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# Mapping an Entire Country: Using OpenStreetMap to Collect Exposure Information in Indonesia

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Humanitarian OpenStreetMap Team

@wonderchook/@hotosm



Arsip Edit Tampilan Lapisan Pengaturan Plugins Basisdata Baster vektor Bertuan



Lapisan-lapisan

- Bangunan yang diperkirakan
  - Dibuka
  - Ditutup
- OSM\_building\_polygons...
- Flood\_Design\_Depth\_Jak...
- Flood\_Current\_Depth Ja...

InaSAFE

Pertanyaan

Apa terjadi

Banjir Jakarta Mungkin

Berapa banyak

OSM Building Polygons

Yang mungkin

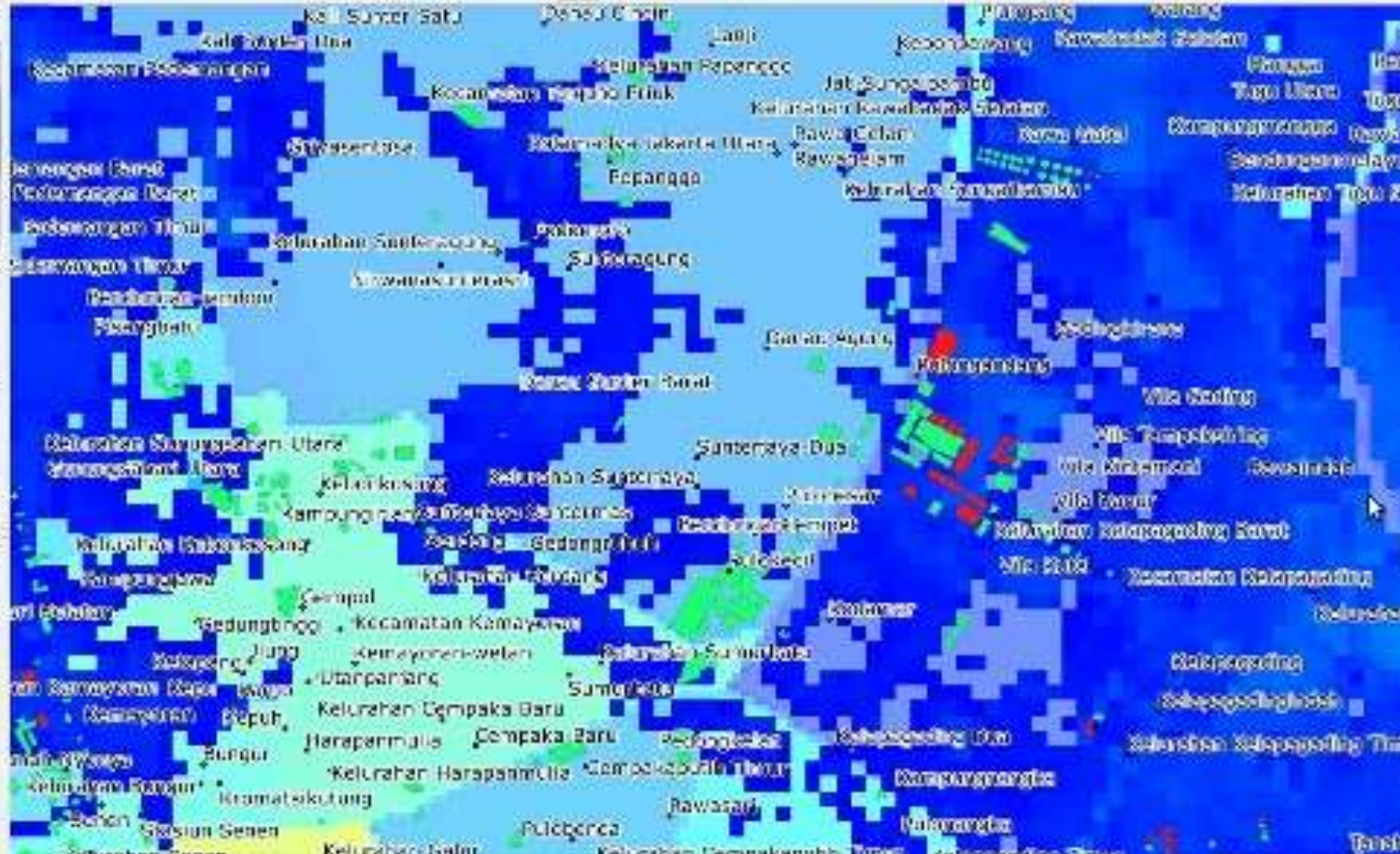
Sementara Ditutup

Hasil

**InaSAFE** sekarang anda dapat memproses untuk menjalankan model anda dengan mengklik tombol Jalankan.

Didukung oleh AusAID dan Bank Dunia

Bantuan Print... Jalankan



# InaSAFE

# What is OpenStreetMap?



OpenStreetMap.org

=



+





### HOT Pilot Project

- ACCESS districts
- Padang, Universitas Andalas & AIFDR project with Mercy Corp
- Jakarta/Depok, Universitas Indonesia
- Yogyakarta, Universitas Gadjah Mada
- Bandung, Institut Teknologi Bandung
- Surabaya, Institut Teknologi Surabaya
- Province boundary



# What to Collect?

- Roof Type
