangladesh also acknowledges the efforts of its partners, namely Bangladesh Center for Advanced Studies (BCAS), Center for Natural Resource Studies (CNRS) and Nature Conservation Management (NACOM), who are implementing the projects in the field in association with IUCN Bangladesh.

IUCN Bangladesh gratefully acknowledges the financial support received from Sustainable Environment Management Programme (SEMF), Ministry of Environment and Forests, Government of the People’s Republic of Bangladesh and UNDP for implementing the Community Based Haar and Floodplain Resource Management Project (Component 2.2.1/A & 2.2.1/B) and publication of this report.

Dhaka
December, 2003

Dr. Aminun Nishat
Country Representative
IUCN Bangladesh Country Office
Some Definitions

- **Planning, monitoring and evaluation** are components of a virtuous cycle leading to performance and impact improvements in Projects and Programmes.

- **Planning** is an action or process of setting objectives (expected changes), defining activities to achieve those objectives and quantifying the resources required to implement the activities in a well-defined time frame.

- **Monitoring** is an ongoing, systematic process of verifying whether the selected activities or processes are taking place as expected.

- **Evaluation** is a process of making judgments about a specific situation or process.

- **An organisation** comprises a structured group of people that share a mission, interested in exerting an influence on a real situation through implementing projects.

- An organisation achieves its mission through generating and implementing programmes, areas, units and projects.

- **Logical framework approach** is an analytical tool for objectives oriented project planning and management.

- **Project objective** presents the actual expected contribution of the project towards the situation described in the long-term objective. The project is committed to achieve this contribution within an agreed time frame.

- **Specific objectives** are a breakdown of the project objective in a small number of more specific and concrete objectives. The achievement of the specific objectives should be enough to ensure the achievement of the project objective.

- **Project and specific objectives** and their indicators are the mainstay of the contract executed with the donor. Therefore, achieving them is a must.

- **Indicators** are instruments that fulfill (1) defining precisely the reaching of the objectives and (2) monitoring their achievement. Only objectives have indicators.

- **Indicators should be simple, measurable, specific/direct, meaningful and feasible.**

- **Indicators should always be measurable:** either directly (quantitative) or by estimation (qualitative e.g. awareness level high/medium/low).
• **Indicators** always refer to changes in the real situation. They never refer to activities, e.g. 10 farmers were trained.

• **Identification of indicators** should start with the specific objectives, then for the project objective and finally for the long-term objective.

• **Means of verification** are the wide range of tools used to obtain the information required by the indicators (i.e. for verifying the indicators).

• **Milestones** are the identified specific products of each activity. They are so described to differentiate them from the indicators attached to the different objectives.

• Participants in each activity are also identified to achieve the project objectives.

• During project implementation, it is necessary to monitor the completion of the tasks foreseen in the annual/quarterly work plans. This task is called **performance monitoring**.

• Simultaneously, it is necessary to carry out the tasks required to collect the data and information needed to monitor the project indicators. This task is known as **direct impact monitoring**.
THINGS TO CONSIDER FOR DEVELOPING A MONITORING PLAN

A. Planning

Step 1: Define the vision, goals, and objectives

Step 2: Develop the conceptual model of Monitoring

Step 3: Choose performance criteria
  • Link performance to goals
  • Develop the criteria
  • Identify reference sites

Step 4: Choose monitoring parameters and methods
  • Choose efficient monitoring parameters
  • Review wetland resource management activities
  • Choose methods for sampling design, sampling, and sample handling/processing
  • Conduct sociological surveys

Step 5: Estimate costs
  • Cost for developing the monitoring plan itself
  • Quality assurance
  • Data management
  • Field sampling programme
  • Data analysis and interpretation
  • Report preparation
  • Presentation of results

Step 6: Categorize data

Step 7: Determine level of effort and duration of monitoring
  • Determine timing, frequency and duration of sampling
  • Develop statistical framework and methodology
  • Choose the sampling level

B. Implementation and Management
  • Manager must have a vision for the life of the monitoring plan
  • Roles and responsibilities must be clearly defined
  • Enact quality assurance procedures
  • Interpret the results
  • Manage the data

C. Responding to the Monitoring Results
  • Adding, abandoning, or decommissioning plan elements
  • Modification of project goals
  • Adaptive management
  • Documentation and reporting
  • Dissemination of results
1. The Lineal Processes of Planning, Monitoring and Evaluation

In dealing with the different types of projects of sustainable development such as SEMP (Sustainable Environment Management Programme) in Bangladesh, it should be pointed out that no well-known final or pre-determinable state of the process exists, and therefore, how to advance towards that is not known. This implies that we are facing processes that require an outline of planning, monitoring and evaluation different from the traditional ones used in industry, trade, large business houses, etc., where the final product is well-defined, as are the materials and processes to use and the costs as well as the time scales. The processes of planning, monitoring and evaluation are called lineal because they themselves follow a unique sequence of planning—monitoring—evaluation that is given lineally.

![Diagram showing the sequence of planning, monitoring, and evaluation](image)

**Figure 1.** The succession of tasks of planning (P), execution/monitoring (M) and evaluation (E) leads to a progressive improvement in the project performance and impact.


