

Management Information System (Executive Summary)

Executive Summary

Introduction

The organization especially responsible for conserving the biodiversity and ecosystems, was created in 1980, and was named Department of National Parks and Wildlife Conservation (DNPWC). The department is under the Ministry of Forests and Soil Conservation (MFSC), and works with a network of eight national parks, four wildlife reserves, three conservation areas, and one hunting reserve, covering about 18 % of the country's total land.

More than two decades have already passed since the initiation of the biodiversity conservation program. Many tangible achievements have been made. The major achievements are the following.

1. More than 18 % of the country's total land brought under protected areas and managed accordingly
2. Increased populations of key species like tiger and rhinos
3. Improved habitats of wildlife
4. Increased participation of people in wildlife conservation
5. Increased eco-tourism industry
6. Increased facilitation of people living in and near the periphery of protected areas

Most of the achievements obtained in the biodiversity sector are not easily quantifiable. The total change or the impact of the program is yet to be known. The existing weak monitoring and evaluation system in this sector do not allow gathering thorough information whether in the achievements or in the problem areas.

For the efficient management of the biodiversity conservation program, and also for taking timely corrective measures, a systematic monitoring and evaluation system or Management Information System (MIS) is needed. To proceed towards the making of a comprehensive monitoring and evaluation System, the first stage is to develop a monitoring and evaluation framework at the departmental level so that the existing monitoring and evaluation systems can be streamlined and the future development of the new systematic monitoring and evaluation systems at the field level is guided.

The MIS provides a framework for the monitoring and evaluation of the biodiversity conservation program of protected areas so that the information need at the central level like the National Planning Commission (NPC), MFSC, DNPWC and donors can be fulfilled by using the framework for collecting information.

MIS Designing Process

The MIS was designed through consultation with the chief wardens and the wildlife conservation specialists at a workshop. The objective hierarchies of the biodiversity conservation programs and their indicators were discussed and finalized. Field testing of

the indicators and monitoring formats was carried out in the representative protected areas and the monitoring plans and methods discussed with concerned wildlife conservation specialists.

Concept of Monitoring and Evaluation

The internationally accepted concept of monitoring and evaluation as used by the World Bank and FAO was conceptualized in the design of the MIS. The World Bank defines monitoring, evaluation and MIS as :

Monitoring: “Monitoring is the provision of information, and the use of that information, to enable management to assess program of implementation and take timely decisions to ensure that progress is maintained according to the schedule. Monitoring is an internal project (program) activity, an essential part of good management practice and therefore and integral part of day-to-day management.”

Evaluation: “Evaluation assesses overall project (program) effects, both intentional and unintentional, and their impacts. It involves comparisons regarding information from outside the project (program) either in time area or population.”

Management Information System (MIS): Management Information System (MIS) is a system that helps management in making, carrying out and controlling decisions. In effect, a project/ program monitoring system is a Management Information System that provides information for making decision by the management. In the design of the MIS the following six basic stages of a MIS, ordered sequentially, have been followed

1. Identification of the information needs
2. Collection of information
3. Classification of the information collected
4. Storage
5. Retrieval
6. Analysis
7. Decision

Existing M&E and MIS Systems

The following category of monitoring and evaluation system prevails in the DNPWC and its field offices.

1. NPC’s trimesterly and annual physical progress monitoring formats
2. Auditor Comptroller and Auditor General Offices’ financial monitoring formats
3. Monthly monitoring of major achievements
4. Project level monitoring systems
5. Miscellaneous monitoring formats

The present monitoring and evaluation system has not been able to provide the information needs at the different levels of management. The project/program evaluators feel the lack of adequate monitoring and evaluation information also. It can be concluded that an effective monitoring and evaluation has not materialized yet.

Performance Indicators

Performance indicators measure progress towards reaching the project/program goal, objectives, and outputs. The key considerations for specifying verifiable performance indicators are that they should be substantial, plausible, useful and obtainable. The measures provided by indicators should ideally be accurate enough to be objectively verifiable. In the program approach, however, defining indicators objectively is very difficult due to the lack of the baseline information. A set of indicators, including both performance and impact, has been developed (Part of Annex 1 and Annex 2) for the biodiversity conservation program.

Logframe

A logframe has been developed (Annex 1) based on the internationally recognized format of four by four matrixes. The goal statement is ‘to conserve biodiversity with sociological integrity.’ Three Objectives have been defined so that Core protected areas (PAs), buffer zones (BZs), and wildlife corridors are included as the main domain of biodiversity conservation. The sociological consideration has been included along with biodiversity conservation. The main target population has been both the wildlife and the people in the PA and BZ. Thirteen major outputs have been defined along with the identification of several activities to be carried out to produce the ‘Field-Level’ outputs which could be considered as the inputs for producing defined major outputs (presented in a separate chart in Annex 2). Indicators for goal, objectives, major outputs, and field-level’ outputs have been identified.