- Wall Type
- Number of Stories
- Construction
- Building Usage





**confined  
unconfined  
unreinforced masonry**



\*Humanitarian OpenStreetMap (HOT) \*Badan Nasional untuk Penanggulangan Bencana (BNPB)  
\*Australia-Indonesia Facility for Disaster Reduction (AIFDR) \*World Bank's Global Facility for Disaster Reduction and Recovery

PRESENT



# openstreetmap mapping competition

**RAIH BEASISWA SENILAI RP 22.000.000,-**  
(dua puluh dua juta rupiah)

untuk menghadiri 'State of the Map' (konferensi tahunan OpenStreetMap) dan FOSS4G (konferensi geospasial perangkat lunak bebas dan open source) pada bulan September, 2011 di Denver, USA.

Dalam persiapan kontes, masing-masing Universitas akan diberikan pelatihan OpenStreetMap. Workshop ini akan mengajarkan metodologi untuk pengumpulan data dan informasi kompetisi lebih lanjut.

## ROADSHOW&WORKSHOP

**27 JUNI 2011** DEPARTEMEN GEOGRAFI  
UNIVERSITAS INDONESIA  
CP: Adi Wibowo, S.Si, M.Si  
adi.w@ui.ac.id

JURUSAN TEKNIK SIPIL  
INSTITUT TEKNOLOGI SEPULUH NOVENBER  
CP: Putu Artama Wiguna, Ir., MT, PhD.  
ce@its.ac.id

**28 JUNI 2011** FAKULTAS TEKNIK SIPIL & LINGKUNGAN  
INSITUT TEKNOLOGI BANDUNG  
CP: Dr. Ir. I Wayan Sengara, MSEM, MSCE  
iws@si.itb.ac.id

