

INTEGRATING OPENSTREETMAP (OSM) IN THE LOCAL GOVERNANCE OF NEPAL

State of the Map, 2022

Speakers:

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Project Manager

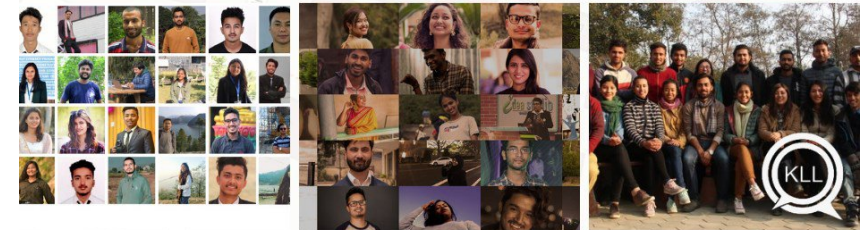
Kathmandu Living Labs (KLL)



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



CONTENTS

Our Intent

Phases

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Workflow

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Post - Phase I

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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

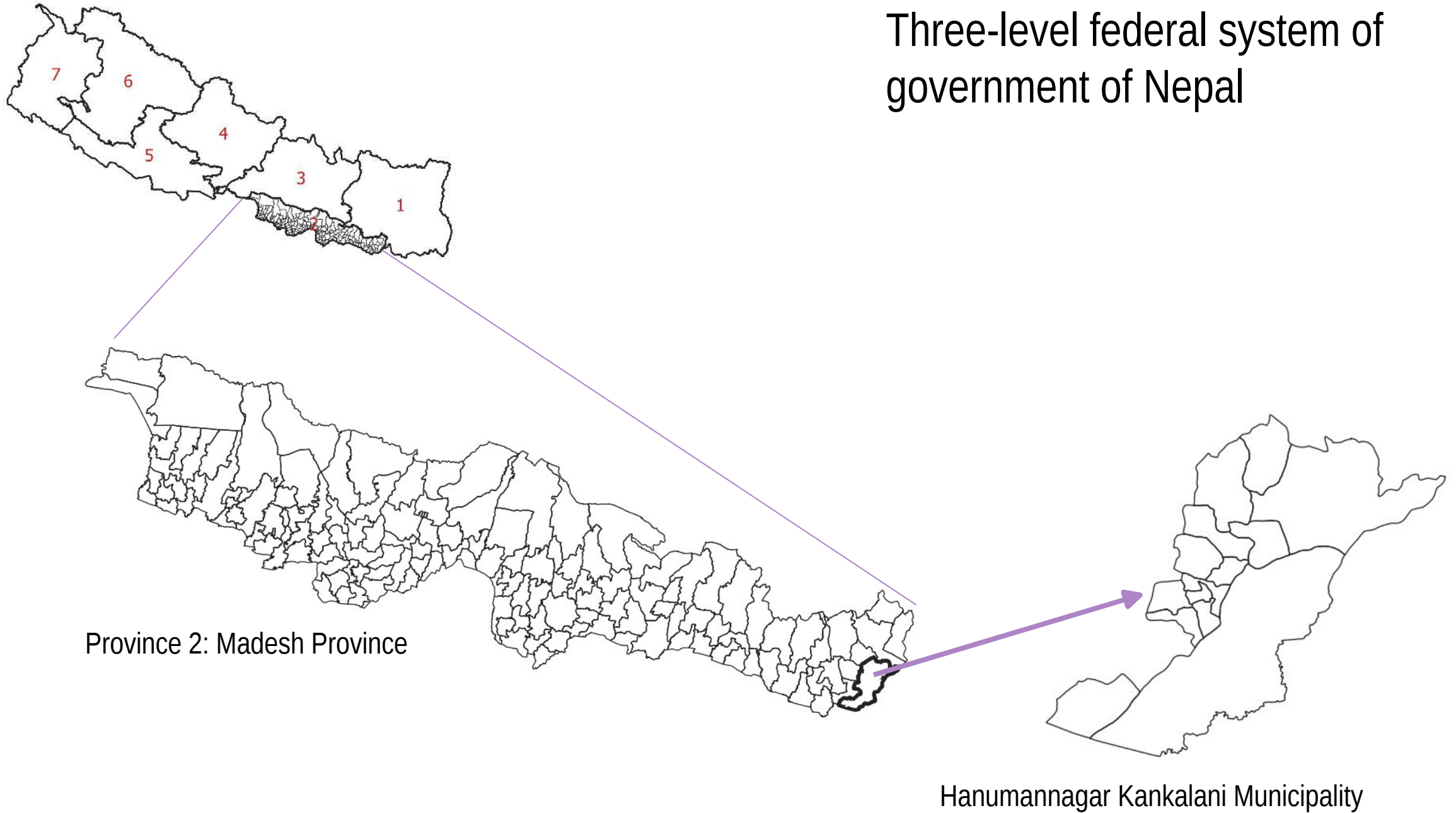
Phase I : Open Mapping Activities in **3 local bodies**

