

Improving Effectiveness of Humanitarian Assistance:

Data implications of using space based technologies.

21/10/2009

UNSPIDER Meeting, Bonn

Olivier Degomme



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 \Rightarrow 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

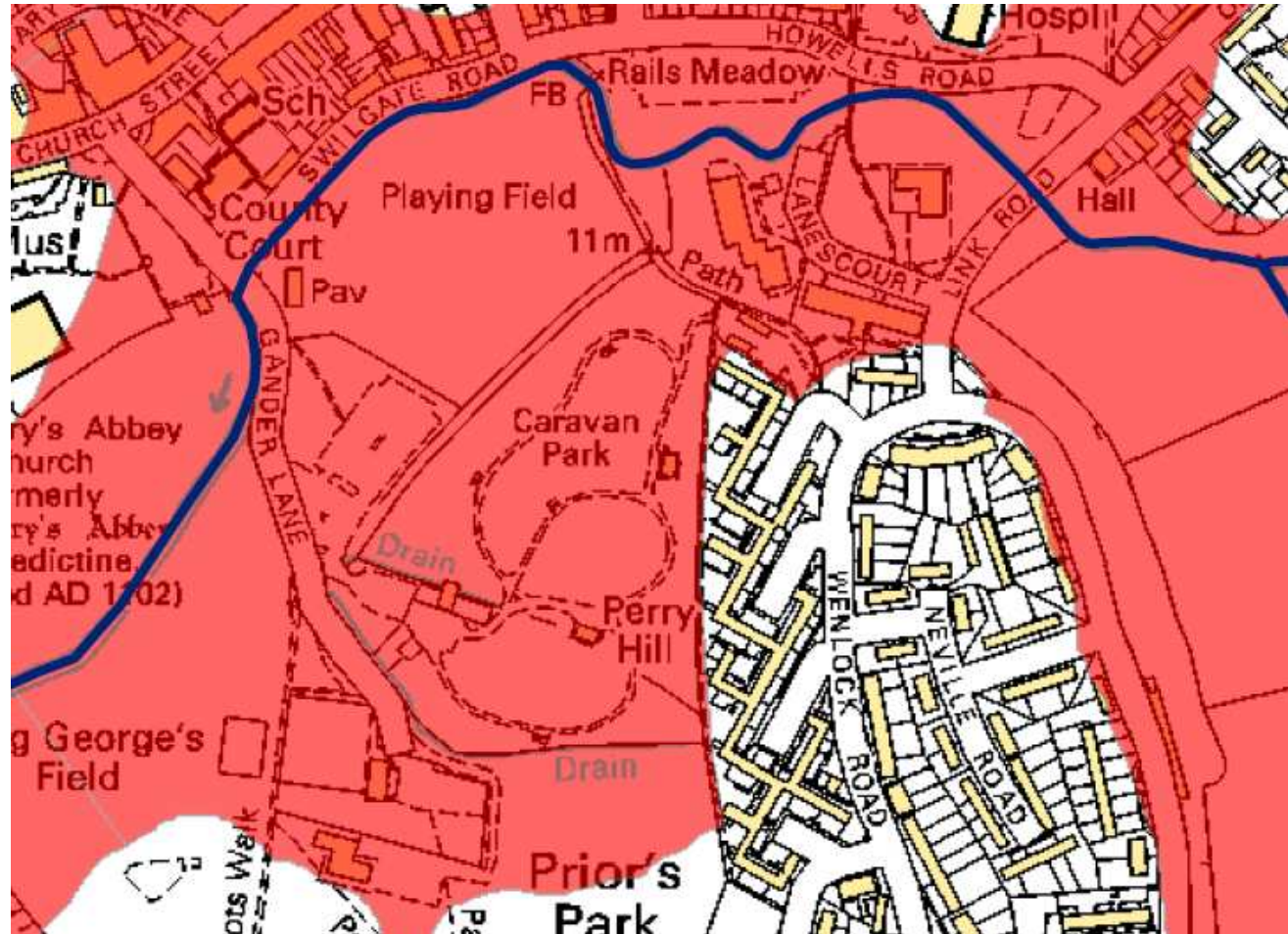
- physically present \Leftrightarrow interview, measurement
- **inaccessible areas after natural disaster; insecure areas in conflicts**

