



# Engaging Community in OpenStreetMapping

Nama R. Budhathoki, Ph.D. Kathmandu Living Labs (KLL)







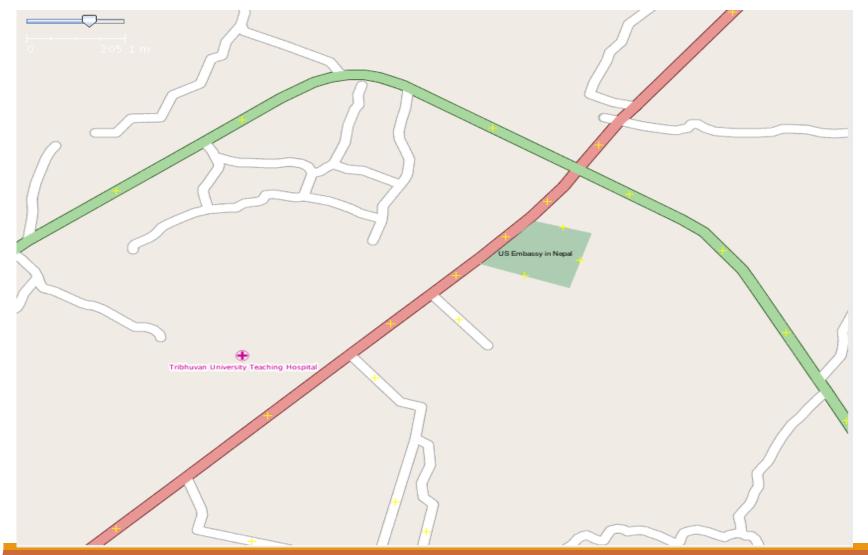
## www.OpenStreetMap.org







### Kathmandu (BEFORE)

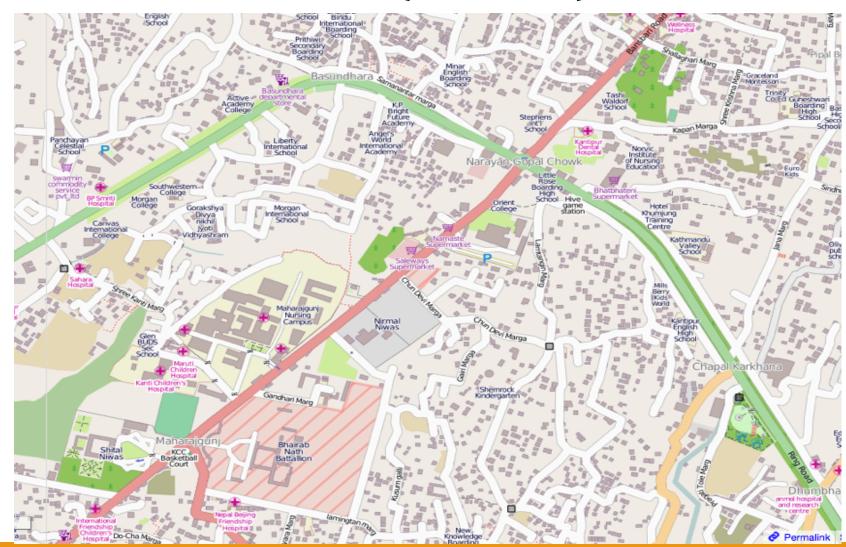








### Kathmandu (NOW)









## Building Mapping Community in Urban Areas































































# Engaging Rural Community













### Bajrabarahi, Nepal (BEFORE)

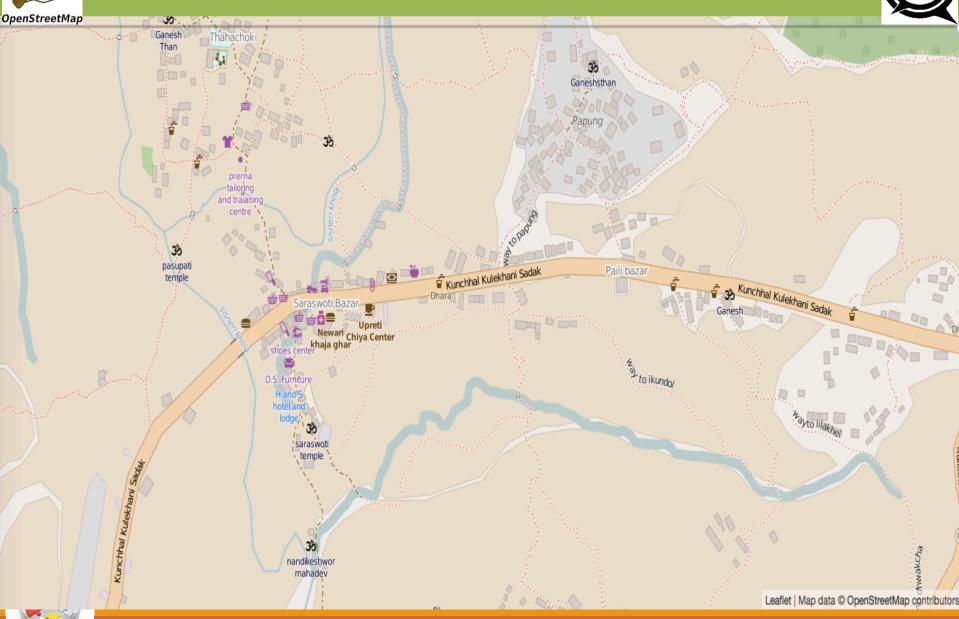






### Bajrabarahi, Nepal (NOW)













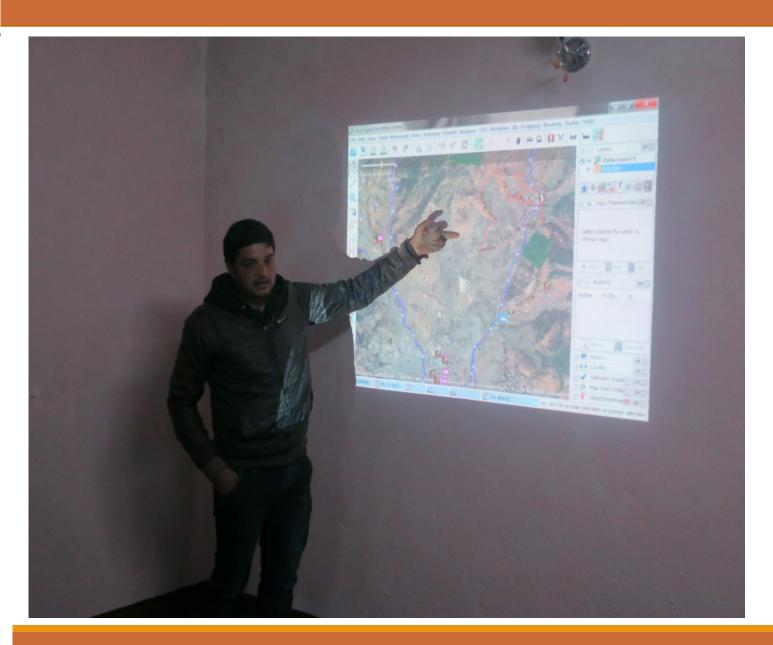


























































# April 25 Earthquake







# We have to do something. We have to do it now.









#### Nama Budhathoki <namabudhathoki@gmail.com>

Apr 25



to Pierre, Robert, Heather, hot

The damage seems to be massive. Reports are coming every minute. The quake has damaged different parts of the country, not just Kathmandu.

I just got access to the internet; lots of congestion in communication. People from Kathmandu Living Labs including myself are safe. We are preparing to spend the night in open space. We will get back to you tomorrow.

Yes, I think we should make the activation.

Nama









### Nama Budhathoki <namabudhathoki@gmail.com>

Apr 26 🤺 🔸

to OpenStreetMap, Saroj, OSM, hot 🖃

Kathmandu Living Labs is working to coordinate the mapping work. It is 6am; give us some time to get establish contact with response agencies and identify the needs.































#### Nepal Earthquake: Report from OpenStreetMap Situation Room

Posted on April 27, 2015 by Kathmandu Living Labs

We could not communicate and gather together for over 20 hours after the devastating earthquake hit Nepal on Saturday, April 25. Despite all the practical difficulties (electricity, Internet, water etc.) and powerful aftershocks, we were able to establish a situation room on Sunday morning. Soon we established contact with Nepal Redcross through its GIS officer. We also visited National Society of Earthquake Technology (NSET) and discussed how we can help the rescue work with OpenStreetMap and data.



KLL Situation Room on April 27 (Monday)

Our situation room is located in our Baluwatar office where we are working on the followings:

1. Coordinate the mapping work being carried out by both local and remote mappers. We are getting amazing response. As of this writing in the evening of April 27, nearly 1500 people have taken part in mapping the earthquake-hit areas. See this:







