

INTEGRATING OPENSTREETMAP (OSM) IN THE LOCAL GOVERNANCE OF NEPAL

State of the Map, 2022

Speakers:

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ABOUT KLL

KLL: Kathmandu Living Labs

- Nepal-based, a leading civic-tech organization to advance the Open Mapping movement
- Trained and engaged thousands of people from Nepal and other Asian countries in mapping their local communities in OSM
- Provides data and technology solutions to governments, development partners, businesses and civil society



CONTENT S

Our Intent

Phases

Phase I

Workflow

Challenges

Post - Phase I

Phase II

Objectives

Workshop Activities

Post - Phase II

Key Points

OUR INTENT

Leverage **OSM** for good governance
by integrating it with
local governance units



Training and Engaging local youths and leaders in open mapping

PHASES

1

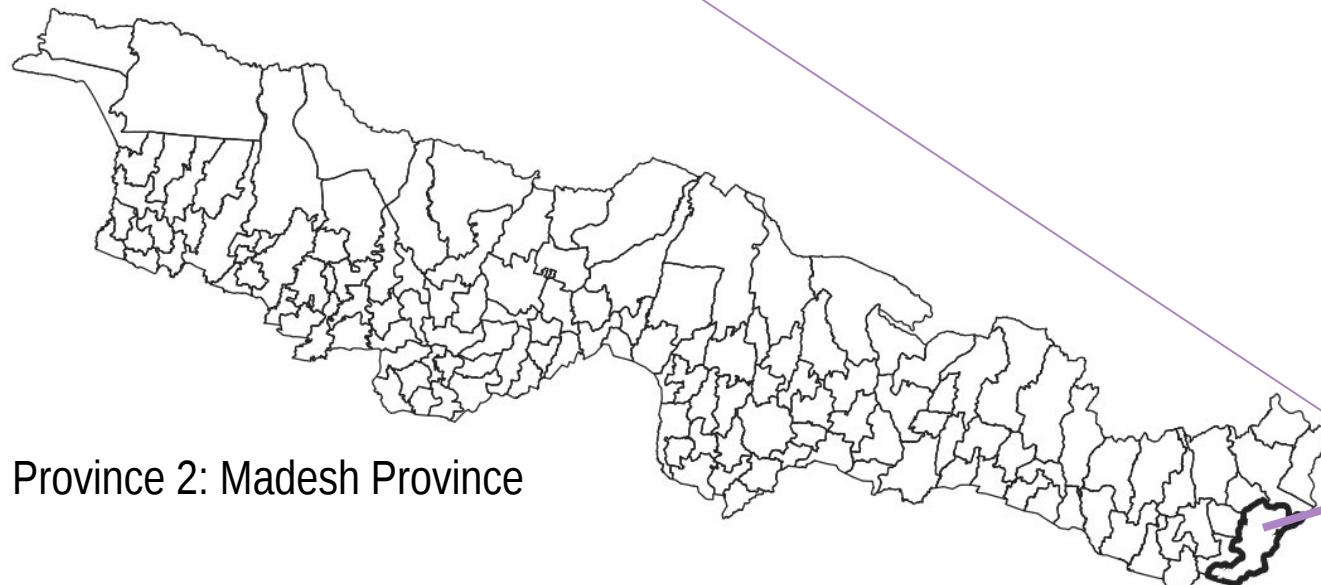
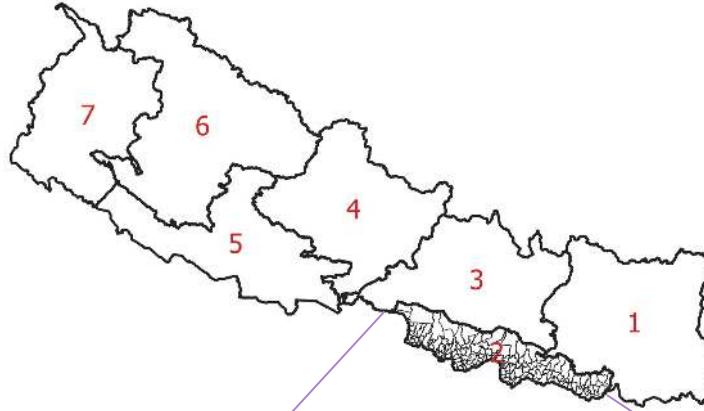
Phase I : Open Mapping Activities in **3 local bodies**

