



Earthquake Nepal, 2015

*personal reflections from
the perspective of a
Structural Engineer*



Åke Solfeldt

+46 705 77 64 66

ake.solfeldt@wspgroup.se

Youtube: Solfeldt Nepal

***Project Manager at WSP and
Structural Engineer at SWIFT USAR***



Staff 36 000



MSB – Swedish Civil Contingencies Agency

MSB recruits personnel within a wide range of competences.

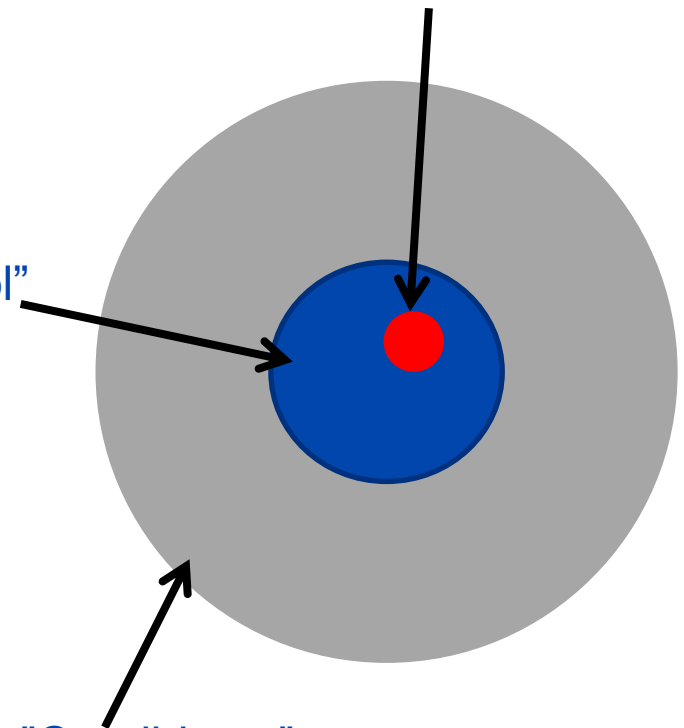
MSB aims to secure the quality of their educated personnel within following areas:

- Administration
- Construction and support
- Disaster management
- Environment
- Water, sanitation and hygiene
- Humanitarian assistance
- Information and communications technology
- Information
- Logistics
- Medical
- Mine action
- Emergency response
- Security

1 500 – "The Pool"

5 000 - "Candidates"

Ca 250
SWIFT USAR



SWIFT USAR

Swedish International Fast Response Team - Urban Search And Rescue

- **SWIFT USAR** is an advanced search- and rescue team. Possible to activate when national or international crisis occur if collapsed structures. Crises caused by natural disasters like earthquakes, or accidents or intentional damage.
- **SWIFT USAR** consists of 76 personnel and 12 search dogs, self-contained for 10 days.
 - Management; including command and command support
 - Operational; Rescue groups
 - Logistics; Technician, camp
- **SWIFT USAR** is a classified heavy team accordingly to UN INSARAG guide lines. (www.insarag.org)