2

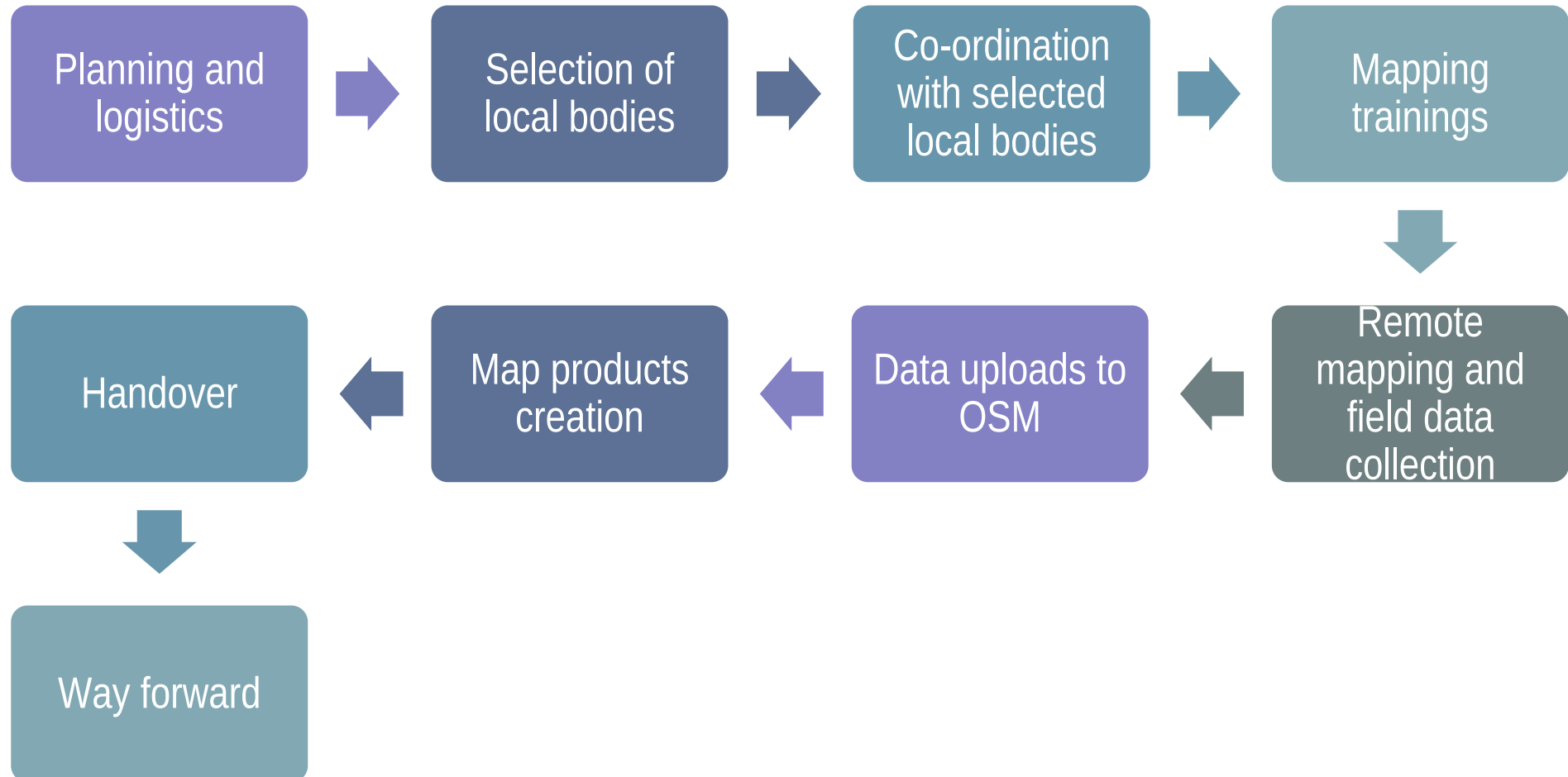
Phase II : Open Mapping Activities in **Madesh Province**

12 local bodies selected

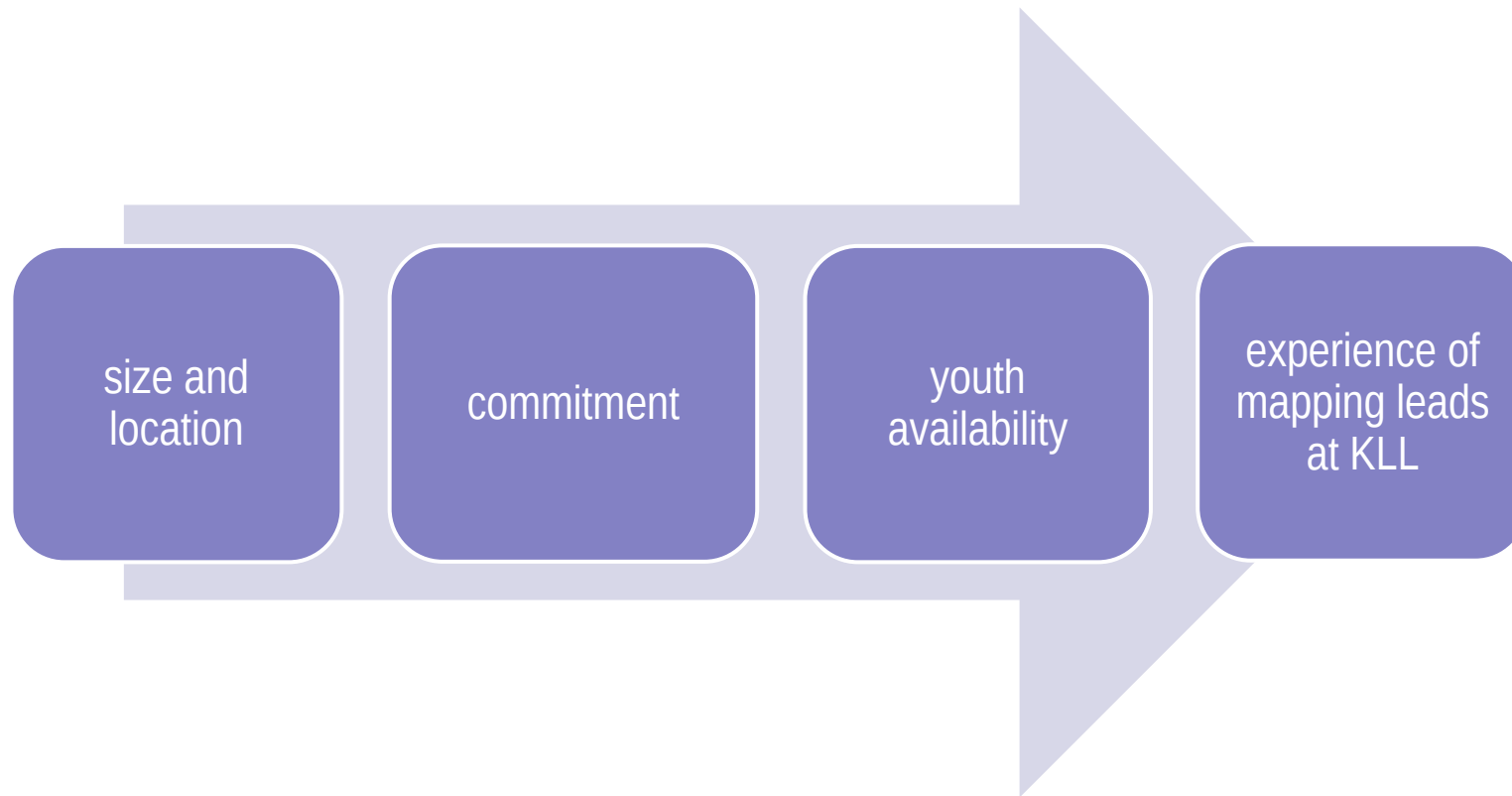
Three-level federal system of government of Nepal



