

PAN AMERICAN ORGANIZATION OF HEALTH (PAOH)

**A VULNERABILITY STUDY OF THE HOSPITAL
DR HORACIO E. ODUBER, ARUBA**

CARACAS, FEBRUARY 2001

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AUTHOR : ING. ALFONSO MALAVER

OFFICER: ING. MARCO RONDÓN

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EXECUTIVE RESUME

At a request from the Pan American Organization of Health (PAOH) a vulnerability study of Dr Horacio Oduber Hospital, the only one existing in Aruba, was elaborated. This report presents the qualitative evaluation results of the structural and functional vulnerability for that hospital to natural hazards, making particular emphasis on earthquakes.

In a general way, it can be said that the buildings conforming the hospital complex are exposed to some damages due to earthquakes, tsunamis and floods; although the probability of damage caused by the last two hazards is low.

This report is based upon general information, an inspection visit to the hospital and personal interviews in Aruba; besides technical information available in Venezuela concerning the region near this island. It is important to notice that for this study no information on the structural project of the hospital buildings nor geotechnical report was available.

It is concluded that the hospital main building is vulnerable to the earthquakes of the same intensity as established for the region of the Paraguaná Peninsula, Venezuela, according to the Venezuelan design seismic code COVENIN 1756-87 and it should be strengthened.

With the purpose to mitigate the effects of these natural hazards the execution of a series of actions is recommended. Among the different aspects, that require analytic verifications and low cost/benefit practical measures, are the following:

- i.- Seismic resistance analysis of the Main Building to determine the required degree of seismic reinforcement
- ii.- Structural reliability analysis of the annexed buildings to determine if their seismic resistance is adequate
- iii.- The emergency stairways to have them repaired in order to keep the routes ready for evacuation
- iv.- The drainage systems of the hospital complex to assure that its service capacity keeps in good condition
- v.- Contingency plans and supporting systems cases to make them capable of an immediate response in emergency cases
- vi.- Loose elements should be fixed to assure their stability