

# **Relevance and feasibility of international alert systems**

**A case study of earthquakes  
in central Asia**

- » **International relief**

- » Is time-sensitive

- » **Alerting**

- » Initiates intelligence gathering

- » Supports the “entry decision”

- » **Current alert systems**

- » Focus on mortality

- » Not correlated with international response

## » **Entry decision**

- » Evaluate suitability of information sources

## » **Response prediction**

- » Non-sequential
- » Feasibility



## » **Information source evaluation**

- » Determine the **relevance** of information sources for “entry decisions”

## » **Response prediction**

- » Develop **descriptive** and **predictive** models of international response behaviour
- » Determine subjects for which **additional proxy indicators** are required

**PURPOSE**

- » **58 Case studies in Central Asia**
  - » Afghanistan, China, Iran, Pakistan, Kazakhstan, Kyrgyzstan, Tajikistan
  - » 1992-2005
- » **Content analysis**
  - » NEIC, ReliefWeb, Virtual OSOCC, EMM
- » **User interviews**

**METHODOLOGY**

## » **Accuracy**

- » Requirement time-dependent
- » Should be known

## » **Timeliness**

1. Seismic data (minutes)
2. Tele-assessment of loss (<hr)
3. On the ground reports (hr - days)
4. Image remote sensing (days)

**ENTRY DECISION SUPPORT (1)**

- » **Tele-assessment of loss**
  - » Relevant
  - » Room for improvement
- » **Image remote sensing** useful if:
  - » Delivery reduced to hours
  - » **Area** of interest is so **remote** or **widespread** that the time required for on-site reports exceeds that of delivery

- » **International response/attention**
  - » Frequency of UNOCHA situation reports
- » **Predict** using
  - » Indicators of hazard & vulnerability
  - » Indicators of Political relations & International presence
    - » Proxies: WPFI, Composite vulnerability
- » **Ordinal regression** using
  - » Three-tier output (None, Intermediate, High)
  - » Categorical input

# RESPONSE PREDICTION (1)



- » **Results promising**
  - » 12 misclassifications
- » **Patterns in misclassification**
  - » Iran and China
- » **Missing indicators**
  - » Inclination to request aid
  - » Bilateral relations

**RESPONSE PREDICTION (2)**

- » **Relevance** of alert tools
  - » Important
  - » Room for improvement
- » **Feasibility** of response prediction
  - » Has potential
  - » Indicators of political relations
  - » Descriptive vs. Normative approach

## CONCLUSION

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