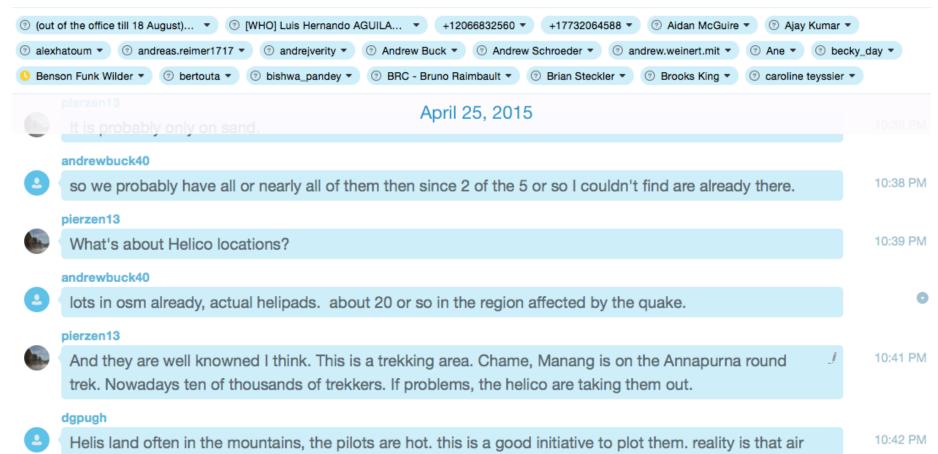


"Nepal/Kathmandu earthquake Contact details & links - http://goo.gl/sHoLQG 💿 ▼ 158 people









drops will be the best way to get emergency food in and i am betting the Nepali military are on that

already. helis were in the air over KTM today.







#### maningsambale

on my last hours of monitoring this channel today.

2182 mappers have made 58250 edits to highways and 91850 edits to buildings in 31094 changesets since April 25, 2015.

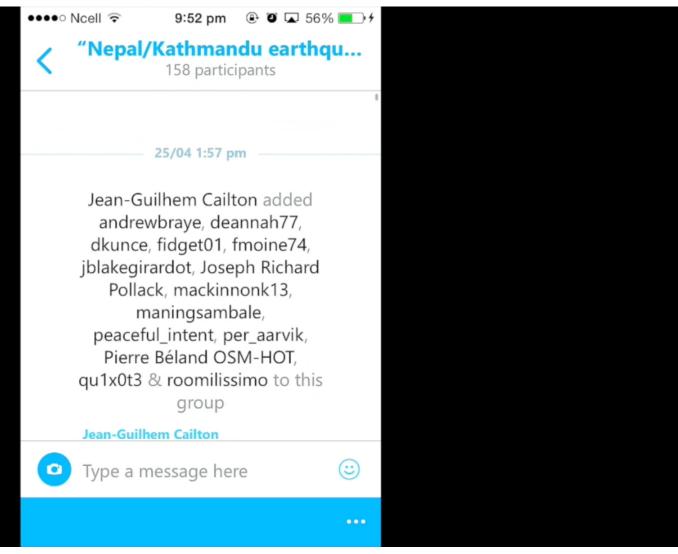
amazing!

not to mention we have great support from the ground. KLL rocks.