In the development process, planning is generally based on a series of hypotheses and assumptions that must be verified and corrected as the process advances. Monitoring and evaluation are seen as tools for verifying these and making the necessary corrections by discarding the invalid practices and replacing them by others, which also must be verified. The process has been symbolically
pictured as a spiral in which the steps of planning, monitoring and evaluation are continually repeated. This has been further improved recently by placing the spiral within a system of coordinates that represent the project performance and impact, and that express the improvements in both aspects as the process advances.

Monitoring is defined as continuous assessment of the intervention and its environment with regard to the planned objectives, results, activities and means.

Monitoring enables a stakeholder to review progress and to propose action to be taken in order to achieve the objective. Monitoring identifies actual or potential success or failures as early as possible and facilitate timely adjustment to the operations.

Evaluation is a systematic and objective assessment of the design, implementation and outcome of an ongoing or completed intervention.

The terms 'monitoring' and 'evaluation' are almost invariably juxtaposed and despite the dissimilarities in the areas of concern, there is a measure of overlap. Additionally, monitoring and evaluation are a set of interrelated activities with same nature and ultimately given the combined term 'Monitoring & Evaluation—M&E' to mean a common system. M&E addresses three areas of concern.

First, during project implementation, it investigates whether implementation tasks have, or are being, executed. It investigates whether project resources (for example, capacity building through training and extension services) are being delivered as planned and whether development is proceeding on schedule.

Second area of concern is project performance and this is in terms of realisation of project targets (for example, environment friendly management of open water fisheries, and the level of adoption of new production technology).

Third area is project impact, and here, investigations look for changes in yield, production, income and secure livelihood as indicators of the ultimate impact of the project on the target population. These impact studies also investigate any of negative effects of the project, such as environmental changes.
The first two areas of concern are addressed by monitoring and ongoing evaluation, while questions of project impact are embraced by post evaluation studies (since analysis of impact cannot be conducted satisfactorily until some years after project completion). One important linkage between monitoring and evaluation is the expectation that monitoring should identify problems and constraints such that subsequent evaluation should not discover unexpected findings about the operational difficulties.

IUCN Bangladesh (IUCNB) has been implementing Community based Haor and Floodplain Resource Management Project since October 1998 in partnership with three national NGOs namely — Center for Natural Resource Studies (CNRS), Nature Conservation Management (NACOM) and Bangladesh Center for Advanced Studies (BCAS) — all involved in environment related development activities. IUCNB and CNRS have been implementing the community based haor resource management project in Pagnar and Sanur-Dakuar Haor under Jamalganj upazilla of Sunamganj district and in Hakaluki haor under Sylhet and Moulvibazar districts with a view to enhancing ecosystem-based resources and uplift of the quality of life of the community people. Also, community based Floodplain Resource Management Project is being jointly implemented by the IUCNB, NACOM and BCAS in the Padma-Jamuna River Floodplain in Manikganj district, Madhumati Floodplain in Gopalganj district and Brahmaputra Floodplain at Trishal and Kapashia upazilla under Mymensingh and Gajipur district.
The Project Implementation Plan (PIP) prepared in the inception period of the project when Logical Framework Analyses had been carried out sequentially, maintaining the linkages among goal, purpose, output and activities. In the initial stage of the project, baseline survey on household socio-economic condition, problem census related to the wetland resources and participatory action plan development (PAPD) workshops had been organized through which the action plan development took place and implementation done in the project area. Restoration of habitats, establishment of connectivity among water bodies, swamp afforestation, capacity building through demonstration, training and awareness campaign, biodiversity conservation are the major areas of activities. Incentive has been provided to the vulnerable resource users who are acutely dependent on natural resources for their livelihood security. The community people are using this fund as capital money to establish the alternative employment opportunities, which could reduce the pressure on the haor/floodplain based natural resources and thus lessen the exploitation.

IUCN Bangladesh established an M&E plan through which regular activities, output, staff performance, efficacy, efficiency and relevance of the projects are being monitored by using the monitoring matrices (Appendix 1) which have been formed according to the logframe and project work plan. The M&E team visits the field twice a year and after completion of the trips, data are compiled and then necessary suggestions are made to incorporate the changes. During the trip, the field staff are harmonized with the various technical activities related with ecology restoration, biodiversity enhancement, documentation of data and the financial obligations.

**CASE STUDY**

**Logical Framework is the primary basis for developing M&E**

A key element in project planning and evaluation is the establishment of a logical framework for the project. The logical frameworks of community based haor and floodplain resource management projects had been outlined in the inception stage of the project tenure. The goal and consequently the purposes, outputs and activities have been figured out pertinently, in accordance with the prevalent field situation, available financial and human resources. External risks (as factor and influences) which would affect the causal linkages also were delineated.

So far, changes have been incorporated in the logframe on three occasions, in accordance with the field level needs which are outcomes of monitoring and midterm evaluation.
2. WHY SHOULD A PROJECT OF SUSTAINABLE DEVELOPMENT HAVE M&E TASKS?

