Title:	**Social Vulnerability Assessment in Mexico City and Los Angeles**	
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Hazard examined:	Earthquake, landslide, flood, fire, explosive and chemical hazards	
Study emphasis:	Disaster preparedness and risk identification (based upon various population dynamics, namely immigration status, ethnicity, income, gender, age, health status and housing type and location).	
Summary:	Offers a compilation of maps that superimpose vulnerable populations with the physical hazard. Maps and lists are provided which identify municipalities in metro regions with high percentages of vulnerable people. Also, a catalog of "best practices" of conducting detailed vulnerability assessments, supplementary local hazard mapping and preparedness training was developed. Training courses were developed and presented based upon these products.	

Vulnerability Indicators: (1) Immigration status (rural/urban, international/domestic, legal/illegal); (2) Income, gender, age, ethnicity (esp. low income elderly, low income single mothers, low income minorities/indigenous; (3) Health status; (4) Housing type (esp. engineered vs. self-built, sheltered vs. homeless (including street children); (5) Location (esp. squatter settlements).

Applications:
ECONOMIC DEVELOPMENT: No application or impact so far; however, in principle the thorough inclusion of social vulnerability data in plans -- especially since much of it is gathered and updated in a partnership with citizen -- based organizations -- should lead to more citizen pressure for economic development policies that explicitly take disaster mitigation into account.

DISASTER PREPAREDNESS: Applications in the area of risk communication (Los Angeles: electronic and print communication in numerous languages, outreach to specific groups such as homeless youth and elderly living in mobile homes; Mexico City: new formal links with citizen-based organizations).

DISASTER RESPONSE/RECOVERY: Too soon to tell; however the decentralized community emergency response teams (CERT) are said to have functioned well in the Northridge

earthquake, providing local knowledge including presence of persons with special needs and at risk because of age, health status, disability, etc.

Data Requirements: (1) Detailed hazard maps (sub-municipal scale/ microzonation): earthquake, landslide, flood, fire, explosive and chemical hazards; (2) Population census data; (3) Sample household socio-economic data; (4) Municipal agency data: health, social services, housing, emergency response, mitigation, and recovery resources; (5) NGO/ church/ voluntary agency data: health, social services (esp. re: children, elders, homeless, immigrants, minorities), community resources for emergency response, mitigation, and recovery.

NOTE: The key to success is INTEGRATION of social vulnerability with physical hazard data and response/resource data. This requires inter- and intra-agency ACCESS AND SHARING of data. It also requires an INTERDISCIPLINARY approach and common PLATFORM (GIS, municipal data book and maps, standing health and safety committee) to ensure ACCESS, USE, UPDATING and CONTINUITY or INSTITUTIONAL MEMORY. None of this is easy, especially inter-agency sharing that involves municipal and non-governmental institutions. TRUST must be established between such agencies.

Output: (1) Maps that superimpose vulnerable populations and physical hazard; (2) Maps and lists identifying municipalities in metro regions with high percentage of highly vulnerable people; lists of neighborhoods at highest risk (RISK = [VULNERABILITY X HAZARD] – [MITIGATION + RESPONSE CAPACITY]); (3) Catalog of "best practices" at municipal and neighborhood level of "bottom up" vulnerability assessment, supplementary local hazard mapping, and preparedness training; (4) Training courses based on all of the above.

NOTE: These outputs have influenced municipal level decisions concerning risk communication, preparedness training, partnerships with NGOs, and NGO cooperation with municipal agencies. REMAINING CHALLENGES: (1) Bring ALL municipalities up to highest level of community participation and preparedness attained by the BEST; (2) Extend use of such vulnerability assessment to decisions/regulative activity concerned with industrial location and plant operation, land use, infrastructure and service investment.

PUBLISHED OUTPUT:

Velasquez, J. et al. (1999) " A New Approach to Disaster Mitigation and Planning in Mega-Cities: The Pivotal role of Social Vulnerability in Disaster Risk Management." In: T. Inoguchi, E. Newman and G. Paoletto, eds., Cities and the Environment: New Approaches to Eco-Societies, pp. 161-184. Tokyo: United Nations University Press.

Mitchell, J. K., ed. (1999) Crucible of Hazard: Megacities and Disasters in Transition. Tokyo: United Nations University Press.

Wisner, B. (1998a) "The Geography of Vulenrability: why the Tokyo Homeless Don't 'Count' in Earthquake Preparedness." Applied Geography 18,1, pp. 25-34.

Wisner, B. (1998b) "Social Aspects of Earthquake Management." UNU/IDNDR RADIUS

Workshop. Tokyo: 24 June.

Wisner, B. (1995) "Bridging 'Expert' and 'Local' Knowledge for Counter-Disaster Planning in Urban South Africa." GeoJournal 37,3, pp. 335-348.

As background to the methods used, see:

Anderson, M. and Woodward, P. (1998). Rising from the Ashes. 2nd ed. London: Intermediate Technology Publications.