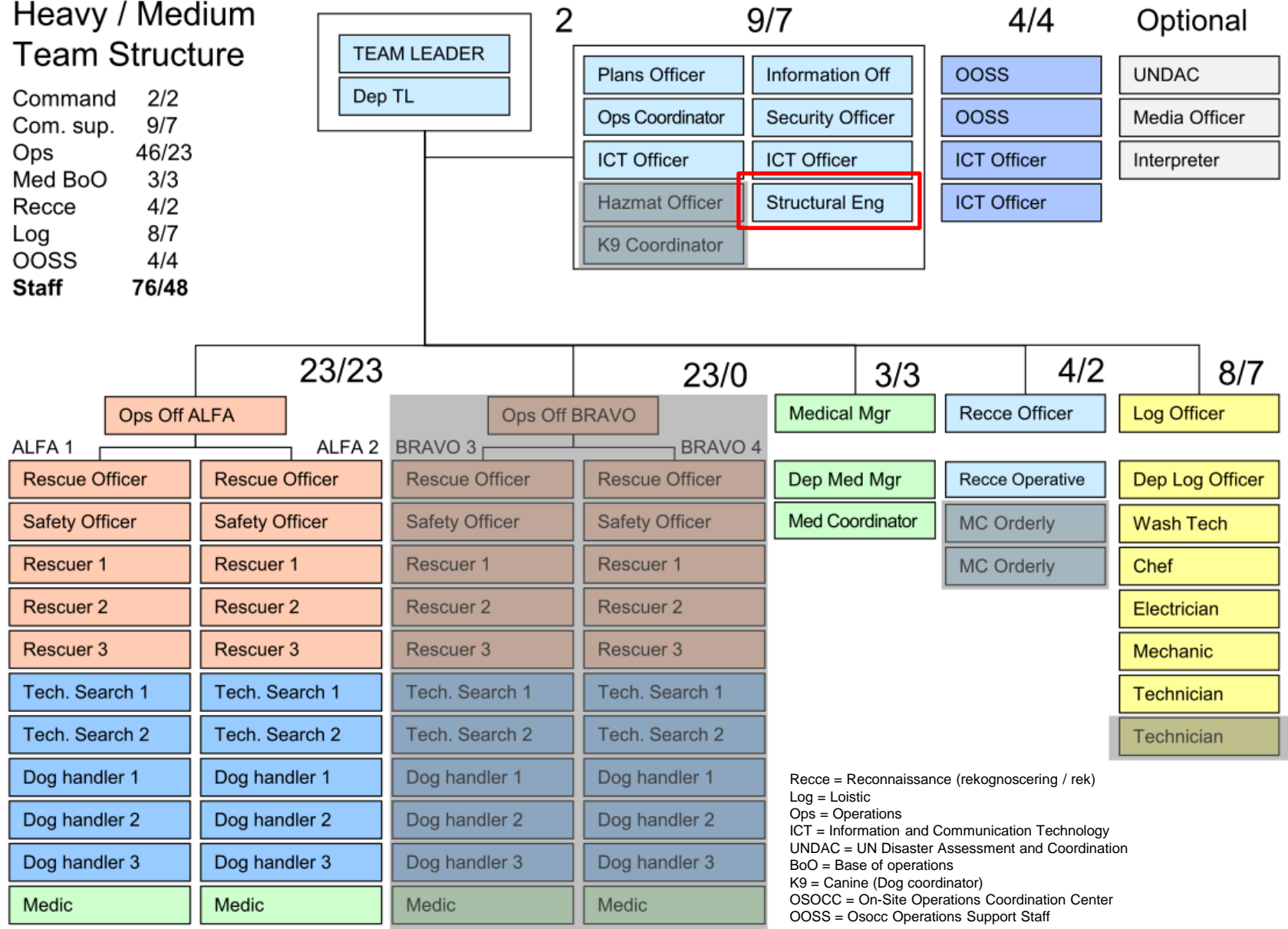


SWIFT USAR

2012-08-27

Heavy / Medium Team Structure

Command 2/2
Com. sup. 9/7
Ops 46/23
Med BoO 3/3
Recce 4/2
Log 8/7
OOSS 4/4
Staff 76/48