The simple answer ‘to improve the project’s performance and enhance its impact’ would underline the following important aspects:

- M&E is carried out with a determined purpose; they are tools to reach other ends.

- A project’s performance means the suitable operation of the same, which allows the reaching of its objectives and doing so in a way adapted in terms of costs. A good performance implies that the project reaches its objectives and does so using the available resources in the best possible way.

- The project’s impact, on the other hand, is defined as the group of changes generated by the project in the socio-economic reality that it seeks to influence. That is, the analysis of the project’s impact is centred in its effects on the context in which it works.

The analysis of these effects on the context can be made from two perspectives: (a) immediate effects and (b) effects on the process of sustainable development. In the first case, the direct changes are examined that the project activities generate in the fields where it is intended to act. In the second case, the work is centered in the integral process of sustainable development, which requires the analysis of all aspects related with development and not only those surrounding the project.
2.1 How does M&E work?

Because M&E provides valuable and opportune information on the project’s internal operation and external impact, the necessary spaces for reflection exist within it and if the instances able to use this information work appropriately, the project is able to improve its performance and impact.

2.2. Integrated approach for facilitating monitoring

The integration means the impacts on such factors as gender and environment are monitored through the project. The use of logical framework is part of the integrated approach. It systemizes the analysis and setting of objectives and assumptions. In the logical framework matrix, the projects overall objectives, purposes and results are pronounced in operational and measurable terms using indicators.

Logical framework and levels of indicators

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<th>Sources of verification</th>
<th>Assumptions</th>
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<td>Indicators</td>
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<td>Results</td>
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<td>Activities</td>
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Since no project can be planned nor implemented in isolation from its environment, the external factors are equally important to be monitored. In the logical framework, the external factors are expressed as assumptions, the likelihood of which to materialise must be monitored.

2.3 Types of M&E

The M&E of a determined socio-environmental reality concentrates on analysing the progress of the same towards sustainability, considering the pertinent human and environmental aspects. Different methodologies are there for the purpose, such as, the Analytic, Reflexive and Participative Mapping of Sustainability (Imbach et al., 1997), the Barometer of Sustainability (Prescott-Allen, 1997), the System Assessment Method (IUCN, 1998) etc.

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Organisations and their programmes carry out three types of planning, viz. (1) strategic, (2) medium-term and (3) operative planning, while projects carry out only the last two (medium-term and operative). Strategic planning is employed by an organisation to define the most appropriate paths for fulfilling its mission or long-term objectives. The strategy of the organisation or programme is then put into operation through medium-term planning (3-5 years) and operative planning (usually annual). The operative planning is short-term (1 year/ 6 months) and in it are defined in reasonable details the tasks to be accomplished, persons responsible, necessary resources, the moment of realization etc.

Monitoring is the collection and management of data that relate to predefined target values for specified indicators. Monitoring information is collected on a continuous basis throughout the implementation phase of a project.

**Institutional Monitoring:** This category refers to internal monitoring of financial, physical and organizational issues affecting the project. Financial monitoring tracks project inputs and costs by activity within predefined categories of expenditure. Physical monitoring tracks the distribution and delivery of project activities and outputs/interventions. Organizational monitoring tracks sustainability, institutional development and capacity building in the project and direct partners.

**Context Monitoring:** The process of tracking the context in which a project is operating, as it affects critical assumptions and risks to the project. This includes monitoring institutional and policy issues that may affect the capacity of the project to act or the capability of the target population to respond to the project. These concerns are handled to some extent during monitoring, but principally during evaluation.

**Results Monitoring:** The process of tracking project effects (target population responses to project outputs/interventions) and project impacts (the contribution that the project makes to fundamental and sustainable change for the target population). Concerns about effects are handled to some extent during monitoring, but mostly by evaluation. Assessment of impacts is rarely dealt with by monitoring and is principally in the domain of evaluation.

**Objectives Monitoring:** The process of tracking project objectives and strategies for continuing relevance to the target population and its changing needs.
2.4 IUCN M&E

IUCN M&E has been envisaged to centre on its programme and project performance. The analysis of IUCN’s performance (as well as that of its partners) considers four central aspects: efficacy, efficiency, relevance and viability, which are determined by the organisation’s capacity, the motivation of its personnel and the context in which it operates.

**Efficacy** or effectiveness is related with the degree to which the organization reaches its objectives. It describes how well the results achieved have furthered the achievement of the project purpose.

**Efficiency** refers to the relationship between the invested resources and the obtained results. It concerns the relation between the results and means i.e. whether the process of transforming the means into result has been cost-effective.

**Relevance** is related with the place that the organisation occupies in the field (credibility, influence, ability in convocation, etc.).

**Viability** is the organisational ability to endure and sustain—both financially and technically.
It is important to appreciate here that the SEMP components in question (community based sustainable laor and floodplain resource management) have a well-defined framework, that is, they have objectives to reach within a specified time frame using a specific pool of resources put at its disposal (Appendix II - Logframe of Community based Floodplain Resource Management Project). The M&E of SEMP will concentrate on the analysis of the performance and the impact of the same.

