GVM Meeting
BGS, Edinburgh, Apr 30-May 1, 2011

Global Earthquake Model
Calculating and communicating seismic risk worldwide
Part II: Organizational aspects

Anselm Smolka | Chairman, GEM Foundation
with support by: Rui Pinho | Secretary General, GEM Foundation
“A collaborative effort devised and launched by OECD’s Global Science Forum, aimed at engaging the global community in the design, development and deployment of uniform open standards and tools for earthquake risk assessment worldwide”
Science intrinsically non consensual, and differences of opinion push research activities forward, and thus lead to useful findings and advancements.

But: How to “operatively discuss” ideas and models, comparing methods and results without a common platform (or “sandbox”) in which to experiment things, share data and results, comment, criticise, support, disseminate.

An as open as possible collaboration/debate platform should be made available to the scientific community.

Could Vhub be transformed into such a platform?
MOTIVATION – PARTICIPATORY PROCESS

The involvement/input of local experts (i.e. ‘building on existing capacity’) tends to bring added-value. Global involvement coverage ideal.

VAN Earthquake: Casualties

- WAPMERR: 8,000-20,000
- PAGER: 10,000 (median)
- KOERI: 700-1,000
- Observed: 601 (on 2 Nov 2011)
How to get community buy-in?

- Location of the Secretariat less important?
- Institutional representation: Committee membership
- Involvement in projects/task forces
- Transparency
- Technology transfer/capacity building

Regional and local members must be convinced that they not just contribute, but get something back (tools, procedures, standards)
MOTIVATION – INVOLVE THE PRIVATE SECTOR

• Funding capability of the public sector continuously decreasing
  => need to involve the private sector more
  => produce models/tools/results that serve the needs of the private sector
    (as an integral part of the societal resilience-building process)

• Needs of private and public sector not necessarily diverging, as proven by constructive work in GEM’s GB

• but: private sector thinks more in monetary dimension, public sector more in humanitarian terms (notwithstanding CSR)

A Public-Private Partnership, combining the strengths and objectives of the public and private sectors can bring dividends

Pool of private sponsors may be more restricted for volcanic risk than for earthquake, because of low probability of high monetary loss
Public Private Partnership: What does it mean?

GEM is a legal body, a (private) foundation financed by public and private sponsors
- Public: governments, and also national/regional/local authorities (e.g. Taiwan)
- Private: in practice, companies; could be also foundations or individuals

Membership:
- Sponsors contributing ≥1 Million € have seat in GB
- Sponsors contributing less have various rights, but no seat in GB
- Associate partners: International organisations and associations, seat in GB without voting rights (as they don’t pay)
13 public participants have adhered so far

10 private organisations have partnered up with GEM so far

they contribute 15 M Euro

discussions and negotiations are ongoing with 15+ others

the OECD, World Bank, UNESCO, UN/ISDR, IAEE, IASPEI and IStructE are associate participants
PRIVATE PARTICIPANTS

Founders:

Munich RE
ZURICH®

Sponsors:

AIR WORLDWIDE
Willis
EUCENTRE

FM Global
hannover re®
RenaissanceRe®
Nephila
PUBLIC PARTICIPANTS

Australia
Belgium
Ecuador
Germany
Italy
New Zealand
Norway
Singapore
Switzerland
Turkey

United Kingdom
United States

TEM

Taiwan Earthquake Model
<table>
<thead>
<tr>
<th>Organization</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
</tr>
<tr>
<td>WORLD BANK</td>
<td>The World Bank</td>
</tr>
<tr>
<td>UN-ISDR</td>
<td>United Nations International Strategy for Disaster Risk Reduction</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
</tr>
<tr>
<td>IASPEI</td>
<td>International Association of Seismology and Physics of the Earth’s Interior</td>
</tr>
<tr>
<td>IAEE</td>
<td>International Association of Earthquake Engineering</td>
</tr>
<tr>
<td>IStrucE</td>
<td>The Institution of Structural Engineers</td>
</tr>
</tbody>
</table>
Who could be GVM’s private sponsors?