WORKFLOW



SELECTION OF LOCAL BODIES: PHASE I



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

Rupa Rural Municipality



Source: *The Himalayan Times*

Namobuddha Municipality

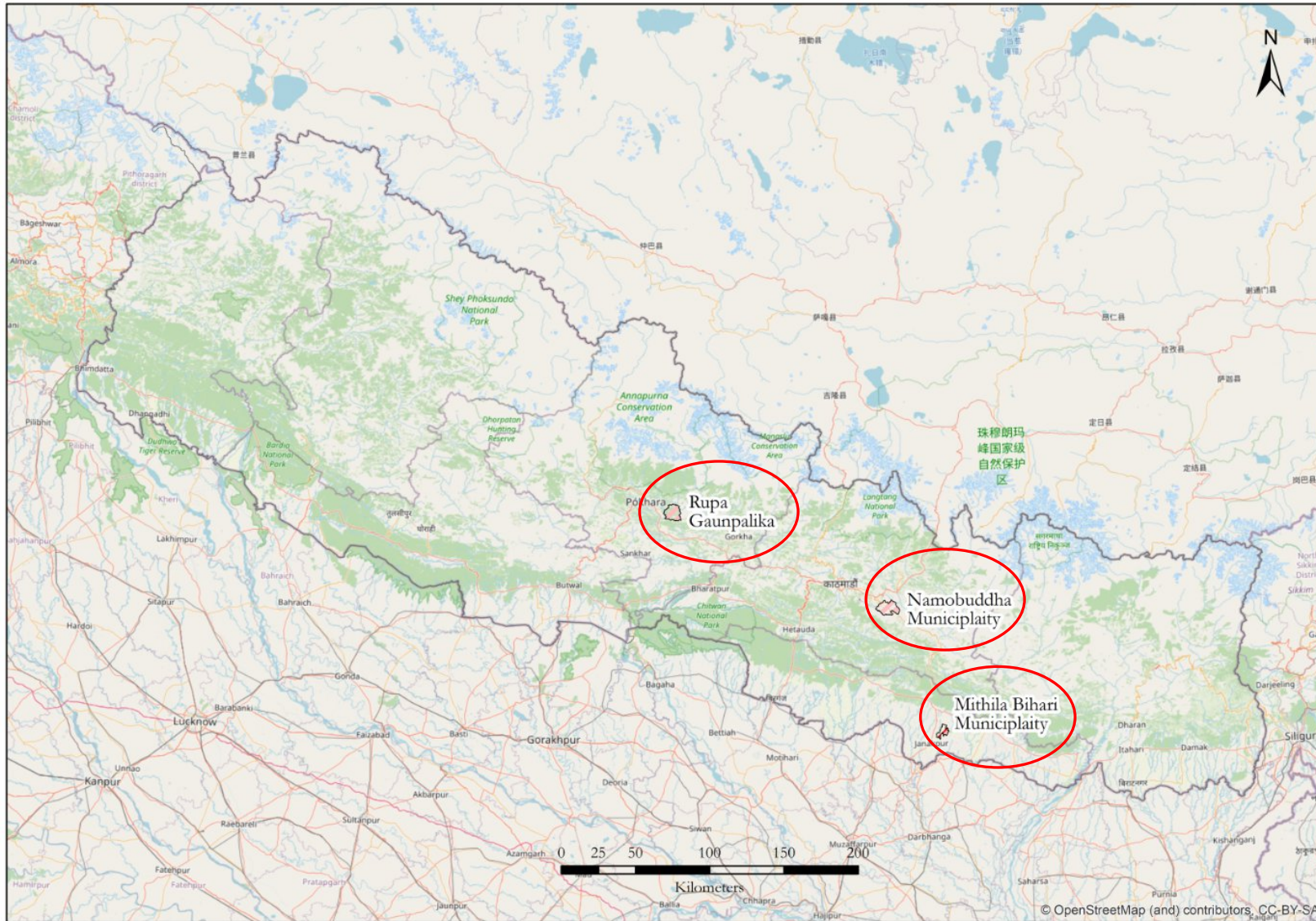


Source: <https://namobuddhamun.gov.np/>

Mithila Bihari Municipality



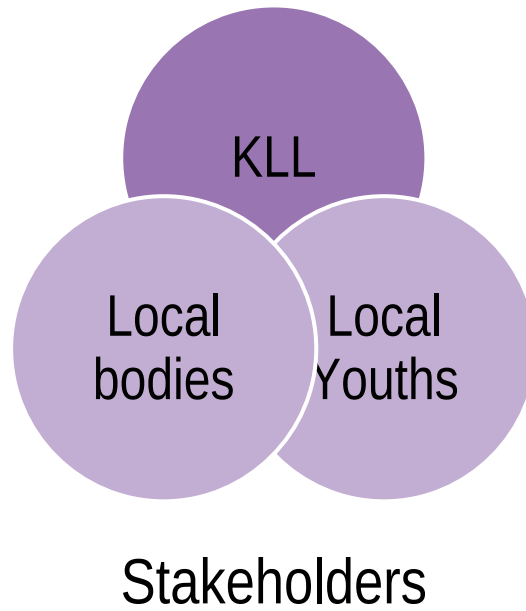
Source: <https://mithilabiharimun.gov.np/>



