Risk Mitigation Programme in Colombia UNDRO/CIDA/DNPAD 1988-1991

Phase I Summary

The National Office for Risk Mitigation and Disaster Preparedness, now the National Department for Disaster Prevention and Relief of the Ministry of the Interior, supported by the Office of the United Nations Disaster Relief Coordinator, today the United Nations Department of Humanitarian Affairs (UNDHA), put together a comprehensive risk mitigation project to improve disaster prevention and relief in various parts of the country. The programme, which began in 1988, has involved a large number of local, regional and national institutions in technical, administrative and community activities, depending on their functions. The basic aim has been to pre-evaluate various disaster scenarios so that steps can be taken to mitigate risk.

The scenarios considered and activities carried out as individual projects during phase I, from 1988 to 1991, are described below.

Earthquake in the city of Cali

Historical evidence of seismic disasters, combined with unevaluated vulnerability factors in the modern city and advances in hazard identification and seismic zonation, led to the identification of Cali as a highly promising demonstration project for the mitigation of seismic phenomena.

General activities:

- Inventory and classification of elements at risk
- Preliminary seismic zonation
- Assessment of potential induced second-order effects
- Vulnerability evaluation of elements at risk
- Evaluation of the seismic risk scenario
- Review and updating of the emergency plan
- Education, training and public information
- Intervention to reduce the vulnerability of key buildings
- Incorporation of risk into urban planning
- Seminar on seismic disasters in big cities.

Other noteworthy developments over the period were:

- The strengthening of the Observatorio Sismológico del Suroccidente OSSO, (Universidad del Valle)
- The South-West Colombia Seismic Risk Group (GERSCO) Project
- A study to evaluate the vulnerability of one- and two-storey structures

- Identification of critical areas and sectors for further study (industrial areas, vital services, essential health services, etc.)
- Leadership in town planning and public service enterprises
- A project to strengthen the departmental hospital and the main hall in the city airport.

As a result of the work done, the Cali Municipal Administration adopted a General Plan for Emergency Response, seeking cooperation between institutions and sectors in dealing with the problems threatening the city under various risk scenarios.

Studies and specific assessments of vulnerability in certain sectors, in particular the health sector, vital services and industrial and technological hazards, have been left pending. These have been identified as key elements that must be dealt with in the process of overall risk mitigation.

Tsunami or tidal wave in Tumaco

The record of earthquakes and tsunamis in the city, combined with the high exposure to risk of a considerable proportion of the population, lay behind the selection of this scenario as fundamental to the launching of relocation or development programmes based on the existence or absence of disaster risk.

General activities:

- Preparation of a tsunami flooding map
- Evaluation of risk and the city's vulnerability
- Design of a tsunami warning system
- Emergency plan preparation
- Public information and training
- Incorporation of risk into urban planning
- Foundation of the Colombia Tumaco Corporation, designation of land use, and preparation of urban development and housing plans.

The activities under phase I yielded two basic outcomes: an appreciation of the need to set up a tsunami warning system on the Colombian Pacific coast, and the incorporation of the findings into the city of Tumaco's overall development plan. As a result of the latter, the national Government has decided to relocate around 2,500 families living in areas at risk from earthquakes and tsunamis. This project, financed out of housing subsidy and social interest resources and with inputs from the European Economic Community, is currently at the formulation and public awareness stage.

Landslides in Paz del Río, Boyacá

This scenario was selected given the perceived danger to the population of Paz del Río, in the north of Boyacá department, from a series of landslides affecting roads and infrastructure and threatening to block river beds, with devastating effects on populated areas.

General activities:

- Preparation of a basin-wide landslide susceptibility map
- Development of a hazard estimation methodology
- Identification of vulnerable elements at risk
- Identification of possible mitigation measures
- Emergency plan preparation
- Education, training and public information.

This work basically took the form of developing suitable models for evaluating and monitoring landslides in high mountain basins and designing working methods that