An important aspect to highlight is that this simple system enunciated here promotes a focus based on self-evaluation as well as external assessment based on the SEMP PIPs (Project Implementation Plans for all the laor and floodplain project sites revised and updated from time to time). The suggested self-evaluation focuses on the work of the project team members and project partners to self-examine the project's actions and to learn from the process with a view to improving its impact and performance.

Source: Care Bangladesh 2002: "Manual on Participatory Monitoring and Impact Evaluation of Development Program"

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3. CONCEPTUAL OUTLINE OF THE IUCN M&E SYSTEM

3.1 Performance and impact: two key elements

Performance and impact are the two central aspects that guide the M&E of projects. While the evaluation of performance concentrates on the efficacy and efficiency of the project, evaluation of impact focuses on the changes that the project generates in the context in which it works. The analysis of performance looks within the project, while that of impact looks outside it.

CASE STUDY

During a visit to the community based Padma-Jamuna floodplain management project in Manikgonj district, a small-scale homestead plant nursery in Ghonopara village owned by one Majnu Mia was explored. The nursery is a small livelihood security for the household, supplying plant saplings to the local people. Majnu's interest in nursery raising had been generated through the training and awareness of the project activities, implemented by IUCN-NACOM.

3.2 Efficacy and efficiency: two decisive points of performance

The M&E of performance is centred on analysing the project's efficacy and efficiency.

Efficacy can be defined as the degree or level to which a project reaches the anticipated objectives. In other words, it is the contrast between what is planned and what is achieved. Efficacy indicators show how well the results at one level of project implementation have been translated into results at the next level: the efficiency of inputs, effectiveness of project outputs and sustainability of project impact. They measure a project's efficacy in achieving its objectives, rather than its results.

Efficiency, on the other hand, concentrates on the analysis of the relationship between the reached achievements and the resources (human, logistical and financial) employed in reaching the above achievements. In other words, efficiency analysis seeks to identify methods and processes that help achieve the same results.
with fewer resources. Efficiency indicator usually represents the ratio of inputs needed per unit of output produce.

These two aspects will be continually analysed both during the project’s course and at its end. Based on its experience of many projects, IUCN finds it advisable to conduct this vital analysis on a regular basis through the life of SEMP implementation, to be able to adjust and refine its work with the implementing partners, in search of the reflection/analysis spiral that leads to improving both performance and impact.

3.3 PIP: the basis of the SEMP M&E

Project Implementation Plans (PIPs) for the different SEMP project sites form the basis of the individual M&E matrixes to be developed from time to time as required (or every quarter as per the latest IUCN decision). The use of the LFA (Logical Framework Analysis) is decidedly argued for as the most usable tool in this activity, which is consistent with the conceptual framework explained above.

We, however, have always to keep in mind that planning is an essential aspect for any project, and that the quality and credibility of the performance analysis cannot be better than the quality and credibility of the planning itself, because the former depends on the latter.

Logical Framework Analysis (LFA), also known as the Project Framework Approach (PFA), was originally developed for the United States Agency for International Development (USAID) in 1969. Since then it has been adopted by many bilateral and multilateral agencies and NGOs as a useful tool for project planning and designing.
It is way of testing the logic of a plan of action by analyzing it in terms of means and ends. This helps to:

- clarify how the planned activities will help to achieve the objectives;
- be explicit about the implications of carrying out the planned activities in terms of resources, assumptions and risks.

"The Logical Framework is simply a tool which provides a structure for specifying the components of (a project) and the logical linkages between a set of means and ends..." (International Service for National Agricultural Research, quoted by Neil Price).

"It is not a set of project planning procedures, nor a set of monitoring and evaluation guidelines. It is a means by which a project may be structured and described in a logical fashion." (Neil Price)

Logical Framework Analysis is a 4X4 matrix where narrative description, indicators, means of verification and assumptions/risks are put in the rows against the arrayed goal, purpose, outputs and activities in the column.

3.4 Evaluating the execution of the PIPs

This process involves a considerable application of reflection while accomplishing the following tasks:

- Evaluation of the efficacy and efficiency with which the PIPs were executed.
- Evaluation of the progress made towards the medium-term objectives mentioned in the LFA.
- Extraction of lessons learned.
- Revision and adjustment of medium-term planning.
- Finalising work plan for the following work cycle.
CASE STUDY

Fisheries management in a sustainable manner

Matargaon is an isolated village of Pagnar river basin under Jamalgarh thana of Sunamganj district. Dry season rice (boro) and fisheries are the major resources exempting the other flora and fauna. To rehabilitate the degraded fish habitats, a sanctuary of 5 acres has been established with Matargaon Village Resource Management Committee (VRMC). About 8-10 ft water retains in the sanctuary during dry season which provides refuge for fish and other aquatic livings. The community committee also operationalized restrictions on fishing with gill and fine-mesh harmful nets in the Matargaon fisheries. Regular monitoring of fishing and fish consumption by the households showed an increase in fish diversity and abundance in the peripheral areas of the sanctuary as compared to baseline status and control water bodies. Based on this success, a group of villagers were seen digging another water hole recently on their own, with a view to creating another sanctuary for the fishes in the ensuing season. So, demonstrations are inspiring people positively and there are replications occurring already!