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



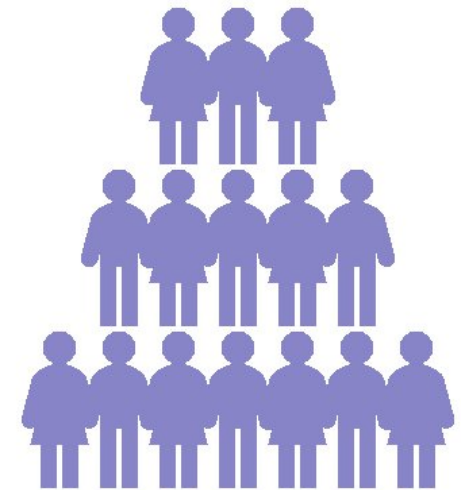
Mithila Bihari Municipality



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

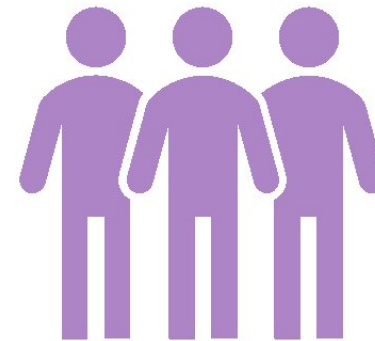


MAPPING TRAININGS: PHASE II

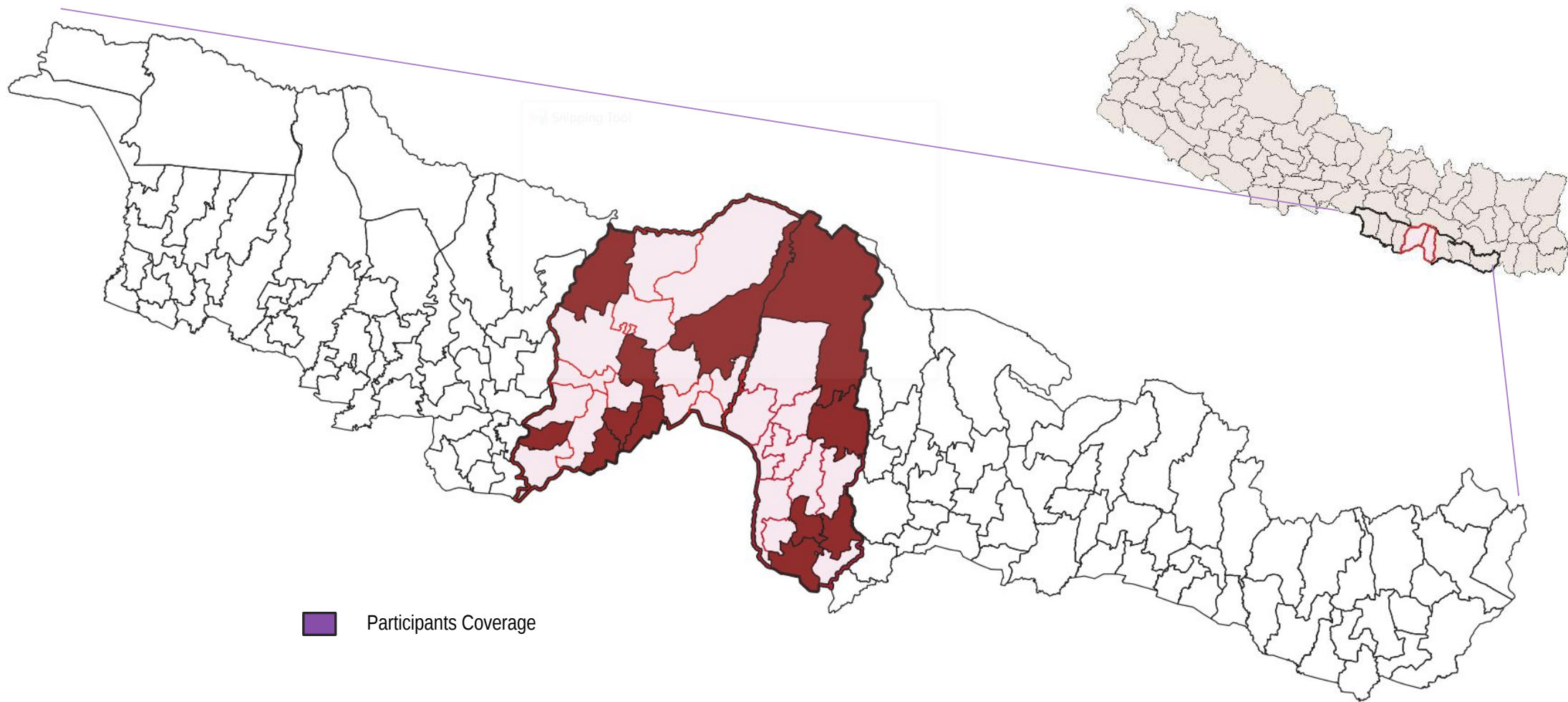
Two-day residential event:- **“Open Mapping for Sustainable Local Governance - Hands-on Workshop 2022”**