3. No spatial footprint of disasters

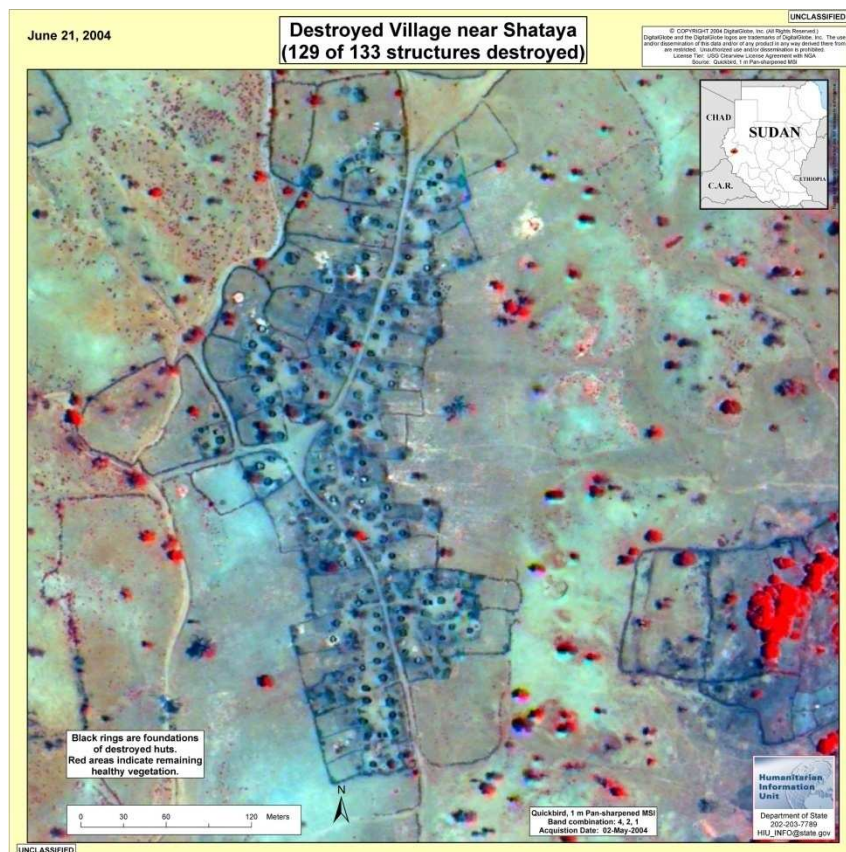
IRRELEVANT WITH SPACE-BASED TECHNOLOGIES



Tewkesbury, UK

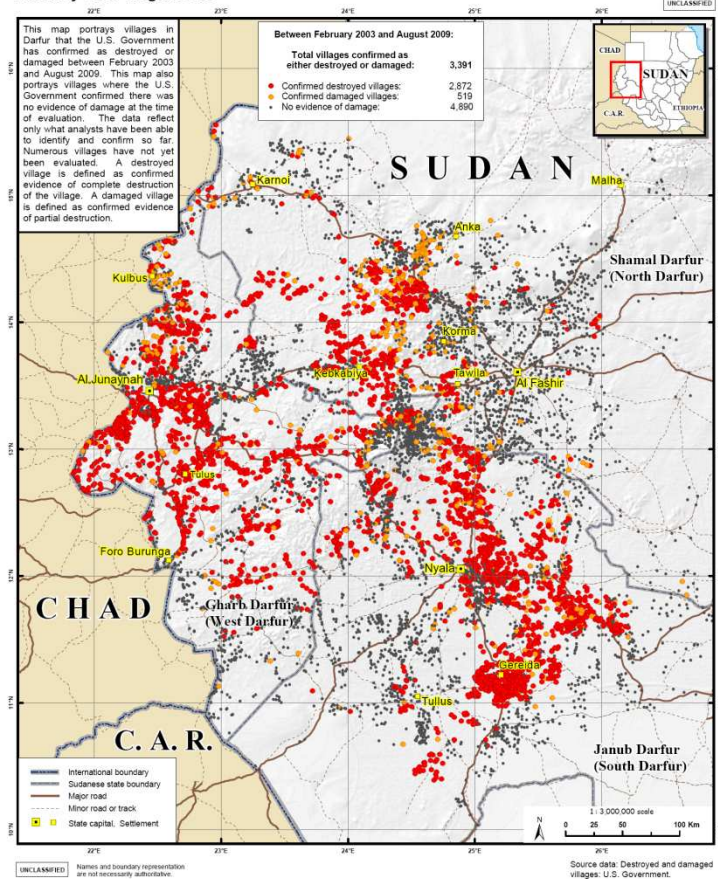


Darfur, Sudan



**Darfur, Sudan:
Confirmed Damaged and Destroyed Villages,
February 2003 - August 2009**

HIU U.S. Department of State
Humanitarian Information Unit
August 31, 2009
UNCLASSIFIED



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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UNSPIDER meeting
21/10/2009