



Review and Consultation Workshop

Preparation of Multi-Hazard District Disaster Management Plan (DDMP)

Banka and Bhagalpur Districts: Dr. Shankar Dayal

Begusarai and Khagaria Districts: Dr. Madhubala

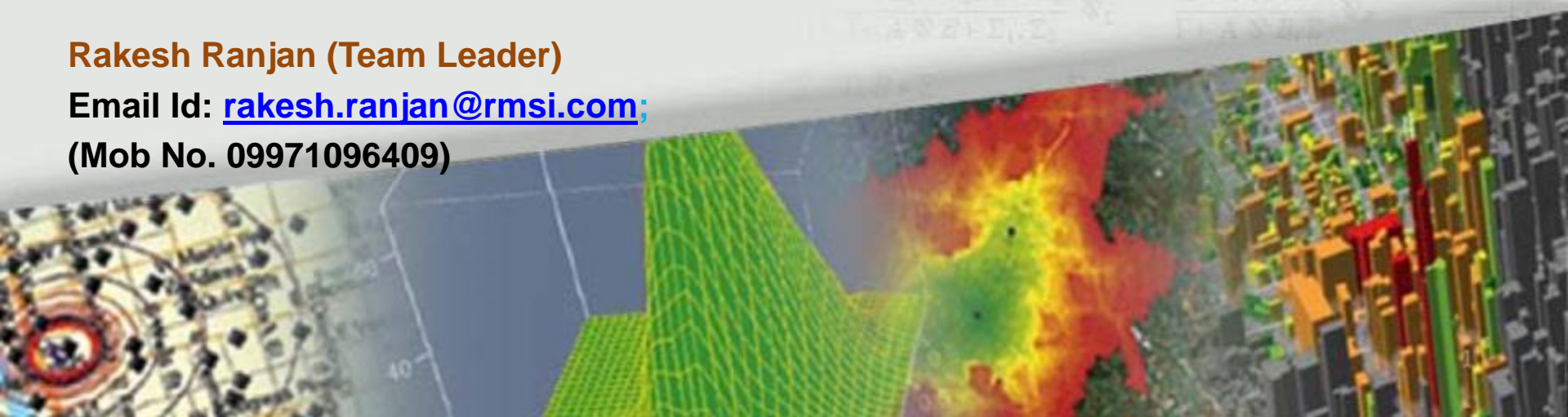
Venue: Ashoka Hall, Hotel Maurya, Patna, Bihar

06-07 January 2016

Rakesh Ranjan (Team Leader)

Email Id: rakesh.ranjan@rmsi.com;

(Mob No. 09971096409)



Incorporation of suggestions during Inception Workshop

- District wise submission of Inception Report to BSDMA
- Common Framework for Inception Report
- Various thematic maps including hazard, vulnerability and risk from authentic sources
- Various aspects related to important historical heritage sites, and livestock getting affected due to disaster
- Consultation of key stakeholders in DDMP preparation process

Highlights of District level consultation

- Stakeholders consultation meetings held in all four districts-Banka, Begusarai, Bhagalpur and Khagaria under chairmanship of DM
- Participation of Officials from the concerned line departments in an interactive session
- Discussed about disaster situation in the districts
- Discussed about disaster preparedness, response and mitigation measures in the districts
- Discussed about DDMP preparation process
- Capacity and Need assessment of the stakeholders in a structured questionnaire format
- One to one consultation with concerned line departments

Highlights of stakeholder consultations in 4 districts

Stakeholders	Issues discussed
Disaster Management Department	<ul style="list-style-type: none"> Disaster situation in the district and related issues- multi-hazard proneness of the district Role of district administration in handling the disaster events Level of disaster preparedness, response and mitigation in the current situation
Flood Control Division	<ul style="list-style-type: none"> Flood control measures and preparedness to handle the flood situation arisen due to bank cutting by the Kosi and Ganga Rivers in Bhagalpur. E.g. Engineering college, DPS and adjoining areas got affected due to bank cutting by River Ganga almost every year in Bhagalpur town
Police	<ul style="list-style-type: none"> Safety measures and security arrangements made to manage crowds during Shravani mela, Bausi mela, and mela near Teldiha in Banka and other districts.
PHED	<ul style="list-style-type: none"> Drinking water facilities available in the district and measures taken to facilitate drinkable water in the hand pumps during floods
Telecom/BSNL	<ul style="list-style-type: none"> Communication situation during disaster e.g. flood and earthquake scenarios
Deptt of Electricity	<ul style="list-style-type: none"> Electricity supply and its restoration during pre and post disaster events
Deptt of Fire Services	<ul style="list-style-type: none"> Facilities available to tackle any situation arisen due to fire hazard
Hospital	<ul style="list-style-type: none"> Medical facilities and preparedness in the hospitals for pre & post disaster events
PRIs/ULBs (Most vulnerable GPs/Blocks)	<ul style="list-style-type: none"> Conducted sample surveys in the most vulnerable Blocks to find out Hazard, Risk and Vulnerability of the affected areas in an structured questionnaire and through one to one interactions with the officials and people

Field Visits and Stakeholder Meetings- Bhagalpur



Stakeholder Meeting at Bhagalpur



Flood vulnerable location: Bhagalpur Engineering College and DPS, Bhagalpur

Field Visits and Stakeholder Meetings- Bhagalpur



Flood Vulnerable location-Sahora village, Rangra Block, Bhagalpur



Flood vulnerable location- Madrauni Village, Rangra Block, Bhagalpur



Field Visits and Stakeholder Meetings- Khagaria



30.08.2015 12:09



Balha Khir, Chautham Block, Khagaria



30.08.2015 12:21

Stakeholder Meeting at Khagaria



Marar, Mansi Block, Khagaria



Field Visits and Stakeholder Meetings- Khagaria



Accident prone- People crossing river on boat- with the help of rope tied across the banks

Flood vulnerable location near
Kosi River- Gogri block, Khagaria



Field Visits and Stakeholder Meetings- Begusarai



Stakeholder Meeting at Begusarai



"Raised platform" on embankment to keep vigil on water level rise in the river during monsoon, Bachhwara Block, Begusarai



Embankment on River Ganga, Bachhwara Block, Begusarai

Field Visits and Stakeholder Meetings- Begusarai



Flood prone area, Amarapur, Begusarai



Field survey in Madhepura, Begusarai



Embankment, Teghra-Bachhwara Block, Begusarai

Field Visits and Stakeholder Meetings- Banka



Hanumana Dam on River Badua, near Suiya Banka (Irrigation)



Stakeholder Meeting at Banka



Odhani Dam on River Odhani, Banka

Field Visits and Stakeholder Meetings- Banka



Bausi mela site, Banka



Interaction with villagers in Banka

Arrangements made from District Administration to manage crowd/ Kawarias during Shravani Mela at Katoria, Banka District



Guidelines from District Administration Medical facilities for the Kawarias during Mela in nearby hospital at Katoria



Facilitation centre in camp



Water Sanitation facility in the camp

Government Dharmshala available for the Kawarias during Mela near Katoria

Blocks visited

- **Banka:** Banka, Amarpur, Belhar, Bausi, Katoria, and Sambhuganj (6 out of 11 Blocks)
- **Begusarai:** Begusarai, Bachhwara, Teghra, Bhagwanpur, Barauni, Balia, Nao Kothi, and Birpur (8 out of 18 Blocks)
- **Bhagalpur:** Narayanpur, Bihpur, Kharik, Naugachhia, Rangra Chowk, Gopalpur, Sabour, and Pirpaintti (8 out of 16 Blocks)
- **Khagaria:** Khagaria, Chautham, Mansi, Gogri, and Parbatta (5 out of 7 Blocks)