2

Phase II : Open Mapping Activities in **Madesh Province**

12 local bodies selected

Three-level federal system of government of Nepal

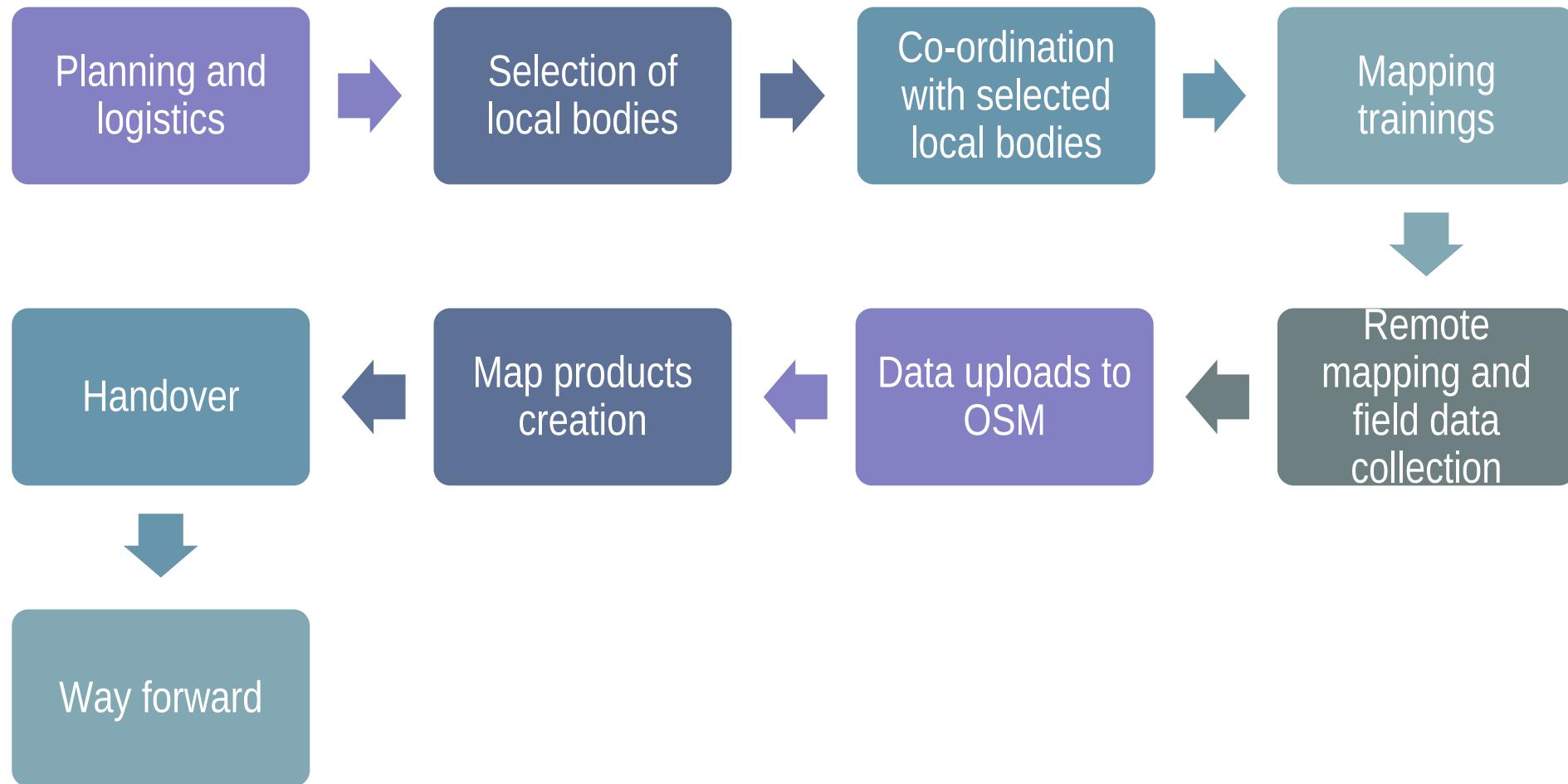


Province 2: Madesh Province

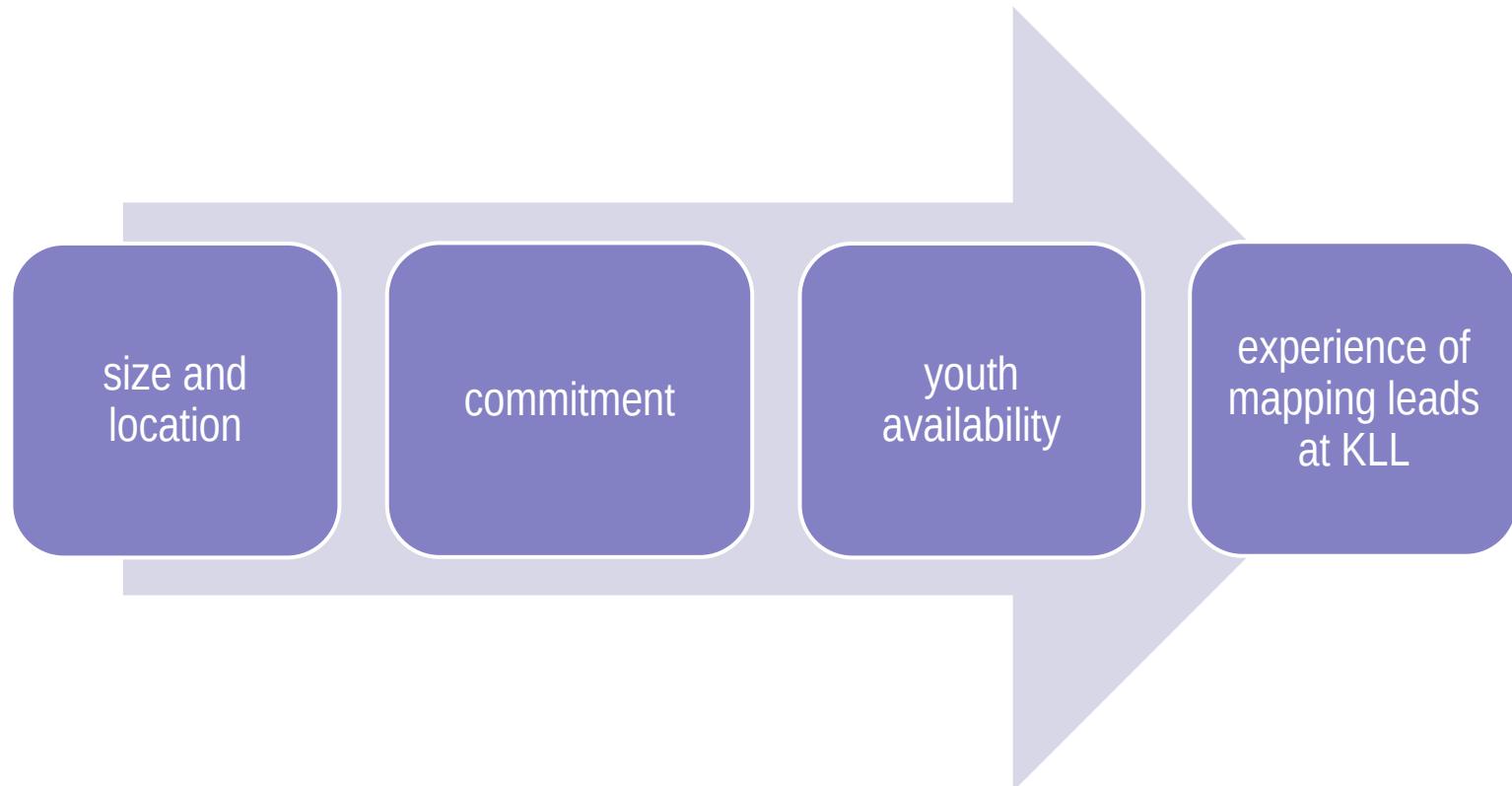


Hanumannagar Kankalani Municipality

WORKFLOW



SELECTION OF LOCAL BODIES: PHASE I



**Selection of 3
Local Bodies:
Phase I**

Rupa Rural Municipality



Source: *The Himalayan Times*

Namobuddha Municipality

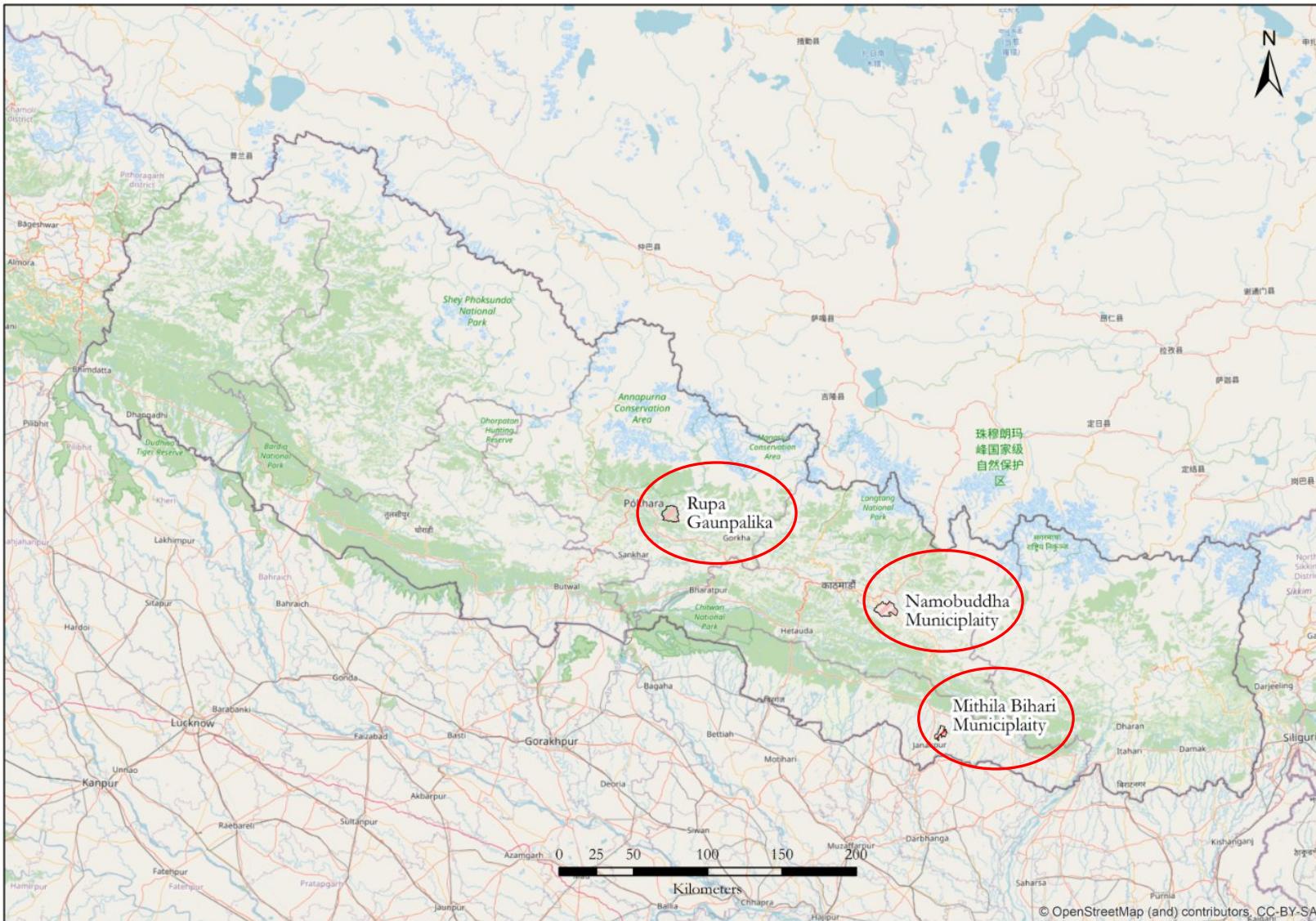


Source: <https://namobuddhamun.gov.np/>

Mithila Bihari Municipality



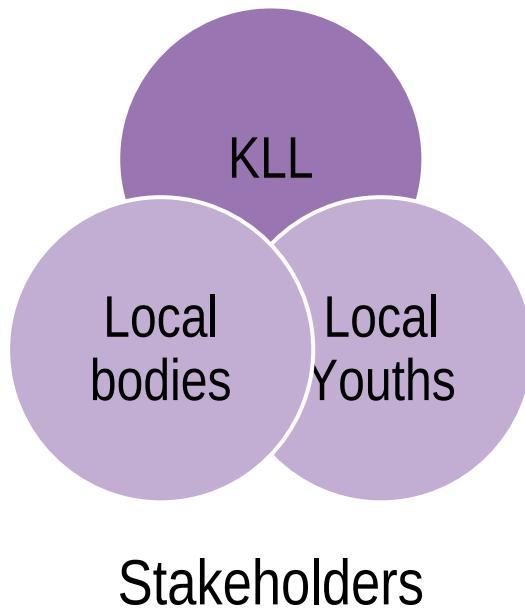
Source: <https://mithilabiharimun.gov.np/>



Selected 3 local bodies for open mapping activities: Phase I

CO-ORDINATION WITH LOCAL BODIES: PHASE I

MOU with all three local bodies



CO-ORDINATION WITH LOCAL BODIES: PHASE I

Local bodies

Support in the coordination and community mobilization process

KLL

Facilitate for engaging local youths in open mapping activities

Local youths

Involve in data collection, mapping and validation of their local bodies

Total youths trained and engaged: 44

MAPPING TRAININGS: PHASE I

- 2-day beginners' OSM training in 3 local bodies
- Goal of training
 - Train youths on OSM and involve them in real projects on the ground.