**05 JULI 2011** DEPARTEMEN TEKNIK GEODESI  
UNIVERSITAS GADJAH MADA  
CP: Trias Aditya K. M.  
takmid@gmail.com

**06 JULI 2011** JURUSAN TEKNIK SIPIL  
UNIVERSITAS ANDALAS  
CP: Dr. Fauzan Msc.  
Fauzan@ft.unand.ac.id

**DIMOHON UNTUK MEMBAWA LAPTOP MASING-MASING PADA SAAT WORKSHOP!**

kompetisiOSM.org









# From Hand-drawn to Digital to Geographic

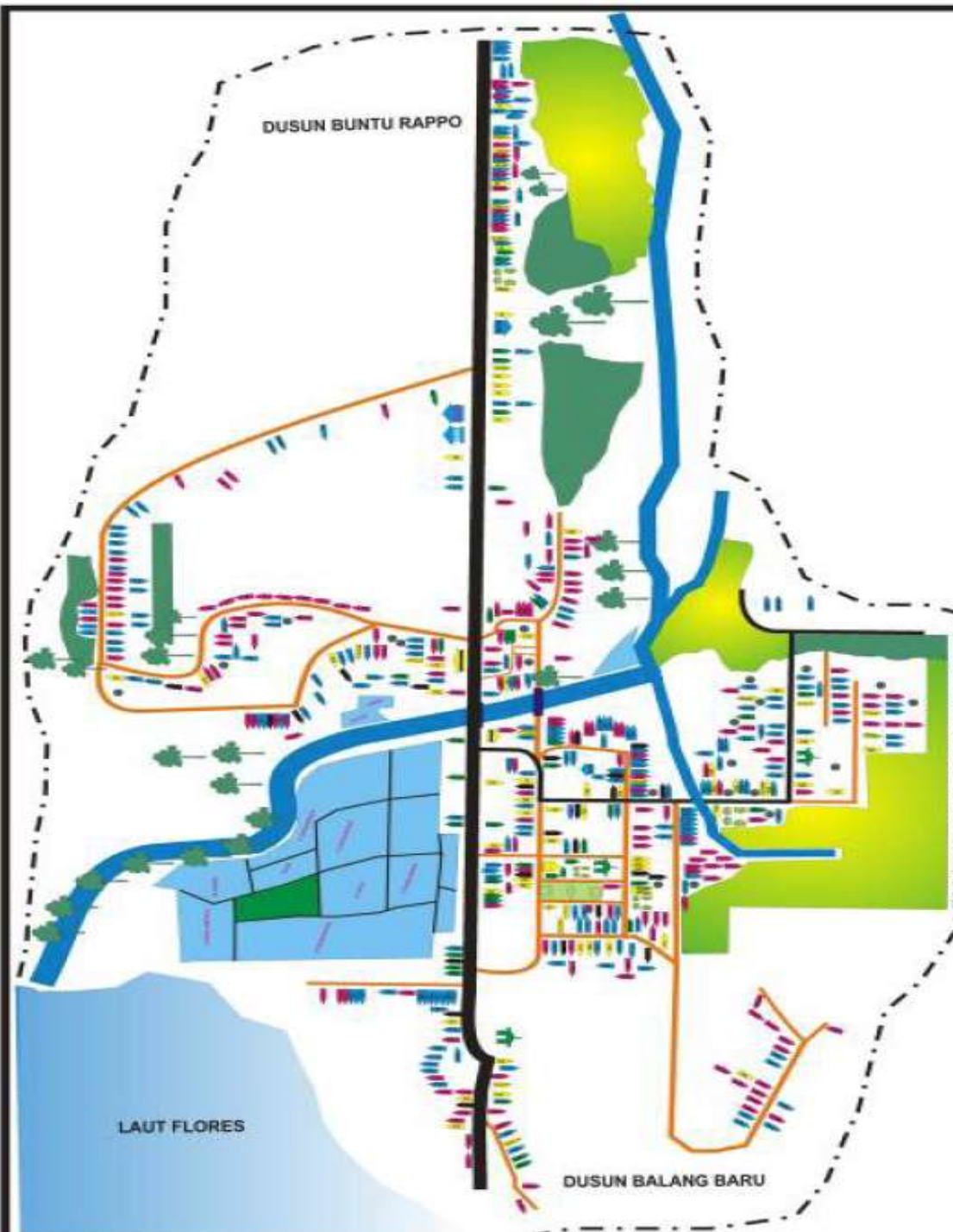


# PETA SOSIAL DESA TAROWANG KEC. TAROWANG KAB. JENEPONTO



## LEGENDA

- = JEMBATAN
- = KEBUN
- = PERSAWAHAN
- = EMPANG
- = KOS
- = BRI
- = MCK
- = POSYANDU
- = RUMAH KK BEDANG
- = RUMAH KK MISKIN
- = RUMAH KK SANGAT MISKIN
- = RUMAH KK KAYA
- = RUMAH KOSONG
- = SUMUR
- = KUO
- = MESJID
- = KANTOR KEPALA DESA
- = RUMAH SEKOLAH
- = KUBURAN
- = JALAN ASPAL
- = JALAN TANAH
- = SUNGAI
- = BATAS DESA
- = BATAS DUSUN