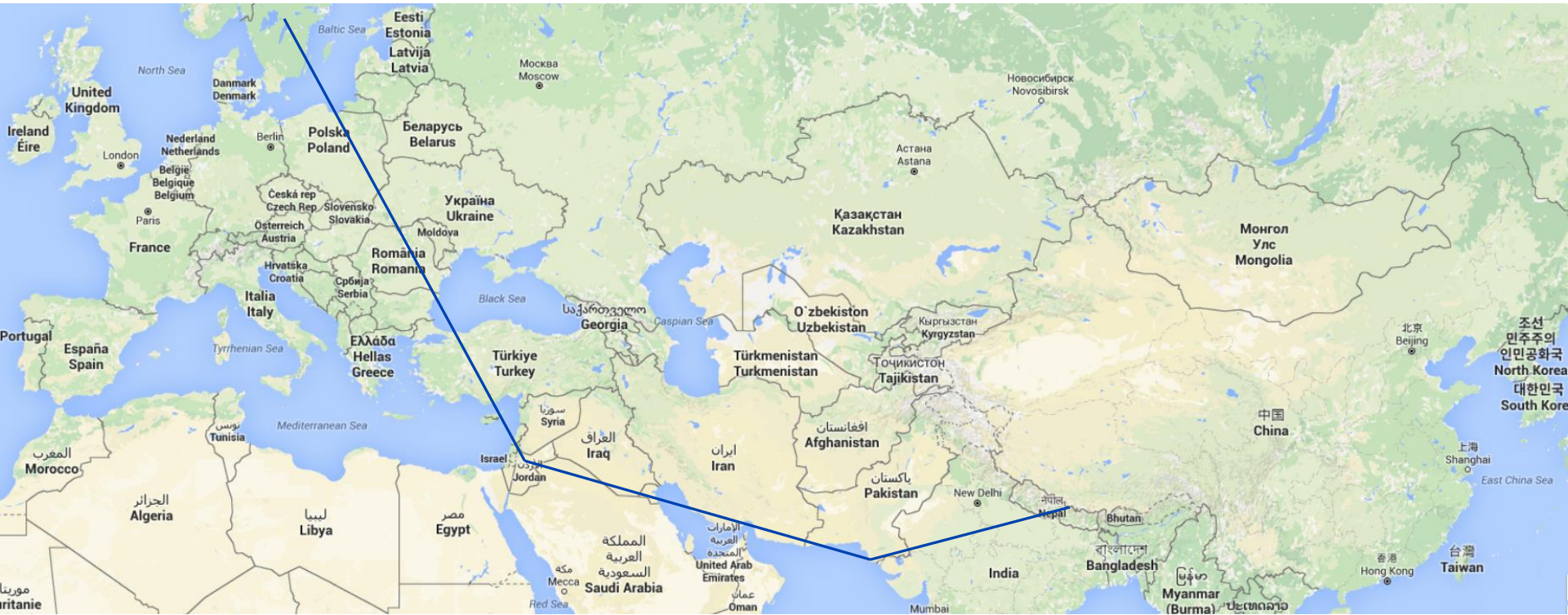


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Re-organization SWIFT USAR ->
Early Support and Recovery Team
(~76 -> ~35)



NEPAL 2015



Örebro

Amman

Karachi

Kathmandu

NEPAL 2015

- 25 April (Sat) 11:56 AM 7.8 in magnitude;
- Epicentre around Barpak, Gorkha District;
 - The tremor was felt all over Nepal, and in Tibet, Sikkim, Bihar, Utter Pradesh and Delhi also.
- Aftershocks:
 - 6.6 RS at 12:30 hrs in the same day,
 - 6.8 RS on 12 May and
 - More than 400 shocks > 4
- Impact: The Kathmandu Valley and other more than 30 districts.



International Search and Rescue (ISAR) Teams

- Total 4,521 SAR personals from **34 countries** and 141 canines were mobilized.
 - Only 6 countries responded within 48 hours and 3 countries arrived within 72 hours.
- ISAR team rescued 19 lives and recovered many dead bodies with National Security Forces.
- **34 countries:** Algeria, Australia, Belgium, Bangladesh, Canada, China, France, German, Hungary, India, Indonesia, Israel, Japan, Jordon, Malaysia, Mexico, Netherland, Norway, Oman, Philippines, Poland, Pakistan, Russia, South Korea, Sri Lanka, Singapore, Spain, Sweden, Switzerland, Thailand, Turkey, UAE, UK, USA



