



QGIS + InaSAFE

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- Course objectives
 - Introducing InaSAFE
 - About the InaSAFE project
 - InaSAFE concepts
 - Datasets
 - Introduction to QGIS
 - Run Basic InaSAFE
 - Run Intermediate InaSAFE
 - Other Hazards
 - Frequently Asked Questions
- Curriculum and Guide for Facilitator
 - Data Collection Using OpenStreetMap
 - QGIS and InaSAFE for Disaster Management
 - Training of Trainer Module

not 'Indonesia specific'.

The underlying goal of InaSAFE is to encourage and facilitate better planning for disasters - our slogan is "**better planning saves lives**".



Each country in the world faces its own unique challenges. According to the Global Assessment Report GAR for Indonesia the chief concerns are Volcanoes and Floods - other countries will face different challenges.

InaSAFE Website

<http://inasafe.org/>



GFDRR

Global Facility for Disaster Reduction and Recovery



AUSTRALIA-INDONESIA
FACILITY FOR
DISASTER REDUCTION

Supported by GFDRR and the Australia-
Indonesia Facility for
Disaster Reduction

Data Supplier

HAZARD

Keywords Wizard



OSM Downloader

EXPOSURE

Keywords Wizard



SET ANALYSIS EXTENT

InaSAFE combines one set of exposure data
with one hazard scenario

Impact Function
Wizard

IMPACT FUNCTION

InaSAFE produces maps, reports & action lists

MAPS

REPORTS

User Defined
Minimum Needs



ACTIONS

Exposure data layer (e.g. location of buildings)
+ Hazard scenario (e.g. footprint of flood)
= Spatial impact layer
(statistical summary + action questions)



Data Supplier

HAZARD



Keywords Wizard



Flood
Earthquake
Lava Flow
Ash Fall
Tsunami

Chemical Spill
Nuclear Plant Failure
Industrial Fire/Explosion

Any natural or human caused event or series of events
that may negatively impact the population,
infrastructure or resources in an area



OSM Downloader

EXPOSURE

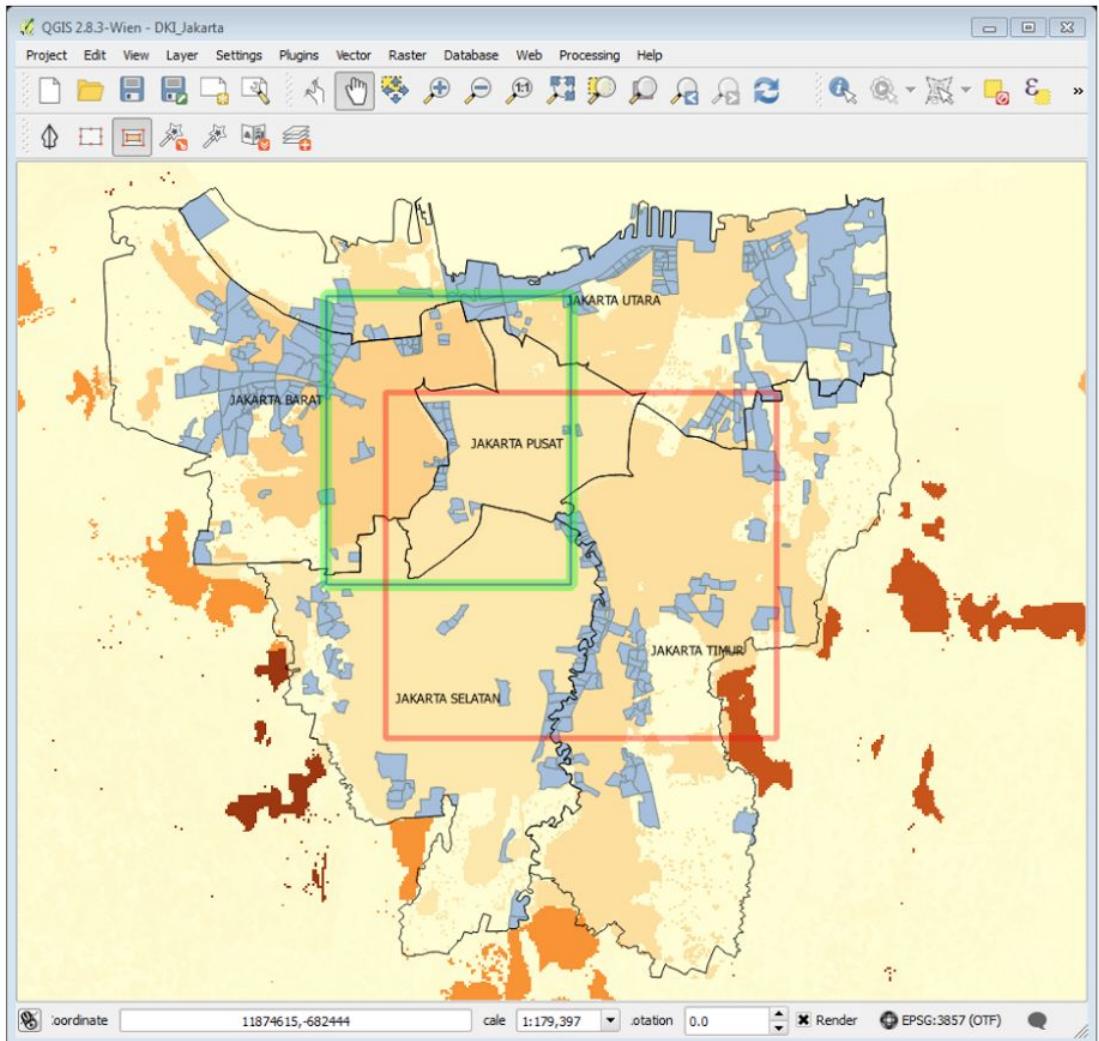


Keywords Wizard



Roads
Buildings
Population/People

Exposure refers to people, infrastructure or land areas that may be affected by a disaster