PETA INI DISUSUN OLEH:  
LEMBAGA MITRA TURATEA  
ACCESS AusAID  
PEMKAB JENEPONTO  
2007

- 1) moto park
  - 2) 1, un. mas., tin
  - 3) " " "
  - 4) 2, " "
  - 5) 2, " , tile
  - 6) " " "
  - 7) 1, " , tile/tin
  - 8) 2 fl, un. masonry, tiles
  - 9) " " "
  - 10) " " "
  - 11) 2 fl, un. mas., tin
  - 12) 1 fl, un. mas., tiles
  - 13) 2 fl. " "
  - 14) 1 fl., " , tin, laundry/dryclean
  - 15) 2, mas., tiles
  - 16) 2, mas., tin
  - 17) mini-market
  - 18) 2, mas., tin, #34A
- Help improve OpenStreetMap by drawing on this map, then visit <http://walkingpapers.org/print.php?id=69pwzfw3>

# Walking Papers



Map data ©2010 CC-BY-SA  
OpenStreetMap.org contributors

19) 1, mas., tin, #32/30

20) 2 fl, mas., concrete



1) main part  
 2) 1st, red, tile  
 3) " " " " " "

4) 2 fl. wa. mes., tiles  
 5) 2 fl. " " " "

6) " " " " " "

7) 2 fl. wa. mes., tiles  
 8) 2 fl. " " " "

9) 2 fl. " " " "

10) 1 fl. " " " "

11) 2, mas., tiles  
 12) 2, mas., tiles

13) 2, mas., tiles  
 14) 2, mas., tiles  
 15) 2, mas., tiles  
 16) 2, mas., tiles  
 17) 2, mas., tiles  
 18) 2, mas., tiles  
 19) 2, mas., tiles

**Walking Papers**  
 Help improve OpenStreetMap by drawing on this map, then visit <http://walkingpapers.org/en.php?nodeid=12345>



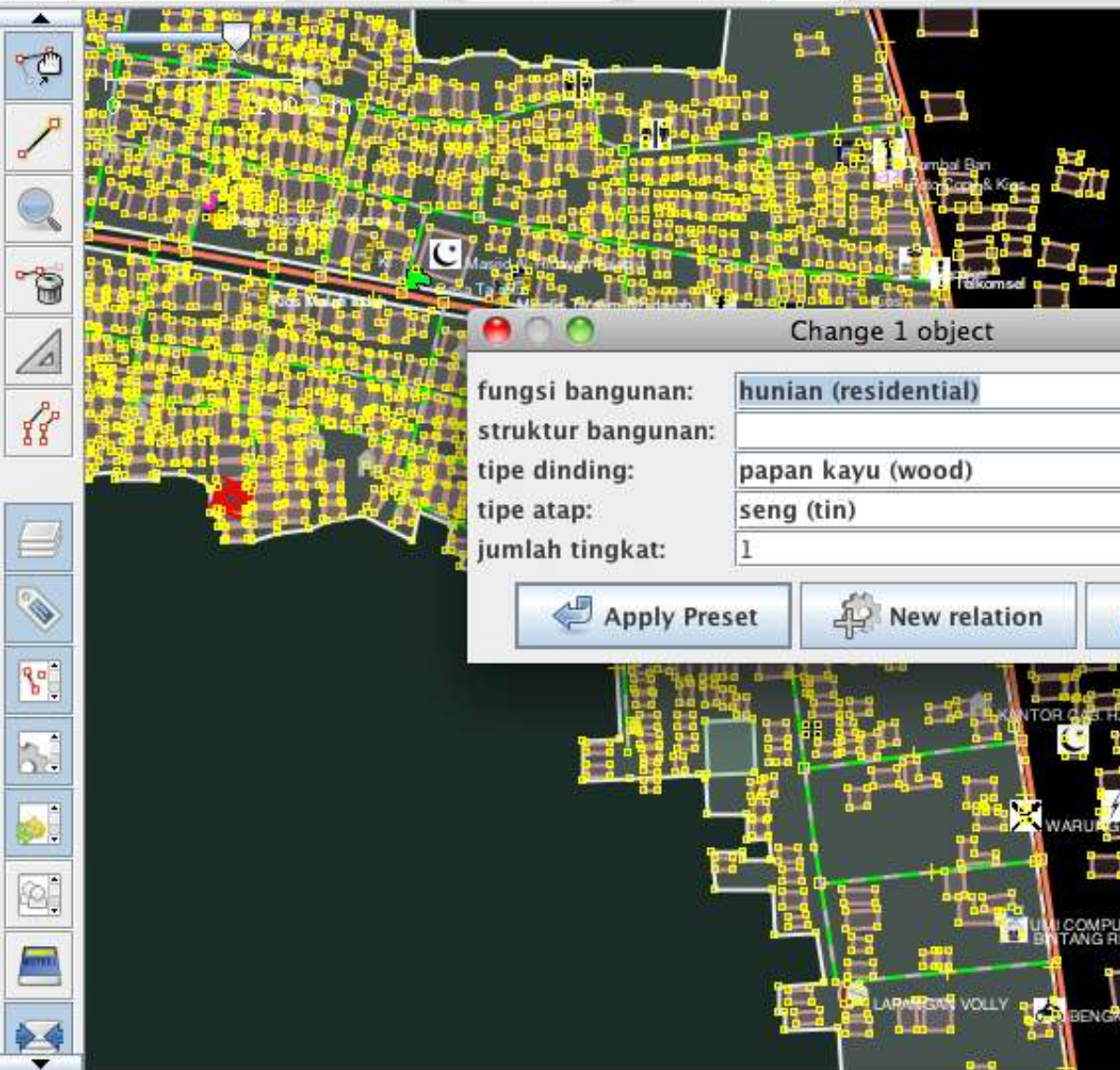
Map data ©2010 CC-BY-SA  
 OpenStreetMap.org contributors  
 1) 1, red, tile, at 20/20  
 2) 2 fl. mes., concrete