 - Capacity building for data collection in their local community
 - Introduce data collection methods and tools

MAPPING TRAININGS: PHASE I

Fundamentals of OSM

- What is OSM?
- History and Evolution of OSM (Global and Nepal)
- OSM use case (practical examples, projects, portals and video)
- OSM over other maps

OSM website walkthrough and its features

OpenStreetMap Account Sign Up

Mapping in OSM:

- Concept of Remote Mapping and Field Mapping
- Editing in OSM with iD-editor (nodes and ways)
- Map at least one feature in OSM remotely

1

MAPPING TRAININGS: PHASE I

Concept of field mapping

Demo data collection

- Introduction to Kobo Collect
- How to collect data in field
- Group discussion on issues faced

Planning data collection of local bodies as a team

2

Rupa Rural Municipality:



Namobuddha Municipality



Mithila Bihari Municipality

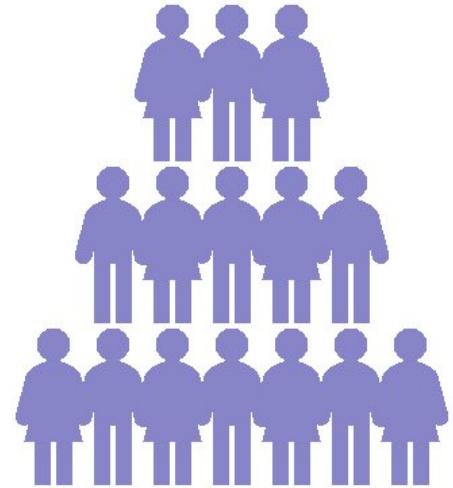


MAPPING TRAININGS: PHASE II

Engaging local leaders (IT officers of Nepal Government) in Open Mapping Activities

Different approach than traditional ways of engaging youth

An opportunity to directly engage local government officers

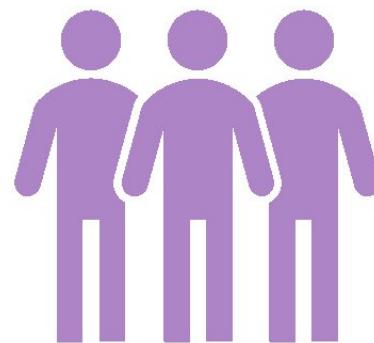


MAPPING TRAININGS: PHASE II

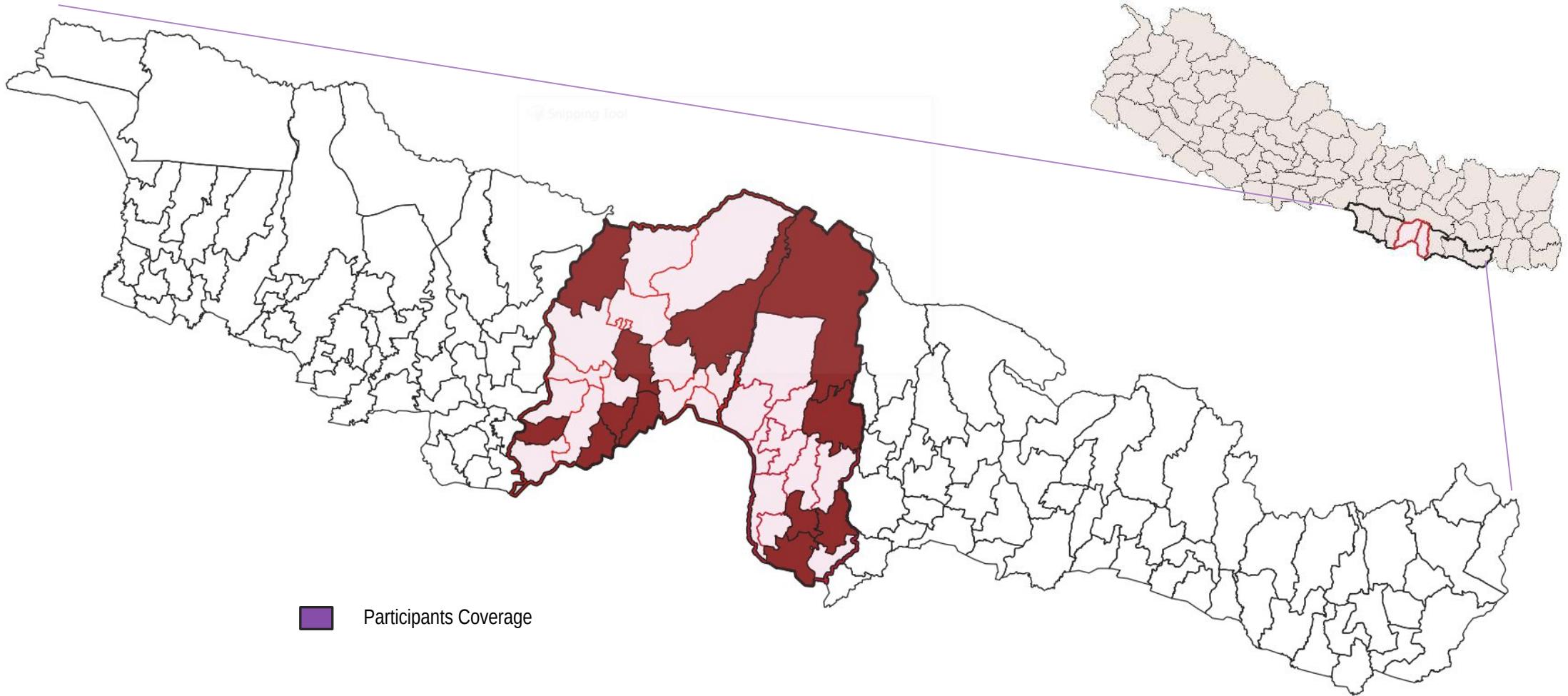
Two-day residential event:- “Open Mapping for Sustainable Local Governance - Hands-on Workshop 2022”



