

NICARAGUA – HERITAGE @ RISK!

Case Study – Damage caused by the Earthquake to the Historic Centres of Masaya and Granada Cities – July 2000

On 7 July 2000 at 13.00 hours, the Pacific border of Nicaragua was shaken by an earthquake of 5.8 magnitude on the Richter scale. The cause was due to the activation of several seismic faults located between the cities of Granada and Masaya (45 and 30 km distant respectively) to the east of the Nicaraguan capital, Managua.

After the earthquake, there was a serial process of shaking known as “seismic clusters” with less intensity than the first one, but those maintained the difficult situation for the entire week.

Granada and Masaya are colonial cities; both of them have been declared Cultural and Historic Heritage of the country. Both of them have well-defined historic centres, supported by a Conservation Pattern (in Granada) and by revitalising programs (in both cities).

According to the data of the Nicaraguan Institute of Territory Studies (INITER), the Ministry of Environment and Natural Resources (ANIA), the Nicaraguan Chamber of Construction, and the Ministry of Transportation and Structure (MTI), the major damage occurred in the Historic Centre of Masaya and to some important monuments of the Historic Centre of Granada, as well as to some colonial monuments located in the small cities surrounding those centres.

The causes that induced that damage were as follows:

- Alterations of structural joints of the wooden roofs
- Lack of general maintenance of the buildings
- Alterations in the structure of adobe and *taquezal* walls

Masaya, collapsed adobe house in the historic centre



Collapsed adobe house in the historic centre of Masaya, damages caused by the earthquake of July 7, 2000

Current Situation

People have started the demolition of houses, especially those built in the traditional way (adobe and *taquezal*). The technical authorities of the municipality, especially in Masaya, have approved all of these. There is no control and / or strict verification of the damage suffered by the structures to an evaluation before decisions for demolition or repair. At the same time, people have started repairs that in most cases do not have technical assistance. There, the mistakes are repeated and can eventually cause a weakness in the construction.

Prediction

The probability that seismic faults become active again is very high, and earthquakes with high intensity may occur. At the moment, programs of specialized technical attention are too limited to cover the needs for those cases of partial or total reconstruction in houses located in the historic areas. It is possible that in many cases there is no strict control of the quality of materials and / or qualified workers.

If these seismic occurrences are repeated, the majority of the historic houses and monuments in both Historic Centres, Masaya and Granada, will collapse or will be seriously damaged with no probability of restoration.

Conclusions

It is necessary to get financial support to create a fund for the program of restoration and reconstruction to allow the population of both Historic Centres, especially Masaya's, to rebuild and repair their houses in the proper manner. The existing resources are not enough to cover the demanding needs of Masaya's population. There is a great need of specialised technical supervision in order to avoid more damage in the future than those that we had in July.