**Potlatch 1.4** Drag and drop points of interest

- |  |  |  |                |                  |              |           |               |  |
|--|--|--|----------------|------------------|--------------|-----------|---------------|--|
|  |  |  | Ferry          | Parking          | Rail station | Taxi rank | Bar           |  |
|  |  |  | Bus stop       | Pub              | Restaurant   | Theatre   | Convenience s |  |
|  |  |  | Cinema         | Fast food        | Supermarket  | Telephone | Fire station  |  |
|  |  |  | Hotel          | Postbox          | School       |           |               |  |
|  |  |  | Hospital       | Place of worship |              |           |               |  |
|  |  |  | Police station | Museum           |              |           |               |  |
|  |  |  |                |                  |              |           |               |  |
|  |  |  |                |                  |              |           |               |  |
|  |  |  |                |                  |              |           |               |  |

Help Find tag Advanced ▾

**Editing offline** Save



Change 1 object

fungsi bangunan: hunian (residential)

struktur bangunan:

tipe dinding: papan kayu (wood)

tipe atap: seng (tin)

jumlah tingkat: 1

Apply Preset New relation Batal

Layer

Data Layer 1

Properties: 5 / Memberships: 0

Key	Nilai
B	yes

Edit Hapus

0 / Ways:1 / Nodes:0

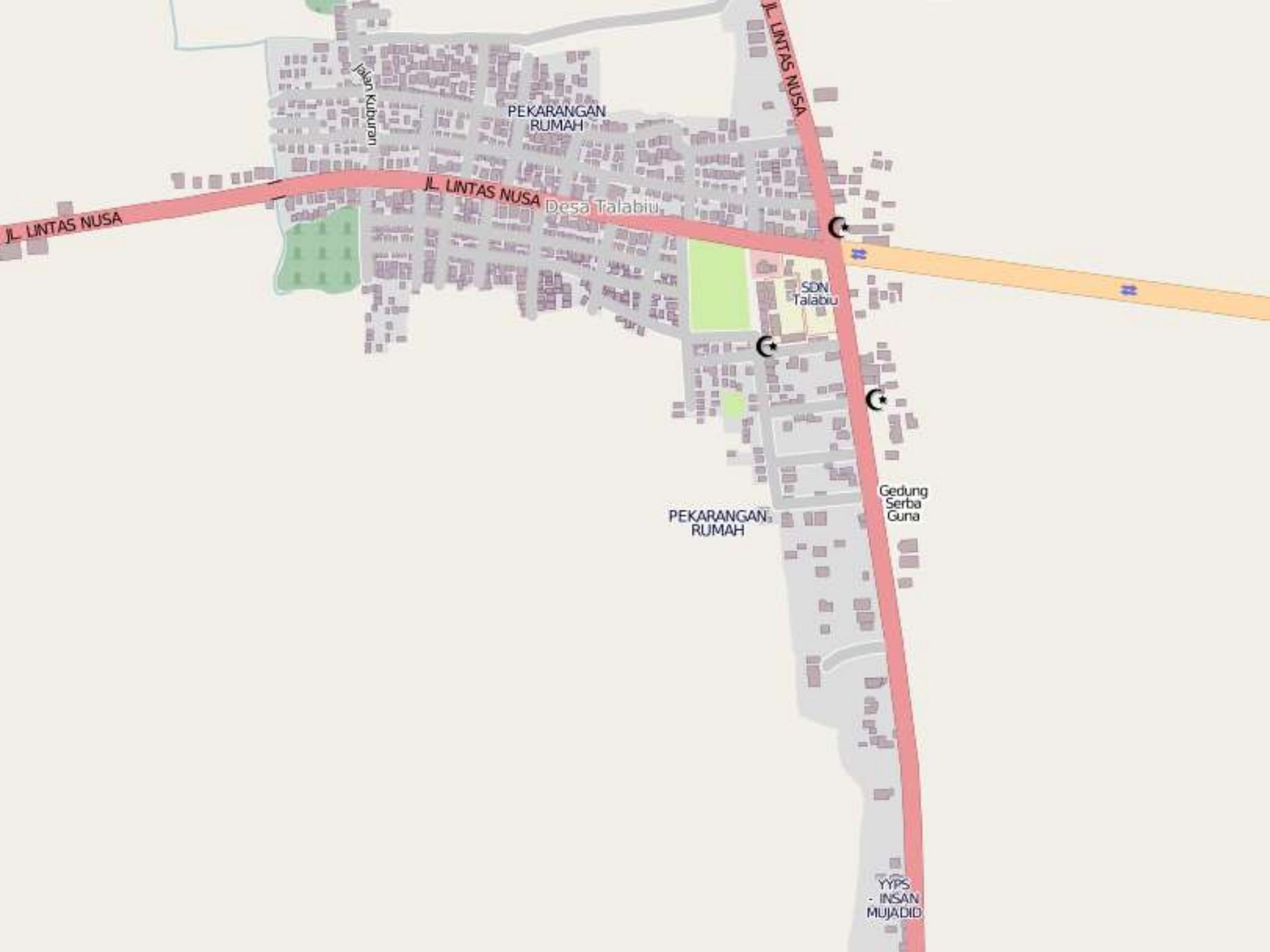
Command Stack

Konflik

Validation results

Pilih Validasi Perbaiki Abaikan

Filter Hidden:0 Disabled:0



Kuburan

PEKARANGAN RUMAH

JL. LINTAS NUSA  
Desa Talabiu

SDN Talabiu

PEKARANGAN RUMAH

Gedung Serba Guna

YYPS  
INSAN MUJADID



**From hand-drawn maps at the start, the teams in Kupang managed to map the area in just 2 days!**



## Job: Imagery of Padang

### What and Why?

HOT purchased imagery for Padang because only Landsat was available. We would like to digitize all the buildings in the areas as well as roads.

### How?

1. Add tile service:

(In JOSM)

- `tms:http://aerial.openstreetmap.or.id/padang/{zoom}/{x}/{y}.png`
- `tms:http://aerial.openstreetmap.or.id/padang2/{zoom}/{x}/{y}.png`

(In Potlatch)

- `http://aerial.openstreetmap.or.id/padang/{z}/{x}/{y}.png`
- `http://aerial.openstreetmap.or.id/padang2/{z}/{x}/{y}.png`

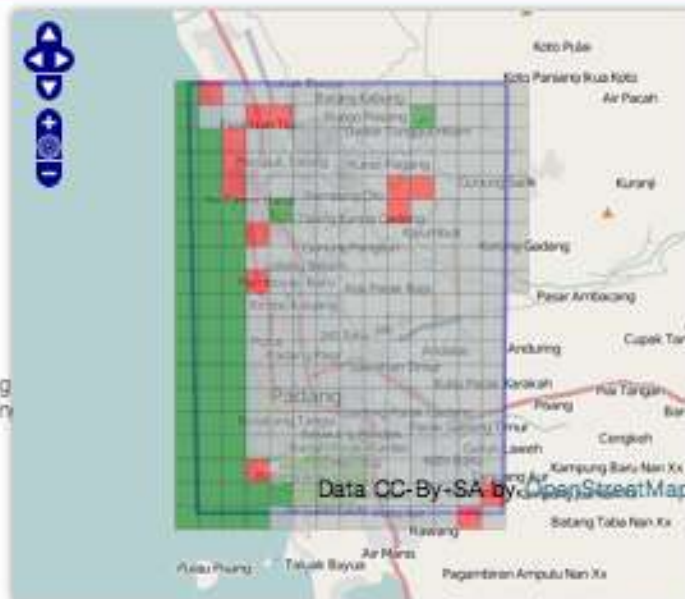
2. Trace all roads and buildings in the square assigned.