Must specify
the analysis
extent with a
bounding box



SET ANALYSIS EXTENT

InaSAFE combines one set of exposure data
with one hazard scenario



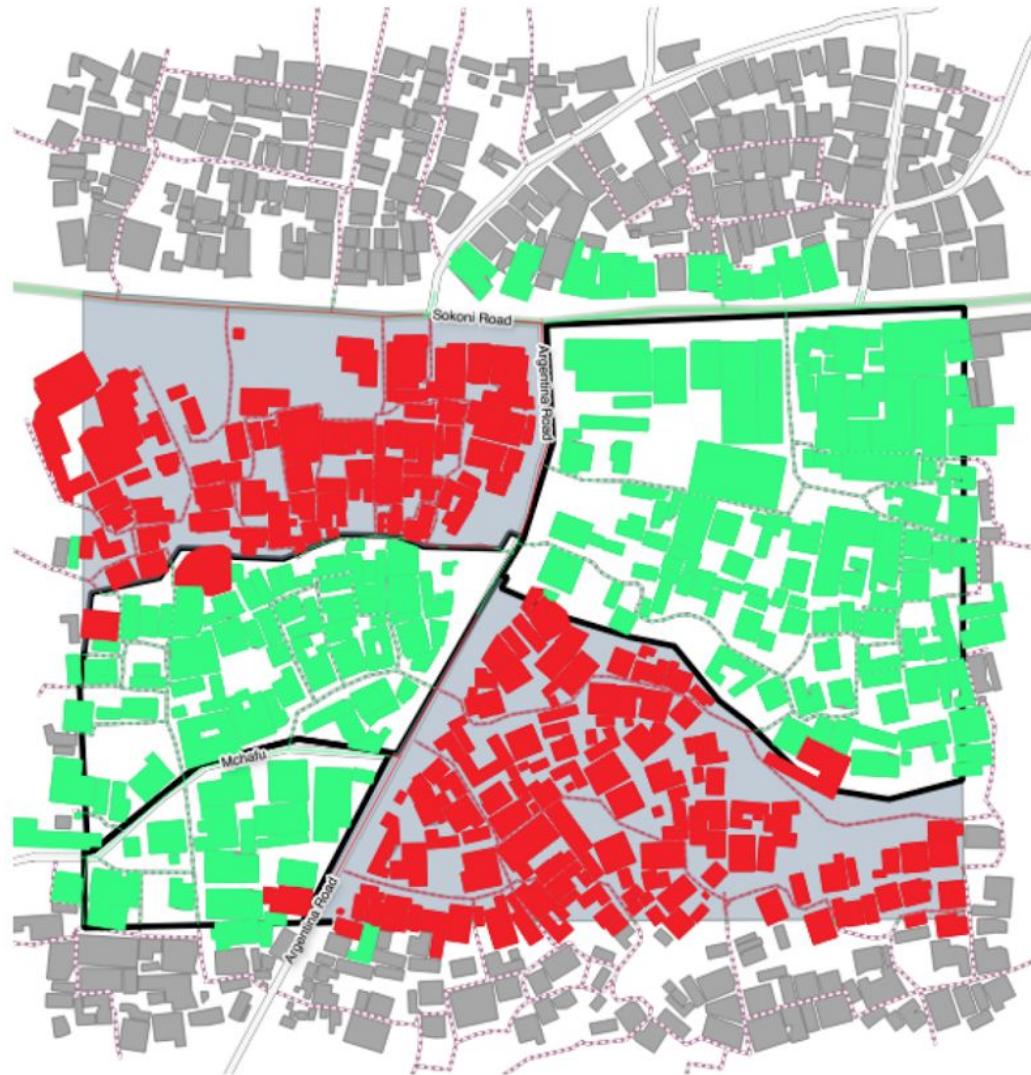
Impact Function
Wizard

IMPACT FUNCTION

InaSAFE produces maps, reports & action lists

Algorithm that determines impact of a hazard
on the selected exposure

Does not model hazards but the effects



Impact layer

New dataset produced as the results of running the impact function

Analysis Results

In the event of tandale-floods how many buildings might be flooded

Hazard Category	Buildings Affected	
Flooded	247	
Buildings Not Affected	242	
All Buildings	489	
Building type	Flooded	Total
Other	2	2
Residential	245	245
Action Checklist:		
Are the critical facilities still open?		
Which structures have warning capacity (eg. sirens, speakers, etc.)?		
Which buildings will be evacuation centres?		
Where will we locate the operations centre?		
Where will we locate warehouse and/or distribution centres?		
Notes		

Buildings are said to be inundated when in a region with field "FLOODPRONE" = "YES".

Impact Summary

Provides a table(s) and other textual information with the number of buildings, roads or people affected

Needs should be provided weekly	Total
Rice [kg]	56
Drinking Water [l]	350
Clean Water [l]	1,340
Family Kits	4
Needs should be provided single	Total
Toilets	1

Other information including population minimum needs breakdowns (population) and action checklists (disaster management).

Action Checklist:

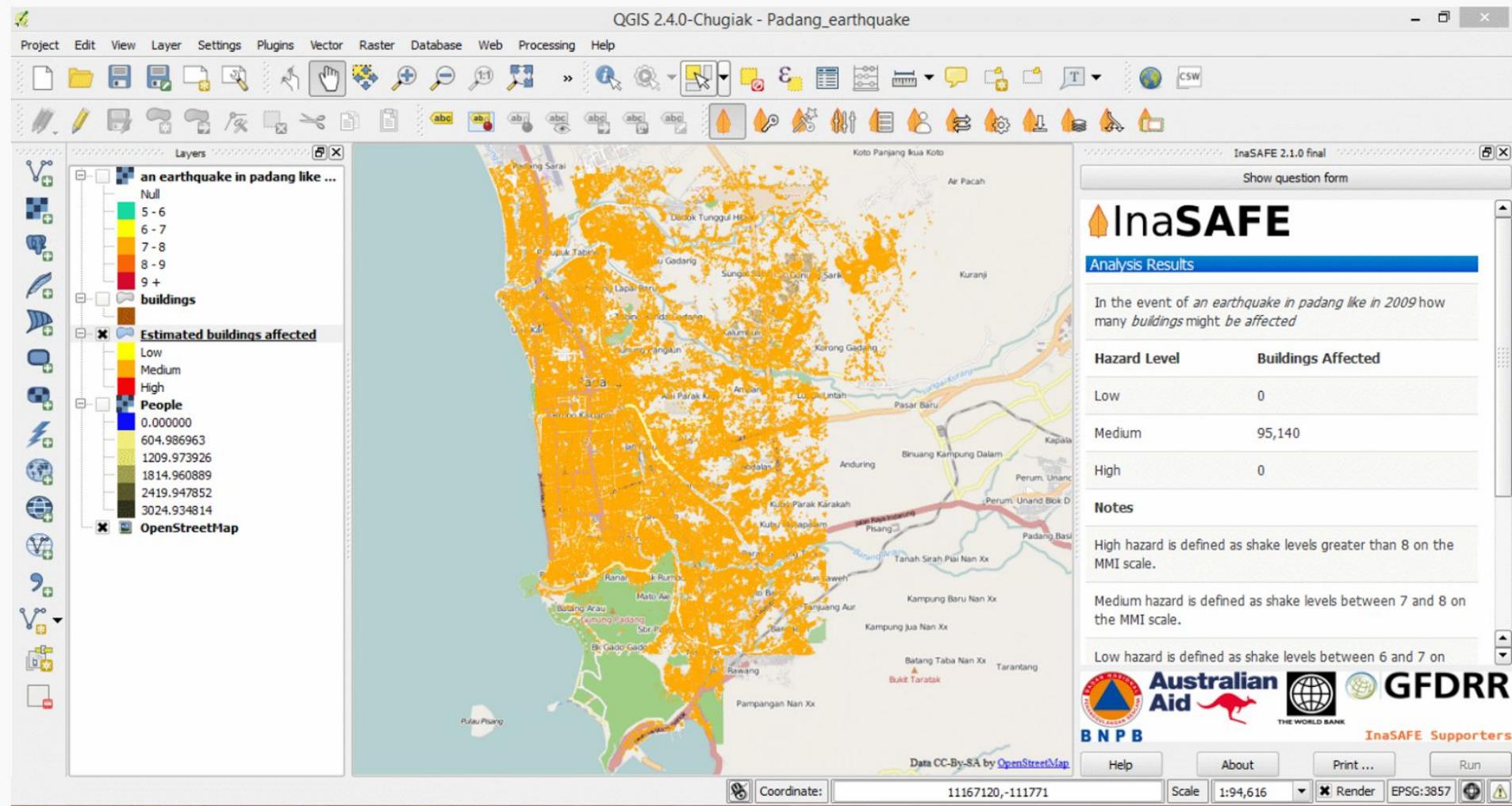
How will warnings be disseminated?

How will we reach stranded people?

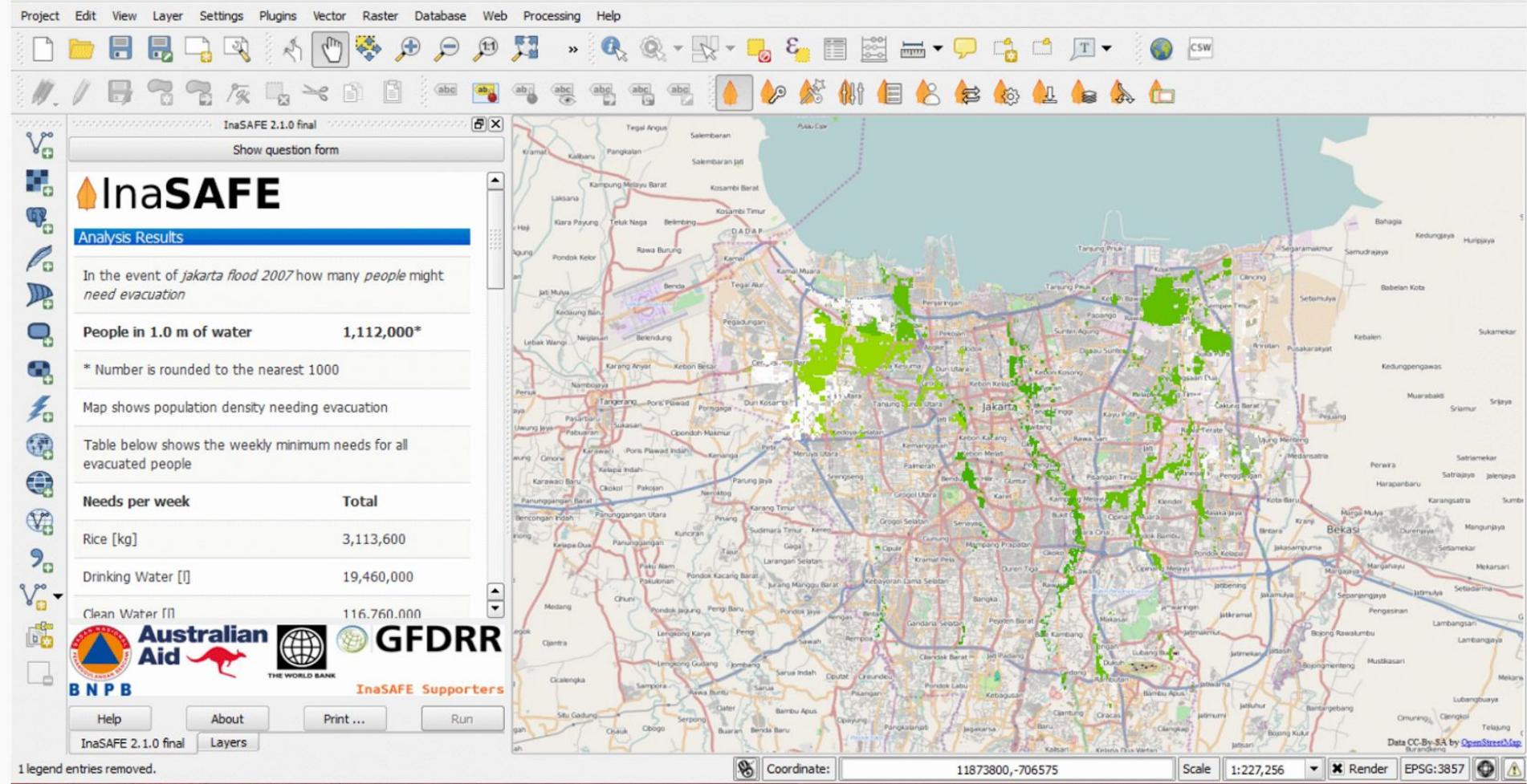
Do we have enough relief items?