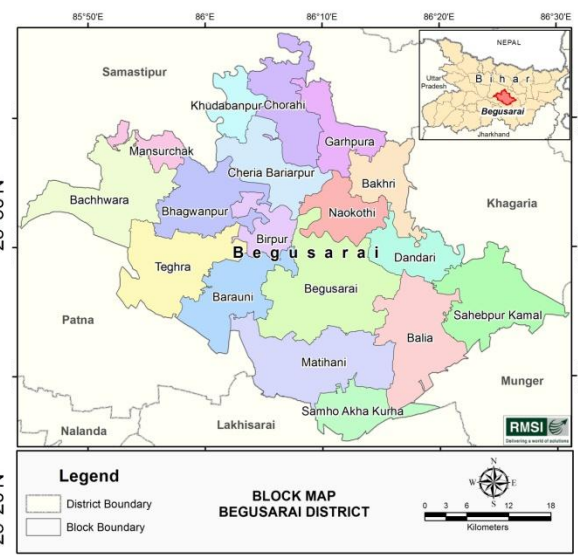
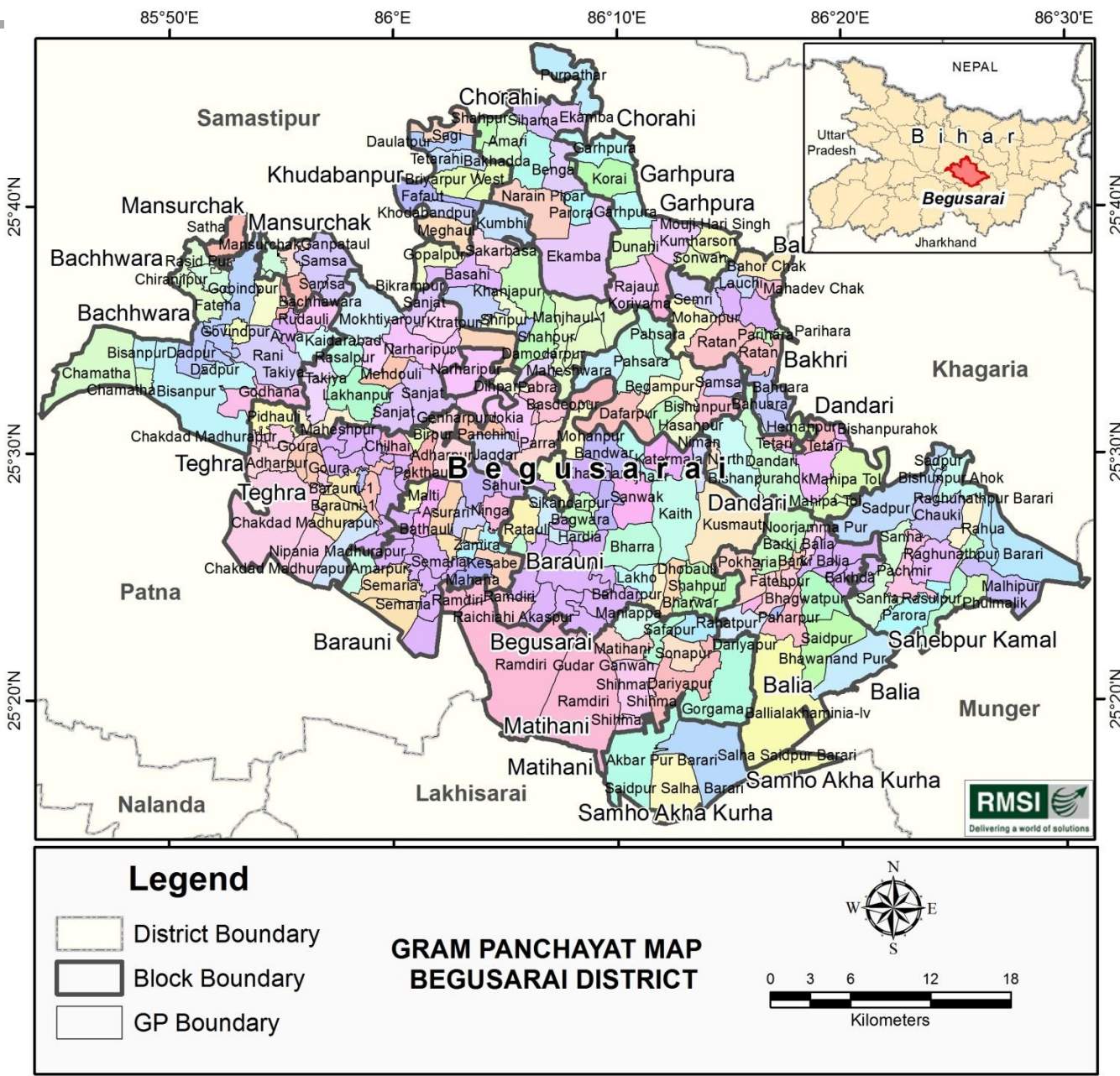
Highlights of Activities undertaken in the districts

Important Aspects	Activities Undertaken
HRVCA	<ul style="list-style-type: none"> ❖ Identification through field visits, and consultations ❖ Sensitization through consultation ❖ Seeking response/feedback through structured questionnaire ❖ Index-based analysis and GIS mapping at Gram Panchayat level
Environment & CCA	❖ Assessment of climate data and measures for CCA
Prevention	❖ Consultation of stakeholders to understand prevention measures taken
Preparedness	❖ Consultation of various line departments/ stakeholders to understand preparedness
Mitigation, Risk Reduction, Response, Relief	❖ Consultation of various stakeholders/line departments
Recovery (Short, Medium & Long Term)	❖ Consultation of stakeholders/line departments at district and State levels
Rehabilitation	❖ Consultation of concerned stakeholders;
<i>Cross – cutting Issues</i>	
Training & Capacity Building	❖ Consultation of concerned line departments/ stakeholders through structured questionnaire
Gender	❖ Consultation of stakeholders and through local surveys
Differently Abled	❖ Consultation of stakeholders and through local surveys

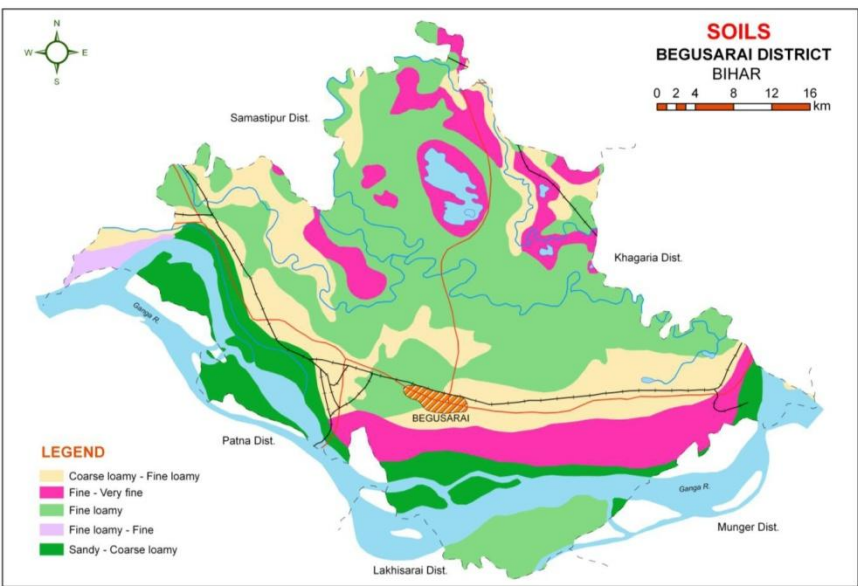
List of Hazards districts face

- ❖ Flood
- ❖ Drought
- ❖ Earthquake
- ❖ Strong winds/Cyclone
- ❖ Cold waves/Heat strokes
- ❖ Fire
- ❖ Crowd/Stampede
- ❖ Road/Rail Accidents
- ❖ Epidemic
- ❖ Industrial/Chemical Hazards
- ❖ Lightning