In collaboration with:
Ministry of Federal Affairs and General
Administration (MoFAGA)



Participants:
12 Government IT Officers
of the Madesh Province



Selected 12 local bodies for open mapping activities: Phase II

MAPPING TRAININGS: PHASE II

Fundamentals of OSM

Remote Mapping

- JOSM installation
- Editing in OSM with JOSM (nodes and ways)
- Map your community

Field Mapping

- OSM tracker installation and demo
- Field data collection and upload using OSM tracker and JOSM
- Mapillary demo
- OSMAND and Organic Maps

MAPPING TRAININGS: PHASE II

Using overpass turbo

- OSM data mining/query
- OSM data download

OSM data visualization using Mapbox

- Create a heatmap and share link

FGD: OSM in local governance

- Group Discussion and brainstorming session
- Idea sharing and presentation

HIGHLIGHTS: FGD-OSM IN LOCAL GOVERNANCE

Create a Geodatabase of local bodies

Roads (secondary roads), Electricity distribution, Landuse, Water sources (Rivers, ponds, handpumps, taps in house

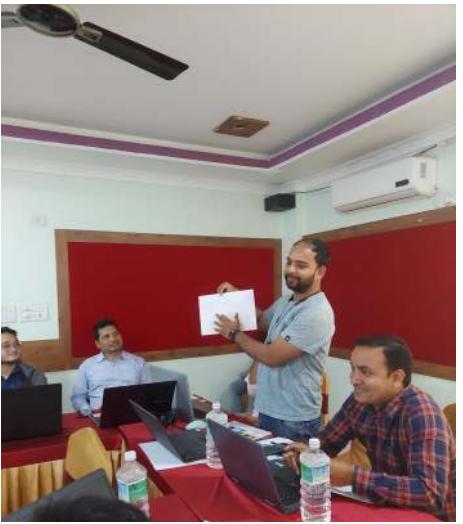
Internal conflicts within local body for open mapping implementation

Eg: old staffs and disagreement

Less technical officers for data collection and maintenance

Unstable political body and conflicts

Lack of interest/ and adequate awareness of public representatives



Open Mapping for Sustainable Local Governance - Hands-on Workshop 2022, Madeshpur

MAPPING TRAININGS

Training Activities : Gamifying Training Sessions

- OSM quiz
- Feel OSM: Find your house and community
- Task: Search Kathmandu Living Labs Office in OSM
- Task: Share your location
- Task: Distance between Kathmandu Living Labs and your current location

MAPPING TRAININGS

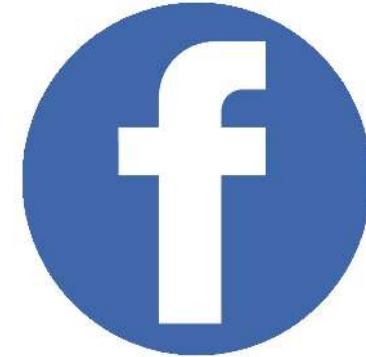
Things to Consider:

- Prepare a detailed mappers specification
 - Socio-demographic dimensions: accessibility to mobile phones/laptops, vehicles
- Email account of participants

MAPPING TRAININGS



Internet Availability
in event venue



Communication channel
with participants

MAPPING TRAININGS

- The aspect of gender



Photo with mapping trainees in Namobuddha Municipality

REMOTE MAPPING AND FIELD DATA COLLECTION

Data collection and mapping in 3 local bodies (Phase I):

- Rupa
- Namobuddha
- Mithila Bihari

44 youths involved

REMOTE MAPPING AND FIELD DATA COLLECTION

Data collection and mapping based on:
localized needs of each local bodies.

For e.g.

Brick Kilns data in Mithila Bihari,
Solar Panels in Rupa

availability of the resources within the local bodies

REMOTE MAPPING AND FIELD DATA COLLECTION

Data collection methods:



Remote Mapping
(HOT Tasking Manager, JOSM)



Field Mapping
(Kobo)

4. REMOTE MAPPING AND FIELD DATA COLLECTION

Remote Mapping

- Settlements/Buildings footprints
- Roads
- Landuse (Forest and agricultural land)
- Waterways

Data collection check-list

4. REMOTE MAPPING AND FIELD DATA COLLECTION

Field Mapping

- Educational Institutions
- Health facilities
- Offices (Government, Private, NGOs)
- Banks and Financial Institutions
- Tourism attraction and hotels
- Infrastructures like Bridges, Public Water Tanks, Playground
- Industries/Factories
- Ponds
- Shops and Other Amenities (Place of Worship, Community Buildings, Police Stations, Army Camp, Public Toilets, Petrol Pump, Bus stops, Fire stations, FM station, Party Palace)
- Others as mutually agreed upon (based on the needs of local body)

Data collection check-list

5. DATA UPLOADS TO OSM

Remote Mapping



Buildings = 22K +



Roads = 402 km



5. DATA UPLOADS TO OSM

Field Mapping

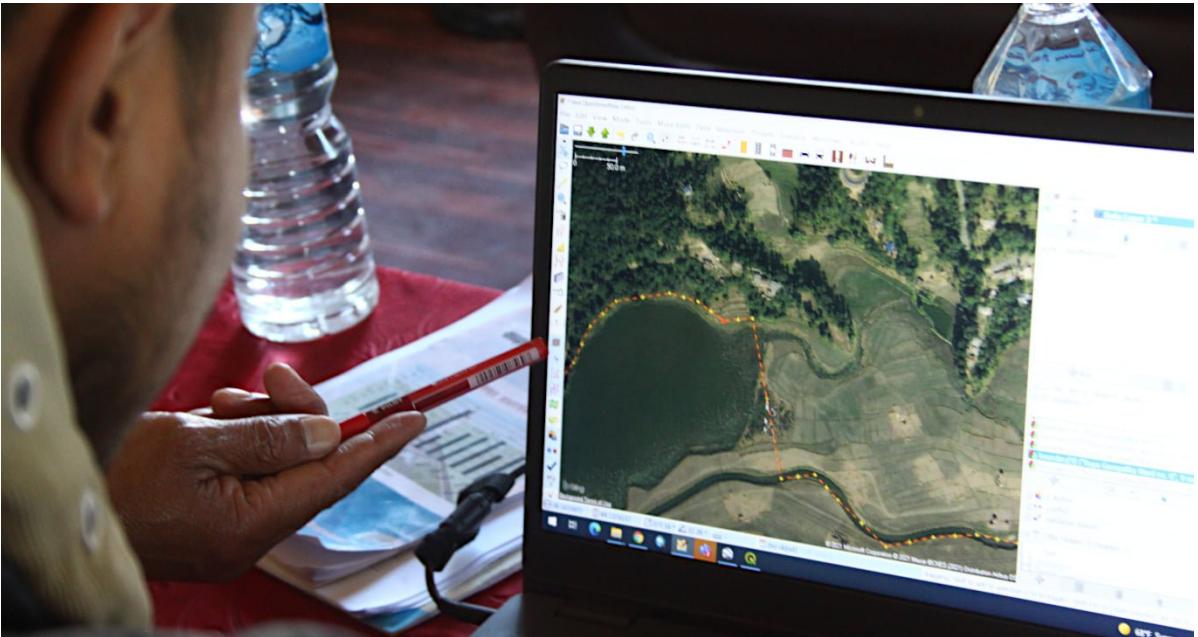


Points of Interest: **2283**

Rupa: 353
Namobuddha: 1406
Mithila Bihari: 524

6. MAP PRODUCTS CREATION

- Creation of municipal map and ward-level maps
 - in collaboration local youth
 - In collaboration with local bodies