If yes, where are they located and how will we distribute them?

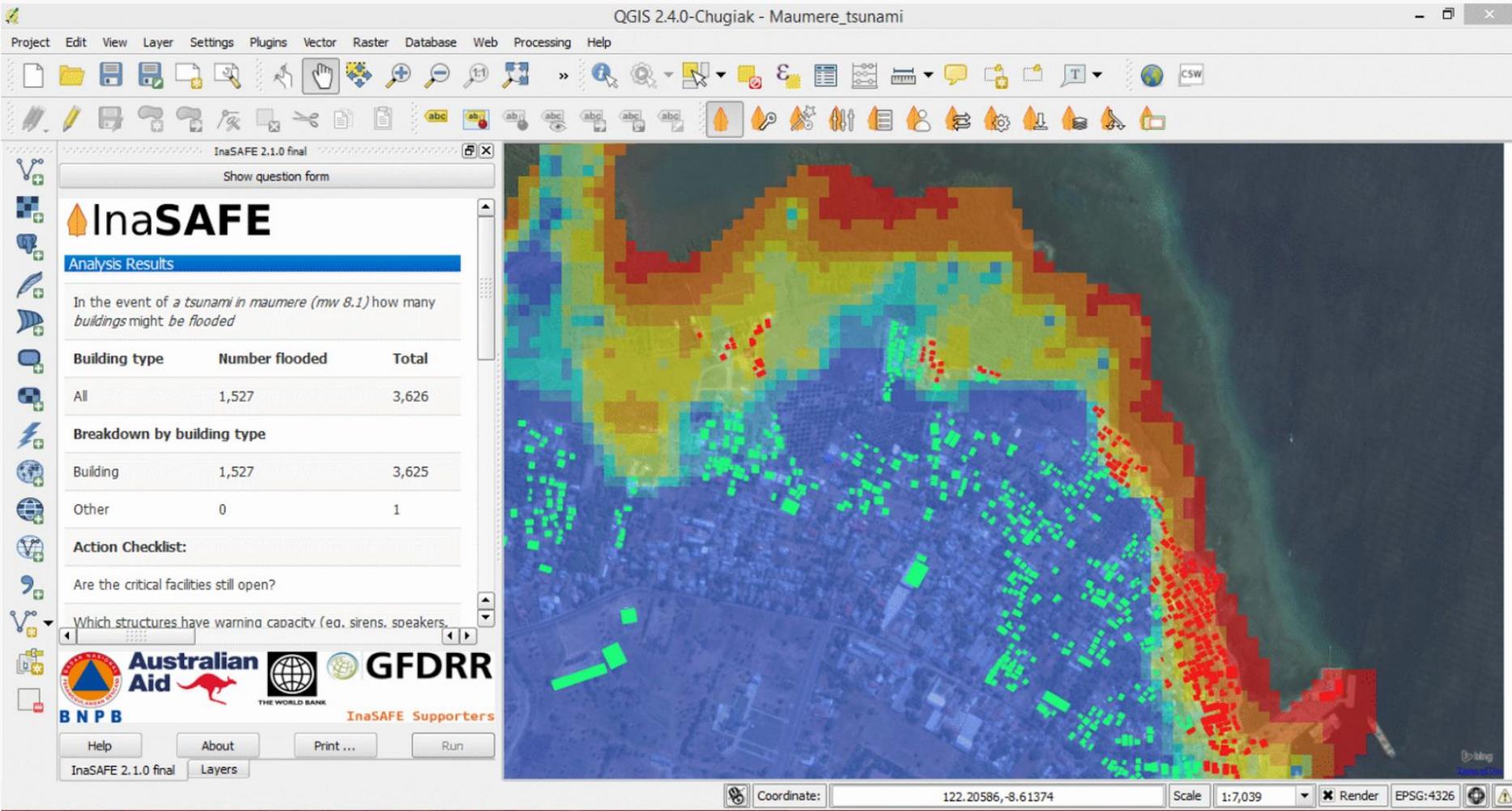
If no, where can we obtain additional relief items from and how will we transport them to here?