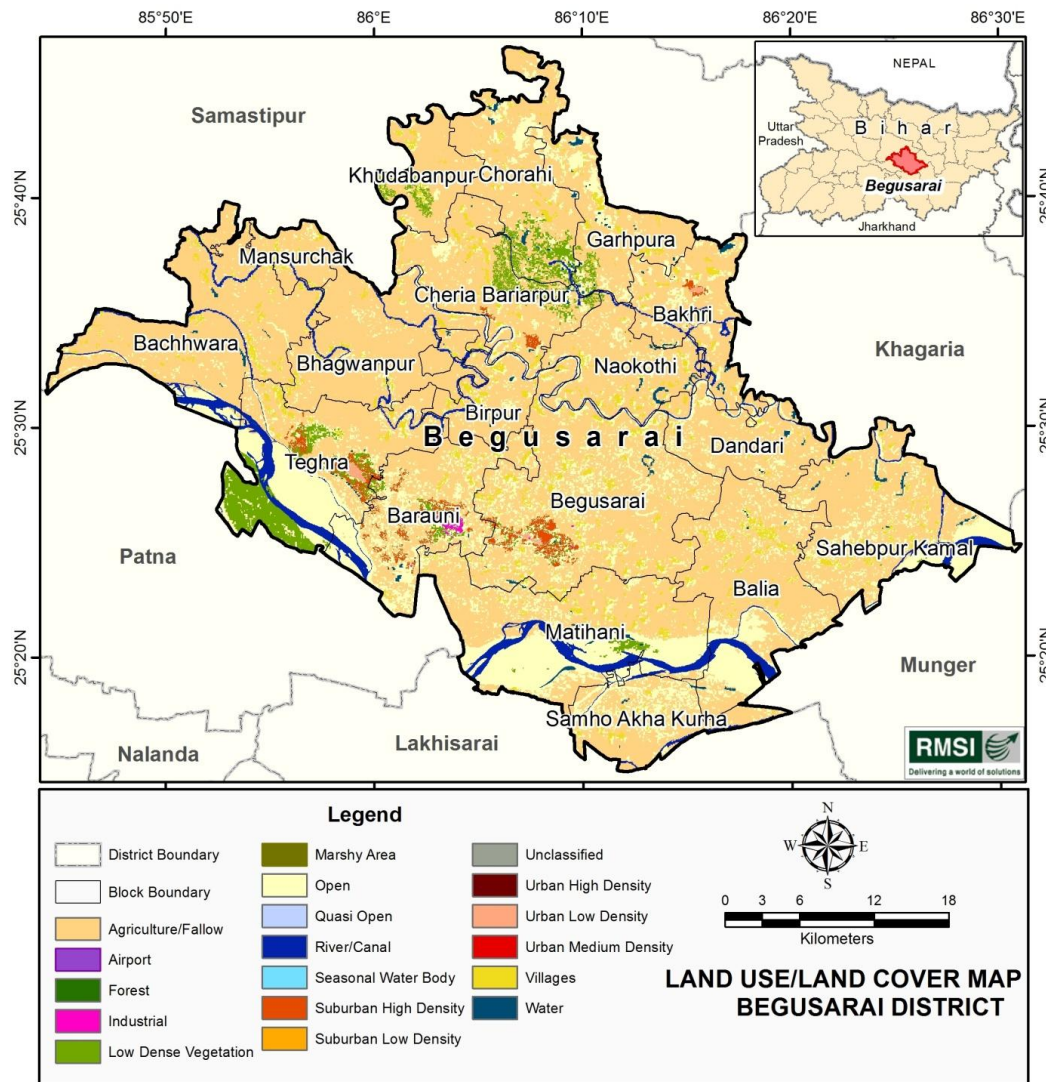
GIS Maps for Begusarai district



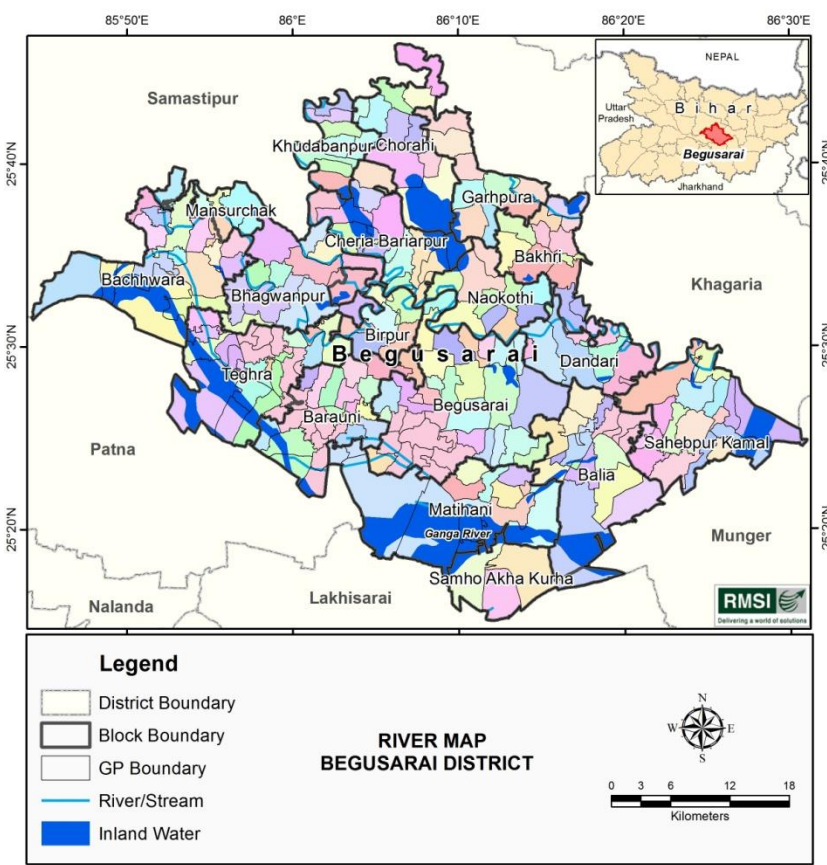
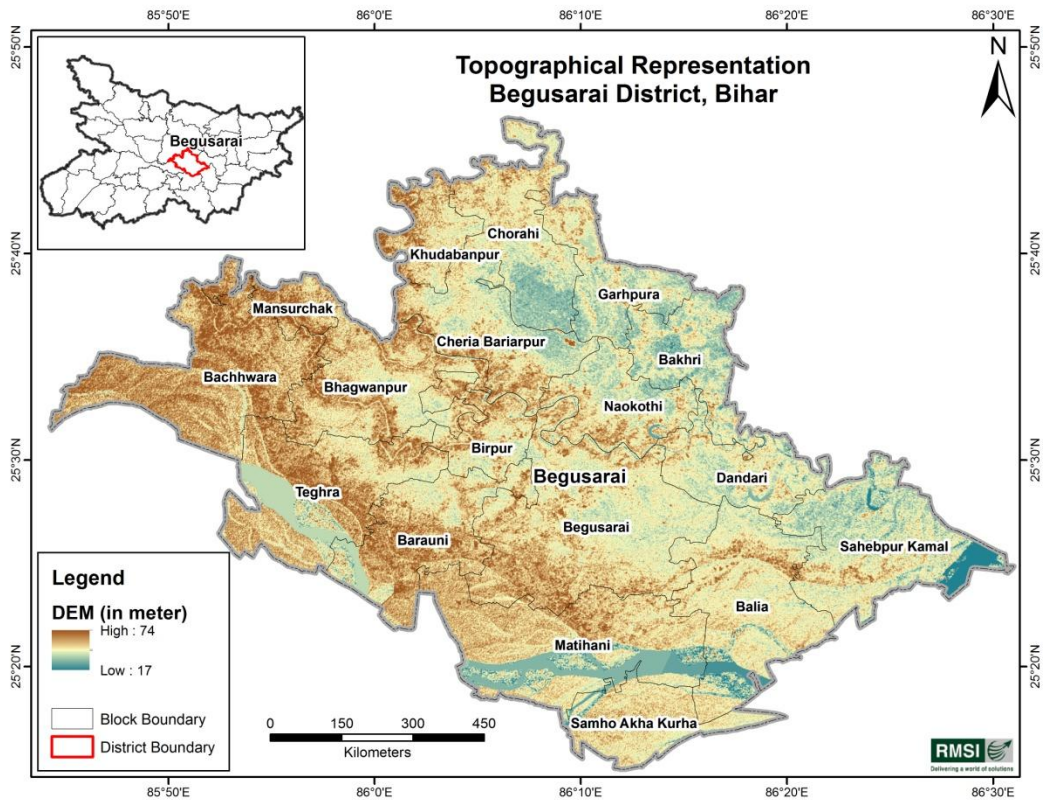
GIS Maps for Begusarai district



