## **EMERGENCY PLANS AND**

## **EVACUATION EXERCISES**

he results of the evaluation of natural hazards and risks arising from earthquakes and tsunamis in south-western Peru have been passed on to Civil Defense Region III for implementation. They have also been made public at seminars and conferences.

The national civil defense system clearly identifies those responsible for preparing and implementing emergency plans.

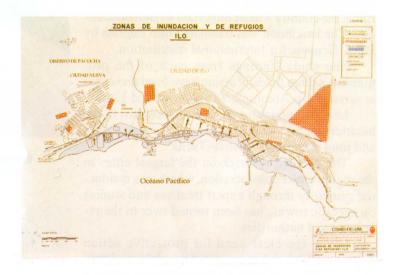
The response to date has not been uniform. For example, the organized local institutions in the port of Ilo, in-

cluding the Peruvian Navy, have done an excellent job of drawing up an evacuation plan for possible tsunami flood zones and practising evacuation procedures; but there are also some local authorities which have not yet faced up to the seriousness of the threat to their communities and have taken practically no effective action.

Civil Defense Region III faces the huge task of promoting the preparation of emergency plans and carrying out practice evacuations, in accordance with the initial PMDP strategy formulated in 1991. The National Civil Defense authority, INDECI, which executes the programme jointly with DHA-Geneva,

is aware of its own role and is taking the necessary steps to assist the regional authorities in fulfilling their responsibilities.

From March to June 1995, the PMDP hired an expert in emergency planning and public relations to visit the localities most at risk and to divulge the study findings to the public at large and to students with a view to their helping the local authorities to draw up and implement emergency plans.



LO FLOOD MAP AND EVACUATION ROUTES

## PUBLIC INFORMATION

The appropriate and timely dissemination of the study findings is very important for the sucess of the programme as a whole.

Local authorities can help the population they wish to protect by being familiar with the pattern or scenario of disasters and the relevant recommendations for mitigation measures and for drawing up and implementing emergency plans.

At the start of the programme, INDECI prepared and distributed 1,000 video cassettes on Peru's most frequent and destructive disasters and on the mitigation and emergency measures needed to reduce their impact. Emphasis was placed on making that information available in the geographical area covered by the PMDP.

In cooperation with the Ministry of Education, the PMDP prepared 1,000 pamphlets on earthquakes,

tsunamis, volcanic activity and adverse hydrometeorological phenomena, as well as on a simple way to mitigate their destructive impact. The material was used to train 300 primary and secondary school teachers, who in turn trained 30,000 colleagues, thereby ensuring a mulpiplying effect.

The PMDP, that is to say DHA-Geneva and INDECI, with the participation of the Peruvian Navy, has prepared a tsunami handbook which, apart from summarizing the state of general knowledge on the subject, also includes examples of evacuation exercises and the experience and lessons learned from them, viz. that simulations must be planned

and publicized in advance to ensure that all participants are fully informed of the actions they have to take, the reasons for taking them and the actual time available. Evacuation Drills involving young students are more successful if they are told that their efforts will be supervised and evaluated and that each educational centre will be graded on its performance.

The handbook also details arrival times for the first wave, wave height on the coast and the flood zones delimited in the various studies conducted in Peru between 1981 and 1994. These studies were sponsored by the former UNDRO, the Japanese International Cooperation Agency (JICA) and the United States Agency for International Development (USAID) and were added to the findings of research carried out within the PMDP between 1992 and 1994.

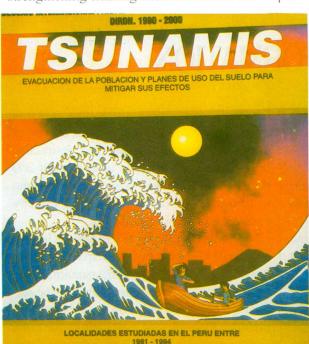
The area thus covered extends from Talara in the north, near the border with Ecuador, to Boca del Río in the south, near the border with Chile, taking as a focal point the coasts of metropolitan Lima, the country's most important stretch of coastline. The handbook was translated into English by DHA-Geneva, for international distribution.

The study findings from each of the programme's three fields of action have been presented at seminars in Arequipa, Tacna-Arica and Lima.

Leading international experts took part in the binational Chile-Peru seminar on "Common risks and joint planning for Arica-Tacna".

The detailed research on the largest cities in the region under consideration, which was conducted primarily through expert treatises and studies on specific towns, has been turned over to the relevant local authorities.

Given the clear need for protective action against the high risk represented by adobe and mud wall structures, an intensive campaign was conducted to disseminate the methods and techniques for strengthening existing adobe structures and impro-



COVER OF THE TSUNAMI HANDBOOK

ving the seismic resistance of new earthen structures, so that both the authorities and the general public could take an active part in risk reduction.

This pamphlet is part of the public information campaign.



GENERAL CARLOS TAFUR, HEAD OF INDEC1, DELIVERING THE TSUNAMI HANDBOOK TO THE LOCAL AUTHORITIES AT ILO.



DR. JOHN TOMBLIN, CHIEF OF THE DISASTER MITIGATION BRANCH, DHA-GENEVA, DURING HIS LECTURE TO THE SEMINAR ON DISASTER PREVENTION AND MITIGATION IN SOUTH-WESTERN PERU, HELD IN AREQUIPA, NOVEMBER 1994.