### Ready?

[Take a task](#)

Or choose one by **clicking** on the map.

If you're an experienced mapper, you can also be given a task to validate.



■ Total (275)
 ■ Done (69)
 ■ Validated (55)
 ■ Curr. worked on (0)

### Who else is working?

#### Contributors

- Tim McNamara <sup>36</sup>
- Davidgogishvili <sup>8</sup>
- wonderchook <sup>8</sup>
- neuhaus <sup>7</sup>
- matubu <sup>5</sup>
- Komiga <sup>2</sup>
- rukell <sup>2</sup>
- pgiraud <sup>1</sup>
- prabhasp <sup>1</sup>
- migurski <sup>1</sup>
- jwarren <sup>1</sup>
- jcanof <sup>1</sup>
- hicom150 <sup>1</sup>
- skorasaurus <sup>1</sup>
- Fujiky <sup>1</sup>
- EdLoach <sup>1</sup>

#### Validators

- wonderchook <sup>45</sup>
- maning <sup>5</sup>
- Humberto\_Yances <sup>4</sup>
- pgiraud <sup>2</sup>
- Zverik <sup>2</sup>
- rukell <sup>2</sup>
- MStorm <sup>1</sup>





# Memetakan Jakarta dengan OpenStreetMap

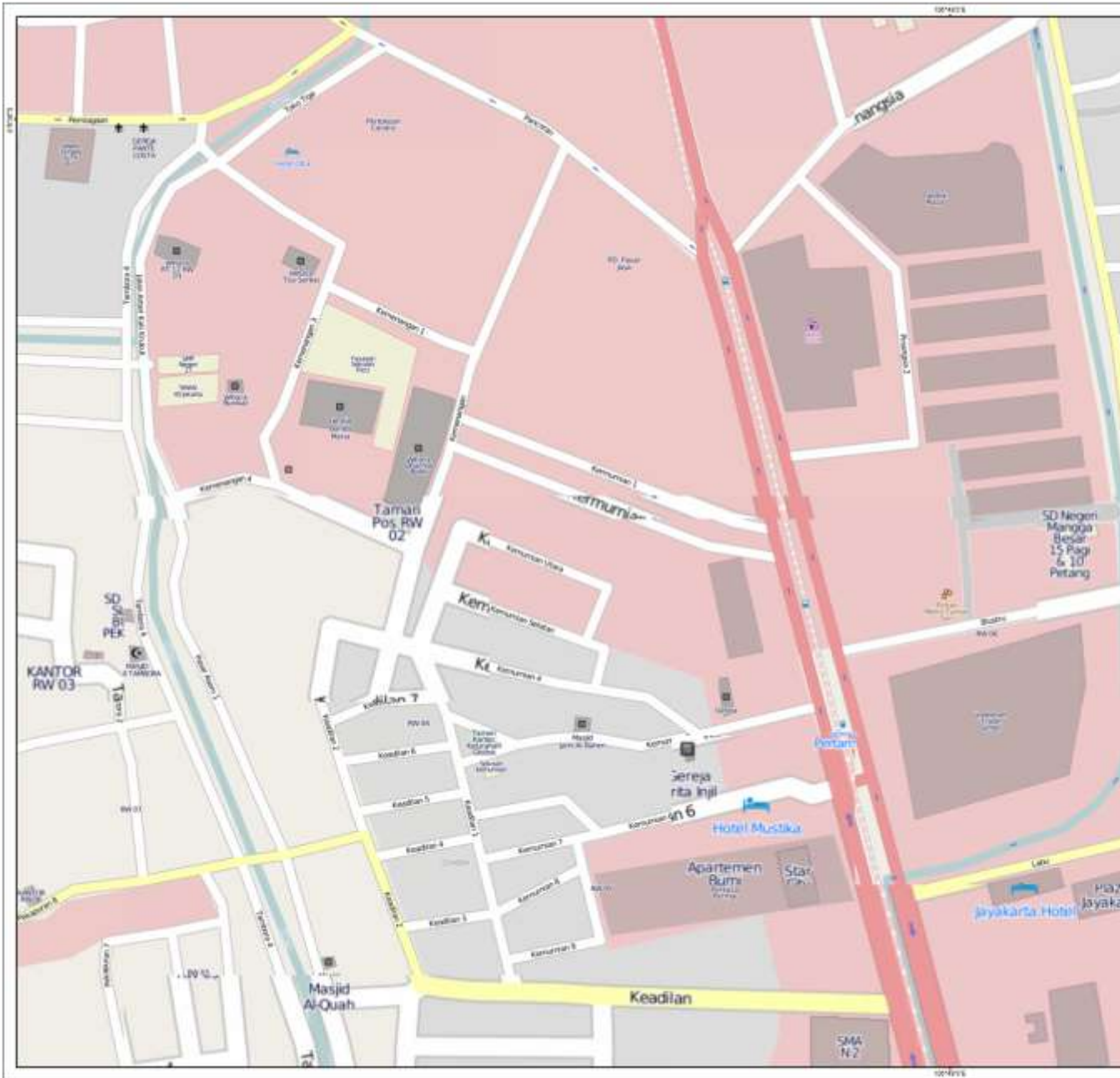
MARET 2012



National Disaster Management Agency (BNPB)  
Regional Disaster Management Agency (BPBD)  
United Nations Office for Coordination of Humanitarian Affairs  
World Bank/ Global Facility for Disaster Risk Reduction  
AusAID – Australia-Indonesia Facility for Disaster Reduction  
Humanitarian OpenStreetMap Team  
University of Indonesia







**PEMERINTAH DAERAH DKI JAKARTA  
BADAN PENANGGULANGAN BENCANA DAERAH (BPBD)**

Peta ini menggunakan data dari OpenStreetMap ([www.openstreetmap.org](http://www.openstreetmap.org)), yang update dan diperbaharui secara terbuka bersama-sama dengan melibatkan partisipasi perwakilan dari masing-masing Kelurahan di DKI Jakarta.