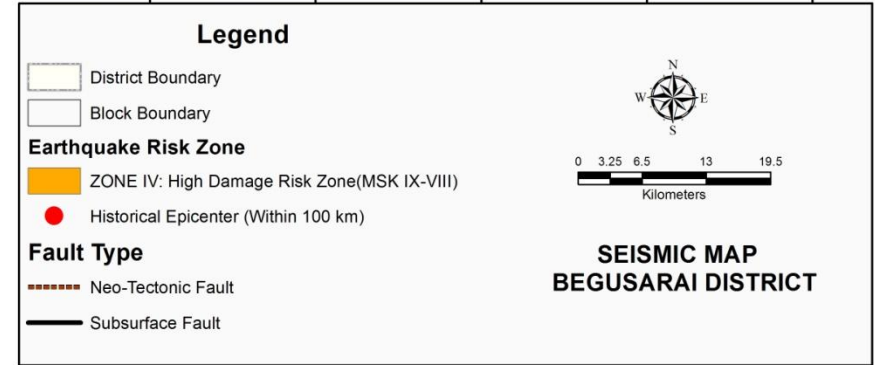
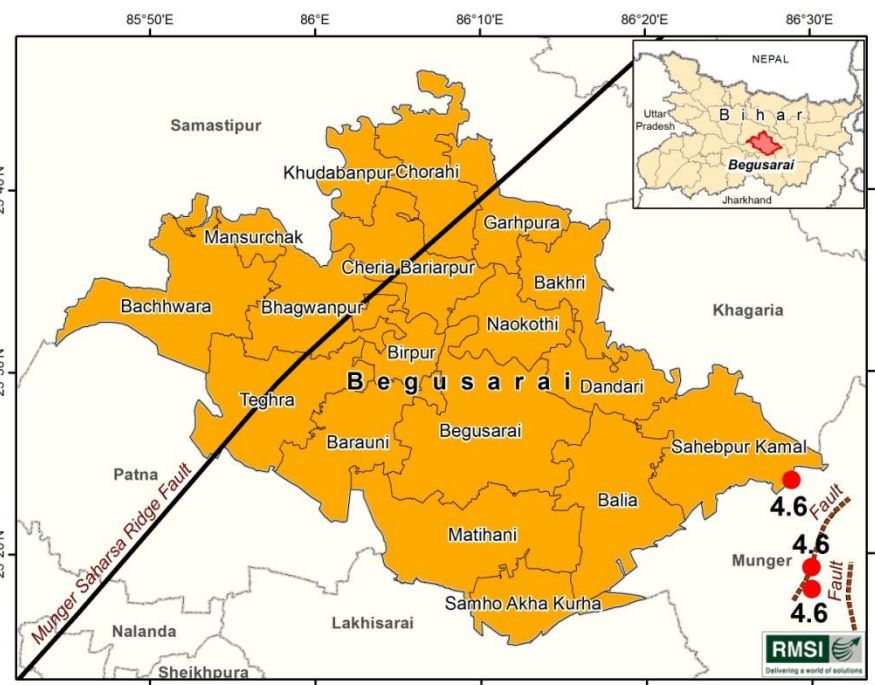
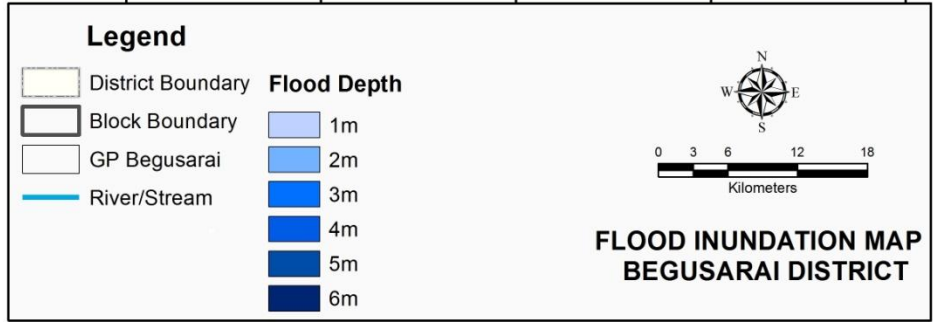
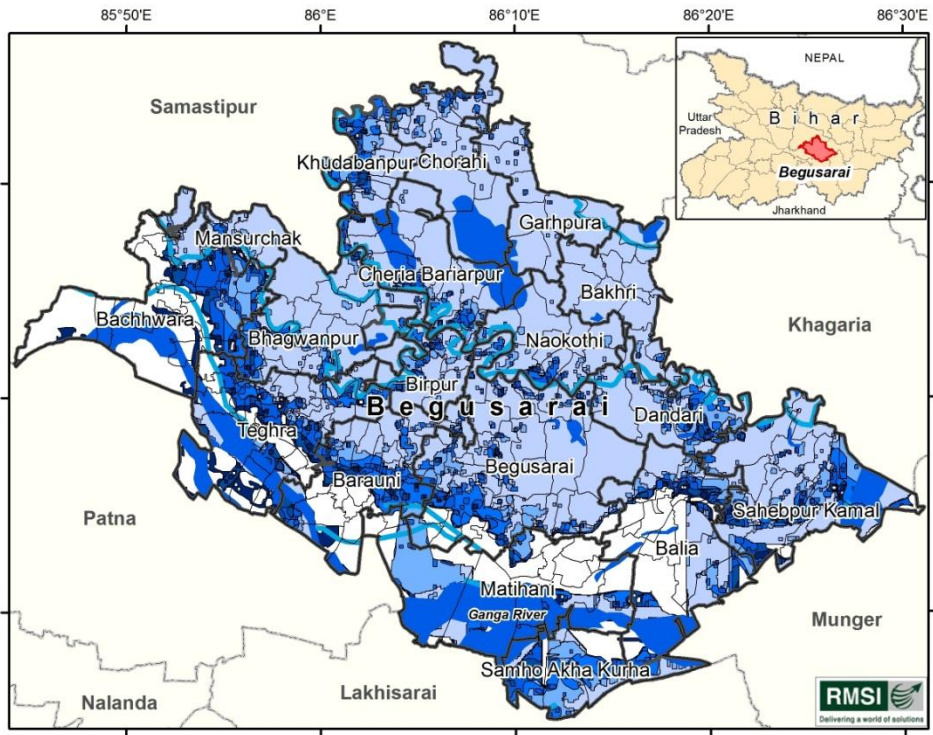
Source: NBSS & LUP, Kolkata



