Improving Effectiveness of Humanitarian Assistance:

Data implications of using space based technologies.

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UNSPIDER Meeting, Bonn
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Centre for Research on the Epidemiology of Disasters

• director: Debby Guha-Sapir

• research on health status in emergency situations

• 2 databases:
  – EM-DAT: Emergency Events Database
  – CE-DAT: Complex Emergency Database

• Michel Lechat (founder, 1973)
Evolution of Disaster Epidemiology

Lechat (1975):

“…If epidemiology is the study of health and diseases in populations, then there is no reason why disaster struck populations should not be amenable to epidemiological investigation…”

• J Gordon and L Saylor (1957): disasters as “epidemics”
Evolution of Disaster Epidemiology

**early 70s**

- recent big crises (Biafra, Bhola cyclone)
- new NGOs; reorganization of old NGOs
- increasing number of unskilled volunteers
- little scientific basis, poor efficiency
Evolution of Disaster Epidemiology

Lechat (1975):

“...If epidemiology is the study of health and diseases in populations, then there is no reason why disaster struck populations should not be amenable to epidemiological investigation...”
Evolution of Disaster Epidemiology

70s - 80s

- identifying priorities in humanitarian assistance using an epidemiological approach
- need for indicators, data sources, data collection systems
  e.g. - impact deaths/population at risk (by age group),
     - deaths/destroyed houses
     - deaths/casualties
- development of EM-DAT

- lack of standardization
Evolution of Disaster Epidemiology

90s

• 2 concomitant evolutions
  – increase in humanitarian budget
  – increase of number of NGOs

• donors expect more efficiency & transparency
  – NGOs → professionally skilled epidemiologists
  – launch of best-practice projects (e.g. SPHERE, SMART, SIR, etc)

• countless conferences, workshops, trainings, papers, books
Evolution of Disaster Epidemiology today

- standardized methodologies with standardized indicators
- specialized software for disaster epidemiology adapted for field use
- data repositories for humanitarian data

• searching for the best tool ⇒ revealed weak spots of existing methodologies
Constraints of existing epidemiological tools

1. Sampling approach
   – subset of the entire population
   – resource-driven: impossible to include all affected individuals
   – risk of introducing selection biases

2. Access to affected populations
   – physically present ⇔ interview, measurement
   – inaccessible areas after natural disaster; insecure areas in conflicts

3. No spatial footprint of disasters

IRRELEVANT WITH SPACE-BASED TECHNOLOGIES
Tewkesbury, UK
Darfur, Sudan
Building Bridges

• collaborative approach (win-win)

• capacity building

• standardization of methodologies

“Different purposes, different needs”

- resolution
- timeliness
- frequency
- level of processing
Antonie van Leeuwenhoek

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