7 MONITORING INFORMATION SYSTEM

7.1 Introduction

Maldives

Talking About Strengths and Weaknesses to Improve the Quality of the Programme

The fundamental principle of a Monitoring system is to allow users to capture data, process and disseminate information in a systematic way. Monitoring system enables us to measure trends of various indicators based on the data collected in the field. A monitoring system is vital in supporting post disaster relief and recovery.

Systematic assessment and review at one point in time of post disaster activities helps us monitor the progress and support to evaluate the sustainable impact on affected community. This chapter intends to facilitate the understanding of the basic ideas behind monitoring and evaluation exercise.

- **Why monitoring is needed?**

Under the Recovery Programme, support is given to the beneficiary households and communities to rebuild their houses, rebuild community infrastructure and facilitate the environment to enhance the livelihood opportunities. It is very important to know the strengths and weaknesses of the programme and provide sufficient information to the decision makers to take initiatives to improve the quality of the Programme and also it allows measuring the expected objectives and outputs. In other words monitoring ensures that activities are on the right path by checking them, measuring progress towards

objectives, identifying problems as they come up, identifying strengths that can be built up. Monitoring gathers information about beneficiary access to, use of and satisfaction with the operation outputs.

- **What is needed for monitoring?**

Effective and efficient monitoring system is needed for monitoring and that system should have the following components:

- Baseline information (Family Profile)
- Selection of indicators related to activities, outputs and objectives
- Tools for collecting information
- Collection of information
- Process information
- Analysis of information
- Presenting and communication of the results in an appropriate ways
- Using information

- **Where will monitoring take place?**

Monitoring will take place at three deferent levels :

- Community level
- District level
- National level

- **When will monitoring take place?**

Monitoring will take place periodically in regular manner and the time and duration will be decided at the time of planning of monitoring at different levels. Monitoring also depends on the scale and extent of the damage caused by the natural disasters.

Monitoring process will be established in combination with beneficiaries, Primary Groups, CDC members, district officials, and national agencies. Focal person will be identified in each of the stakeholder; they will participate in this monitoring exercise. Who and who are the participants will be decided at the time of planning of monitoring.

- **How will monitoring take place?**

Different set of indicators (activity indicators, output indicators, objective indicators), which have been established in the framework need to be assessed or measured throughout the process. Checklists and secondary data will be used to measure the activity indicators on a regular basis and for output and objective indicators, sample of households which received support and for which baseline information is available will be selected and interview them periodically using the appropriate monitoring tools given in the frame work to measure the indicators.

7.2 Review and Evaluation

Basic purpose of the review is to take closer look at the project than is possible through regular monitoring. Regular formal and in-depth midterm reviews will be carried out by the external consultants with support of partnership officers to look at any aspect of the project.

The purpose of evaluation is to look at the efficiency, effectiveness of the program and what the changes or impact brought down in the lives of targeted beneficiaries and the communities by the program and how these changes going to be sustained for longer periods. Key performance indicators will be established and measures during the evaluation. In other words evaluation aiming at to know whether the established goal has achieved. Evaluation also will be carried out by the external consultants at the end of the Programme which will be very formal and structured exercise than the review.

7.3 The Need for Family and Community Profiles as a Baseline Survey for Monitoring, Review and Evaluation

As mentioned above, it is very important to monitor the process and progress in the housing reconstruction activities in supporting affected families and communities. The monitoring and evaluation of indicators implies that the project has good baseline information for the particular indicators. In order to

achieve a baseline databank, Family and Community Profiles have to be completed. Profiling is the non-experimental analysis and description of the situation prior to the intervention of the project. Therefore, Profiles, which form a baseline survey of the status of the current situation of the targeted beneficiaries, would provide information for monitoring, review and evaluation of the reconstruction projects.

7.4 Risk Monitoring and Management

The Recovery Programme is a complex of activities involving changes, risks and interaction of many people, agencies and social groups. Risk can be defined as potential negative impact to an asset or project and or some characteristic value that may arise from present of future events. In practice risk is the combination of likelihood and impact. Likelihood is the probability and impact is the lasting change. These risks are generated by various sources for instance one of the risk sources is political situation. However in practice certain amount of risks is inevitable and certain amount is treatable.

- **Why does monitoring and management of risk is important?**

As the Programme is desirous to achieve its objectives and goals, associated possible risks need to be monitored and managed to ensure the following:

- Better and meaningful support to the targeted beneficiaries, in other words better service delivery
- Efficient use of available resources
- Effective management of possible changes that take place
- Developing and managing contingency plans and maintaining the planned activities
- Reduce waste and obtain better value for money
- Better management at all levels through improved decision making.
- Keep balance between time, cost and results

Sri Lanka

Measuring Beneficiary's Satisfaction

- Better coordination with other UN agencies and development partners

7.5 Monitoring Information System

Monitoring Information System (MIS) is directly linked to management by objectives and to the monitoring of key performance indicators. It can also help in processing specific information for decision-making. Identification of the geographical extent and scale of damage caused by any natural disaster plays a key role in planning the immediate relief and rehabilitation activities. Figure 7.1 shows input requirements for a Monitoring Information System to monitor the progress and geographical distribution.