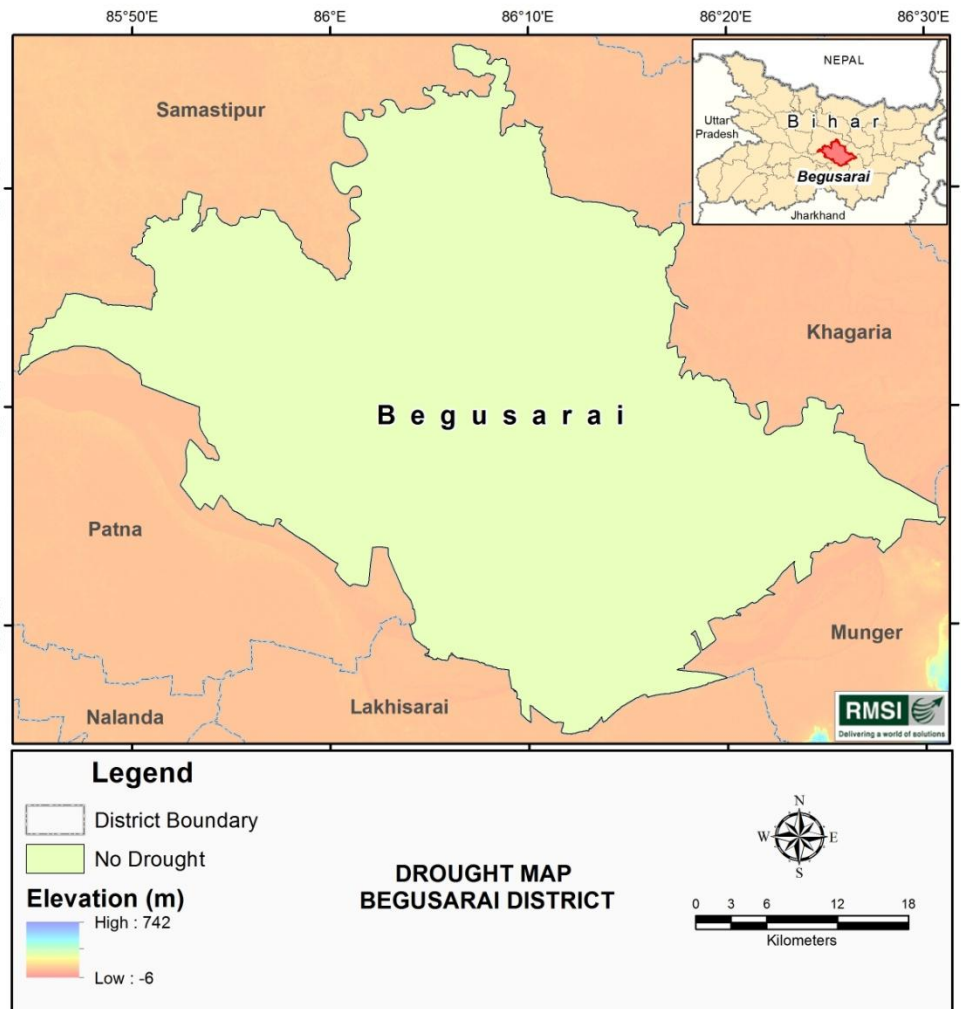
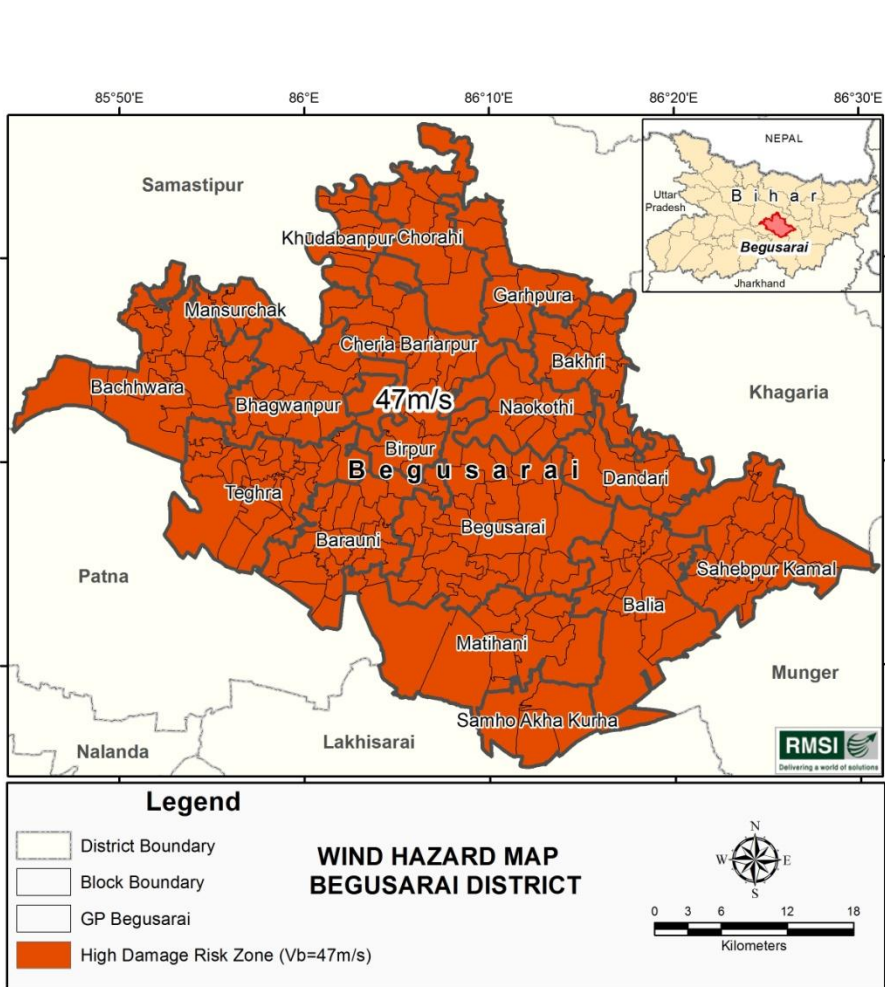
GIS Maps for Begusarai district