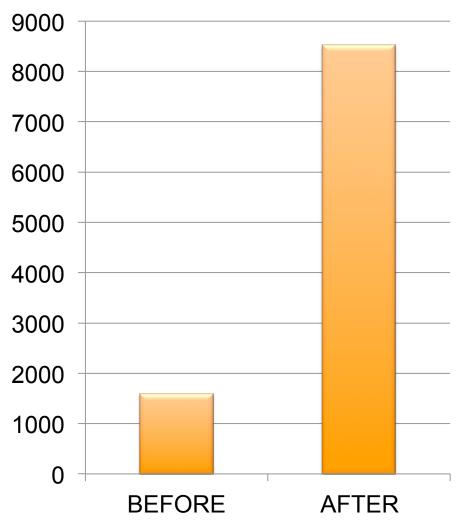








### **Mappers**

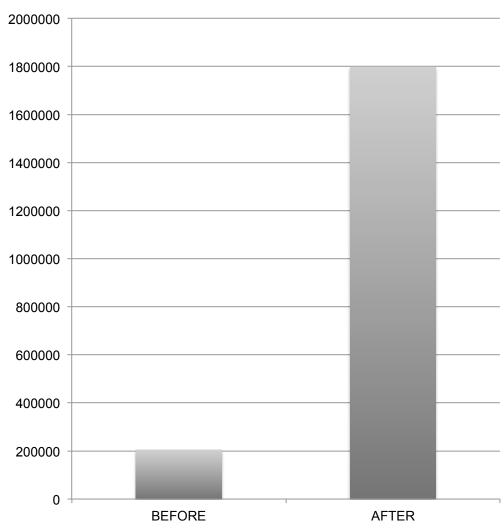








### **Buildings**

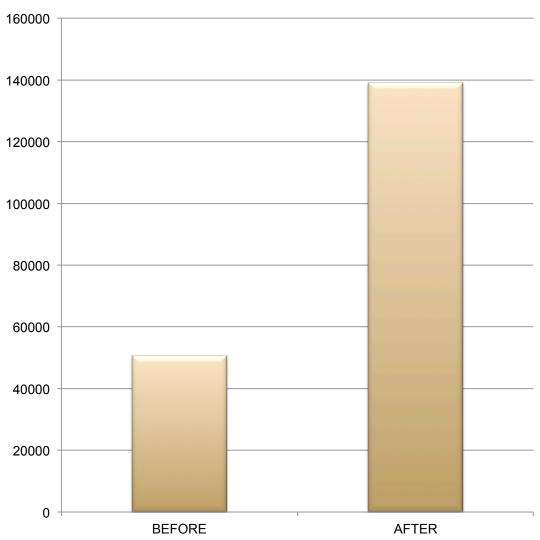








### Roads (KM)

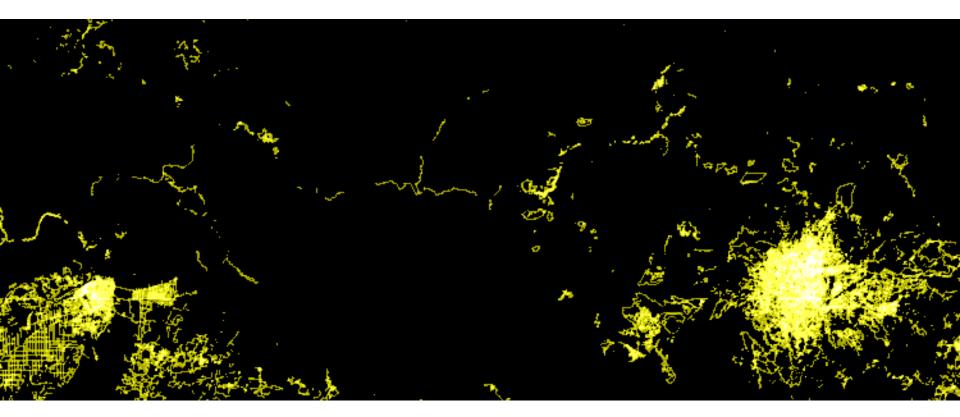








# OpenStreetMap Nepal

















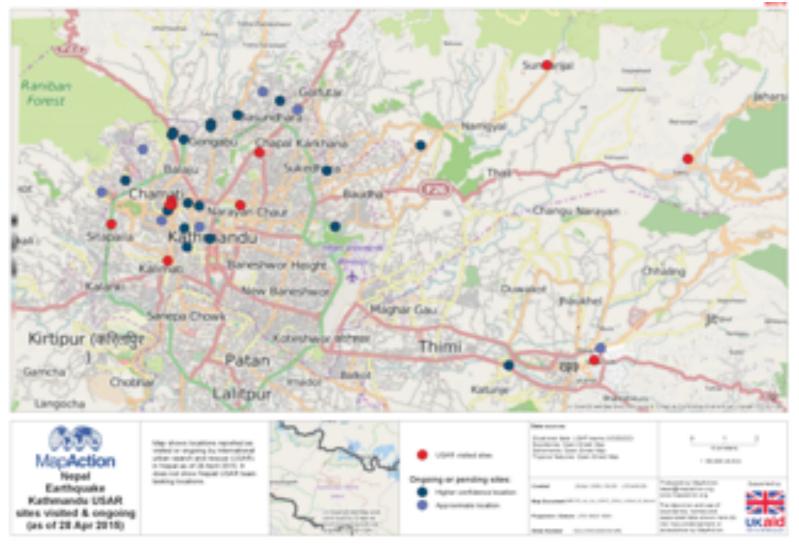
















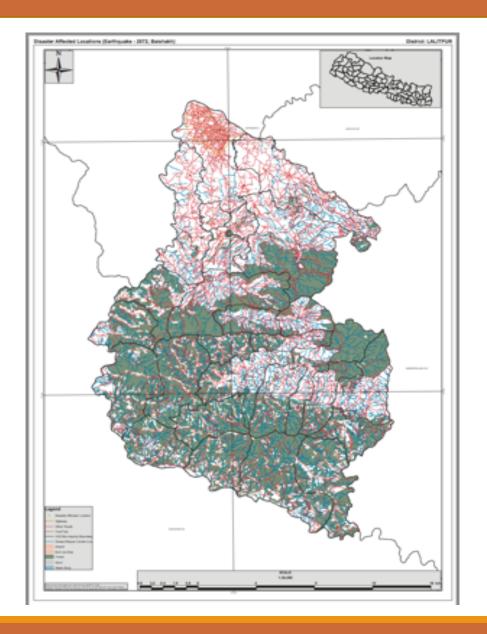








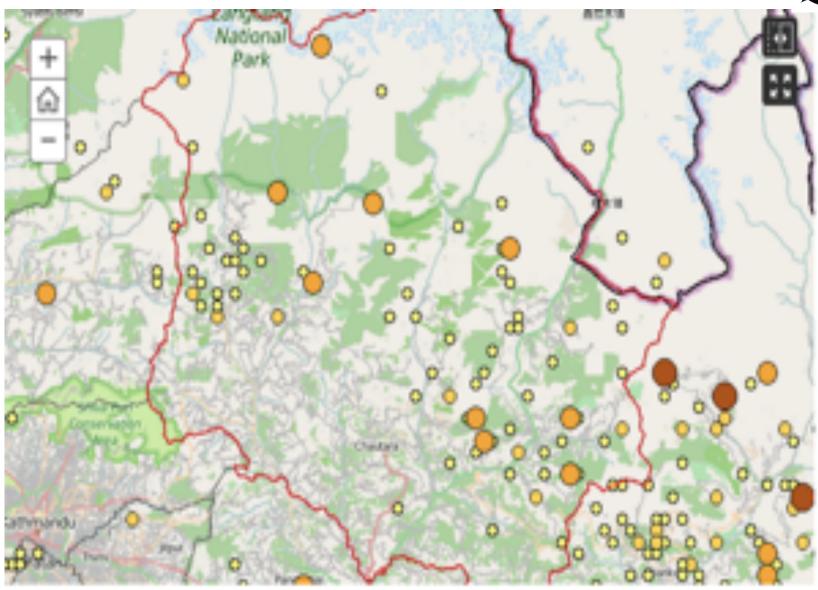






























Citizen cartographers are helping earthquake efforts by mapping roads & open spaces: b-gat.es/1lbMilH







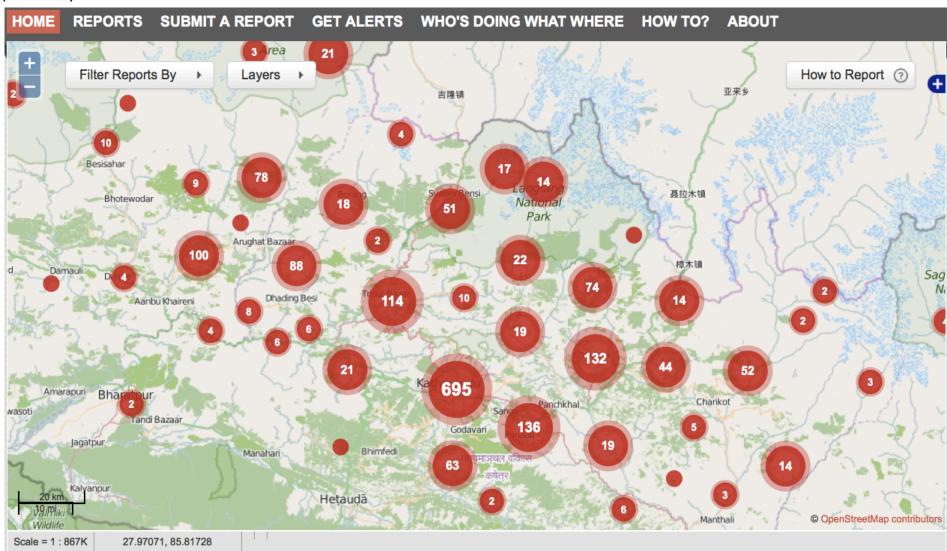


# www.quakemap.org















### QUAKEMAP.ORG

+ SUBMIT A REPORT

HOME REPORTS SUBMIT A REPORT GET ALERTS WHO'S DOING WHAT WHERE HOW TO? ABOUT Urgent FOOD, WATER, AIRLIFT, Chayarsaba [ Edit ] 27.89176, 86.38277 VERIFIED (§) 16:43 May 18 2015 (§) Chilankha, Singati, Janakpur, Central Region, Nepal, 45500 Water Sanitation and Hygiene Shelter Blocked Roads Urgent action needed Action taken Closed Summary: Local's have reportedly secured new pipes to run to clean water source. Multiple food drops and distributions confirmed. Current need is for solar charging Description in Chayarsaba, the situation is bad. Hardly any relief-aid has reached and the people have no access to clean water as the water-supply was damaged by a land-slide. The ground is completely destabilized by the earthquake and landslides and people are taking