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# THE STIGMA OF DISASTER PROBABILITY

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In our planning work at the metropolitan and neighborhood level in two major cities -- Caracas and Istanbul – over the last year, we encountered interesting attitudes toward the admission that the community is vulnerable to natural (potentially very destructive) forces. These are approaches and policies by the government toward the likelihood of such events; the actions of investors and developers in light of such possibilities; and the behavior of residents in anticipation of pending severe threats.

These could be classified as tertiary impacts of earthquakes, but they are significant nevertheless to urbanists, city managers, and the local population. They affect the economic development of the city, the social well-being of the community, and the life styles and peace of mind of the residents.

The basic question is: should the threats as defined by competent scientists be fully and immediately disclosed to the public, and – if yes – how and to what extent? The true answer, of course, is simple: yes, **the population should be fully informed** so that proper preparations can be made. In real life, this does not always happen, and there are pragmatic reasons why information may be held back. It has been most interesting to observe the situation in two places that have the same degree of vulnerability, but quite different political and social conditions. We make no judgments at this time.

The City of **Caracas** has been destroyed completely three times during its history by earthquakes, thus there is no secret about this threat. Yet, there are no plans for specific rescue efforts, the mass media and the population never seem to talk about the probability of massive disaster, and the National Security Council is concerned with civil unrest without showing any recognition of the possible consequences of sudden natural events. There are earthquake provisions in the building code, but the highest concentration of expensive development is found in the zone with the poorest soil conditions. Some public officials admit that they are afraid of bad publicity that would discourage investors and builders. Everybody knows that some builders have put up very unsafe structures.

**Istanbul** (or Byzantium or Constantinople) has experienced many earthquakes over its long history, but the great architectural monuments have survived. The threats are well-known, however, by everybody, and personal fears are ever-present. A few years ago a well-meaning but somewhat naïve geoscientist announced publicly a pending earthquake, which caused near panic immediately and serious repercussions later when nothing happened. At this time, many people are fully aware that for their city of 10 million residents and 800,000 buildings the official estimate for an earthquake at the 7.5 level encompasses 50,000 buildings severely damaged or

destroyed, 1,200,000 people homeless, 40 to 50,000 killed, 130,000 hospitalized, with a total damage at US$ 13 billion. The nearby Marmara fault is expected to move at any time, and people are starting to react. For example, desirable apartments on lower floors facing the sea are being abandoned.

Thus, there is a range of possible societal response to pending disaster events. Which set of attitudes and policies will be adopted by any community depends on a whole array of political/institutional/social/economic factors. We are still in an observation and survey stage, well short of formulating cause-and-effect inferences.

At one end of the scale there is a broad-based *unwillingness to face the situation*. (Not really "denial" because too many publicly-known facts do not allow that assumption.) But it is possible to say that the earthquake will probably not happen "next year" or "within my lifetime." (Or not "within my term in office.") This is not a completely irrational or irresponsible approach because any mitigation or remedial programs will be expensive, and risk will never be removed completely. A cost-benefit analysis may be useful, with certain assumptions regarding risk and probabilities.

It also has to be kept in mind that cities in the developing world are extremely short of resources that would allow expenditures without an immediate and tangible benefit. There are thousands of residents in squatter and informal settlements who live from day to day and are in no position to engage in long range preparedness.

The other extreme in terms of applicable policies is *complete corrective action*, such as moving away from threatened areas. While this is now being done in the United States by relocating entire communities from chronic flood plains to safe ground, earthquakes are not a localized phenomenon but affect entire regions with equal probability. There are, however, distinct zones with diverse soil conditions that will result in major differences in vulnerability from one place to another. It can, therefore, be easily argued that it is the government's responsibility to protect its members from life-threatening situations, even if severe dislocations and costs are involved. On the other hand, no such means are available in many countries or metropolitan areas.

As always, the rational approach will be *somewhere in the middle*. But this is a difficult position, calling into play major political skills, social sensitivity, and precise scientific knowledge. How to inform and educate the public without causing panic and uncontrollable flight? How to maintain and strengthen lifelines (utilities, communications, transport links) without breaking the bank? How to harden vital facilities, with what priorities? How to maintain the confidence of investors and employers in the stability of the city? How to find resources to retrofit and harden buildings? How to define a listing of structures that need improvements, at what levels in the first place? How to convince (or compel) owners to take such actions? How to establish centers of support and places of refuge for emergency use after an event without placing the community in a war-like state?

Among a number of operative conclusions that could be extracted from the above observations, there is the clearly visible need to introduce disaster preparedness in the array of **urban planning considerations** – ranging from strict development controls precluding unacceptable conditions to service management programs on a daily basis.