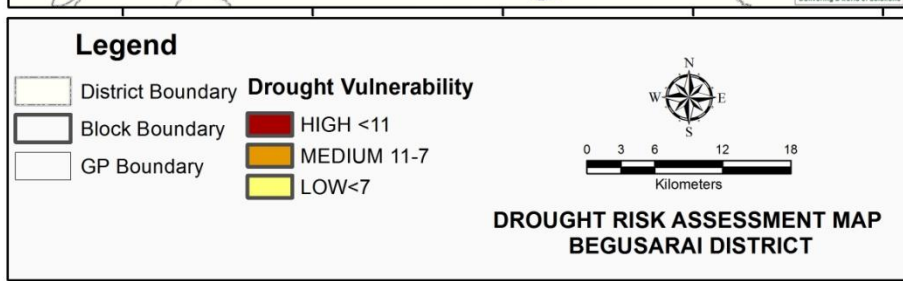
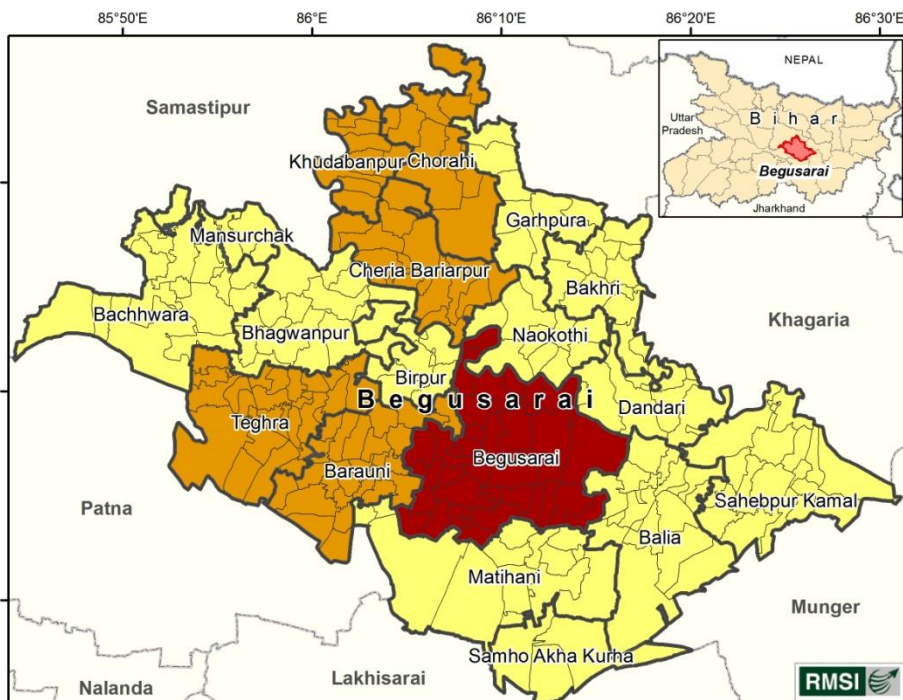
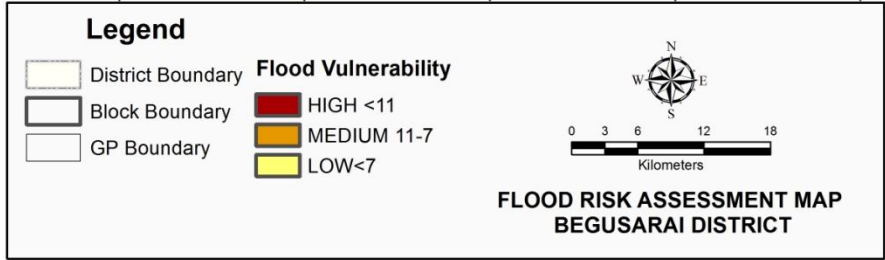
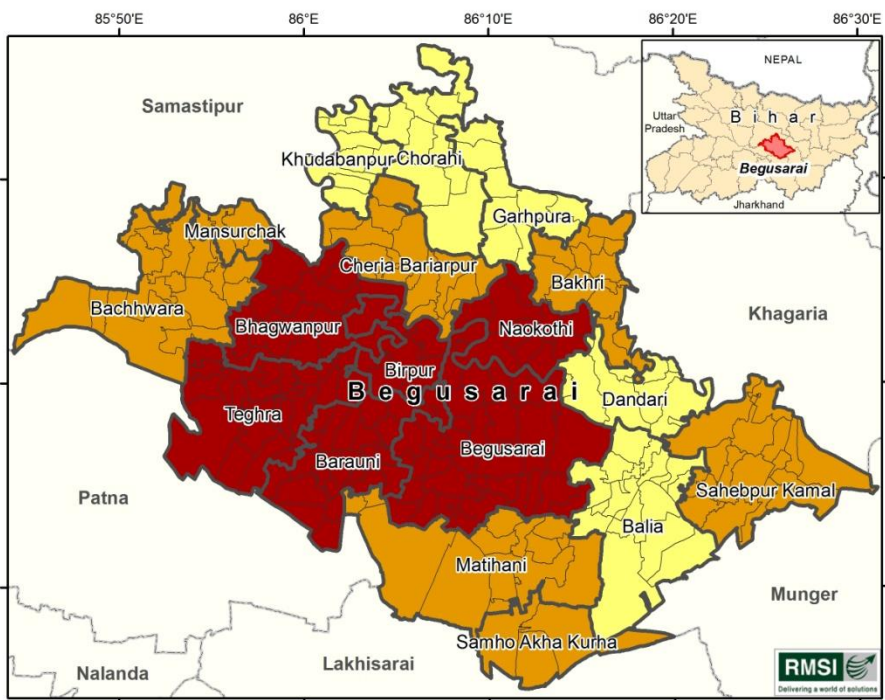
GIS Maps for Begusarai district



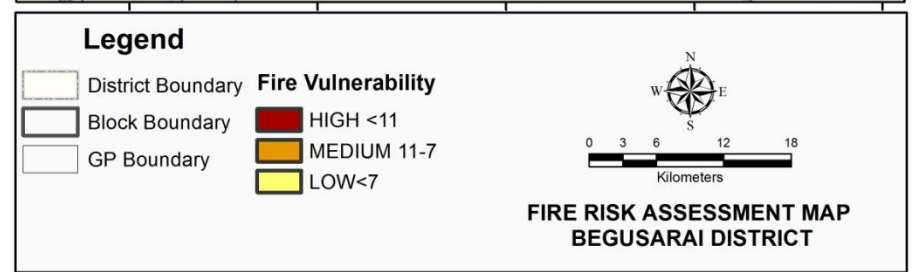
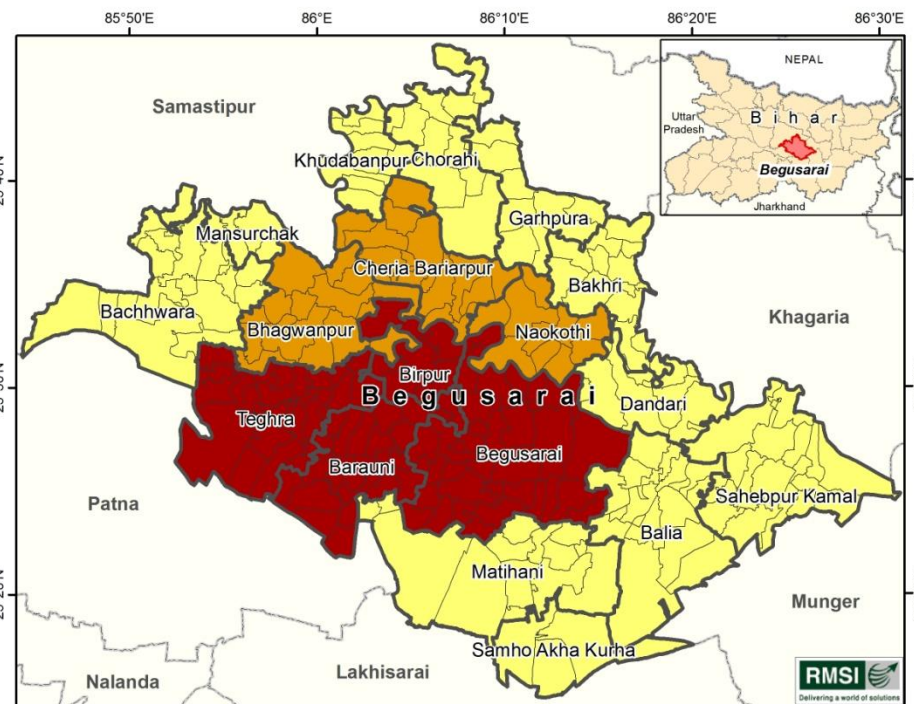
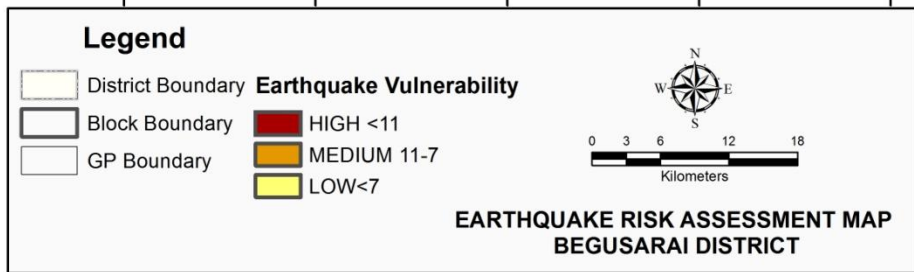
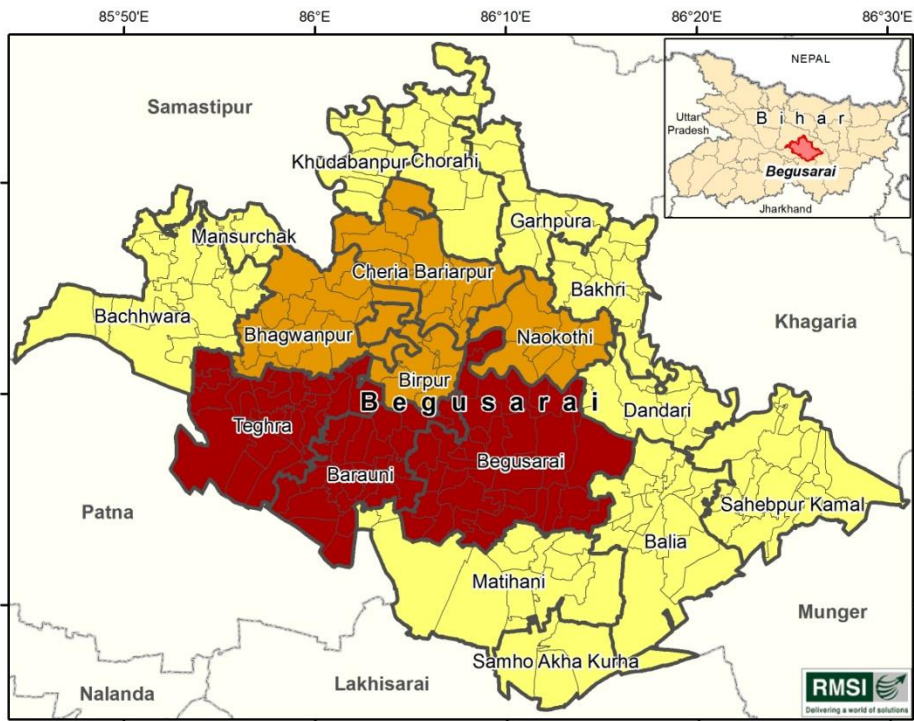
GIS Maps for Begusarai district