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



Participants:
12 Government IT Officers
of the Madesh Province



■ Participants Coverage

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, Madesh Province

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

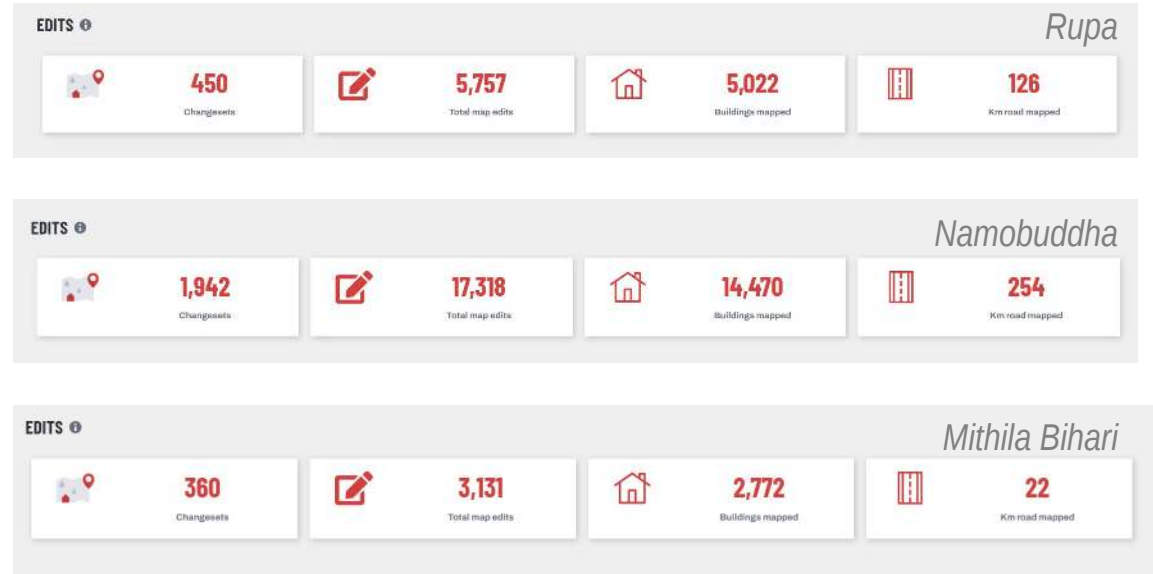
Remote Mapping



Buildings = 22K +



Roads = 402 km



5. DATA UPLOADS TO OSM

Field Mapping

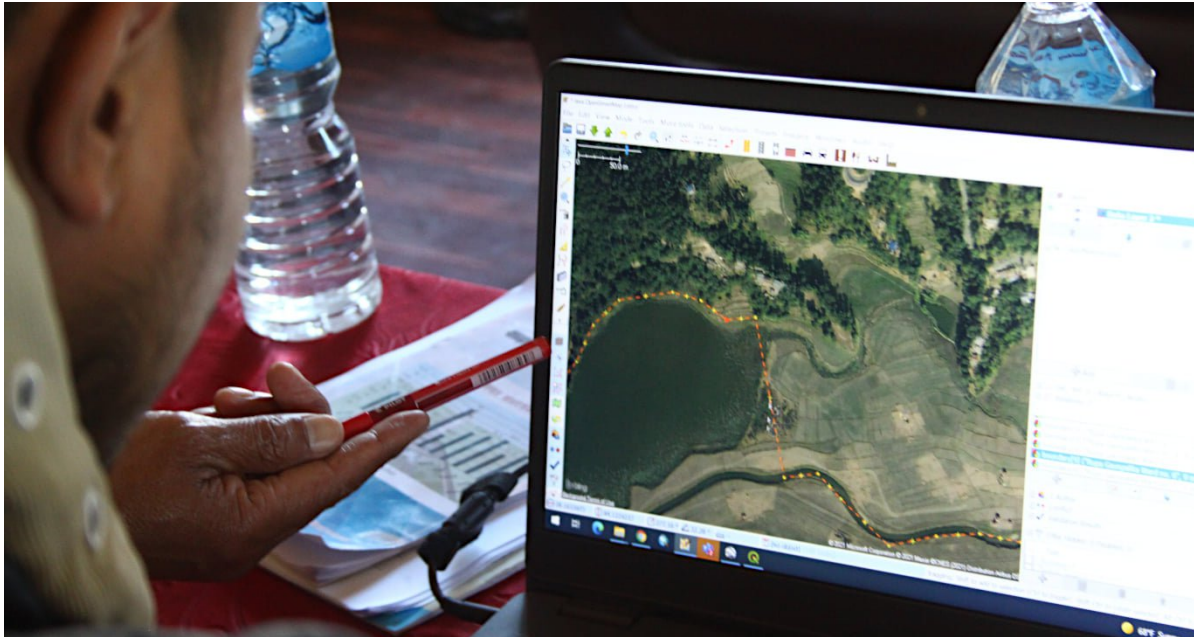


Points of Interest: **2283**

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



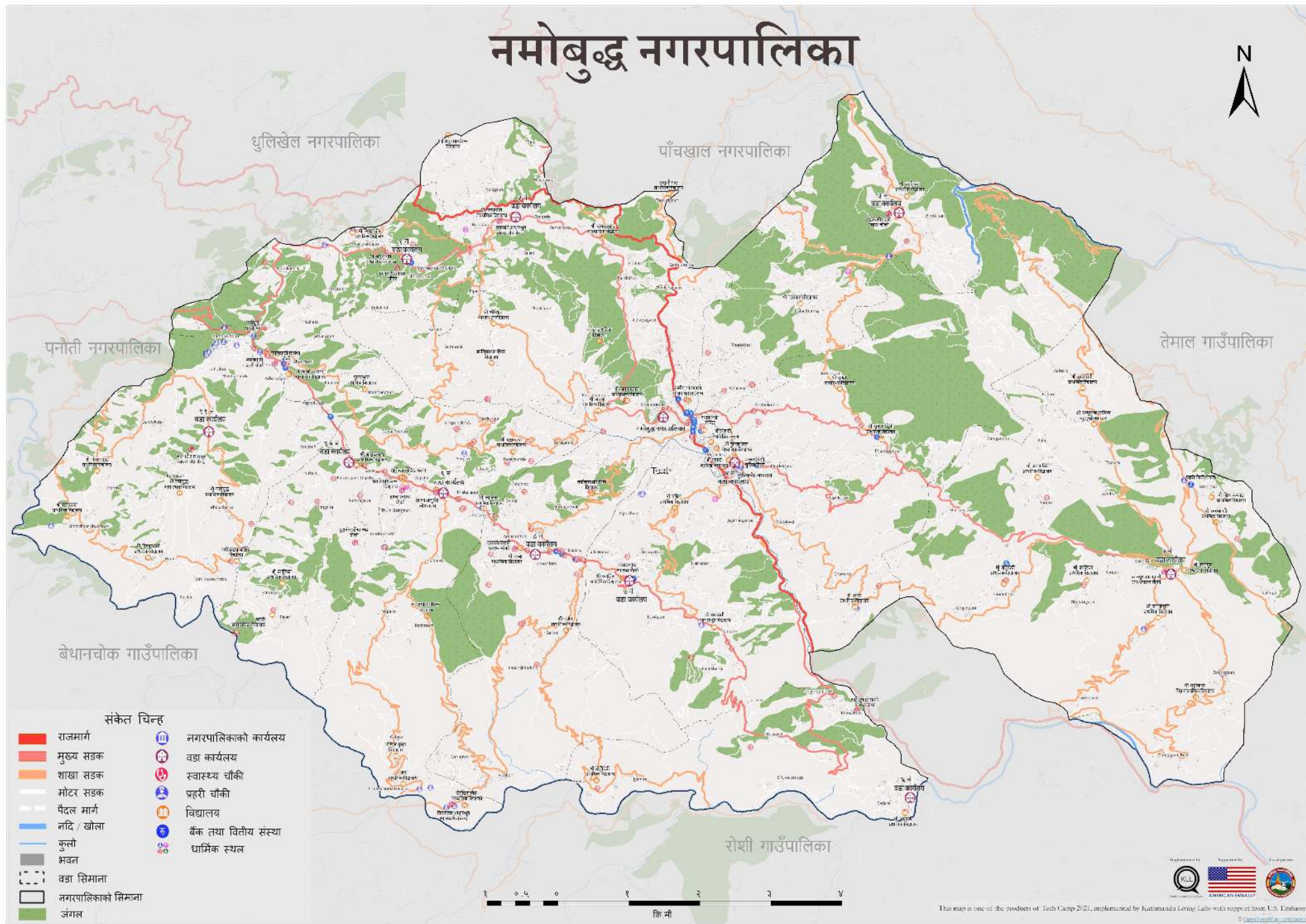
Correction of administrative boundary- ward level and municipal boundary in OSM with local representatives in Rupa