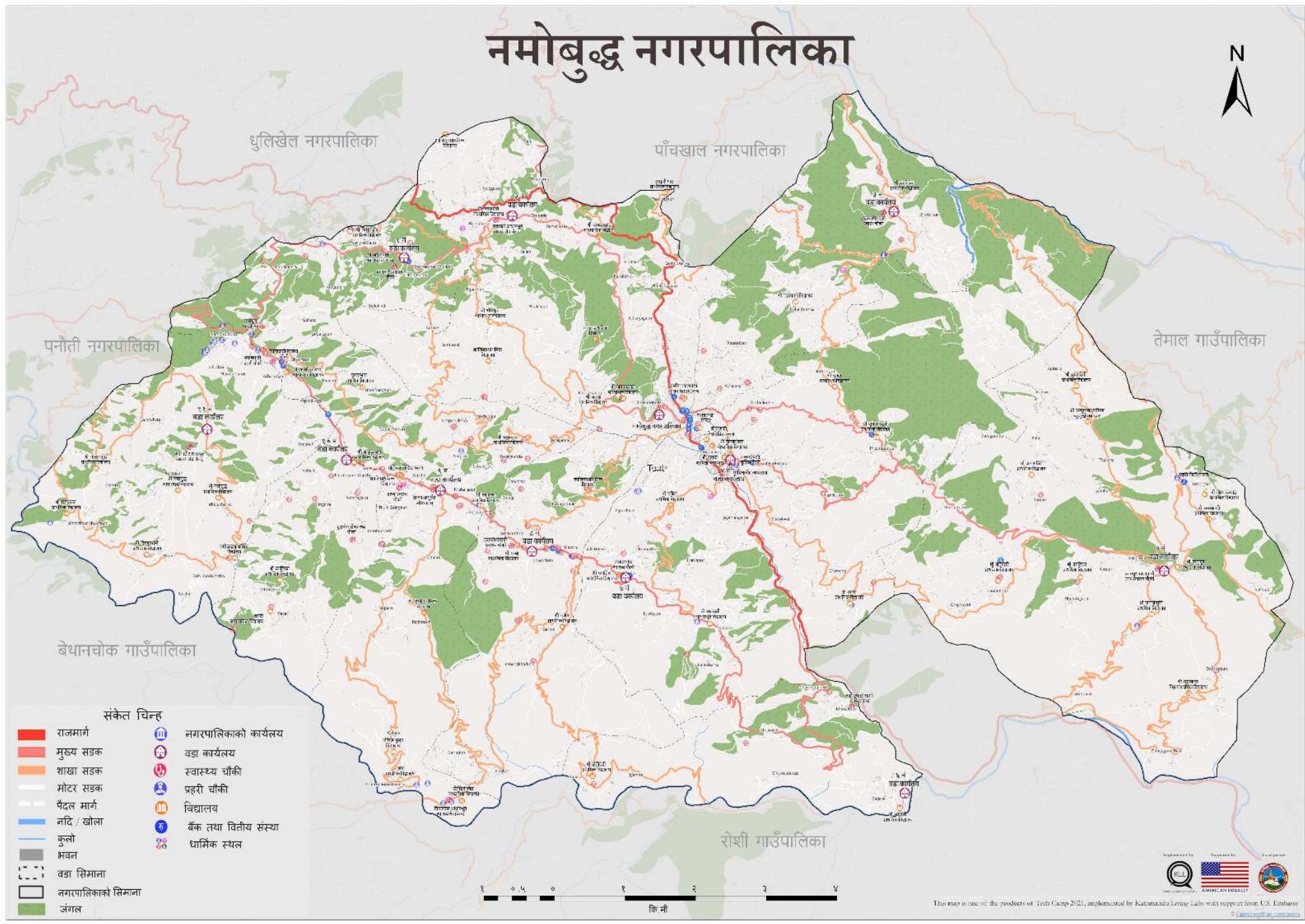
Correction of administrative boundary- ward level and municipal boundary in OSM with local representatives in Rupa

रुपा गाउँपालिका

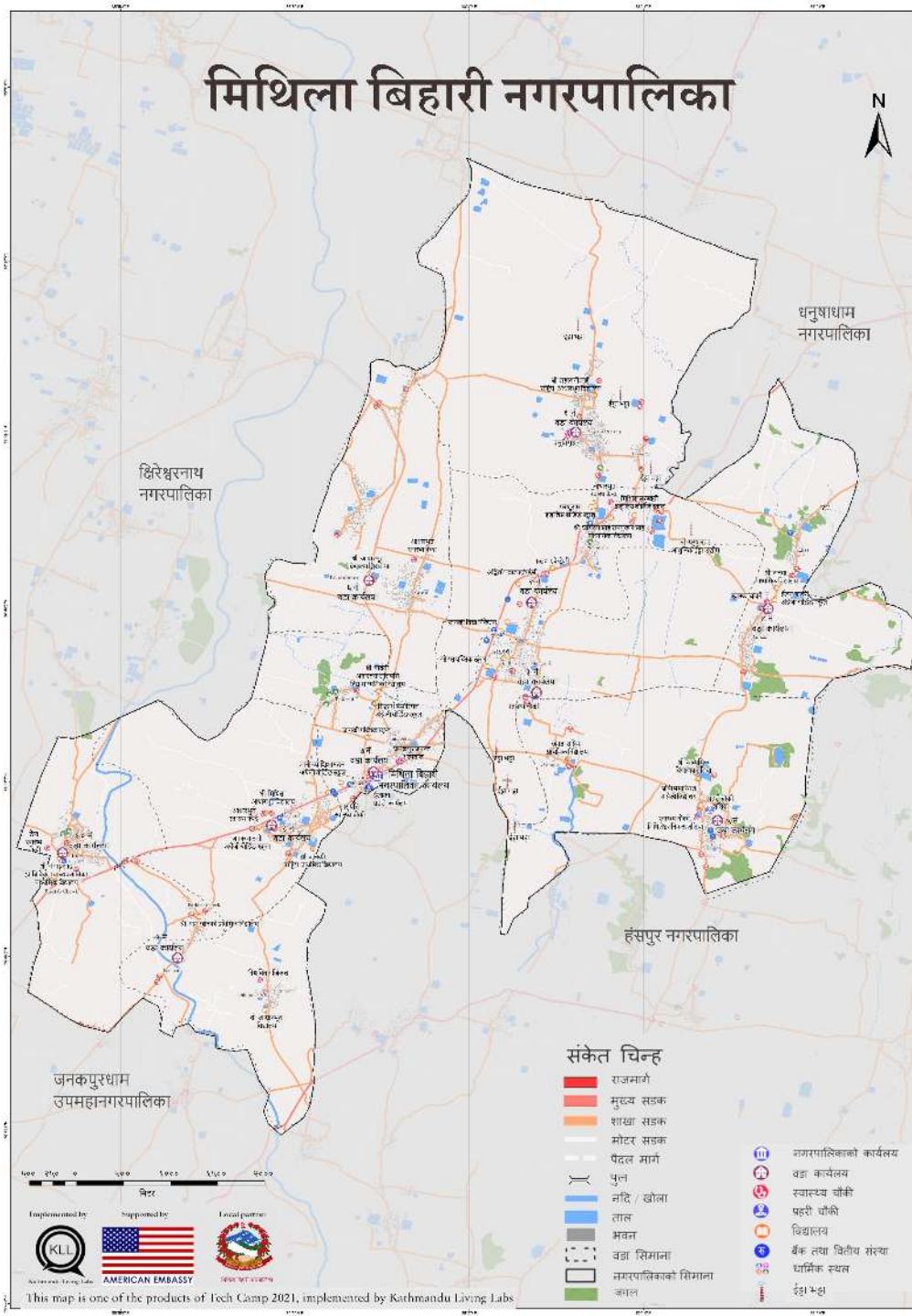
Municipal map of
Rupa Rural Municipality