refuge in the Wider Map jungle for safe shelter. The road is blocked due to a landslide caused by the 2nd earthquake. **Additional Reports** sunita tamang is a contact- we hope to provide her number. People have spoken with her and husband. (11:02 May 02, 2015) Help needed in Dolakha Comment by SK - Can't find the village, @verifiers, please confirm the place as well. Chilankha, Singati, Janakpur, Central Region, Nepal, 45500, 0 **Additional Data** Phone Number: 9851024624 (10:45 May 14, 2015) Chhilankaha (Dolakha?) -Most Affected District: Dolakha helicopter urgently needed Location Accuracy - the report is from in this: VDC Chilankha, Singati, Janakpur, Central Region, Nepal, 45500, 0 For Approval or Status Adjustment Number of times contact attempted: 12 (16:28 Apr 30, 2015) help needed in Chavarsaba Number of times reached: 11 Chayarsaba, Sindhupalchok, Central Region, Nepal, 45500, Routed Status - The report has been forwarded to an organization: Routed 1.05 Kms 5 Number of times routed: Dispatch Status - An organization has agreed to respond to this Laduk & Bulung: need for shelter (§) 18:32 May 02, 2015 Dispatched report: Laduk VDC & Bulung VDC, Dolakha, Central Region, Nepal, partially meets the Dispatched organization capacity: needs ( 07:44 May 04, 2015 Relief needed in Singati near Location accuracy checked or fixed by: KLL Singati, Janakpur, Central Region, Nepal, 45500, 1.48 Kms Who is doing what in this District