3.5 Facilitation

A team of IUCN staff members facilitates the M&E process, that is, keep the process working, which includes convening meetings, registering points of view, organising and maintaining records, providing technical support when needed, etc.

The facilitators should not be required to make decisions on any aspect of the project other than those related to M&E.

The M&E process will generate data, results, lessons, analysis and other products that should help the decision making process.

3.6 Linking impact evaluation with performance and assessment schedule

Linking the two types of evaluation, viz. impact evaluation and performance assessment might appear to be highly desirable from a theoretical point of view, but not too many such experiences exist till date.
Since IUCN has decided to evaluate the impact of the SEMP interventions on the process of sustainable development, it seems reasonable to recommend beginning by first establishing the system of performance evaluation and next to start considering the impact evaluation.

Now that we have traversed more than half way through the SEMP activities implementation, IUCN proposes to field a biannual impact assessment exercise, along with conducting quarterly performance monitoring based on the PIPs starting last quarter of 2001 routinely. Hence, the project’s efficacy and efficiency will be analysed every six months and the results of the impact evaluation would be incorporated, so that all these elements contribute to the revision of the PIPs, as necessary. Thus the integration of the M&E processes of SEMP performance and impact within its operative planning will be effected successfully.
4. STEPS FOLLOWED IN ESTABLISHING THE M&E OF COMMUNITY BASED HAOR AND FLOODPLAIN RESOURCE MANAGEMENT PROJECTS

Step 1: Review of the existing logical framework

Step 2: Identification of indicators

An indicator is the primary basis for checking whether the performance or impact of the project is in line with the goal, objective, output or activities.

Step 3: Collection of relevant data using the tools and techniques

Data are collected to monitor the activities being carried out and to ascertain on a regular basis whether the activities are relevant to the project goal and the objectives. While collecting data, one must look into the quality, timely initiation and completion of the interventions and the management aspects with regard to finance, administration and the project beneficiaries.

<table>
<thead>
<tr>
<th>Some tools and techniques for collecting data</th>
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<tbody>
<tr>
<td>Format</td>
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<tr>
<td>Photo</td>
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<td>Sample</td>
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<td>Questionnaire</td>
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<td>Checklist</td>
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<td>Movement register</td>
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<td>Attendance register</td>
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<td>Pay-roll</td>
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Step 4: Selecting and designing tools and techniques

In selecting and designing the tools and techniques, the size of the project, the beneficiary and stakeholder groups involved and the organizational capacity with regard to the management of financial and human resources were key considerations.

Step 5: Monitoring, data collection and data editing

Prior to data collection in the field, the guidelines on methodology are prepared, wherein the frequency of data collection and the technical know-how for using the devised tools are delineated in a reader-friendly manner. The raw data collected from the field are then edited and coded for preparing the database.

Step 6: Report preparation through data interpretation

The data is then interpreted from the database as required and put into the report. Recommendations should be based on the outcomes of the data interpretation and report findings.

Step 7: Report circulation and knowledge dissemination
5. PARTICIPATORY MONITORING AND EVALUATION – A KEY PROCESS FOR INVOLVING COMMUNITY PEOPLE IN DEVELOPMENT PROJECTS

Participatory Monitoring and Evaluation (PM&E) is a process of collaborative problem solving through the generation and use of knowledge. It is a process that leads to corrective action by involving all levels of stakeholders in shared decision-making.

The success of a development project depends on the degree of mobilization of the people i.e. people’s participation is an essential element within a process which seeks to bring about an uplift in people’s standard of living. At the lowest level, participation is symbolized by the presence of token representatives of the people at events where decisions are made.

Participatory M&E includes stakeholders of communities and project staff and in this process, the resource users or community based organizations (CBOs) actively participate in crucially important activities like indicators identification, organization survey etc. Thus, PM&E is a mechanism to keep communities updated on relevant development activities, with a view to empowering the stakeholders in correct decision-making.

5.1 Key principles guiding resource users’ role in the PM&E

- Local people are active participants in every relevant activity
- Stakeholders evaluate and outsiders facilitate
- Focus on building stakeholders’ capacity for analysis and problem solving
- Process builds commitment for recommending and implementing corrective actions

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5.2 Steps to be considered for PM&E

Step 1: Plan for PM&E

A PM&E should be developed during the project's planning phase and integrated into project activities and should not be attempted when the first evaluation takes place.

Step 2: Clarify objectives and stakeholders

Projects need to clarify their objectives and stakeholders and ensure that there is general consensus among the stakeholders on determining information needs and the sources for monitoring and evaluation.

Step 3: Determine information needs and develop M&E questions

The most challenging aspects of the M&E process are to assess the information needs of all of the project partners, find where these needs intersect and determine a manageable volume of information to collect.

Step 4: Develop indicators

Identifying indicators poses a number of challenges, as in both conservation and development work, it is often difficult to directly measure change.

