Tackling health risks with geographic information and geospatial technologies in a dynamically changing environment: vector-borne diseases to disaster epidemiology

More than 2.6 billion people have been affected by disasters in the last decade with over 350 million people affected each year. As climates change, the impact on health and health-related services will affect populations unequally around the world with some areas more affected than others. Disaster events can act as a catalyst for diseases by enhancing the interactions between a pathogen (or disease agent), a susceptible host in an altered environment. Although a wide variety of diseases, some with epidemic potential, are associated with disasters, six main disease types, some of which are highly transmittable and vaccine-preventable can occur.

Epidemics do not occur spontaneously, instead they arise as a result of interactions between a pathogen agent, a susceptible host in an environment conducive to transmission which may be intensified due to exposure during a hazard type (HE), vulnerabilities in the population (V) and coping capacity or lack their off (CC) in the geographic region. Taking these factors into consideration, several steps can be taken to prevent and minimize disease occurrence during different phases of a disaster event.

During this talk, I will highlight the role geographic Information and geospatial technologies can play in tackling health risks in a multi-dimensional changing environment from preparation to rescovery in both the short-term and long-term. This talk will be centered around an integrated health approach from the ecological drivers to thinking about how to respond and communicate with geospatial data and technologies. Examples will range from vector-borne diseases, disaster epidemiology to extreme weather events and accessibility to health facilities.

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