

## Vulnerability Assessment

Urban Research Symposium  
Marseille, June 30, 2009

Federica Ranghieri  
The World Bank

## Vulnerability

- The IPCC, in its Second Assessment Report, defines vulnerability as “the extent to which climate change may damage or harm a system.” It adds that vulnerability “depends not only on a system’s sensitivity, but also on its ability to adapt to new climatic conditions” (Watson et al. 1996: 23). It also argues that the vulnerability of a region depends to a great extent on its wealth, on the level of economic development and institutions, and that poverty limits adaptive capabilities.
- In 2000 defines vulnerability as “the extent to which a natural or social system is susceptible to sustaining damage from climate change, and is a function of the magnitude of climate change, the sensitivity of the system to changes in climate and the ability to adapt the system to changes in climate. Hence, a highly vulnerable system is one that is highly sensitive to modest changes in climate and one for which the ability to adapt is severely constrained”. (IPCC 2000)

## Different perspectives

---

- Security, safety – more general
- Food security and hunger (FAO, since 1994),
- Natural hazard (Blaikie et al, 1994) – as capacity to anticipate, cope with and recover from impacts of natural hazards,
- Environment - Ecocentric approach to environmental changes (initial IPCC),
- Political economy framework (Ribot, 2006) – individual ability to respond, cope etc. to stress placed on their livelihoods and well-being,
- System characteristics (Smit et al, 2000),
- Double exposure – e.g. climate change and globalization (O' Brien, Leichenko, 2000),
- Time horizon – focus on current problems rather than distant future (Barton, 1997),
- Before and after adaptation has taken place (Kelly, Adger, 2000)
- Vulnerable people and places (Wiston, 1996).


3

## City Officials' perspective

---

- Why
  - Make decisions
  - Assure good governance
  - Engaging and enabling local community
  - Urban planning
- What
  - Understand and be aware
  - Build capacity
  - Find practical and effective solutions
- Where
  - Mayor and Municipality departments
  - Local community
- Enabling factors
  - Institutional framework
  - Incentives, funds, resources
  - Capacities
  - Information, data and indicators

4




## Vulnerability assessment

---

- Sensitize
- Enabling decisions and actions
- Provide rationale for urban planning

5



## Vulnerability Assessment

---

- UN HABITAT, UNEP and The World Bank promoted a joint program on **Supporting Cities in addressing Climate Change challenges**.
- The **objective** of the proposal would be to combine forces in addressing Cities and Climate Change and to lay the foundation for a comprehensive long-term joint program.
- **Operational support:** Climate Change integrated into City Development Strategies, Development of a joint methodology on how to integrate Climate Change in City Development Strategy enhancing joint learning among the partners
- **Monitoring and Awareness raising** through publications and workshops.

6

## Starting points

---

- Active institutes, researchers and experts have been and will be invited to cooperate in this effort, which is to create a common ground, to prepare a handy tool which will allow cities' officials especially in developing countries to assess their vulnerability to climate change impacts and natural hazards;
- This VA is intended to be applicable to a wide range of cities, different depth (from RA to GIS).
- Existing tools such as the Hot Spot matrix will be refined, namely additional ranking systems, benchmarks and typologies will be provided and more quantitative information will be requested; GIS and more sophisticated tools and methods will be approached to be included in the VA framework;
- Several pilots will be launched in developing countries cities with partners.

7

## Thank you

---

**Climate Resilient Cities**  
**[www.worldbank.org/eap/climatecities](http://www.worldbank.org/eap/climatecities)**