रूपा गाउँपालिका



Municipal map of Rupa Rural Municipality

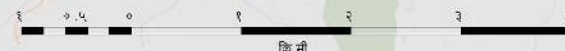
नमोबुद्ध नगरपालिका



Municipal map of **Namobuddha Municipality**

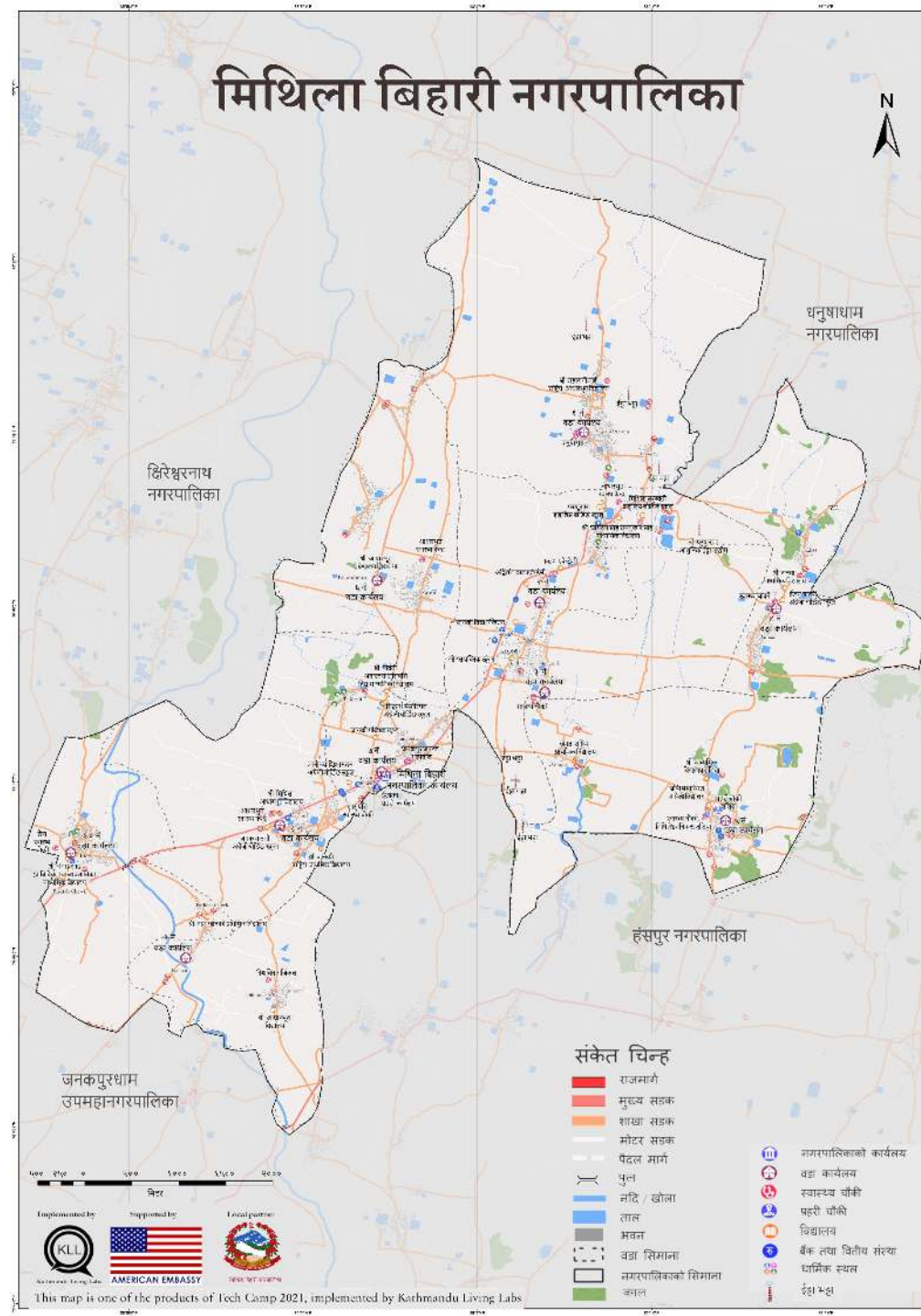
संकेत चिन्ह

- | | | | |
|--|--------------------|--|-------------------------|
| | राजमार्ग | | नगरपालिकाको कार्यालय |
| | मुख्य सडक | | वडा कार्यालय |
| | शाखा सडक | | स्वास्थ्य चौकी |
| | मोटर सडक | | प्रहरी चौकी |
| | पैदल मार्ग | | विद्यालय |
| | नदि / खोला | | बैंक तथा वित्तीय संस्था |
| | कुलो | | धार्मिक स्थल |
| | भवन | | |
| | वडा सिमाना | | |
| | नगरपालिकाको सिमाना | | |
| | जंगल | | |

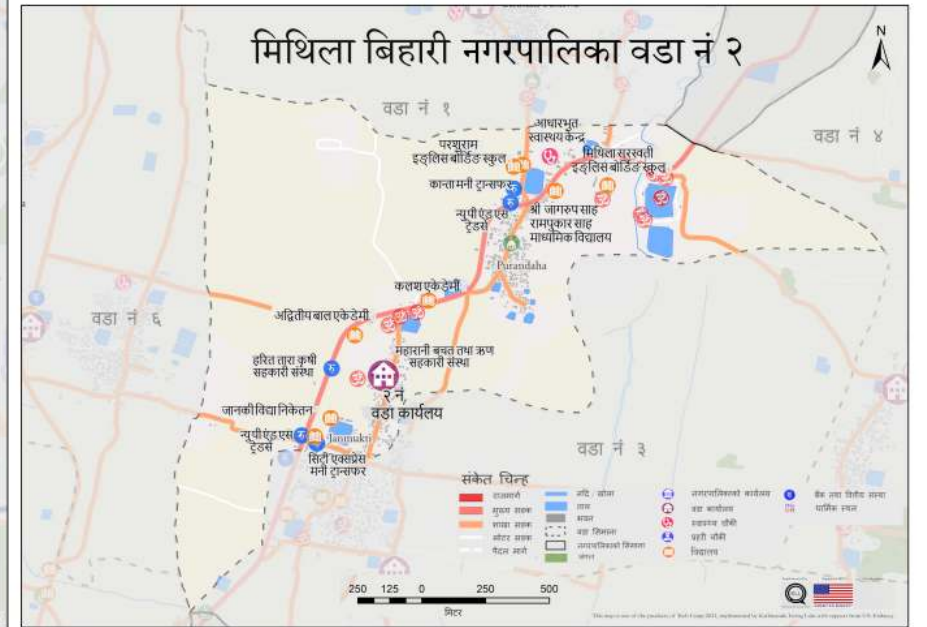
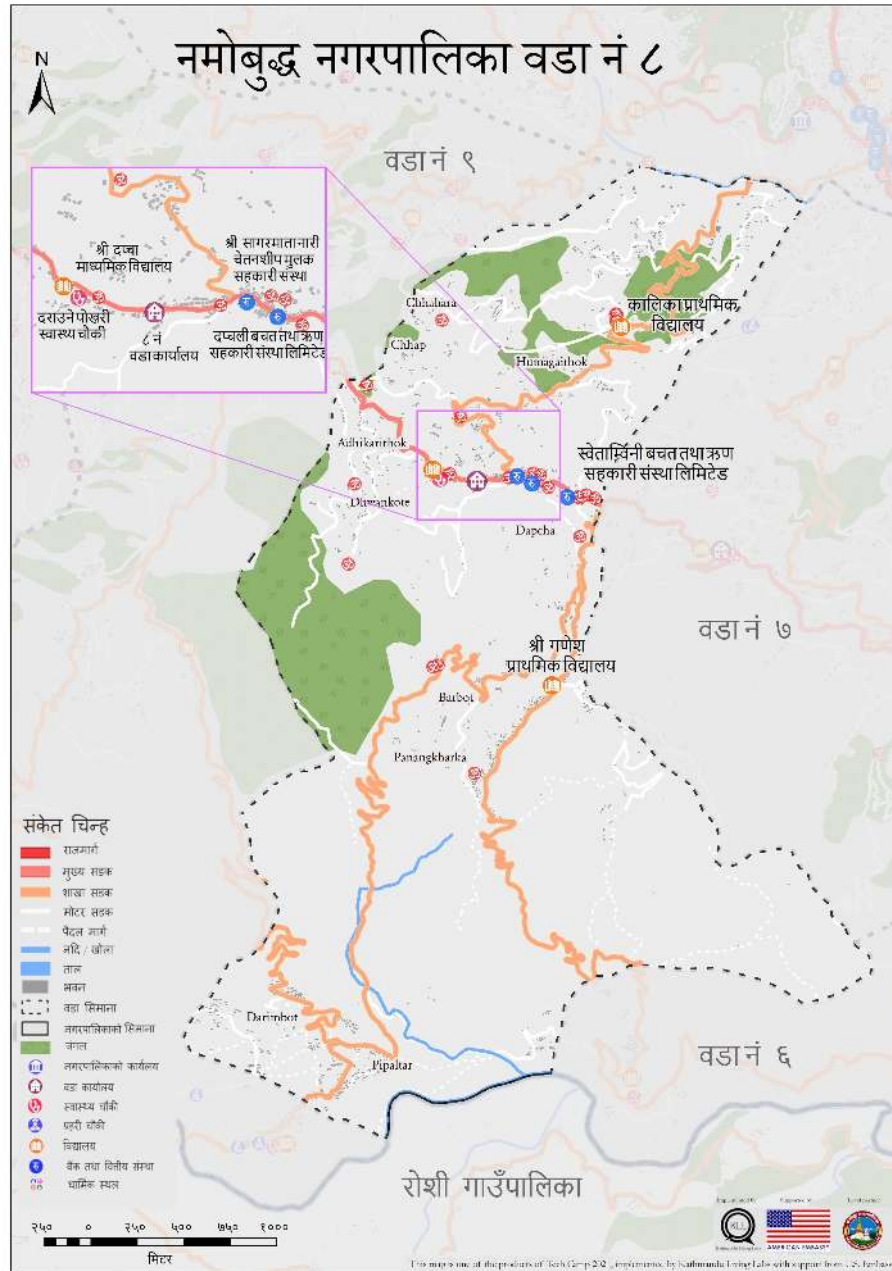