The damage assessment forms along with an integrated MIS and GIS system can quickly setup the system and produce required information for planning and managing the response. This information will be useful for planning a long-term recovery plan for the affected areas. Information tools will play a key role in monitoring the progress of post disaster activities. Some examples of information system needs are:

- A Geographic Information System (GIS) is capable to create visual maps based on the information collected from the field. MIS will be customized in a way that will aggregate damage data and produce maps (Figure 7.2) for monitoring and coordination. This integrated (database and GIS) system can be the key component of the Monitoring & Evaluation System. Using GIS system damage assessment maps will be created based on high resolution (one meter) satellite images
- High-resolution satellite images will be immensely important to identify damage infrastructure in the urban areas. One-meter resolution imageries were used in damage assessment in six highly damaged cities in Pakistan following the October 2005's earthquake

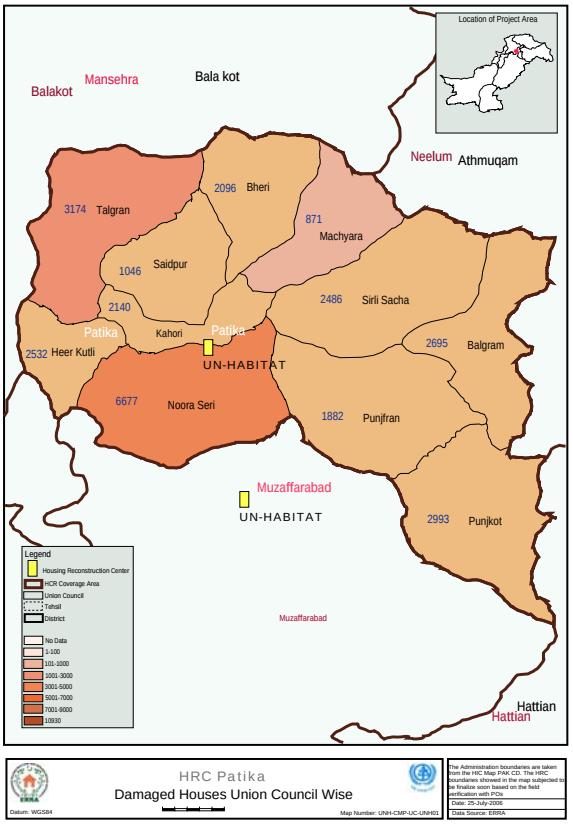


Fig. 7.2 Map of Damaged Houses after Earthquake

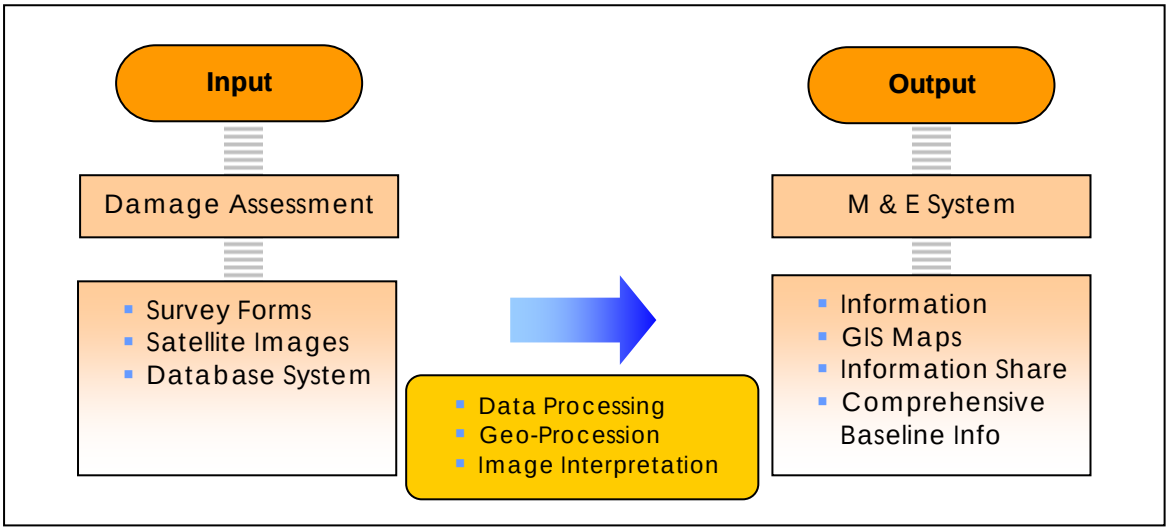
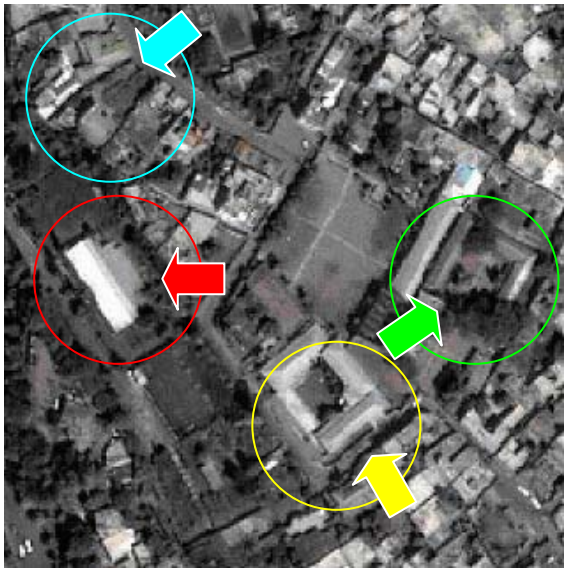