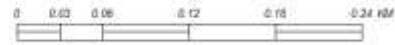
**KELURAHAN GLODOK  
KECAMATAN TAMAN SARI  
JAKARTA BARAT**



Proyeksi: Spherical Mercator  
Datum: World Geodetic System 1984  
Sumber Data: OpenStreetMap  
Tanggal: 4/15/2012

**LEGENDA**

- |                        |                              |
|------------------------|------------------------------|
| <b>Fasilitas Umum</b>  | <b>Transportasi</b>          |
| Taman Kiblat/Koruk     | Jalan Prinsipal              |
| Sekolah Dasar          | Jalan Madya                  |
| Perguruan Tinggi       | Jalan Primer                 |
| Puskesmas              | Jalan Sekunder               |
| Rumah Sakit            | Jalan Tersier                |
| Kantor Pos             | Jalan Lokal                  |
| Bangunan Publik        | Rel Kereta                   |
| Masjid                 | <b>Penggunaan Lahan</b>      |
| Gedung                 | Perumahan                    |
| Stasiun Persebaran Bus | Ruang Terbuka Hijau (RTH)    |
| <b>Administrasi</b>    | Lapangan Golf                |
| Batas Rukun Warga (RW) | Tempat Pemukiman Utara (TPU) |
| <b>Pemukiran</b>       | Lahan Basah                  |
| Rawa                   | Lapangan                     |
| Badan Air              |                              |
| Sungai                 |                              |



Copyright © Badan Koordinasi Penanggulangan Bencana Daerah Provinsi Jawa Barat. Peta ini adalah merupakan pendigitalisasi dari peta-peta yang di produksi kepastian.

288,826 buildings mapped so far!  
Up next 1,000,000, then...

Thanks!