This map is one of the products of Tech Camp 2021, implemented by Katmandu Living Labs with support from U.S. Embassy

Municipal map of
Mithila Bihari Municipality



Ward level maps



7. HANDOVER

Map-products handed over to local bodies





Mithila Bihari Municipality

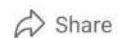
3 Aug · 🌐

यस मिथिला बिहारी नगरपालिका र अन्तर्गतको सबै वडामा Mapping कार्यको लागि Kathmandu Living Labs ले Open Street Mapping सम्बन्धी सम्पूर्ण काम समापन गरी हामीलाई विशेष सहयोग पुऱ्याउनु भएकोमा धेरै धेरै धन्यवाद । Kathmandu Living Labs जस्तो उत्कृष्ट संस्था संग काम गर्न पाउनु पक्कै 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 समष्टिगत Digital Printed Map को बारेमा जानकारी लिनु हुदै ।



👍❤️ 166

23 comments · 8 shares



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

संसाधनहरू

सूचना तथा गतिविधि

नक्सा

नेपालगञ्ज उपमहानगरपालिका

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
- संसाधनहरू
- सूचना तथा गतिविधि
- नक्सा

२०७४/७५

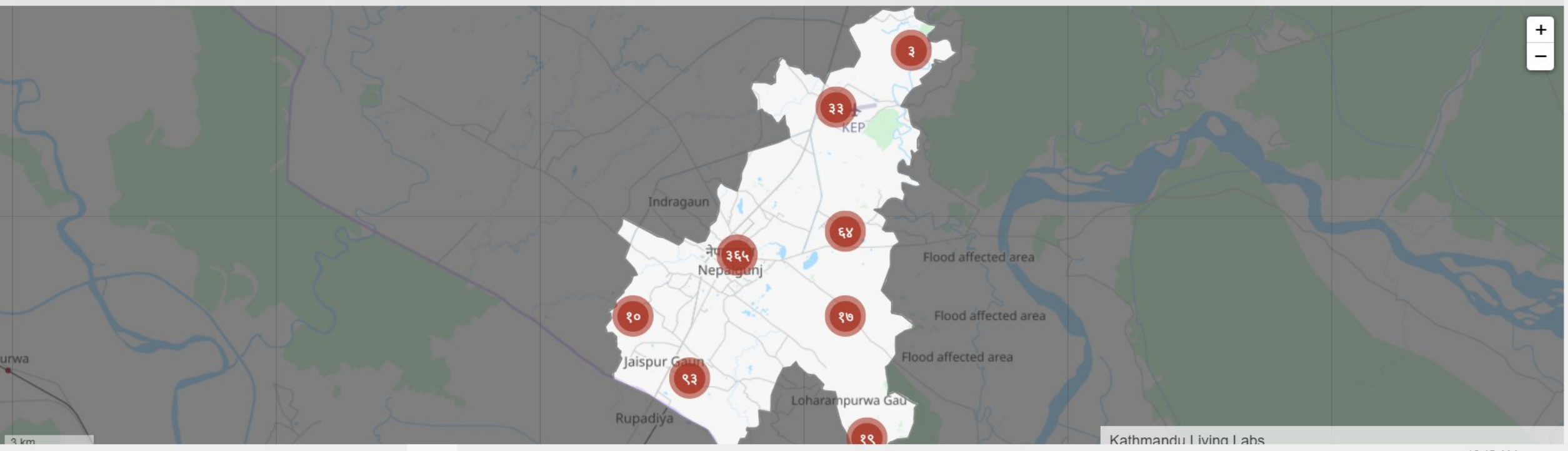
सूची नक्सा

शीर्षकहरू छान्नुहोस्
सबै शीर्षकहरू

उपशीर्षकहरू छान्नुहोस्
सबै उपशीर्षकहरू

वडा छान्नुहोस्
सबै वडा

बजेट छान्नुहोस्
सबै बजेट

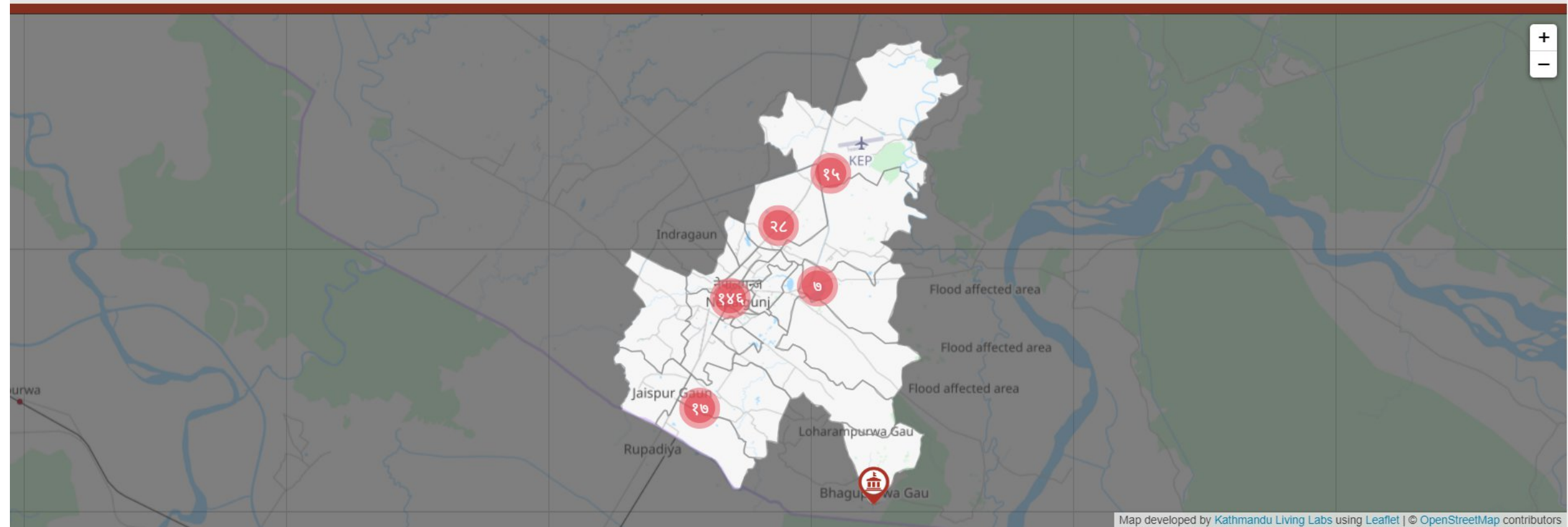




नेपालगञ्ज उपमहानगरपालिका

बाँके, प्रदेश नं ५

गृहपृष्ठ प्रोफाइल बजेट परियोजनाहरू सेवाहरू संसाधनहरू सूचना तथा गतिविधि **नक्सा**



नेपालगञ्ज उपमहानगरपालिका
बाँके, प्रदेश नं ५

गृहपृष्ठ प्रोफाइल बजेट परियोजनाहरू सेवाहरू संसाधनहरू सूचना तथा गतिविधि नक्सा

प्रोफाइल


नगरपालिका प्रोफाइल

नगरकार्यपालिकाका सदस्यहरू


नगरसभाका सदस्यहरू

नगरपालिकाका फर्मघारीहरू


कार्यपालिका (नगरपालिका बोर्ड)




डा. धवल शम्शेर राणा
नगर प्रमुख



उमा थापा मगर
नगर उपप्रमुख



प्रमोद रिजाल
वडा अध्यक्ष
वडा नं १



सुनिल सिंह हमाल
वडा अध्यक्ष
वडा नं २

नेपालगञ्ज उपमहानगरपालिका
बाँके, प्रदेश नं ५

गृहपृष्ठ प्रोफाइल बजेट परियोजनाहरू सेवाहरू संसाधनहरू सूचना तथा गतिविधि नक्सा

बजेट

आर्थिक वर्ष २०७५/७६ को आय तथा व्यय विवरण

रु. १६,५७,८९६

