Chapter 5

# Guidelines for RADIUS-Type Risk Management Projects

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## Background

The RADIUS initiative was launched by the IDNDR secretariat to promote worldwide activities for reduction of seismic disasters in urban areas, particularly in developing countries. One of the main objectives of the project was to develop practical tools for urban risk management. One of these tools is a set of guidelines for the implementation of risk management projects that describe the methodology employed by the RADIUS initiative. The guidelines include lessons learned during the implementation of case studies in nine cities.

The 18-month case studies were implemented using methodology developed by GeoHazards International (GHI) for risk management projects in developing countries. This methodology has been developed by GHI through projects in Quito (Ecuador) and Kathmandu (Nepal).

## Purpose of the guidelines

The guidelines for the implementation of RADIUS-type risk management projects should be used to:

- Explain the philosophy and methodology adopted by the RADIUS risk management projects;
- Assist in interpretation of the reports prepared for the case studies; and
- Provide guidelines on how to implement RADIUS-type risk management projects in other cities.

## RADIUS methodology

Urban seismic risk is steadily increasing worldwide, especially in developing countries. Among the reasons for this increase are worldwide urbanization, lack of planning and resources to accommodate rapid urban growth, lack of appropriate building and land-use codes or lack of mechanisms to enforce them, and most importantly, lack of awareness by the community and its leaders. This lack of awareness has kept communities, institutions and citizens from supporting risk management initiatives. In most cases, the community instead contributes to an increase of risk by making uninformed decisions due to the lack of awareness and information.

Most of the existing risk management techniques and methodologies have been developed in industrialized countries and cannot be directly transferred to developing countries. There must be an adaptation of these existing methodologies to the conditions found in countries and cities of the world. For this adaptation to be successful, the active participation of those most aware of the local social, economic, political, and cultural conditions - the local community - needs to be ensured.

Another characteristic of risk management efforts in developed and developing countries is the emphasis on the preparation of very accurate estimates of the losses and the effects that a natural disaster could cause in a city. There have been few examples of the actual use of the results of these preparations by leaders and members of the community to reduce risk. Most of these studies are not even known by the community that could benefit from them. There are many instances in which efforts have been duplicated and resources have been spent without producing tangible improvement.

With all of these considerations in mind, GeoHazards International has developed a methodology for the implementation of risk management projects in developing countries. This methodology has the following characteristics:

- Optimization of the time and resources needed to prepare damage estimates and realistic risk management plans;
- Preparation of sound damage estimates that identify the main factors contributing to a city's earthquake risk;
- The best possible use of existing information and of local expertise;

- Incorporation of representatives of the community throughout the project; and
- Setting up of conditions that will allow the immediate implementation of the risk management.

GeoHazards International has applied this methodology to risk management projects in Quito (Ecuador) and Kathmandu (Nepal). The RADIUS initiative adopted this methodology for implementation of case studies in nine cities around the world. The guidelines reported in this paper describe the methodology and how to use it to implement risk management projects in cities in developing countries.

## Methodology

The case studies were carried out over 18 months in two phases. The first phase, the evaluation phase, covered the seismic risk assessment for the city in which an earthquake scenario was constructed. This was done through the collection of existing data and an estimation of the potential damage caused by a hypothetical earthquake. The second phase was that of planning. In this phase, an action plan was developed that would reduce the earthquake risk of the city. This action plan was prepared using the results of the risk assessment phase.

A detailed programme of activities for the RADIUS initiative case studies is presented in figure 1. The main project activities consisted of the collection of existing data, estimation of potential damage, and preparation of an action plan. Since the active participation of the community was crucial for the project's success, the programme of activities included a series of meetings (represented by the large dots in figure 1) in which key representatives of the community were informed about the project and then asked to comment.

The guidelines explain in detail activities included in the methodology described above. For each activity the following information was presented:

- Objectives
- Required information
- Process, methodology
- Intermediate products
- Participants
- Products
- Examples
- Observations

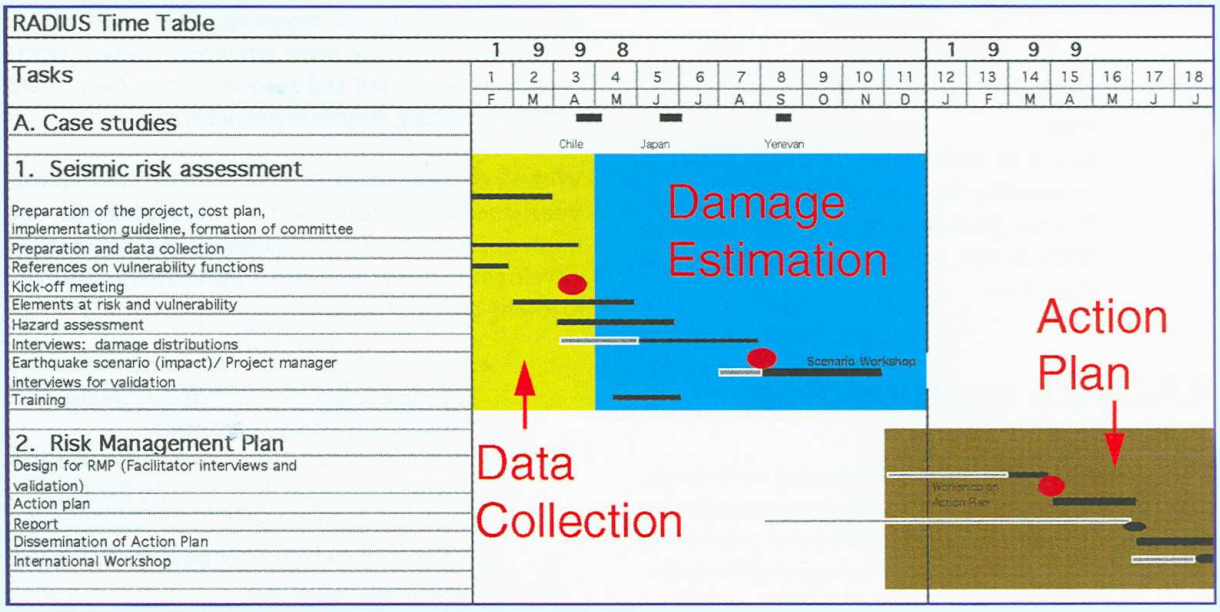


*Figure 1: Detailed programme of activities for the RADIUS initiative case studies*