Step 5: Determine information sources and design data collection tools

Challenges in this step are to determine if the information is already available to identify the most direct sources of needed information and to design data collection tools that are appropriate for the skill level of the data collectors.
Step 6: Plan to analyze data and use results

Information does not have any implication unless it is analyzed and used to improve a project. Mechanism for regular analysis and refinement of project activities should be built into the M&E plan as well as the project implementation plan.

Step 7: Complete and test the PM&E system

The preceding six steps will not culminate in a complete and effective PM&E system until they are integrated into the ongoing project processes, tested in field conditions, reassessed and revised periodically, as required.

Step 8: Conduct annual self-assessments and periodic external evaluations

A project can exert more control over external evaluations and avoid negative experiences by establishing its own approach to M&E and including magnate participation.

CASE STUDY

Participatory Monitoring & Evaluation Workshop

A five-day workshop on PM&E was organized with the support from Community based Haar Resource Management Project in March 2002. Field level staff from Pangnor, Sarnor, Dokuar and Hakaluki Haar participated in the workshop. Participants worked enthusiastically and developed various PM&E tools and techniques to be applied in the field by the community people.

On being equipped with the technical know-how of PM&E, the concerned field staff are now able to organize the same training for the CBOs and the community people. Consequently, action plan development, implementation, beneficiary identification and concurrent M&E would be carried out and coordinated by them independently. PM&E organizing capacity of the community people would help enhance the sustainability of the project.
5.3 Traditional and Participatory M&Es

While PM&E evolves from the traditional M&E, the former is designed, implemented and controlled by the project stakeholders and beneficiaries. In the traditional case, indicators are selected basing on the pre-designed logframe where quantitative indicators remain dominant. In the participatory case, real field situation is appraised for determining the indicators and the qualitative results emanating from the M&E are considered more relevant. PM&E is organized by the community people and thus it would be sustained by the people even after withdrawal of project support.

IUCN - The World Conservation Union
Reference

6. Department of International Development Cooperation, Ministry of Foreign Affairs. Finland (2000), "Guidelines for program design, Monitoring and Evaluation".
IUCN - The World Conservation Union
Half Yearly Performance Monitoring
SEMP Component 2.2.1/A and 2.2.1/B

<table>
<thead>
<tr>
<th>Project Site:</th>
<th>Monitoring Period:</th>
<th>Year:</th>
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<table>
<thead>
<tr>
<th>Activities</th>
<th>Task/Target</th>
<th>Milestone</th>
<th>Achievement in the quarter</th>
<th>Opinion</th>
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ACHIEVEMENTS IN QUARTER: Brief description of the achievements and advances carried out during the quarter in the specific task. If task is concluded write FINISHED. If nothing has been done write NO ADVANCES MADE.

OPINION: General opinion of the state of task would be written in brief. For example:
- the task is progressing as anticipated
- some problems exist in the execution, but they are governable
- major problems exist in the execution, it requires in depth and other changes

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Logical Framework of Community Based Floodplain Resource Management Project

Logical Framework Analysis - 1

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Means of Verification</th>
<th>Assumptions/Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal</strong></td>
<td></td>
<td>Establish and mainstream participatory resource management in specific ecosystems through enhanced access by the poor and especially by the women, and capacity building for sustainable utilization of resources.</td>
</tr>
<tr>
<td>Purpose Environmental restoration and community based sustainable resource management in a participatory way demonstrated in selected degraded floodplain ecosystems</td>
<td></td>
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</tr>
<tr>
<td>▪ Intervention made for ecosystem restoration in the Arua and Gopinathpur beels of Jamuna-Padma floodplain ecosystem by 2004</td>
<td>▪ Project completion report</td>
<td>▪ The lessons learnt and outputs derived from the project would be replicated and promoted by the local community as well as the local and national government bodies</td>
</tr>
<tr>
<td>▪ Project progress report</td>
<td></td>
<td></td>
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<tr>
<td>▪ Project monitoring report</td>
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</tbody>
</table>

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<table>
<thead>
<tr>
<th>Output</th>
<th>Indicators</th>
<th>Means of Verification</th>
<th>Assumptions/Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Participatory resource management tools developed and practiced</td>
<td>• Various participatory resource management tools developed for various purposes (e.g., vegetable gardening, deep water rice cultivation, turtle breeding, etc.) through community participation for future use by the local community by 2004. &lt;br&gt; • Tools developed during the project duration is replicated in other areas by the local community through their own initiatives.</td>
<td>• Baseline data  &lt;br&gt; • Progress Report  &lt;br&gt; • Participatory Resource Map  &lt;br&gt; • Post-intervention monitoring data</td>
<td>• Local community would continue to practice the participatory resource management tools developed during the project period.</td>
</tr>
<tr>
<td>2. Ecosystem improved/restored/rehabilitated</td>
<td>• Quality of the selected ecosystem improved by 2004 compared to the pre-project intervention period.</td>
<td>• Base-line data  &lt;br&gt; • Post-intervention monitoring data</td>
<td>• Local community would continue sustainable ecosystem management practices initiated during the project period.</td>
</tr>
<tr>
<td>3. Local institutions for sustainable development established and made functional</td>
<td>• Floodplain Resource Management Committee (FRMC) operationalised at the specific floodplain sites by the end of the project duration.</td>
<td>• Increased involvement of the FRMC in the local government initiatives</td>
<td>• FRMC would be able to assist the local government in its initiatives.</td>
</tr>
</tbody>
</table>