KLL

#### Who is doing what in this District

Credibility: 🔼 🔽 🚺

#### Comments

#### Leslie Shackelford (May 19 2015)

PLEASE call NABIN (probably Tamang- but no sure- Sunita's Husband that came from the village) at 9849031868

#### n1schal (May 19 2015)

Talked to Leslie (9851024624). She says the place is near Laduk of Sindhupalchowk. She's provided with the number of a person for the area: Nabin: 9849031868

#### Leslie Shackelford (May 19 2015)

I have photos of the area- it appears to be DOLAKHA, sorry about the location- maybe on the border.... I sent them to you

#### n1schal (May 19 2015)

Spoke to Mr. Nabin. The area is in Chilinkha, It is situated on the hillside. It is a 5 hours continuous hike from Singhati of Dolakha and would take about 7-8 hours with load. It has about 35 households. Mostly collapsed and those that are still standing are uninhabitable. People there haven't received much aid. A little aid from the government did reach there. The water supply has been sabotaged by landslide. A foreign team went there with about 3 boxes of drinking water but that very little as compared to what is needed. By the looks of it, the area needs to be accessed by air.

#### Maya Greet Verbist (May 19 2015)

I have spoken with nabin who just came back from Chayarsaba and I have seen photos of the village. There is a big landslide on top of the village and people are scared it will come down so they can't stay in the village. There is no fresh water-supply and people are hiding in the jungle. Air evacuation might be required ... urgently! Nabin's number for update on the situation: 98490 31868 My number: 98434 47374

#### Maya Greet Verbist (May 19 2015)

location of the village according to somebody who knows the area quite well: "Chayrsaba is in Chilangka VDC, Ward no 7 or 8, it has 33 houses, built in a cluster. around 200 people are there, maybe less, it is located in a small valley cut after the village called Soisang - part of Laduk VDC - before you come to the main village of Chilangka. If you walk up the mountain ridge of Chayarsaba and cross it you reach a Sherpa village called Pulukpa. To go from Singati to Bigu (which is at the end of the valley), you have two ways: 1 is along the river where you dont pass the village Chayarsaba - you pass it much further below. 2nd way goes midway of the mountain slope and where you pass Chitre, Laduk then further to Soisang, before Chayarsaba you cross a small river walk up to Chayarsaba, from Cayarsaba you continue to Chilangka."

#### Administrator (May 19 2015)

Routed to Army and USAR. Status Adjustment: Please do not mark dispatched or action taken until commitment to act received.

#### n1schal (May 20 2015)

Talked to Nabin again. He doesn't have any new information from Chyarsaba as of now. He's given me a number of a local: Karki : 9614922002

#### n1schal (May 20 2015)

Talked to a local Karki Tamang. She says she has no information as to what has reached there





OpenStreetMa



#### n1schal (May 20 2015)

Talked to a local Karki Tamang. She says she has no information as to what has reached there since yesterday as she is away from Chyarsaba at the moment. I've asked her to keep us informed if she hears anything.

#### n1schal (May 20 2015)

Just contacted Karki Tamang (9641922002) again. She just contacted someone in Chyarsaba. The VDC is out of materials. Will now try to route the report to an organization preferably with a chopper, else with porters.

#### Kevin Geffe (May 20 2015)

Just spoke with Maya. She confirmed that people are not hurt or injured. The hillside directly above their town has large crack in it. People are scared that the crack is going to become landslide and wipe out their houses and kill them. They are hiding in the jungle. The NEED IS NON-MEDICAL. They REALLY need a environmental engineer to go up (ex army corp of engineers) to evaluate the crack and tell villagers whether they are safe or not. In additions to this, they really need some provisions. Sounds like they have some but are in need. Definitely is a need of governmental in nature

#### Administrator (May 20 2015)

Routed to contact at Yellow House who has passed it on to DMRT,who has helicopter access and will conduct secondary verification. Status adjustment: no change until commitment received.