कुल अनुमानित आय

रु. ६,९१,४२८

कुल अनुमानित व्यय

६६१

जम्मा परियोजना संख्या

आय विवरण	व्यय विवरण	योगदान (%)
(+) राजस्व	रु. १६,०६,४५४	९६.९०%
(+) अन्तर सरकारी वित्तीय हस्तान्तरण:	रु. ५०,६४२	३.०५%
(+) जनसहभागिता:	रु. ८००	०.०५%

नेपालगञ्ज उपमहानगरपालिका
बाँके, प्रदेश नं ५

गृहपृष्ठ प्रोफाइल बजेट परियोजनाहरू सेवाहरू संसाधनहरू सूचना तथा गतिविधि नक्सा

सेवाहरू

स्वीकृत

प्र. नामा

आयस्य

रिष रिपय

अपय

हाम्रा सेवाहरू

तपाईंले फारमुलहरूको सेवाको विवरणको लागि टिप्पणी गर्नु हुनेछ।

तपाईंको सेवाहरूको लागि तपाईंले निम्न जानकारी पठाउनुहोस्

- सेवा प्राप्त गर्ने प्रक्रिया
- सेवा प्राप्त नगरेको लागि आवश्यक कारणहरू
- सेवा प्राप्त गर्ने ताम्रो लागू
- सेवा प्रदायकको विवरण
- सेवा शुल्क

कुनै पनि सेवाको लागि तपाईं आफ्नो प्रतिक्रिया दिन सक्नुहुनेछ।

नेपालगञ्ज उपमहानगरपालिका
बाँके, प्रदेश नं ५

गृहपृष्ठ प्रोफाइल बजेट परियोजनाहरू सेवाहरू संसाधनहरू सूचना तथा गतिविधि नक्सा

संसाधनहरू

नागरिक सभापत्र

कार तथा सल्लाहकार

नीति तथा कार्यक्रम

निर्वाहक

सूचना तथा गतिविधि

सेवा तथा फारमुल

निर्देशको शिवा

संसाधनहरू

तपाईंले फारमुलहरूको संसाधनको लागि टिप्पणी गर्नु हुनेछ।

तपाईंको संसाधनहरूको लागि तपाईंले निम्न जानकारी पठाउनुहोस्

- समाधान प्राप्त गरिएको ब्यापार र अन्य जानकारी
- सल्लाहको गतिबिधि दिनुपर्नेहरू
- समाधान सम्बन्धी जानकारी

कुनै पनि संसाधनहरूको लागि तपाईं आफ्नो प्रतिक्रिया दिन सक्नुहुनेछ।

नेपालगञ्ज उपमहानगरपालिका
बाँके, प्रदेश नं ५

गृहपृष्ठ प्रोफाइल बजेट परियोजनाहरू सेवाहरू संसाधनहरू सूचना तथा गतिविधि नक्सा

सूचना तथा गतिविधि

मानव बेचबिखन, बाल विवाह, चाल श्रम विरुद्ध कार्यशाला !

नेपालगञ्ज उपमहानगरपालिकाको आर्थिक विकास, मानव बेचबिखन, बाल विवाह, चाल श्रम विरुद्ध कार्यशाला सम्पन्न गरियो।

नेपालगञ्ज उपमहानगरपालिकाको आर्थिक विकास, मानव बेचबिखन, बाल विवाह, चाल श्रम विरुद्ध कार्यशाला सम्पन्न गरियो।

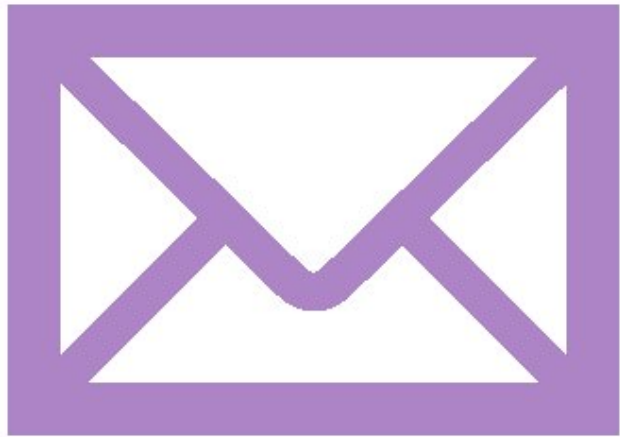
नेपालगञ्ज उपमहानगरपालिकाको आर्थिक विकास, मानव बेचबिखन, बाल विवाह, चाल श्रम विरुद्ध कार्यशाला सम्पन्न गरियो।

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.