

A GUI for exploring financial solutions to flood-induced losses

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EGU, 9 April 2019

Current management of flood risk finance

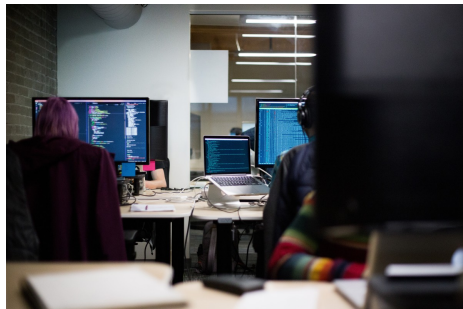
- ▶ More industrialized countries: insurance & other financial instruments
- ▶ Less developed countries: low penetration of insurance; financial burden is *at best* on the government.

⚠ Need to plan ahead (i.e disaster risk finance)



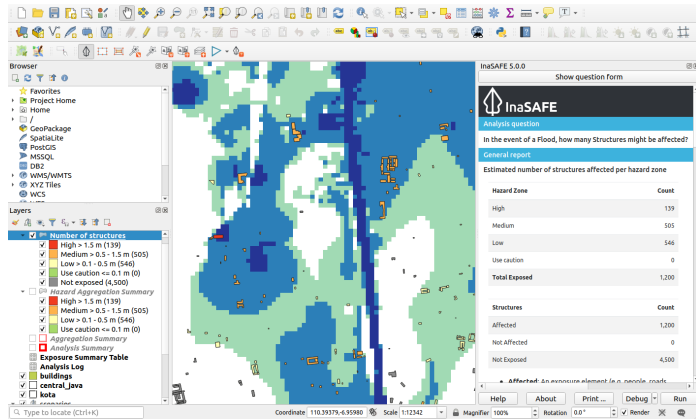
Need of user-friendly tools

- ▶ Modelling is necessary for insurance
- ▶ Catastrophe models are complex and expensive
- ▶ Local stakeholders need to simulate and visualize their exposure to flood risk and the potential cost of insurance



InaSAFE (inasafe.org)

- ▶ Free software extension to QGIS
- ▶ Estimate the number of buildings affected by a given event
- ▶ Integrates nicely with OpenStreetMap as source of exposure data



Challenges

- ▶ InaSAFE works on a event basis; economic simulation requires multiple events
- ▶ Exposure mapping (OpenStreetMap might be incomplete)
- ▶ Building value estimate
- ▶ Relation between water depth and damage (depth-damage curves)

Current state of the tool

- ▶ Batch process of flood events
- ▶ Estimate financial losses
- ▶ Estimate insurance premium
- ▶ Display results in GIS

Current state of the tool

Way forward

Allow user to:

- Change insurance parameters
- Do a hypothetical building analysis

Flood Premium Analyser

Percentage Loss Covered:

Square Metres: Value per square metre:

Calculated Value of Building (Millions of Rupiah)

Number of Stories

Deductible

Type of Building

Frequency of Covered Loss

Premium as percentage of value

Premium in Rupiah

Thank you

Work funded by NERC via grant NE/R014361/1

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