Blaikie, P., Cannon, T., Davis, T., and Wisner, B. (1994) At Risk: Natural Hazards, People's Vulnerability, and Disasters. London: Routledge. [Spanish translation: Vulnerabilidad: El Entorno Social, Politico y Economico de los Desastres. Lima: La Red/ITDG, 1996]

Enarson, E. and Morrow, B. H., eds. (1998). The Gendered Terrain of Disasters: Through Women's Eyes. Westport, CN: Praeger.

Lavell, A., ed. (1994) Viviendo en Riesgo: Comunidades Vulnerables y Prevencion de Desastres in America Latina. Lima: FLASCO / La Red / CEPREDENAC.

Maskrey, A., ed. (1998) Navegando entre Brumas: La Aplicacion de los Sistemas de Informacion Geografica al Analisis de Riesgo en America Latina. Lima: La Red.

Varley, A., ed. (1994) Disasters, Development and Environment. Chichester: Wiley.

von Kotze, A. and Holloway, A. (1996) Reducing Risk: Participatory Learning Activities for Disaster Mitigation in Southern Africa. Durban and Geneva: Department of Adult and Community Education, University of Natal and IFRC [Distributed by Oxfam UK].

Wisner, B. (1993) "Disaster Vulnerability: Scale, Power and Daily Life". GeoJournal 30, 2, pp. 127-144.

Results at Site:

GREATER LOS ANGELES: Variable with good cooperation between municipalities and NGOs in some municipalities (e.g. West Hollywood, Santa Monica) and not in others. Planning for emergency needs of elderly, people living with AIDS, non-English speakers, etc. in many municipalities, while plans for illegal immigrants, immigrant day laborers, and some low income minority groups lag behind. City of Los Angeles has ambitious community volunteer training program for emergency response, reaching 20,000 people, but low income people and minorities are not well represented. Some NGOs are continuing to lobby with municipal government about hazards that concern citizens (e.g. ACLU in San Pedro re: LPG terminal under construction in San Pedro harbor).

Finally, at several of the 28 municipalities samples, there is increased discussion between city agencies and NGOs and increased awareness of the necessity to integrate social data into mitigation, response, and recovery plans.

MEXICO CITY: Training and community based vulnerability assessment institutionalized through CENEPRED, Mexico's National Center for Disaster Prevention, which has social science advisory council. Community and NGO liaison institutionalized through Mexico City's Office of Emergency Services. Little success however, in including land use planners and other city planners in the effort. The political difficulty of evicting illegal squatters even from very dangerous sites will continue to be a major challenge to "mainstreaming" vulnerability assessment. Some NGOs have become strong, highly institutionalized advocates for "mainstreaming" (e.g. post-1985 earthquake citizen-based re-housing and recovery organization CARITAS).

NOTE: The social vulnerability assessment methods tested in greater Mexico City and greater Los Angeles as well as the other four large urban regions covered by the UNU project have been further disseminated to the nine core IDNDR-RADIUS cities (including Tijuana, Guayaquil, and Antofagasta in this hemisphere) and to the cities associated with the Earthquakes and Megacities Initiative (EMI), including, in this hemisphere as cluster constituted by Mexico City, Los Angeles, Bogota and Quito. Finally, these methods have been integrated in the forthcoming FLACSO-La Red curriculum for the internet-based master's degree program on disaster management.

Lessons Learned: The development of methods for assessing social vulnerability in greater Los Angeles and greater Mexico City was part of a research-action initiative sponsored by the United Nations University (UNU). The broader context of the work included parallel work in four other large urban regions (Mumtai, Manila, Johannesburg, and Tokyo). If the 260 municipalities in the UNU study of six megacities are typical, then urban social vulnerability remains a serious problem as yet INSUFFICIENTLY FACED by municipal, metropolitan, or other higher orders of government.

Among lessons learned is that municipal level assessment of and planning for highly vulnerable social and demographic groups is characterized, despite "best practices" in a small number of municipalities, by: (1) Fragmented and uncoordinated responsibility for different at-risk groups; (2) Legal barriers to access to social data; (3) Staffing shortage and lack of training in use of available social data resulting in little use of existing sources; (4) Limited or ritualistic use of community or neighborhood groups; (5) Limited or sometimes no planning at municipal level for longer term recovery issues; (6) Political hostility toward NGOs; (7) Funding shortages and high turn over in NGO staff.

On the positive side, however, the UNU study also revealed the following: (1) Innovative use of existing neighborhood groups for preparedness or even for hazard and vulnerability mapping. In other words, it CAN be done; (2) Cases of excellent coordination between municipality and NGOs; (3) Improvements in risk communication and increased sensitivity on the part of some municipalities to the needs of foreigners, both legal arid illegal; (4) The exponential growth of CBOs and NGOs during the decades of the 1930s and l990s, therefore producing a basis -- with all the pro's, con's and difficulties mentioned earlier -- for much deeper and systematic relations between cities and civil society.