Health Database and Web-Mapping for Emergency Responses

A Prototype Application for ETHIOPIA

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ECA’s Involvement

SDI

The United Nations Economic Commission for Africa (UNECA) is assisting member States to develop spatial data infrastructure as appropriate mechanisms for:

- Management
- Production
- Dissemination and
- Use of spatial data and information products
ECA’s Involvement

SDI

As part of SDI, ECA works with member States to:

- Build fundamental, core and thematic datasets
- Develop capacity and retain a critical mass of expertise in Africa
- Develop Standards and data interoperability
- Geodetic reference (AFREF) and Metadata production
Looking at the number of health projects in Ethiopia and the amount of time needed to report an incident to the Ministry of Health, this application is:

- Easy to detect the rate of increase or decrease at real-time
- Fast data collection and manipulation
Objective of this project

Time

- Saves the amount of time the data reaches decision makers and users:
  Avoids paper work that delays data entry

- Easy to issue early warnings and preparedness:
  Usually within few days after the onset
Data Accuracy

Direct input of data by health or field workers

Lessens typing errors that might be created from copying the information from paper notes
Accessibility

- Map the location, distribution and coverage of health facilities in Ethiopia

- Calculate the average distance or time that patients and health care providers have to travel to the nearest health facility from incidents
Health Facilities

Accessibility

1. Estimate the percentage of population that can be served by health facilities at a given distance (buffering)
Health Facilities

Availability

Incorporate other attribute information:

- number of beds in each facility
- availability of electricity (24hrs)
- availability of doctors or health care providers…etc
Health Facilities

Identify and examine emergency conditions

Find out the emergency status and take the appropriate measures
Malaria

- Identify the most vulnerable areas and the number of population affected

- develop the best malaria prevention and control strategies
Malaria

- 36% of the population is out of the reach of the health service coverage

- The annual average number of cases reported over the period from 2001 – 2005 was **9.4 million** (range 8.4 – 11.5)

- The annual average number of confirmed cases was 487,984 (2001 – 2005)
Malaria

- Focusing on Prevention mechanisms, combining:
  - Altitude
  - Rainfall
  - Temperature
Elevation
Mean Annual Precipitation
Mean Annual Temperature
Overlaying the three factors
Future Prospects for this Application

- Mobile GIS
- Network Analyst
- Online imagery analysis
- Develop the same application for member countries
Thank You

http://giss.uneca.un.org/HealthDBETH