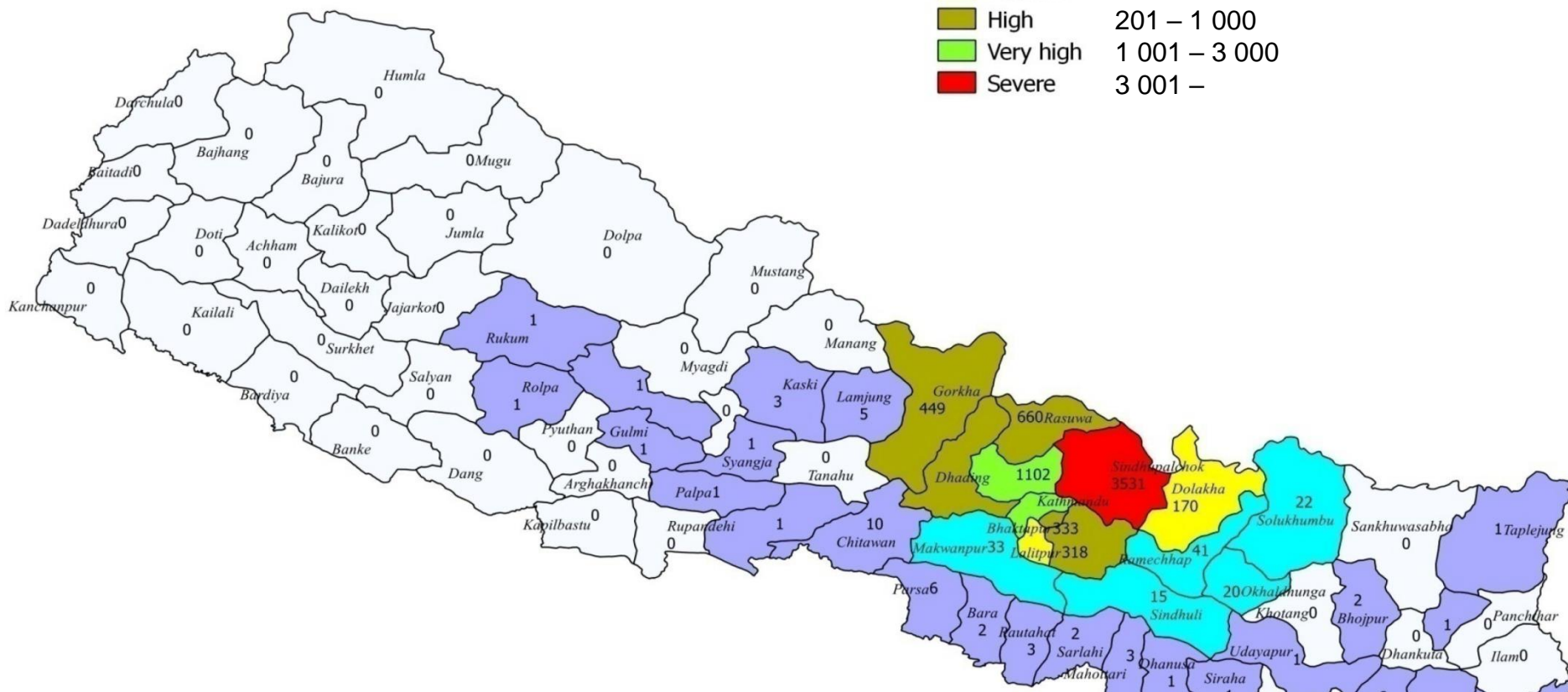
Rescued child after 22 hour in Bhaktapur