#### Administrator (May 21 2015)

Dispatch or Status adjustment please follow up with Maya Greet Verbist to accurately place marker of the village on the map.

#### Leslie Shackelford (May 21 2015)

Just talked to some people that made it to Singati late yesterday distributing relief, but they could not make it further. Help with a helicopter is probably needed, at least to get food, water system, shelter.

#### Administrator (May 21 2015)

Dispatch: Please follow up with Dolakha CDO to convey Kevin Geffe's comments in addition to current efforts for provisions.

#### Ayesha Lissanevitch (May 21 2015)

Working on getting the army there. Have already contacted someone in the army, they are verifying the data if cleared they should be on it soon. Will keep everyone posted.

#### n1schal (May 21 2015)

Routed to Ayesha Lissanevitch of PRAN Nepal

#### n1schal (May 21 2015)

Ayesha Lissanevitch just texted me to say that she had gotten the information to the army. The army are currently verifying it and should get on it if the need for evacuation is high. If not, they will work with Yello House to Supply of Relief goods by helicopter.

#### n1schal (May 21 2015)

The CDO didn't pick up both the numbers we have (about 8 calls in the space of 2 hours)

#### Administrator (May 21 2015)

Status adjustment: please mark dispatched and put some useful info in action summary. Dispatch: please keep following up with report (particularly Ayesha) as a priority.

#### n1schal (May 22 2015)

http://quakemap.org/reports/view/1099 This seems to be in the neighboring area as well. Would probably be wise if organizations knew about this as well.

#### Avesha Lissanevitch (May 22 2015)

Finally got a hold of someone in the army, and they have said that the area is being watched closely by them for potential landslides. They also mentioned that they had received some aid





)penStreetMap



#### Ayesha Lissanevitch (May 22 2015)

Finally got a hold of someone in the army, and they have said that the area is being watched closely by them for potential landslides. They also mentioned that they had received some aid but generally the entire VDC hasn't received an abundance of food relief and tarps were distributed but this too is never enough. With this in mind I tried to coordinate a helidrop with MAX Khatri who is currently working in upper dolkha and he confirmed that they made a drop to both ward 7 and 8 in chilanka VDC just two days ago. They too have been receiving calls from all the wards saying they haven't received anything but they themselves ensure that drops have been made. With this new information at hand, I am taking a step back on dispatch for this area unless here is verifiable information of significant lack of relief. I couldn't get a hold of the local contact provided by Nischal as his phone is switched off, so in case someone does please inform then on this decision or provide new updates.

#### Ayesha Lissanevitch (May 24 2015)

Update: The army confirmed on May 21st that the wards in Chilangka VDC have received some food aid and tarps but the complaint was that it wasn't enough. As for the danger of landslide: The army have been keeping an eye on ward 7 and 8 and are ware of potential landslide threats but they do not believe that in evacuation is needed in the present situation. In the process of planning heli drops to the 2 wards I got confirmation from MAX and his team who are presently in Dolkha that they made 2 drops on the 23rd to ward 7 and 8. As a result of this I have assumed this need to be fulfilled for the time being.

#### n1schal (May 24 2015)

Talked to Karki Tamang. She says no drops were made to Ward #8 yesterday (She called someone in Ward 8). A helicopter drop was due to be made today but it hasn't yet. Should be flaqqed for trianquiation.

#### n1schal (May 24 2015)

Talked to Karki Tamang again. She provided me a number of another local: Mira Tamang (9844211921) in Chyarsaba. Will try and get to (Chyarsaba is Ward Number 8 in Chilankha VDC) According to Max Khatri of Nyano Sansar, drop was made for Ward 7 and 8 at a school near Khopa Village of Chilankha. The relief was handed over to Deputy Secretary.

#### Bishwash (May 24 2015)

Talked to Kushang Tamang. The primary problem of this report is from ward no. 8. But the locals there cannot still confirm the drop since (according to them) the drop must have been made in the 7th ward. This, if true, counterfeits the relief provision since the reliefs had to be provided to both the wards. I've asked Kushang Tamang to confirm the drop at the 7th ward.

#### n1schal (May 25 2015)

Karki Tamang contacted me today to tell me that there was a drop made yesterday at around 11:30AM. It brought 25 sacks of rice and blankets. She says the food will suffice for now. The problem of water still persists. They don't have water and they could get water if the pipeline could be repaired.