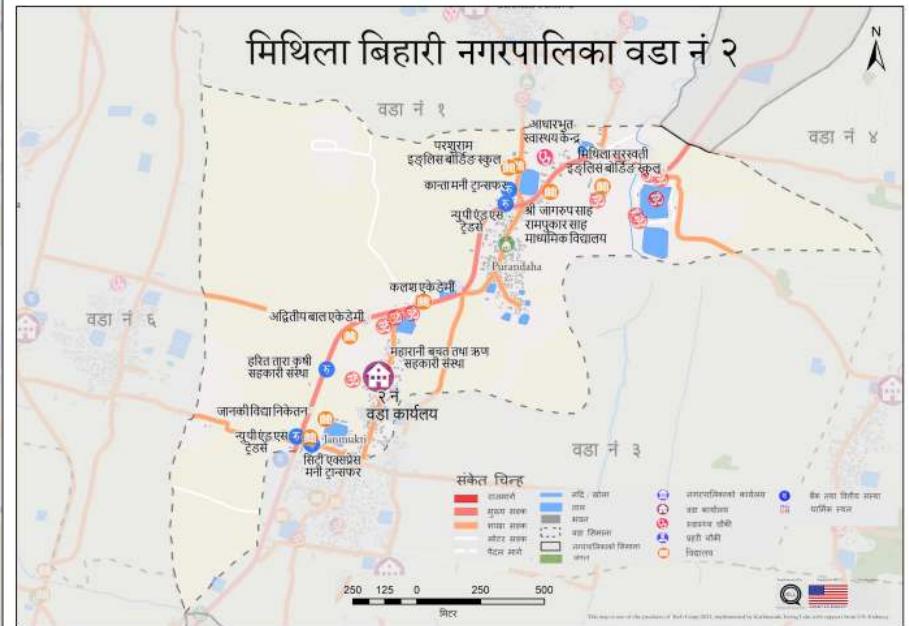
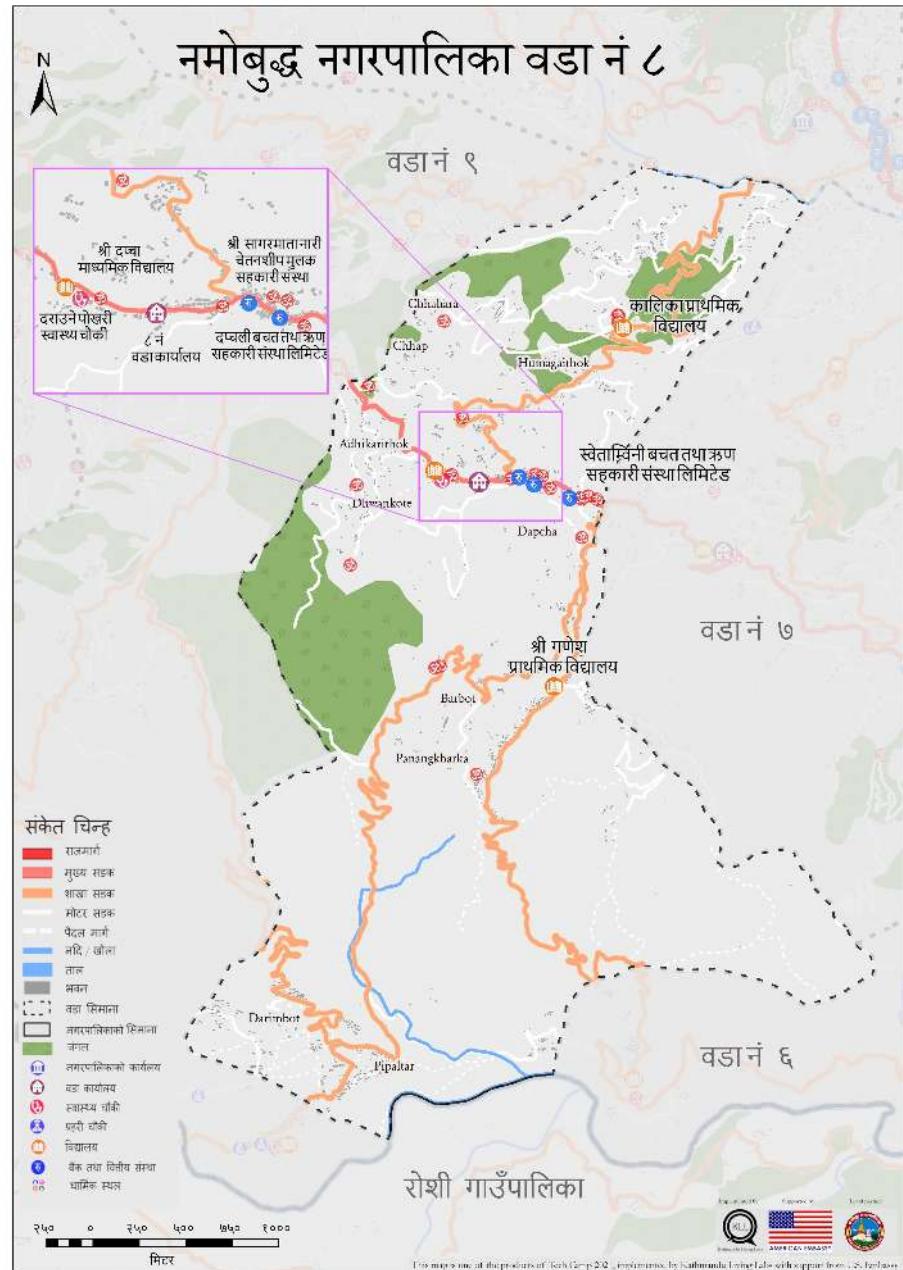
Municipal map of
Namobuddha Municipality



Municipal map of
Mithila Bihari Municipality



Ward level maps



7. HANDOVER

Map-products handed over to local bodies





यस मिथिला बिहारी नगरपालिका र अन्तर्गतको सबै वडामा Mapping कार्यको लागि Kathmandu Living Labs ले Open Street Mapping सम्बन्धी सम्पूर्ण काम समाप्न गरी हामीलाई विशेष सहयोग पुऱ्याउनु भएकोमा धेरै धेरै धन्यवाद । Kathmandu Living Labs जस्तो उत्कृष्ट संस्था संग काम गर्न पाउनु पकै पनि हाम्रो लागि ठूलो सौभाग्य हो । नगर प्रमुख श्री राजेन्द्र प्रसाद यादव, प्रमुख प्रशासकीय अधिकृत श्री रामदरश यादव, सूचना प्रविधि अधिकृत श्री लक्ष्मी नारायण यादव र जिन्सी शाखा प्रमुख श्री उपेन्द्र यादव Kathmandu Living Labs को प्रतिनिधि ज्यू हरु बाट हस्तान्तरित यस पालिका अन्तर्गतको समाप्तिगत Digital Printed Map को बारेमा जानकारी लिनु हुदै ।