Fig. 7.1 Input Requirements for Monitoring Progress and Geographical Distribution

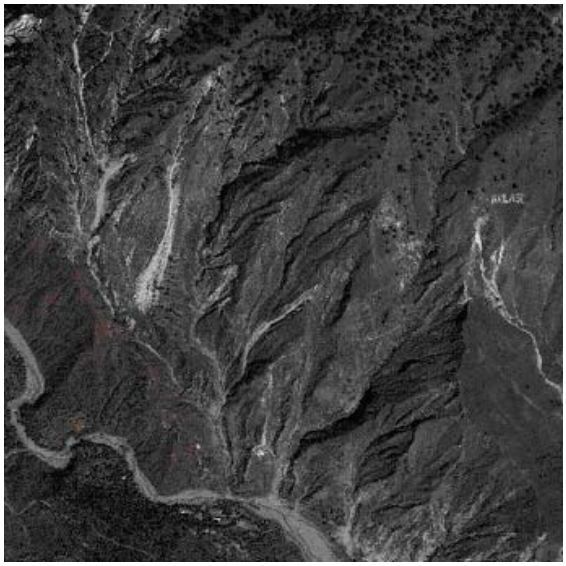
- Global Positioning System (GPS) plays a very important role in post disaster assessment. With the disruption of infrastructure and facilities, GPS helps in finding the location (latitude, longitude and elevation) of the affected communities and other infrastructure for planning and relief management. The coordinates captured by the hand held GPS can be easily imported into a Geographic Information System (GIS) and display in a map
- High-resolution satellite images can be acquired very quickly; some time images are available in the archive that work as a baseline image, which are also useful during the damage assessment period. However, using images acquired prior to the disaster needs trained and skilled human resources during the assessment
- High resolution satellite imageries should include pre-post disaster satellite images, district maps, disaster affected areas, damaged/destroyed houses, affected population, shelter needs, shelter condition progress, progress on assistance and inspection work, who is where, accessibility, training activities, anticipated migration caseload, etc. An example of identification of the damage houses and infrastructures are in the below photograph



Before the Earthquake

Infrastructure Damaged After the Earthquake

Pakistan



Before the Earthquake

Landslide Created due to the Earthquake

Indonesia

Involvement of Community on Monitoring Construction Progress

- A set of standardized forms will be used in initial damage assessment. These forms been designed to fit with various types of natural disasters. They cover physical and socio-economic relevant information along with comprehensive assessment of the damage in relation to infrastructure, crop, property and gender based vulnerability
- A computerized database monitoring system will be developed with a capability of tracking and reporting progress on the performance of the Programme and the success of the recovery effort. This will provide timely progress assessment, construction quality and social development. The system will have the offline and online options. Damage data will be collected through Annexes 004 and 005. Then entered them in the accompanied database. Where it permits the database will be able to upload with the support of Internet connection. In case of remote areas, satellite phone will be used to upload the data in the central server. The data uploaded in the server will dynamically link with a website that will enable access of information to all the parties. The system will be implemented in two phases. A stand-alone system will be developed in the first phase and tasted in the field. In the second phase a web enable system will be developed with easy user interface and uploading capacity
- A system that is capable of processing significant amount of data from field. This will also offer solid information on progress to government and partners to develop strategies. The system should be developed by implementing a standardized method (i.e. Access)
- Data/information and maps should be continuously updated and analyzed to bring improvements in the planning process and coordinate with other stakeholders