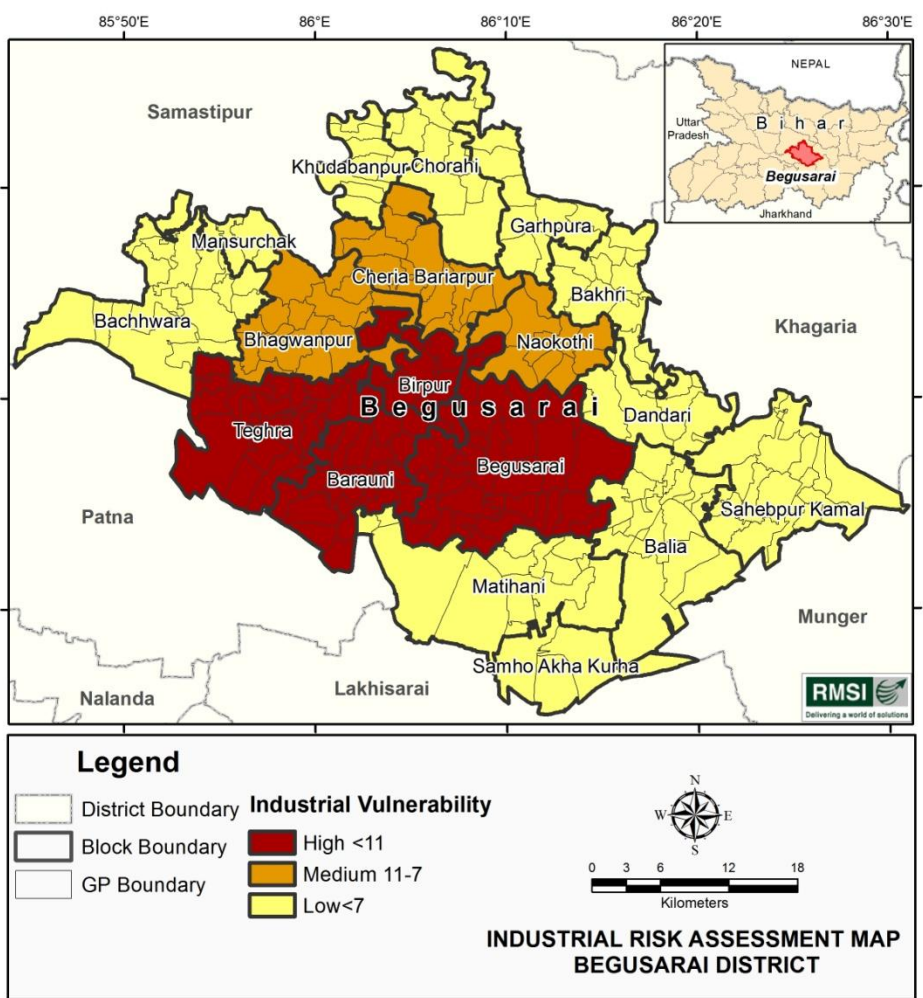
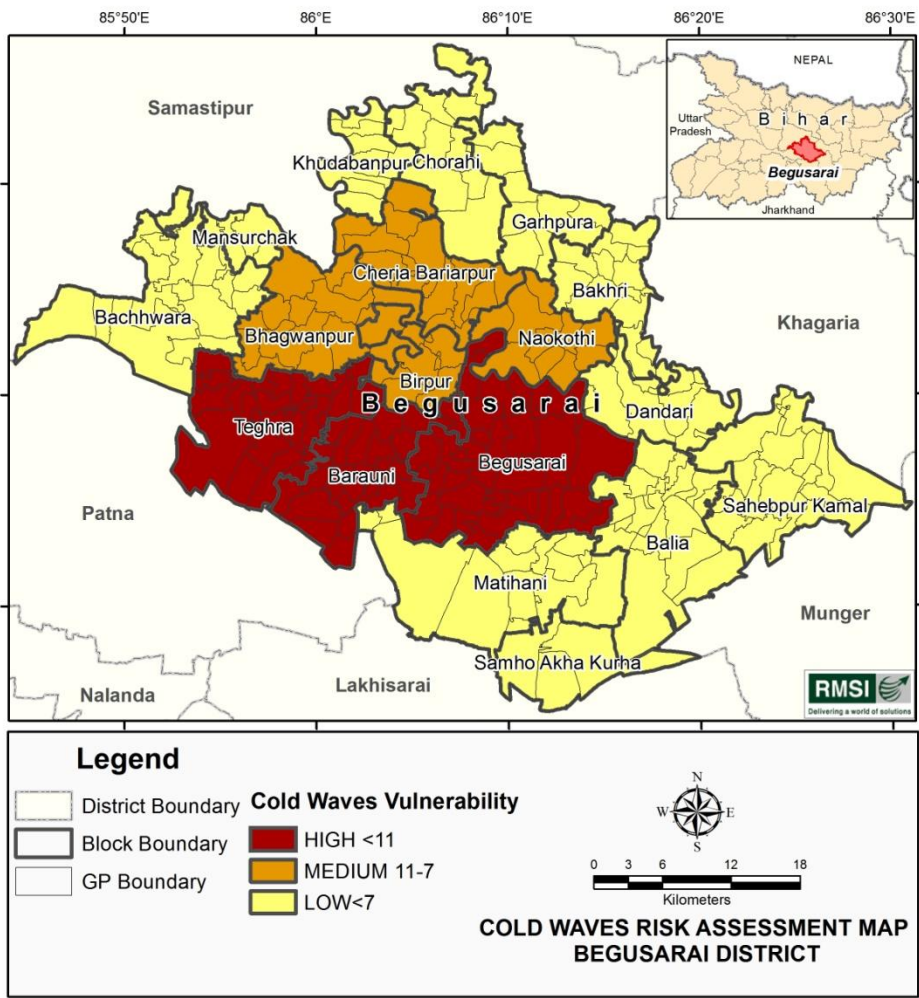
GIS Maps for Begusarai district