QGIS 2.4.0-Chugiak - Jakarta_floods

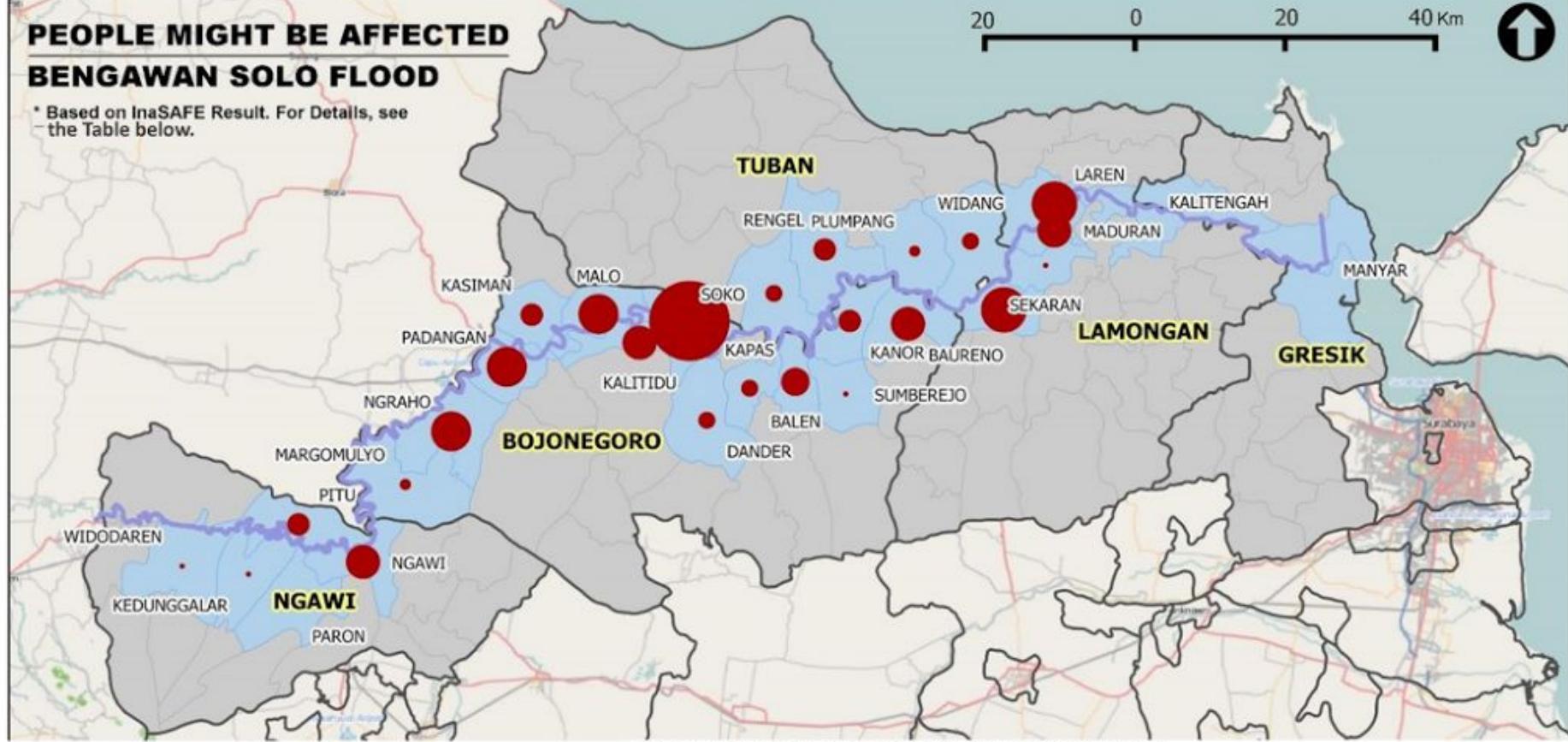


QGIS 2.4.0-Chugiak - Maumere_tsunami



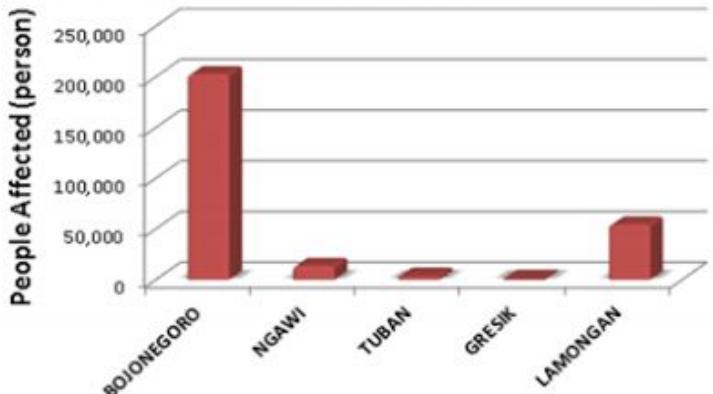
PEOPLE MIGHT BE AFFECTED BENGAWAN SOLO FLOOD

* Based on InaSAFE Result. For Details, see the Table below.