#### Administrator (May 25 2015)

Roddenberry foundation for possible help on the water supply. Status adjustment: Dispatched organization partially meets the needs.

#### Kajal Humanity Road (May 27 2015)

#HR KP: Previous comments suggest fulfillment of only partial relief. Suggest change status to actionable.

#### GlobalMedic (May 27 2015)

Is the need for water still present, is there a contaminated water source that needs purification?

#### Leslie Shackelford (May 27 2015)

need for water is still present, they have asked repeatedly for pipes, in the meantime purification would be helpful.

#### Administrator (May 27 2015)

GlobalMedic, please let us know if you intend to respond so we can mark accordingly.

Tautscher Gabriele (May 27 2015)







for the chopper booking time. But with previous air drop and supply from road to near by village all the house hold have one Tripal, 1 sack of rice and a blanket each which I can confirm. Regarding the water filter I think we may supply to schools, which will be more better choice. I know the condition of water as I am from that Village (not the town itself). Gabriele Tautscher (Jun 2 2015) thank you all for your great efforts. In the meantime the people from Chayarsaba have managed to get water pipes from singati to rebuild their water system themselves. what they need most is a solar device to reload mobile phones, the biggest problem is communication, do you have an suggestions i can pass on to them via a relative living in kathmandu? Administrator (Jun 2 2015) Yes I do: http://nepalguake.ghampower.com/ Verification: Please confirm with local contacts to close. Status Adjustment: Action Taken Good job everyone. Leslie Shackelford (Jun 2 2015) I have the device they need- a solar recharge unit with 3 lights, and USB port with Octopus for phone plus other recharge points. It's at my house now- is there any group going to Singati that could put this in the actual hands of someone from the village? 9851024624 leslie Upasana (verifier) (Jun 7 2015) मेसेज पाए पछि फोन गर्नुहोला, Calls not received. Quakemap.org Upasana (verifier) (Jun 7 2015) Message paye pa6i call garnuhola. Calls not received. Jayaram (Jun 18 2015) Sunita Lama, a relative from Chayarsaba, Chilankha, Ward No 8, informed me, that the water problem is still very urgent. The people are already getting diarhhoe and other infections. Administrator (Jun 18 2015) Jayaram has copy pasted a previous comment. No status adjustment. Leave A Comment Sazal Comments: Security Code: 13 + 9 = Submit Comment **Follow Report** Mobile phone: enter mobile number with country code □ Email sazalsthapit@gmail.com Follow Report

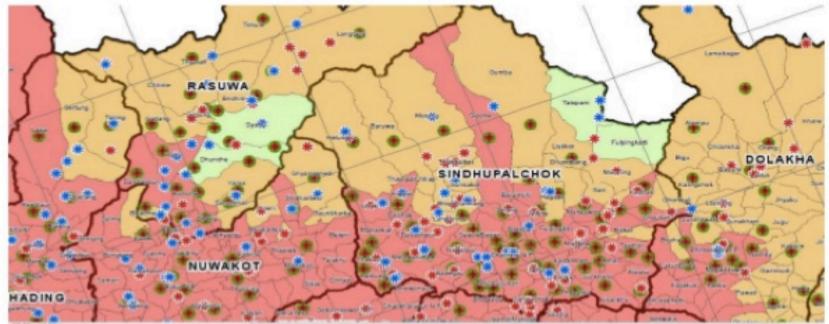






# Gap Analysis

- Identify gaps using:
  - Security forces on the ground
  - Rescue and Relief operations conducted so far
  - Request from public (Crowd Sourced Data)









### Crowd Sourced Data

- Provider: Kathmandu Living Labs
  - Direct Access to Spreadsheet
  - Data:
    - Organized
    - Categorized
    - With Geo-location
    - Ready to Use
    - One level of Verification done by KLL
    - With contact details









#### redcrossmom

Just wanted to share - having been involved with every catastrophic disaster since 2010 using Ushahidi - what is being done by KLL has never been done before. And Nepal is paving way for repeatable processes - just giving hats off and kudos to them for stepping up to take on that challenge



### pierzen13

KLL is doing more then the Event quakemap. They provide a lot of mapping services, teach how to use OSMand, etc.



**№** 8:34 AM



### redcrossmom

@Pierre - yes - KLL have collaborated and incorporated mapping products and processes faster than any org I have ever seen.

8:39 AM

KLL working with teams on ground and digital response orgs, traditional aid agencies, gov, military, civilian, engineering, health...OSM, Ushahidi, platforms and processes.... @Nama you must be very proud. I am for you. Before dust settles - and folks leave - I need to share - what you are doing is incredible.

8:41 AM







## **Further information**

www.kathmandulivinglabs.org

### **FaceBook Groups:**

https://www.facebook.com/kathmandulivinglabs