Baseline Information

It is impossible to monitor the goal, objectives, and sometimes the output indicators in the absence of adequate baseline information. The situation of baseline information knowledge is worse in the program approach because the area covered by the program is vast and so are the activities or the domain of activities. Since knowledge of the baseline information is mandatory to see the change brought by the program implementation, initiation of the collection of baseline information is very important. Based on identified indicators to be monitored, the baseline information is to be collected immediately.

Components of an Information System:

The range of information required by the management can be divided into the following three main categories:

1. Information pertaining to the physical delivery of the structures and services provided by the project/program together with relevant financial records.

Physical monitoring, in general, focuses on the ‘inputs,’ ‘activities,’ and ‘Outputs’ which are the main concerns of the project/program implementers. Different model formats have been prepared (Annex 5: Format Number B1, B4, B5, B7, B8, B17, B18, and B19) which cover physical progress monitoring including monitoring of manpower, Sub-plans activities, field-level outputs, training needs, and maintenance needs of infrastructure, vehicles, and equipment. The formats developed by the authorities of financial

regulations like Auditor General's office and Auditor Comptroller office have been in use for the financial monitoring. These formats are the general formats applicable for all the sectors of HMG. The formats, however, do not provide activity-wise expenditures. An additional monitoring format is necessary to monitor activity-wise expenditure. A model of the activity-wise expenditure is presented in Annex 5 (Format Number B2).

2. Information pertaining to the use of the structures and services by the targeted population and the initial consequences of that use.

Beneficiary Contact Monitoring helps to determine whether or not the delivery of inputs and services and facilities are being accepted and used by the target beneficiaries. The biodiversity conservation program is a peoples' participation oriented program. So there are significant number of indicators developed which needs full participation of the beneficiaries or the communities' resource users. Such indicators will have to be monitored by using BCM. A model format for carrying out BCM is presented in Annex 5, Format Number B6.

3. Information on the social, economic or environmental reasons for any unexpected reaction by the target population that is revealed by the information about the use of the structure and services. This category of monitoring which is usually termed as 'Diagnostic Studies', is new in the Nepalese context.

Once the basic components of the monitoring system like the physical and financial monitoring, and the BCM are up and running, the system should be able to track program progress, and help to reveal problems as they emerge during implementation. The monitoring system then needs to have the capacity to further study these problems when the cause and the solution are not immediately clear.

Frequency of Reporting

The frequency of reporting also depends on the nature of the indicators and the use of the information. Some indicators may require waiting several years before any change can be seen. For indicators, especially on impact or effects, the change may occur within a range of say 1-10 years after the intervention takes place. So, the frequency of reporting should be determined accordingly. The frequency of recording/reporting or updating of the major output indicators developed for the biodiversity conservation program is given in Annex 3. Similarly the frequency of recording/reporting or updating of the field-Level output indicators is presented in Annex 4.

Monitoring Formats:

Standard formats are required by field as well as regional and departmental level offices and their units for collecting and recording the required information. Some important sample monitoring formats have been developed (Annex 5). The monitoring formats cover a wide spectrum of information collection formats for the biodiversity conservation program.

Filling out Monitoring Formats

Filling out of monitoring formats may be as easy and as simple as asking one or more of the concerned staff regarding the progress on the particular indicator and record the data based on the information provided by them. But information for some indicators, for example, the population of tiger, can not be known unless a tiger census is carried out. For some indicators, Participatory Rural Appraisal (PRA) technique might have to be applied to get the information on the particular indicator. Techniques of filling out of the monitoring formats and the methodology of monitoring biodiversity have been discussed.

Communicating Information

A common point of breakdown in management information system is at the points of communication between different users. What may be understood at one level, must be communicated effectively and in a timely manner to the next. A principal part of the monitoring function is to convey messages so that they can be clearly understood. Communicating information involves the following.

- .. Presentation of findings
- .. Interpretation of findings
- .. Making recommendations

Utilization and Management

It is the management's responsibility to utilize the information generated. Management Information Systems can only provide information to the management and recommend necessary action. Whether or not to make decision based on the information provided by the MIS depends totally on the management. The existence of an efficient management structure is a prerequisite for an efficient monitoring function. Simple Database

Simple Database System

In order to store and retrieve the monitoring information properly and quickly, a systematic recording, storing, and retrieval system should be established. A simple database system was found to be more sustainable and easy to work than a complex database system. The use of the computer in database establishment is a supplement to the simple system of using a hardcover notebook (this is commonly used in the banks and government offices for important records over a long period of time). Although a computer database system is most useful when changes are to be made in the formats and contents of the database, the system is very difficult to continue for a long period of time for Nepalese situation where the use of computers for database is still not sustained. So both note book records and computer data entry is recommended so that even if the computer crashes, the whole database system is not lost. The simple formats for database system are presented in Annex 8.

DNPWC. 2002. Management Information System for Monitoring the Biodiversity Conservation Programme of The Protected Areas of Nepal. Department of National Parks and Wildlife Conservation, Kathmandu, Nepal.