IUCN - The World Conservation Union
<table>
<thead>
<tr>
<th>Indicators</th>
<th>Means of Verification</th>
<th>Assumptions/Risk</th>
</tr>
</thead>
</table>
| 4. Capacity, skills and awareness levels enhanced | • Capacity for sustainable resource management at community level enhanced by 2004 compared to the pre-project intervention period  
• Anthropogenic pressure on natural resources considerably reduced by 2003 compared to the pre-project intervention period | • Base-line data  
• Post-intervention monitoring data | • Capacity acquired through skill development and awareness is appropriately utilised and practised by the local community |

**Logical Framework Analysis- 2**

**Output**
1. Participatory resource management tools developed and practised

<table>
<thead>
<tr>
<th>Activity</th>
<th>Milestone</th>
<th>Participants</th>
<th>Required time (months)</th>
<th>Schedule for</th>
</tr>
</thead>
</table>
| 1.1 To extend intervention area of the project site | • Project site extended to 6 villages  
• Reconnaissance field visit report produced  
• Feedback (Meeting minutes) | IUCNB and the concerned partner | 3 | Yi | Yi | Yi |
<table>
<thead>
<tr>
<th>Activity</th>
<th>Milestone</th>
<th>Participants</th>
<th>Required time (months)</th>
<th>Schedule for</th>
</tr>
</thead>
</table>
| 1.2 To conduct biological, physical and socio-economic characterisation and documentation of resource utilization and regeneration practices and traditional knowledge on resource conservation | PRA sessions conducted and report produced  
Resource map produced  
Baseline biophysical and socio-economic survey reports produced  
Resource exploitation, utilization and regeneration systems are documented and report produced (plant, fisheries, agriculture, wildlife, forestry etc.) | Project staff, and the local people | 12 | |
| 1.3 To undertake special study | Special study conducted and report produced | Project staff, and the local people | |
| 1.4 To develop participatory action plan | PAPD workshops conducted and reports produced  
Action plans documented on fisheries, wildlife, invertebrates, plants and soil resources management with active participation of the local community | Project staff, and the local people | 33 | |

IUCN - The World Conservation Union
<table>
<thead>
<tr>
<th>Activity</th>
<th>Milestone</th>
<th>Participants</th>
<th>Required time (months)</th>
<th>Schedule for</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 To collect post intervention data</td>
<td>• Post-intervention data collected on various resources and their resources and report produced</td>
<td>Project staff, and the local people</td>
<td>Yi</td>
<td>Yi</td>
</tr>
<tr>
<td>1.6 To establish participatory monitoring and evaluation system</td>
<td>• Participatory monitoring guidelines produced • Reports on monitoring and evaluation indicators produced • Monitoring and evaluation format produced and used • Quarterly progress reports produced</td>
<td>IUCNB, partner and the local people</td>
<td>12</td>
<td>33</td>
</tr>
<tr>
<td>1.7 To demonstrate and promote sustainable and eco-friendly agricultural practices</td>
<td>• Agricultural and horticultural demonstration plots established • Eco-friendly agricultural and horticultural practices are extended to 30 farmers • Use of organic fertilizer increased by 20% compared to pre-intervention period • User of IPM increased by 30% compared to pre-intervention period</td>
<td>Project staff and the local people</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Activity</td>
<td>Milestone</td>
<td>Participants</td>
<td>Required time (months)</td>
<td>Schedule for Yi Yi Yi</td>
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<td>-------------------------------------------------------------------------</td>
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<tr>
<td>1.8 To demonstrate increase in fish production through improved management</td>
<td>• Fish production increased by 15% compared to baseline level&lt;br&gt;• 1 fish hatchery for small indigenous fish species (like: koi, magur etc) established&lt;br&gt;• Culture of indigenous species increased by 25%</td>
<td>• Project staff and the local people</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>1.9 To demonstrate and promote bio-gas use by the community</td>
<td>• Bio-gas demonstration plants established&lt;br&gt;• Biogas plant extended to 10 households</td>
<td>• Project staff and the local people</td>
<td>33</td>
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</table>

**Output**

2. Ecosystem improved / restored / rehabilitated

**Indicator**

- Quality of the selected ecosystem improved by June 2004 compared to the pre-project intervention period