NEPAL 2015

Total death – 8 969

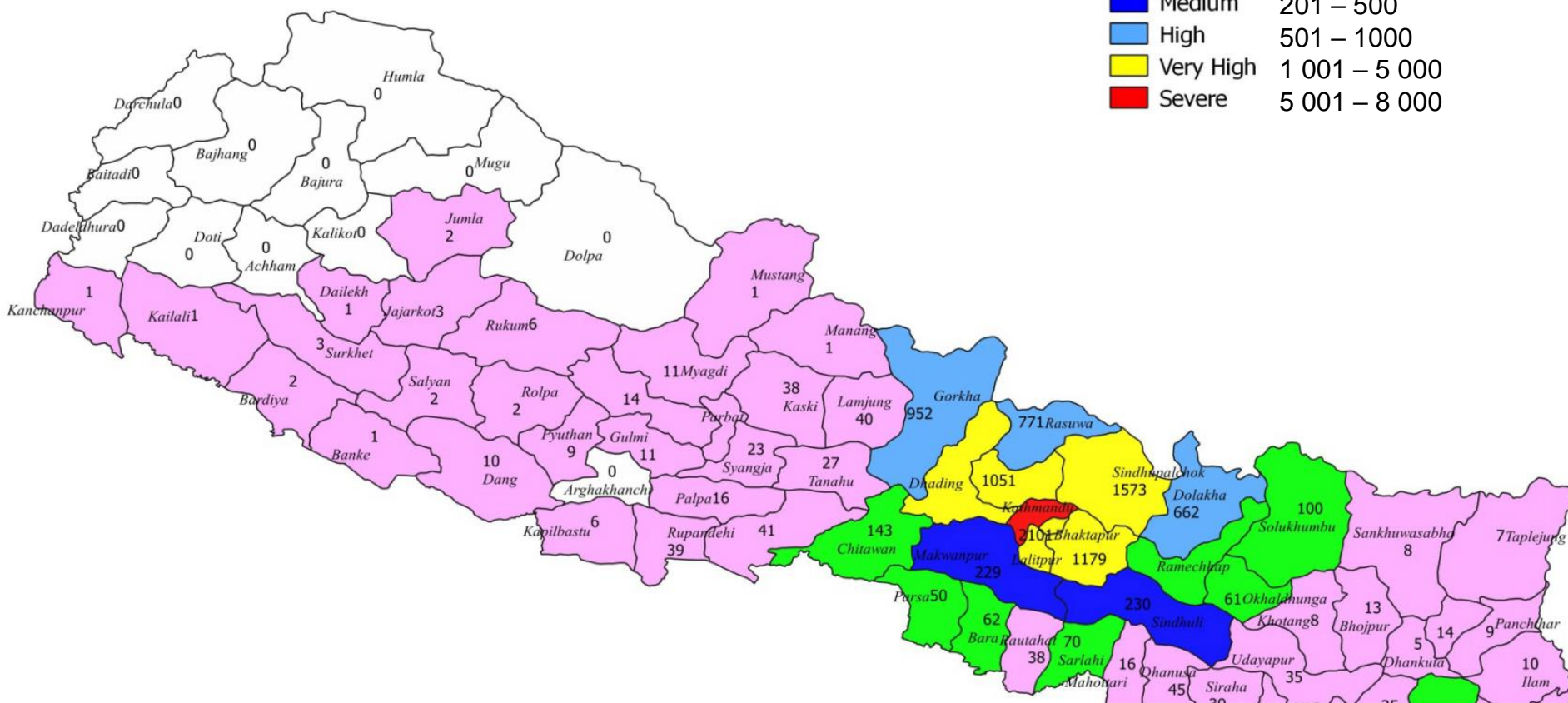
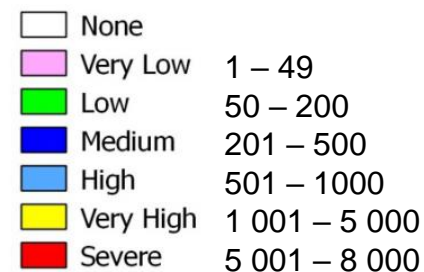
Total Death

| | |
|-----------|---------------|
| None | |
| Very Low | 1 – 10 |
| low | 11 – 50 |
| Medium | 51 – 200 |
| High | 201 – 1 000 |
| Very high | 1 001 – 3 000 |
| Severe | 3 001 – |