166

23 comments • 8 shares

Like

Comment

Share

MESSAGE FROM MITHILA BIHARI



Thank you from all the IT officers
to the organising team

MESSAGE FROM PARTICIPANTS

CHALLENGES

- Delay in decision making and conducting activities within local body
 - Local Level Elections
 - Closing of fiscal year
- Lack of digital literacy among the participants
- Access to resources like laptop/mobile phones
- Internet Availability

8. WAY FORWARD

Further Activities

- Scale-up open mapping activities in Mithila Bihari Municipality and Mahottari Rural Municipality
 - Understanding how local government works
 - More detailed research on how can OSM be better integrated into local government bodies
- Conduct/Facilitate a similar open mapping activity in Annapurna Municipality
 - a neighbor municipality of Rupa Rural Municipality

IMPACTS

- Youths learnt new digital mapping skill,
- Local units have access to
 - an updated geospatial database (localized geo-visualization)
 - trained youth
 - materials and modules- planning and decision making

KEY POINTS

Established a method in which we created a group of OpenStreetMap leaders and youths

can inspire and facilitate similar activities in their own areas beyond the life of any given project.

Develop and disseminate tools for local governance: Demo [here](#)

Developing prototype.

Customized based on the localized needs



नेपालगञ्ज उपमहानगरपालिका

बाँके, प्रदेश नं ५

गृहपृष्ठ

प्रोफाइल

बजेट

परियोजनाहरू

सेवाहरू

संशाधनहरू

सूचना तथा गतिविधि

नक्सा

नेपालगञ्ज उपमहानगरपालिका



NEPALGUNJ AIRPORT

आर्थिक वर्ष २०७५/७६ को आय-व्यय विवरण

रु. १६,५७,८९६

कुल अनुमानित आय

रु. ६,९१,४२८

कुल अनुमानित व्यय



नेपालगञ्ज उपमहानगरपालिका

बाँके, प्रदेश नं ५

गृहपृष्ठ

प्रोफाइल

बजेट

परियोजनाहरू

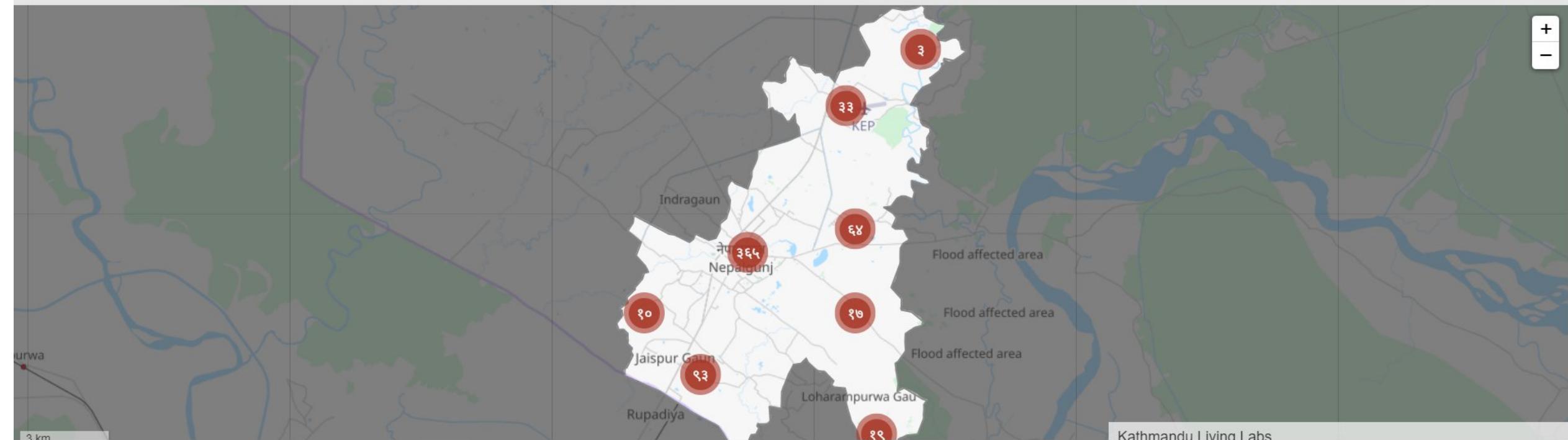
सेवाहरू

संशाधनहरू

सूचना तथा गतिविधि

नक्सा

२०७४/७५

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नक्सा



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नेपालगञ्ज उपमहानगरपालिका

बाँके, प्रदेश नं ५

गृहपृष्ठ

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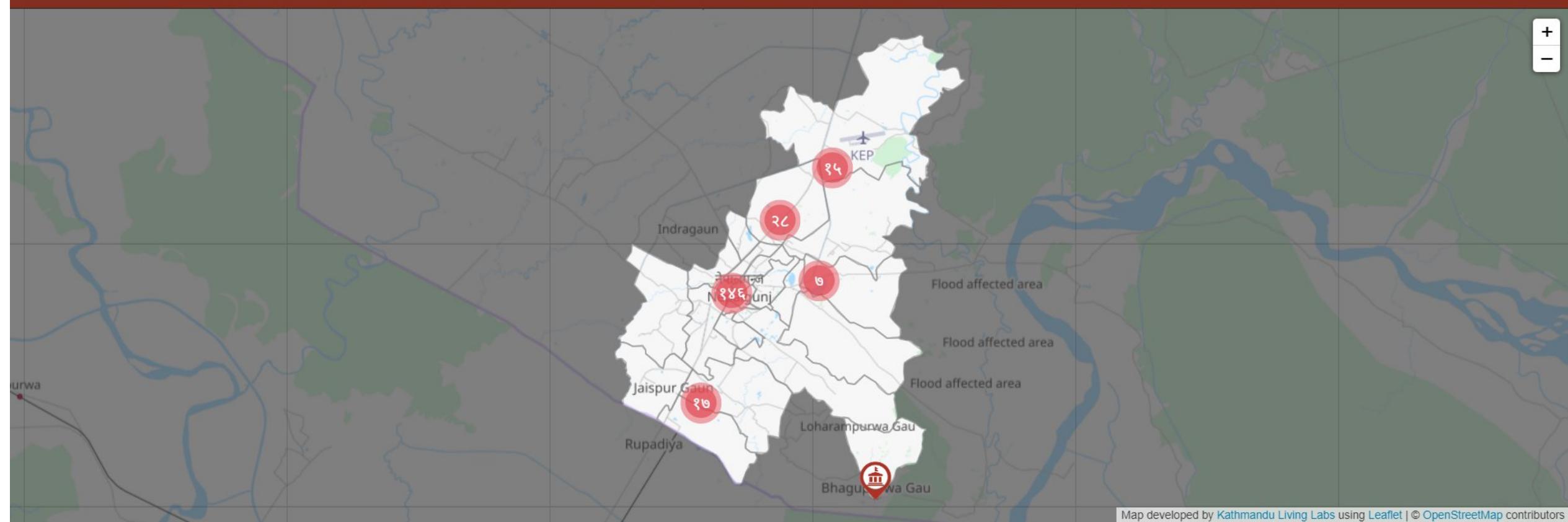
परियोजनाहरू