PEOPLE MIGHT BE AFFECTED BY BENGAWAN SOLO FLOOD *

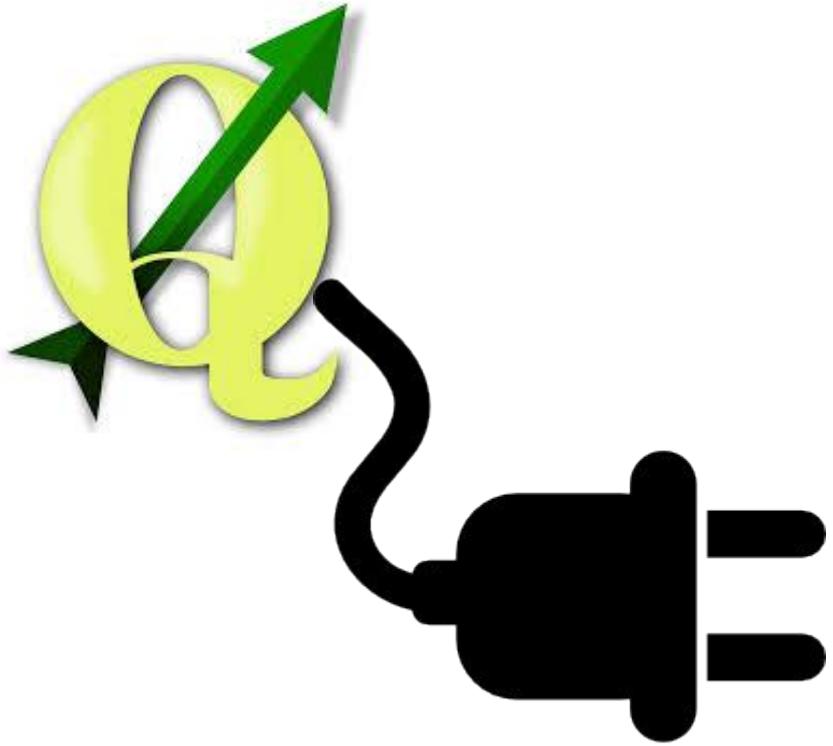
* Based on analysis using InaSAFE



** Population threshold of people need evacuation : 1% of the people might be affected

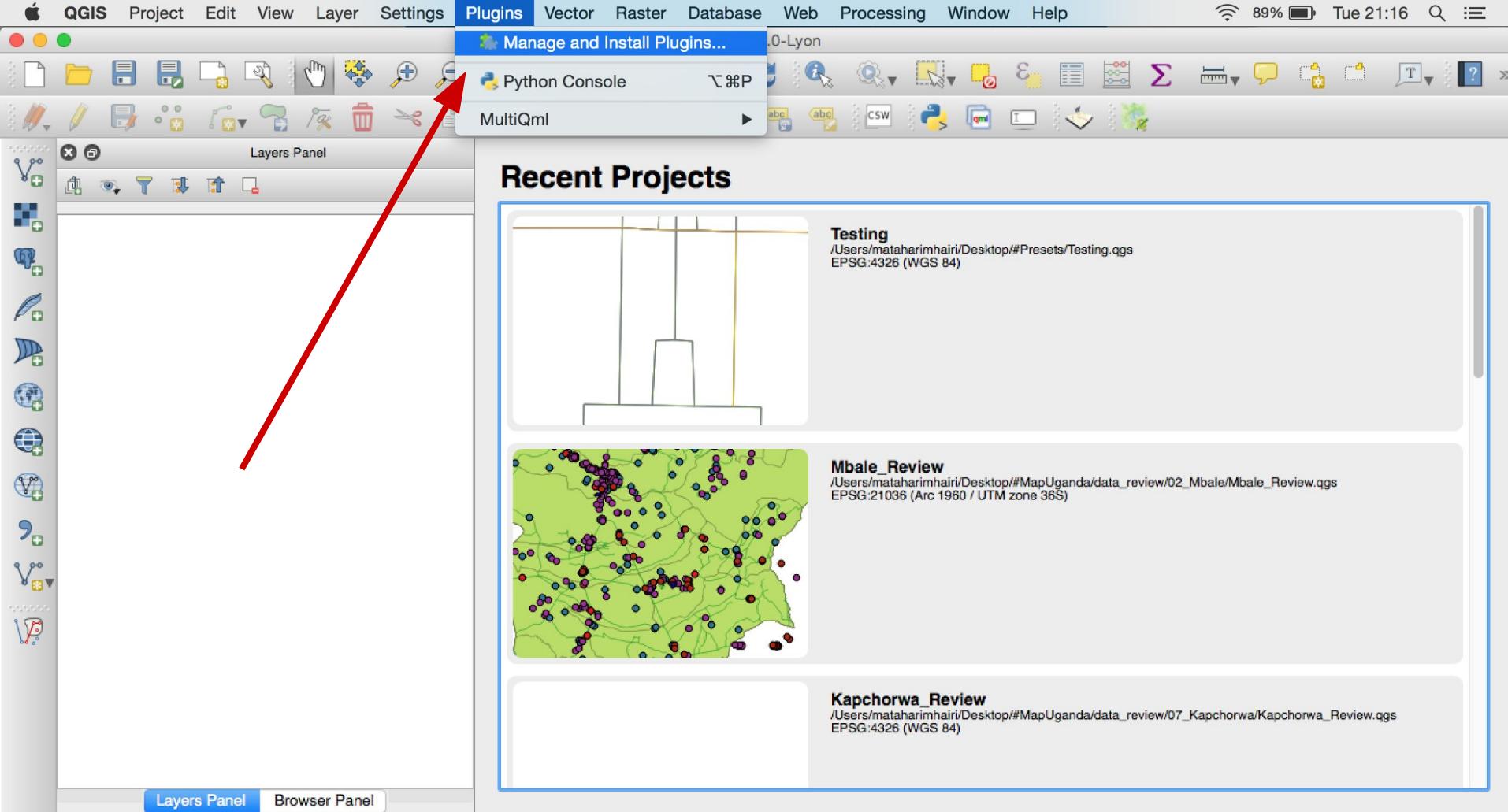
*** Estimated based on sex ratio (male—female ratio) of the district

District	People Might be Affected	People Need Evacuation **	Population By Age			Female Population ***
			Youth	Adult	Elderly	
Bojonegoro	202,821	2,000	53,342	133,659	15,802	101,411
Ngawi	13,701	130	3,603	9,029	1,069	6,851
Tuban	3,669	30	965	2,418	286	1,835
Gresik	803	8	211	529	63	393
Lamongan	54,540	540	14,344	35,942	4,254	27,270
TOTAL	275,534	2,708	72,465	181,577	21,474	137,760

