Tsunami and Tidal Wave Risk Mitigation in Tumaco

Studies carried out by the Universidad del Valle (OSSO), with help from international experts indicate that earthquakes of varying intensity are highly likely to occur along sundry parts of the South American coast - northern Ecuador and southern Colombia among them. This has aroused attention and prompted determined efforts by the country's institutions to reduce risks, especially in the city of Tumaco, as quickly as possible.

Hence one of the most representative projects in the DHA-UNDRO/CIDA/DNPAD Programme is the one currently under way in Tumaco. The results of phase I have begun to turn into veritable stimuli to development in one of the country's most poverty-stricken cities. One might say, not that on this occasion disaster has proved to be a development opportunity, but that the risk of or potential for a new disaster has provided the driving force for inter-institutional and intersectoral action.

The current state of risk and exposure to seismic hazard and related phenomena (tsunamis, tidal waves and ground liquefaction) in Tumaco amply justifies the relocation of people living in low-lying areas near the sea; a Strategic Plan for the Resiting of Housing in the High-Risk Zone and the Urban Consolidation of the City of Tumaco has therefore been drawn up.

Broadly speaking, tsunamis can cause damage through impact, through flooding, by carrying away structures, by eroding land and through the impact of floating objects.

PANORAMIC VIEW-TUMACO

HOMES IN RISK -TUMACO

The National Department for Disaster Prevention and Relief (DNPAD), through the Observatorio Sismológico del Suroccidente (OSSO), has encouraged and supported the following activities:

1. Development of the National Tsunami Warning System

The National Tsunami Warning System consists in concept of a network of remotely monitored, digital, seismological and oceanographic stations with an automated central processing system.

The system is complemented by medium- and long-term research into the seismic potential of the region where tsunamis originate, calculations of arrival times and wave heights, and historical studies of phenomena and disasters. With support from the Risk Mitigation Programme in Colombia (DHA-UNDRO/CIDA/DNPAD) and the National Disaster Fund, the following activities have been carried out:

- Installation of the first broad-band digital seismological station (Isla Gorgona) with help from the Colombian Navy. The station is currently being set up and undergoing testing.
- Manufacture of components and assembly of systems for seven short-period seismological stations to supplement the existing regional network. A number of basic components (seismometers and radio sets) have been supplied by the Risk Mitigation Programme in Colombia (DHA-UNDRO/CIDA/DNPAD).
- Identification and analysis of historical sources to improve the state of knowledge on patterns of tsunami-generating seismic events in the region and hazard and vulnerability scenarios along Colombia's coasts. Records of a major event in 1868 were recently discovered in