सेवाहरू

संशाधनहरू

सूचना तथा गतिविधि

नक्सा



Map developed by Kathmandu Living Labs using Leaflet | © OpenStreetMap contributors

छानुहोसः

प्रोफाइल x + Not secure | nepalgujumunapp.klddev.org/#/profile

नेपालगञ्ज उपमहानगरपालिका
बाँके, प्रदेश नं ५

गृहपृष्ठ प्रोफाइल बजेट परियोजनाहरू रोवाहरू संशाधनहरू रुचना तथा गतिविधि नवरा

प्रोफाइल

नगरपालिका प्रोफाइल

नगरकार्यपालिकाका सदस्यहरू

नगरसभाका सदस्यहरू

नगरपालिकाका कर्मचारीहरू

कार्यपालिका (नगरपालिका बोर्ड)

डा. धवल श्रेष्ठ
राणा
नगर प्रमुख

उमा थापा मगर
नगर उपप्रमुख

प्रमोद रिजाल
बडा अध्यक्ष
यडा नं ३

सुनिल सिहं
हमाल
चडा अध्यक्ष
बडा नं ३

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नेपालगञ्ज उपमहानगरपालिका

बाँके, प्रदेश नं ५

गृहपृष्ठ प्रोफाइल बजेट परियोजनाहरू सेवाहरू संशाधनहरू सुचना तथा गतिविधि नक्सा

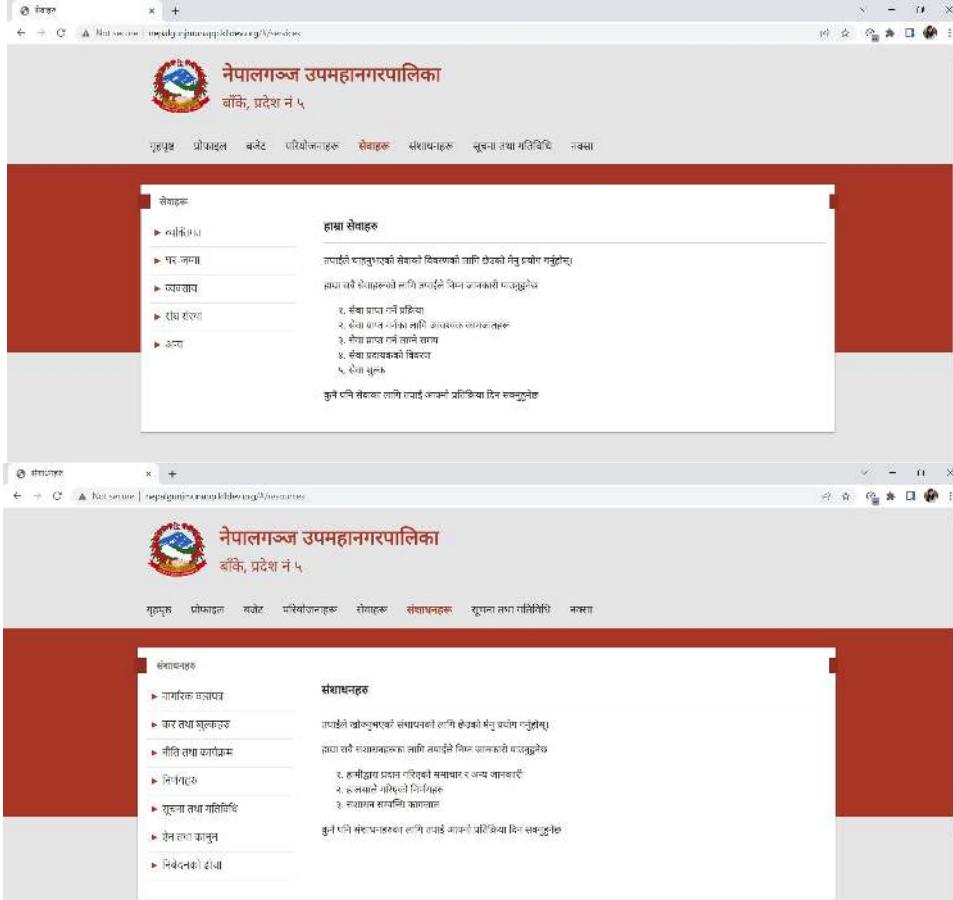
बजेट

आर्थिक वर्ष २०७५/७६ ➔ को आय तथा व्यय विवरण

रु. १६,५७,८९६	रु. ६,९१,४२८	६६९
कुल अनुमानित आय	कुल अनुमानित व्यय	जम्मा परियोजना संख्या

आय विवरण व्यय विवरण

शीर्षक	जम्मा रकम	योगदान (%)
(+) राजस्व	रु. १६,०६,४५४	९६.९०%
(+) अन्तर सरकारी वित्तीय हस्तान्तरणः	रु. ५०,६४२	३.०५%
(+) जनसहभागिता:	रु. ८००	०.०५%

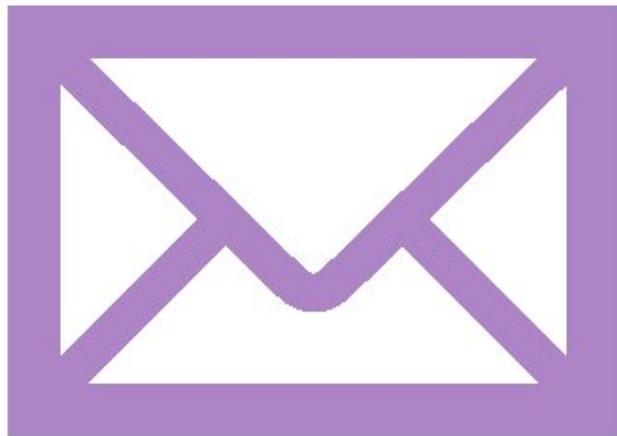
The screenshot displays two identical web pages from the 'Nepali Government Resource Center' (<http://nepalgovresourcecenter.nic.np/>). The top page is titled 'नेपालगञ्ज उपमहानगरपालिका' (Nepal Gajrauli Municipality) and features a circular logo with a map of Nepal and the text 'नेपालगञ्ज उपमहानगरपालिका'. Below the title is the address 'बाँकी, प्रदेश नं ५'. The header includes links for 'संपर्क', 'प्रोफाइल', 'बजेट', 'परियोजनाहरू', 'सेवाहरू', 'संचायनहरू', 'सुरक्षा तथा गतिविधि', and 'नवसा'. A sidebar on the left lists 'सेवाहरू' categories: 'वर्किंग', 'पर. जागा', 'प्रबन्धन', 'ट्रैयल', 'कार्य', and 'सेवाहरू'. The main content area is titled 'हाम्रा सेवाहरू' (Our Services) and contains a list of services: 'पालाई चाल्नुपर्याप्त सेवाहरू लिखिएको तापि ठाउँको रेत देखो नमुदीय', 'स्थानीय सेवाहरूलाई नमि राजनीति बिना जनकाली प्रज्ञानप्रेषण', '१. सेवा प्राप्ति तरी लिखिया', '२. सेवा प्राप्ति तरी लिखिया', '३. सेवा प्राप्ति तरी सामन साप्त', '४. सेवा प्राप्तिको विवरण', and '५. हेता भए'. A note at the bottom states: 'कुनै रूपे सेवाका लागि राजदूताङ्गीकृतिया दिन सक्छुद्देश'.

KEY POINTS

Citizens' engagement and critical thinking (on the part of youth) and,

Initiatives for data-driven development and make local bodies accountable and transparent (on the part of local governments).

CONTACT



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Thank you !!
Have a good day.