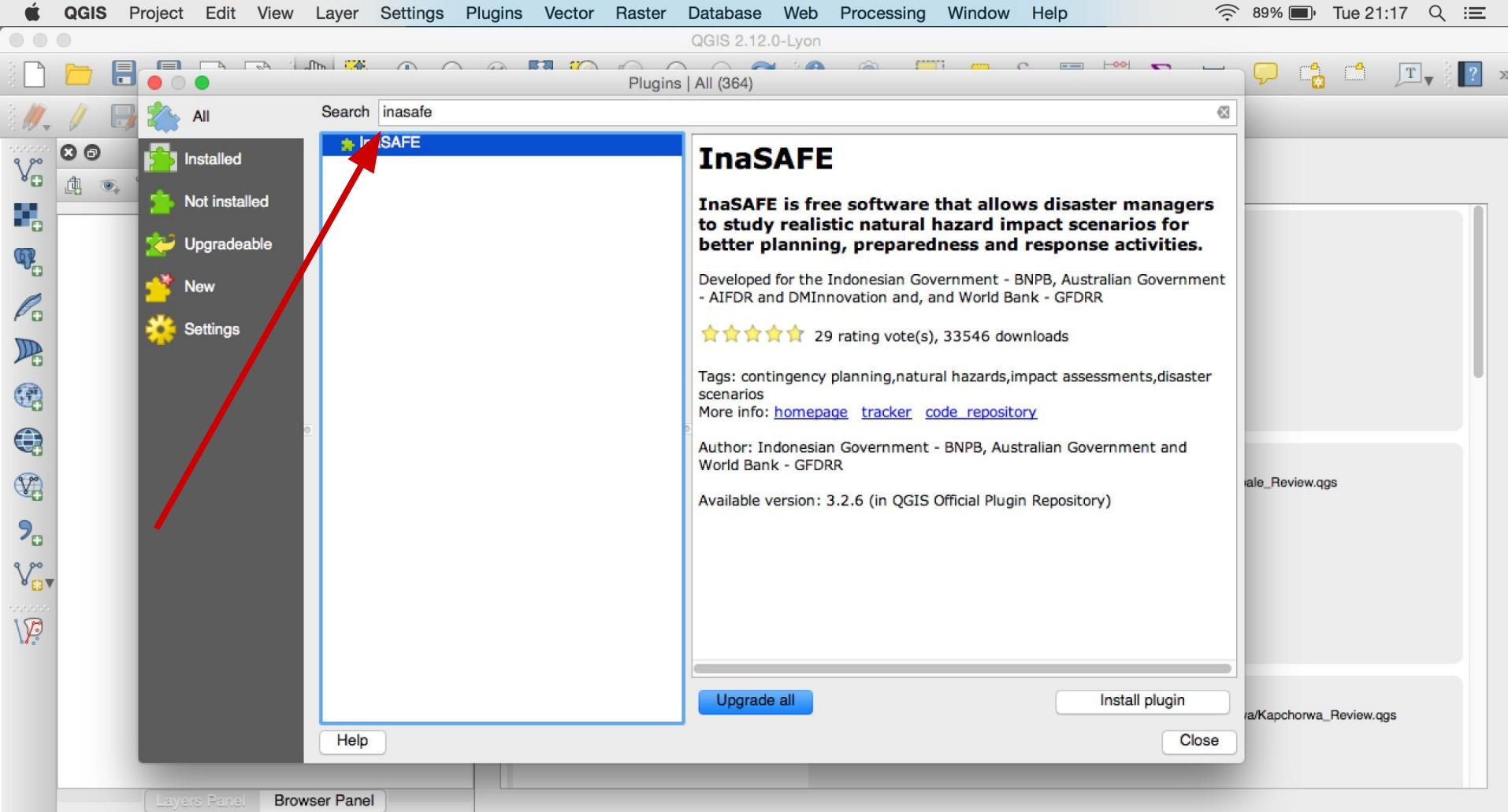


InaSAFE Installation

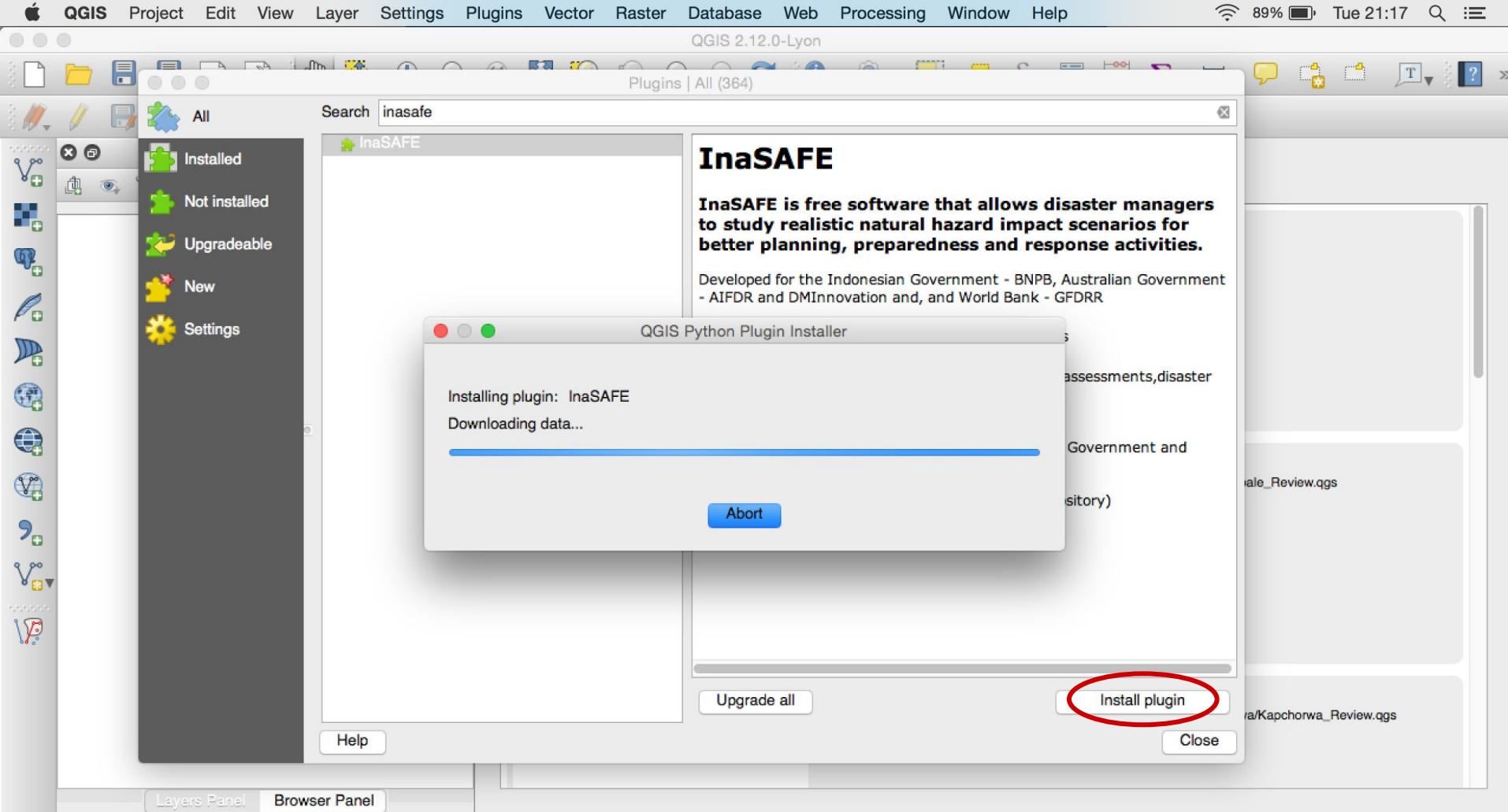
QGIS Plugin



Click 'Plugins' from toolbar
Scroll down + select 'Manage and Install Plugins'



Type 'inasafe' in the Search box
+ the plugin should appear below



Click 'Install plugin'
A download window will appear

QGIS Project Edit View Layer Settings Plugins Vector Raster Database Web Processing Window Help

89% Tue 21:18

QGIS 2.12.0-Lyon

Plugins | All (364)

All
Installed
Not installed
Upgradeable
New
Settings

Search inasafe

InaSAFE

InaSAFE is free software that allows disaster managers to study realistic natural hazard impact scenarios for better planning, preparedness and response activities.

