

**The environmental dimension of human vulnerability: results from Europe (and elsewhere)**  
By Dagmar Schröter (summarized by Sandra Cavalieri)

**Key points:**

- Humans and the environment: ecosystem services provide vital link between humans and their environment. Human vulnerability has an environmental dimension.
- Vulnerability is the risk of suffering (potential impacts/adaptive capacity – vulnerability)
- You can have direct and indirect vulnerability (pollinator decline is indirect vulnerability)

**Example 1: Oak Ridges Moraine, southern Ontario Canada.** “Fertility gone with the wind”

**Example 2: Pollination.** Cultivated honeybee is declining. Wild populations are also declining.

**Example 3: Hispaniola: One Island, Two Countries. Haiti and Dominican Republic.** One island, two stories. Socio-economic/political aspects account for different environmental impacts from extreme events.

**European Vulnerability Study, The ATEAM Project (2001-2004) (17 partners!)**

1. Assessed potential impacts in Eur 1990-2100; 2. Translated impacts into maps of vulnerability
  - Stakeholder Dialogue
  - Scaled SRES scenarios to 10'x10' grid. 4 time slices. 7 priority scenarios
  - Findings: Differences between climate models and across regions. Product: ATEAM mapping tool for users to explore scenarios and run simple queries. EEA may adopt.

**Summary of the discussion:**

- ATEAM has impact on Millennium Assessment as a whole – as concept rather than its results. This was the first time stakeholders were used in this way.
- It is difficult to identify indicators that measure governance. This was not included in ATEAM. Discussion included example of Portuguese fire system which had faults and thus made region more vulnerable to fire/drought. Also discussion on possibility of using distance btw regular citizen and govt as a measure.
- ATEAM shows that natural science can be improved by the integration of social science. Important to realize that stakeholders have different motivations for participating.
- Data was available at different scales for different indicators, and some were projected into the future. At smaller scales some municipal data was available.
- ATEAM provides conceptual proof, but it is not robust (i.e. looking at different indicators could yield different results). Results allowed team and stakeholders to talk about the region in order to discuss strategies. Maps were used to dig further and identify red flags. Policy maker could use to see relationships across the EU. Able to look sector by sector as well, which was good because there is not much difference between European countries.
- Difference between regions (and southern vs northern EU countries) came up in the media. Important to recognize value statements and different perspectives.
- Point was made about industrial vs agricultural water use. ATEAM focused on agriculture, but 80% of water use is cooling water to remove waste loads.
- Point was made that agriculture is not a huge part of GDP, but it has a multiplier effect and therefore impacts a much larger part of the economy.