• Aviation industry, incl. Airport operators
• Financial sector?
• Who else?

Availability of private money has implications on the operational setout:
Task forces or paid work contracts (or both)
Development can be depicted with following core activities:

- Global (Component) Projects
- Regional Programmes
- Model Facility (platform and engine)
GLOBAL COMPONENTS

For and from the community..

- **scientific modules** of GEM that are developed at a global scale to provide standards, methods and tools for global datasets

- addressed by **international consortia** that respond to Requests for Proposals (RfPs) released periodically by the Scientific Board

- before consortia are selected there is a thorough process of **expert elicitation, community feedback, and peer review**

- provide the **global framework** for the model which will be reviewed and further developed by the Regional Programmes to ensure they are adequate for regional needs and characteristics

**Keyword: transparency!**
ALL CODE DEVELOPMENT IS DONE IN THE OPEN

```
# -*- coding: utf-8 -*-
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```

Pilot project to generate GEM’s first products and develop GEM’s initial infrastructure

=> An option for GVM?
COLLABORATION PLATFORM

www.nexus.globalquakemodel.org

GEMNEXUS | WORKING TOGETHER ON GLOBAL EARTHQUAKE RISK ASSESSMENT

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GEM Foundation Secretariat

The GEM Secretariat is the executive body of the GEM Foundation, and consists of the Technical Office, with its main coordinating body the Executive Committee (GEM's Hazard coordinator, Risk coordinator, SEI coordinator, IT and MF Managers), and sections dedicated to Coordination and Management, Outreach and Communication, Administration and Services. Through this channel we will post announcements, requests for feedback and technical documents for you to comment on.

Contact us @ secretariat[at]globalquakemodel.org

Group Members

What we would like to share ...

GEM Secretariat Guidelines for Regional Programmes
Aug 30, 2011 10:09 AM
A short document providing suggestions and advice for those involved in organising a GEM Regional Programme. It is a living document that will evolve with the changing needs and knowledge within GEM.  

more...
Regular regional workshops to aid regional and global coordination, typically featuring:

- Discussion of status-quo of regional activities in seismic risk, identifying gaps in knowledge and data
- Presentation of global activities, databases, methods, standards
- Sessions dedicated to technology transfer (software and tools)
STAY UPDATED

GEM Website
- Most update source of information
  News, results, calls, …

www.globalquakemodel.org

GEM Report 2009/2010 v2
- Available from website and hard-copy

Bi-monthly e-Newsletter
- Sign-up at website
GEM should NOT try/want to:

• provide the one and only best model or solution
• provide fully complete data sets
• provide dogmatic standards
• be a closed club
• become an admin-costly organisation

GEM should try/want to:

• be a community regional aggregator and a venue for open discussion/sharing/disagreement
• provide the infrastructure for open development, testing and verification
• be an opportunity for capacity building (where so desired and requested), but also for building-on-capacity
• be a vehicle to facilitate access to funding from private sector or international organisations
• be a multi-disciplinary effort, facilitating the link with social scientists, local decision-makers, etc
• inform society as whole, not “just” scientists, decision-makers, etc
A comprehensive interactive model: Calculating and communicating hazard, physical risk (exposure and physical vulnerability) and integrated risk (accounting for social vulnerability)

State-of-the-art: Latest developments in science and technology

Community based: Community involved in designing and implementing GEM procedures, software, tools, methods, collecting data etc.

Open access: Open source software, transparent tools and accessible global datasets

Global coverage: Global and regional coverage. Interaction with Regional Programmes

Serving Multitude of Users: Intuitive, customised interfaces and users needs assessments

Dynamic (“alive”): Updatable, modular, flexible models and tools

Public / Private Partnership: Combines strengths and objectives of public and private sectors

Application beyond GEM: Contributions can be used in many contexts (exposure, social vulnerability data, open-source software), in particular for other hazards
Interaction between the OpenQuake calculation software, the OpenGEM risk assessment platform, the Regional Programmes and Global Components for the development of the GEM model between 2011 and 2013.