Developed for the Indonesian Government - BNPB, Australian Government - AIFDR and DMInnovation and, and World Bank - GFDRR

★★★★★ 29 rating vote(s), 33546 downloads

Tags: contingency planning, impact assessments, disaster scenarios, natural hazards
More info: [homepage](#) [tracker](#) [code repository](#)

Author: [Indonesian Government - BNPB, Australian Government and World Bank - GFDRR](#)

Installed version: 3.2.6 (in /Users/mataharimhairi/.qgis2/python/plugins/inasafe)
Available version: 3.2.6 (in QGIS Official Plugin Repository)

changelog:

Upgrade all Uninstall plugin Reinstall plugin Close

InaSAFE 3.2.6

minimum steps you need to to use InaSAFE:
east one hazard layer (e.g. make MMI) to QGIS.
east one exposure layer (e.g. es) to QGIS.
ure you have defined ds for your hazard and re layers. You can do this e keywords creation wizard he toolbar.
the Run button below.

E is not a hazard modelling

Layers Panel Browser Panel

anda/data_review/07_Kapchorwa/Kapch orwa_Review.osm

Help About Print ... Run

The screenshot shows the QGIS 2.12.0-Lyon interface with the Plugins window open. The search bar at the top of the window contains the text "inasafe". A single result, "InaSAFE", is listed under the "Installed" category. The main panel displays the InaSAFE plugin details, including its logo (a stylized tree or leaf shape), a brief description, developer information, ratings, tags, and author links. At the bottom of the panel are buttons for "Upgrade all", "Uninstall plugin", "Reinstall plugin", and "Close". To the right of the main panel, there is a sidebar titled "InaSAFE 3.2.6" containing a summary of the plugin's features and usage instructions. The QGIS toolbar and menu bar are visible at the top of the application window.

The following text will appear in the Plugins window once installed

QGIS 2.12.0-Lyon

The screenshot shows the QGIS 2.12.0-Lyon interface. On the left is the toolbar with various icons for editing, selection, and analysis. The main window has three panels: 'Layers Panel' on the left, 'Recent Projects' in the center, and 'InaSAFE 3.2.6' on the right.

Recent Projects:

- Testing**
/Users/mataharimhairi/Desktop/#Presets/Testing.qgs
EPSG:4326 (WGS 84)
- Mbale_Review**
/Users/mataharimhairi/Desktop/#MapUganda/data_review/02_Mbale/Mbale_Review.qgs
EPSG:21036 (Arc 1960 / UTM zone 36S)
- Kapchorwa_Review**
/Users/mataharimhairi/Desktop/#MapUganda/data_review/07_Kapchorwa/Kapchorwa_Review.qgs

InaSAFE 3.2.6:

Getting started

These are the minimum steps you need to follow in order to use InaSAFE:

1. Add at least one **hazard** layer (e.g. earthquake MMI) to QGIS.
2. Add at least one **exposure** layer (e.g. structures) to QGIS.
3. Make sure you have defined keywords for your hazard and exposure layers. You can do this using the keywords creation wizard in the toolbar.
4. Click on the **Run** button below.

Limitations

1. InaSAFE is not a hazard modelling tool.

Buttons at the bottom of the InaSAFE window: Help, About, Print ..., Run.

There will now be an InaSafe icon
on the toolbar + a window in QGIS



For Users



Quick start

Click here for the installation instructions



Documentation

This section of the documentation describes how to use the InaSAFE system.



Training materials

This section of the documentation contains step-by-step tutorials on using OpenStreetMap and InaSAFE with QGIS. It includes curricula and materials to be used in a set of trainings covering these topics.



Get help

*Didn't find what you need?
Have an issue?
Click here for help.*



Data



Releases

Documentation For Users

<http://inasafe.org/for-users/>

Table Of Contents

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Run Basic InaSAFE

Introduction

In this exercise we will work through an example scenario where we show how the different data elements used by InaSAFE are combined in order to analyse the potential impact of a flood in Jakarta on both the buildings and the population.

After we have run the InaSAFE analysis we will print the map and analysis report as pdf and review the results. We will also learn how to change the flood threshold and take a look at the default settings for minimum needs. We will also learn how to save our work.

Learning objective

To learn the basic InaSAFE analysis steps. To understand InaSAFE and its components. To understand InaSAFE in the Disaster Risk Reduction context.

Run Basic InaSAFE

http://docs.inasafe.org/en/training/socialisation/run_basic_inasafe.html

Name	Last modified	Size	Description
 Flyers/	2015-10-14 09:12 -		Promotional materials for InaSAFE
 InaSAFE 3.1 Data/	2015-10-14 09:23 -		Training data for InaSAFE 3.1
 InaSAFE 3.2 Data/	2015-10-14 09:30 -		Training data for InaSAFE 3.2
 InaSAFE Use Cases/	2015-10-14 09:37 -		Example use cases for InaSAFE
 Movies/	2015-10-14 11:16 -		Short video clips and screencasts
 Presentations/	2015-10-14 11:33 -		Presentation materials for InaSAFE
 ScenarioData/	2015-10-14 09:09 -		Old scenario data for InaSAFE covering various towns and regions in Indonesia
 TrainingDataPackages/	2015-10-26 06:59 -		Old training data packages - please use training data matching your installed version rather

Contact info@inasafe.org for more information. Source code available on [GitHub](#)! Please [file a ticket](#) if you have discovered an issue.

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Download Training Data

<http://data.inasafe.org/>

Name	Last modified	Size	Description
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 Parent Directory -

 DKI Jakarta.zip	2015-09-16 07:22	17M	
 Maumere.zip	2015-09-16 07:22	1.4M	
 Nagekeo.zip	2015-09-16 07:22	11M	
 Sinabung.zip	2015-09-16 07:23	14M	
 West Sumatera.zip	2015-09-16 07:23	16M	

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InaSAFE 3.2 Data/ <http://data.inasafe.org/InaSAFE%203.2%20Data/>