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<thead>
<tr>
<th>Activity</th>
<th>Milestone</th>
<th>Participants</th>
<th>Required time (months)</th>
<th>Schedule for Yi Yi Yi</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 To conduct road-side, wetland-bank, homestead plantation</td>
<td>• Plantation site identified and prioritised&lt;br&gt;• 40,000 saplings planted at the roadside&lt;br&gt;• 150000 saplings distributed for homestead plantation</td>
<td>• Project staff and the local people</td>
<td>33</td>
<td></td>
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<tr>
<td>Activity</td>
<td>Milestone</td>
<td>Participants</td>
<td>Required time (months)</td>
<td>Schedule for</td>
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<tr>
<td>2.2 To demonstrate and promote use and conservation of medicinal plots</td>
<td>- Demonstration nurseries established</td>
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<tr>
<td></td>
<td>- Plant nurseries established at private level</td>
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<td></td>
<td>- 1 central nursery established and maintained</td>
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<tr>
<td>2.3 To conserve threatened wildlife / fishes / plants</td>
<td>- Threatened wildlife / fish / plant species identified and prioritized</td>
<td>- Project staff and the local people</td>
<td>33</td>
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<tr>
<td></td>
<td>- Demonstration turtle hatchery established</td>
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<td></td>
<td>- Restock some wildlife species of depleted stock</td>
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<tr>
<td>2.5 To establish homestead / village- biodiversity conservation area</td>
<td>- 8 village / homestead conservation area established</td>
<td>- Project staff and the local people</td>
<td>33</td>
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<tr>
<td>2.6 To establish fish conservation area</td>
<td>- 2 riverine and 3 floodplain micro-fish sanctuary established</td>
<td>- Project staff and the local people</td>
<td>33</td>
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</tbody>
</table>
### Output
3. Local institutions for sustainable resource management and sustainable livelihood established / strengthened and operationalized

### Indicators
- FRMC operationalised at the floodplain level specific sites by the end of the project period
- Quality of vulnerable poor people improved compared to pre-project period

<table>
<thead>
<tr>
<th>Activity</th>
<th>Milestone</th>
<th>Participants/ Required time (months)</th>
<th>Schedule for: Y1</th>
<th>Y2</th>
<th>Y3</th>
</tr>
</thead>
</table>
| 3.1 To form/strengthen local community based organization/institution | - Village level environment committee in the extended area  
- Floodplain Resource Management Committee (FRMC) formed at floodplain level in the extended project area | - Project staff and the local people | 12 |  |  |
| 3.2 To provide backstopping to local organization | - 3 local social club activity supported by the project | - Project staff and groups | 33 |  |  |
| 3.3 To identify target beneficiaries and organize into groups | - Criteria and modality for target beneficiaries developed  
- 50 groups formed with at least 40% poor women representation | - Project staff and the local people | 33 |  |  |
<table>
<thead>
<tr>
<th>Activity</th>
<th>Milestone</th>
<th>Participants</th>
<th>Required time (months)</th>
<th>Schedule for</th>
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</thead>
</table>
| 3.4 To disburse environmental fund to formed groups | • Criteria and guideline for fund disbursement / mobilization developed  
• Fund disbursement to 50 groups during the entire project period  
• Income generation activities undertaken by the fund recipient groups | IUCNB, partner and the local people | 33 | |

**Output**

4. Capacity, skills and awareness levels enhanced

**Indicator**

• Capacity for sustainable resource management at community level enhanced by June 2004 compared to the pre-project period  
• Anthropogenic pressure on natural resources considerably reduced by June 2004 compared to the pre-project period

<table>
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<tr>
<th>Activity</th>
<th>Milestone</th>
<th>Participants</th>
<th>Required time (months)</th>
<th>Schedule for</th>
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</thead>
</table>
| 4.1 To develop training guidelines and materials for training and awareness | • Training manual produced for community and staff training  
• Leaflets, posters, signboards, bill boards produced and posted and distributed  
• 2 documentary films produced on environmental issues  
• 2 magazines published on local environmental issues | Relevant experts | 12 | |
<table>
<thead>
<tr>
<th>Activity</th>
<th>Milestone</th>
<th>Participants</th>
<th>Required time (months)</th>
<th>Schedule for</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2 To enhance capacity of staff on natural resource and community management</td>
<td>• Project staff trained through follow-up training</td>
<td>• Trainers, all relevant experts and project staff</td>
<td>12</td>
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<td></td>
<td>• Training proceedings produced</td>
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<tr>
<td>4.3 To conduct training for community groups and other stakeholders</td>
<td>• Training on natural resource management (10), community management (6), livelihood security (20), and skill development (20) and institution building (4) conducted</td>
<td>• Project staff and the local people</td>
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<td></td>
<td>• Need assessment reports produced</td>
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<td></td>
<td>• Village level awareness meeting conducted (45)</td>
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<td></td>
<td>• Meeting with FRMC on a regular basis (40)</td>
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<tr>
<td>4.4 To conduct community awareness programme on environmental issues</td>
<td>• 90 school programmes conducted for local school children</td>
<td>• Project staff and the local people</td>
<td>6</td>
<td></td>
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<tr>
<td></td>
<td>• 12 nature clubs formed school children</td>
<td></td>
<td>33</td>
<td></td>
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<tr>
<td></td>
<td>• 1 curriculum developed on environmental issues for school children</td>
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<td></td>
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<tr>
<td></td>
<td>• 6 initiatives taken by local school children for environmental conservation</td>
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</tbody>
</table>
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