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Total injured – 22 321



NEPAL 2015

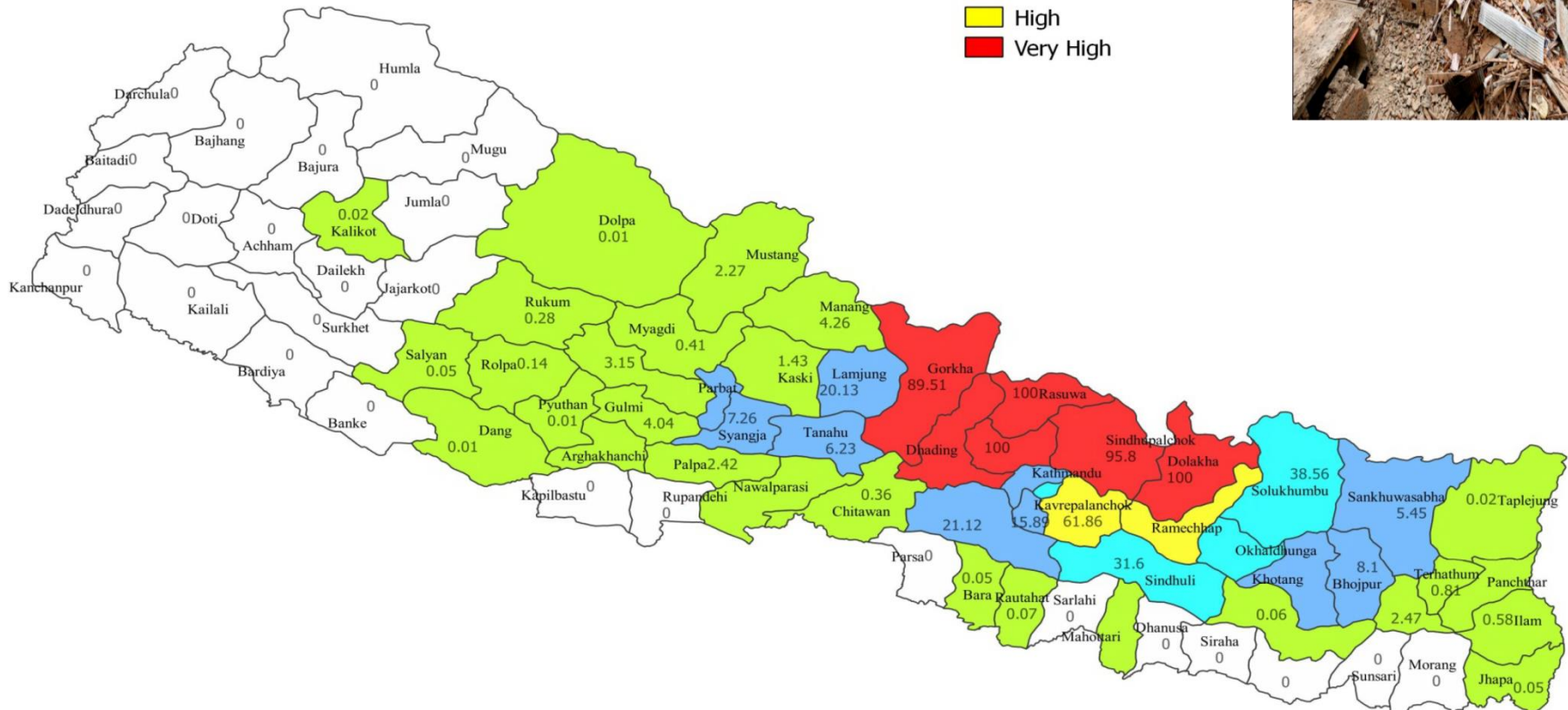
Private House Fully Destroyed

House fully destroyed – 602 592

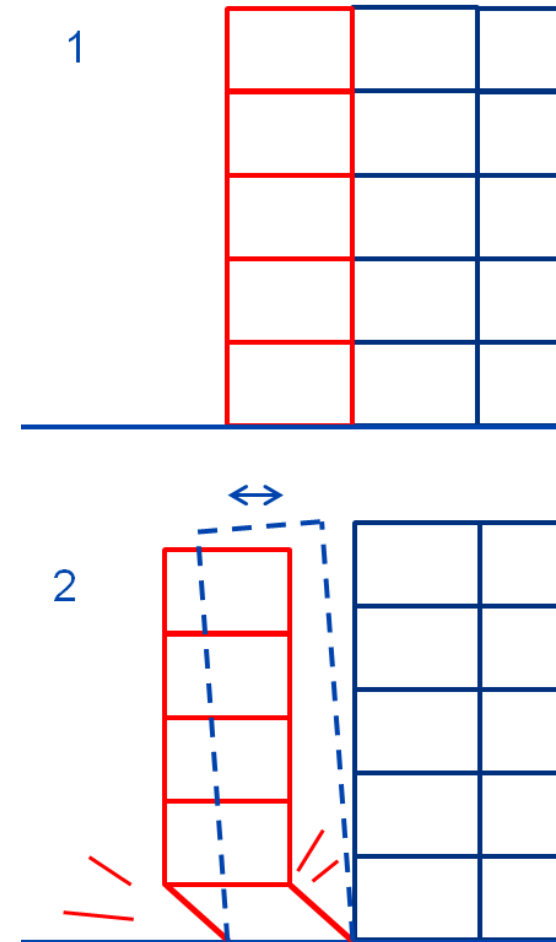
Legend

Private House Fully Destroyed

- None
- Very Low
- Low
- Medium
- High
- Very High



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Instabil masonry structures
Temporary shored

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Sample: Site



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Sample:
Structural
defects/signs

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Reflections

On site:

Drones

"hands on" inspections

K9

Distance/back home:

Networking

Proactive studies and courses

Sharing experiences and facts

Workshops like this



Åke Solfeldt
+46 705 77 64 66
ake.solfeldt@wspgroup.se

www.wsp.com

www.msb.se