

Abstract:

Urban risk from natural hazards and the connection to public health

Natural hazards become disasters when human development interacts catastrophically with natural processes. While many impacts of disasters are simply a case of human developments being “in the way” of irresistible geologic processes, it is also true that human settlements and practices can amplify disastrous impacts, or trigger disaster occurrences. Because of the concentration of human assets in cities, studies of metropolitan regions illustrate how human systems and their interdependencies interact with the environment to exacerbate the impacts of natural disasters.

This lecture will examine the unique factors required for the identification and assessment of urban disaster risk, and will examine the role of city planning in building urban disaster resiliency. Disaster preparedness will be examined from the standpoint of emergency response needs, as well as the need for mitigating future disasters through policy, investments, and planning. Treating catastrophic loss of life and emergency response as a public health issue may motivate the prioritization of mitigation actions. I will discuss briefly policies and practices that involve public health decisions.

I will illustrate the discussion with three case studies completed by students from Columbia University’s urban planning, earth sciences, civil engineering, and public health departments. The first, from Caracas, shows how the social and political isolation of urban poor causes disproportionate exposure to natural hazards. The second, Istanbul, illustrates how surgically targeted investments in infrastructure can reduce urban disaster risk. The third, from Accra, demonstrates how problems in sanitation, flooding, and agricultural productivity are linked, and require a multidisciplinary approach.

The discussion will lead to the following question: Is urban disaster planning an effective civil mechanism for reducing the vulnerability of city dwellers to natural disasters? A subsidiary question is: Are the public health benefits of disaster resiliency sufficient to motivate targeted investments in infrastructure that promote a “culture of mitigation”?