Vulnerability exposure, sensitivity and adaptive capacity

In the past climate change vulnerability was understood as exposure to climate hazards. Today a more complete picture of vulnerability, encompassing exposure to risk; sensitivity to these risks; and adaptive capacity is informing our understanding of climate change impacts and shaping better development interventions.

Vulnerable populations are exposed to multiple risks including changing hydrological patterns, impacts on agricultural productivity, risks to unique and threatened systems, extreme weather events, and sea-level rises. In Europe and Central Asia (ECA), climate change is already causing glacier retreat and increased risks of flooding and droughts. The warming of the region has been largest over Northwestern Russia, the Balkans, Caucasus, and Central Asia. Semi-arid and arid regions are experiencing increased water shortages with severe implications for food production. Sea-level rise is becoming a growing problem in the low lying coasts of the Adriatic, Black and Caspian Seas. These threats, coupled with the risk of more frequent and intense storms, loom over the development prospects of much of the region.

Sensitivity results from high level of dependency on environmental services for livelihoods, food, energy and shelter; lack of human, social, natural, physical, financial, cultural, and technological assets; geographical context; and governance deficits (including discrimination, lack of access to information, decision making, and justice, and weak institutions).

Adaptive capacity involves changes in processes, practices, or structures that moderate or offset potential damages associated with changes in climate. From a development perspective, building adaptive capacity refers to interventions that improve governance and enhance the assets, which an individual, household or community may mobilize to build resilience in the face of climate change. Rethinking agricultural practices offers one option for building adaptive capacity in ECA. For example, investing in early warning systems for droughts, floods and water-related disasters, while scaling-up water conservation and river-basin management will be key. Crop diversification will also be important to combat soil degradation. One initiative to tackle the impacts of climate change on communities in Tajikistan addressed the issues of food availability and shortened growing seasons by training women in food preservation techniques (New Economics Foundation, 2008).

Vulnerability is not a uniform taxonomy: the causes of vulnerability and the profile of those who are most vulnerable differ from region to region. In ECA socio-economic factors and legacy issues will constitute the main source of vulnerability. Climate change will be an additional stressor that challenges development. The next decade offers a window of opportunity for ECA to make its development more resilient to climate changes.

Test Your Knowledge

Question 1: How has understanding of vulnerability evolved over time? What entry points does this provide for social development in ECA?

Question 2: What measures can be taken to reduce vulnerability to climate change in ECA?