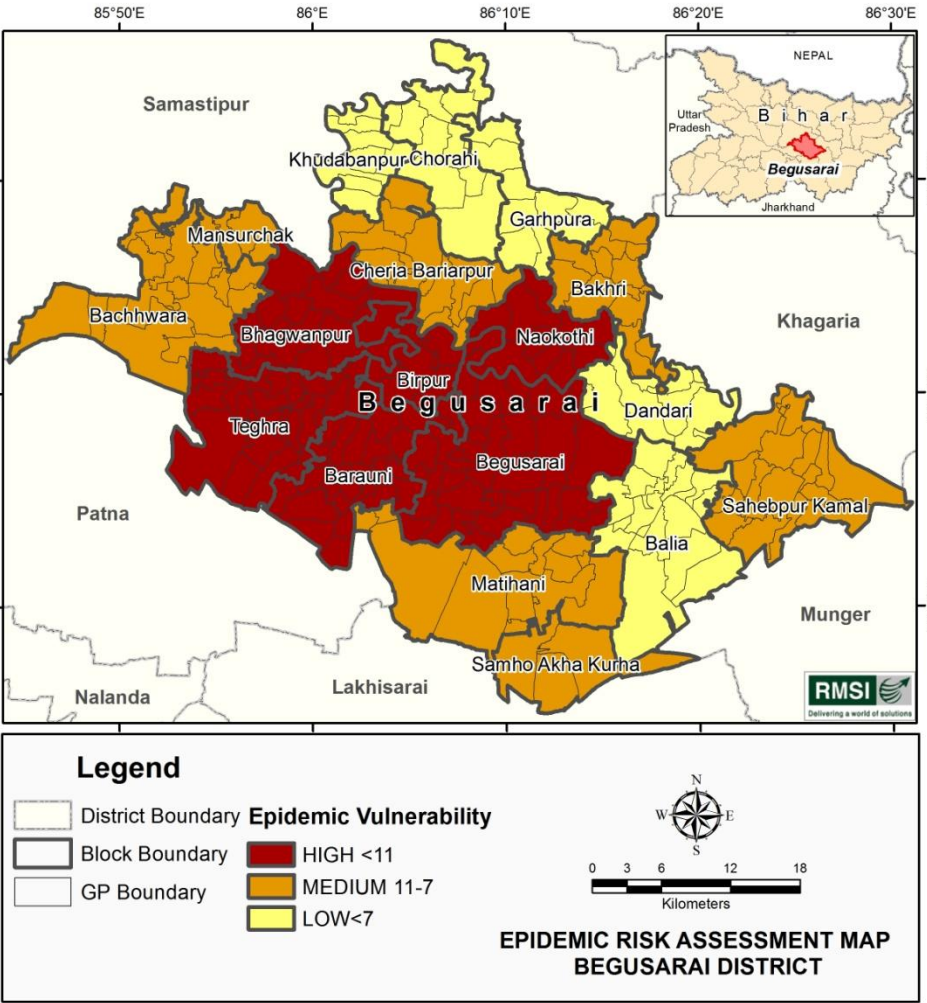
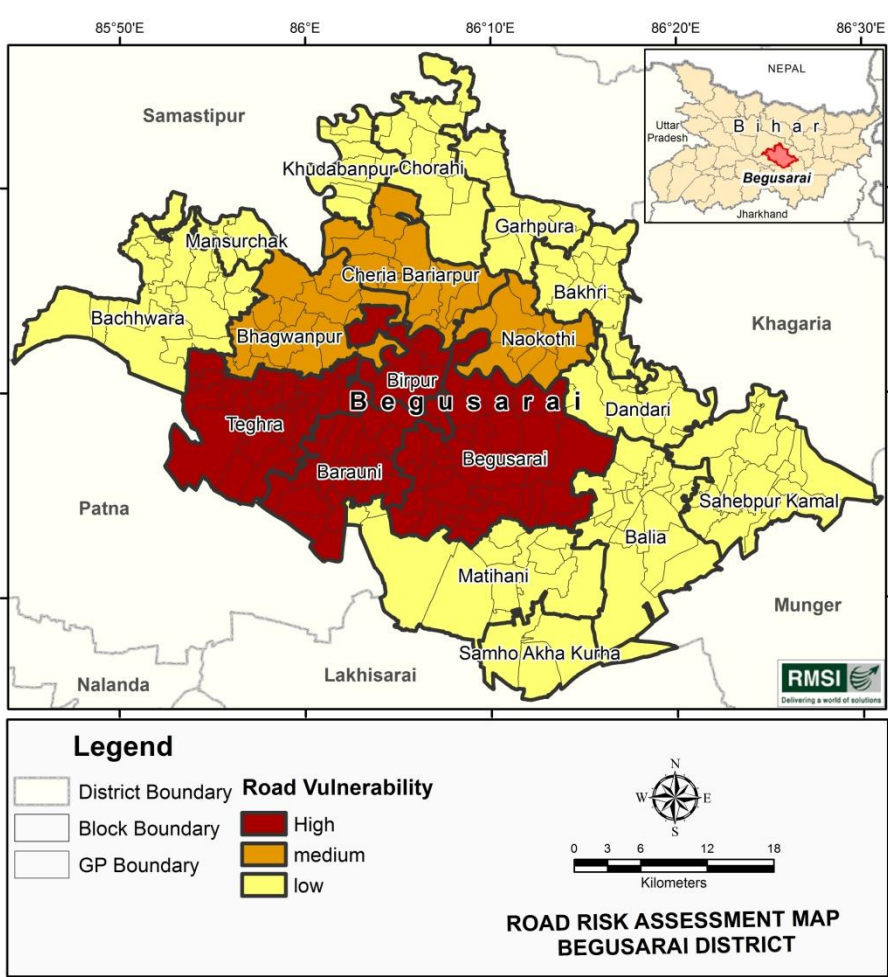
GIS Maps for Begusarai district



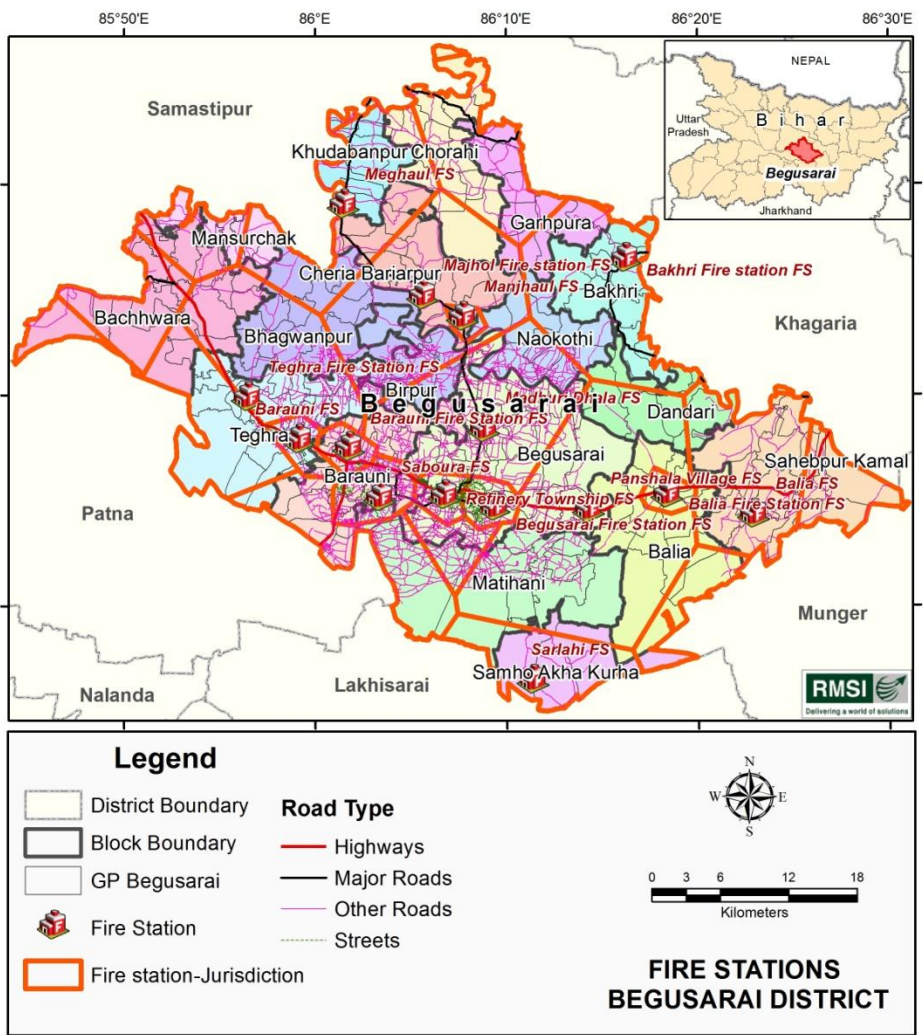
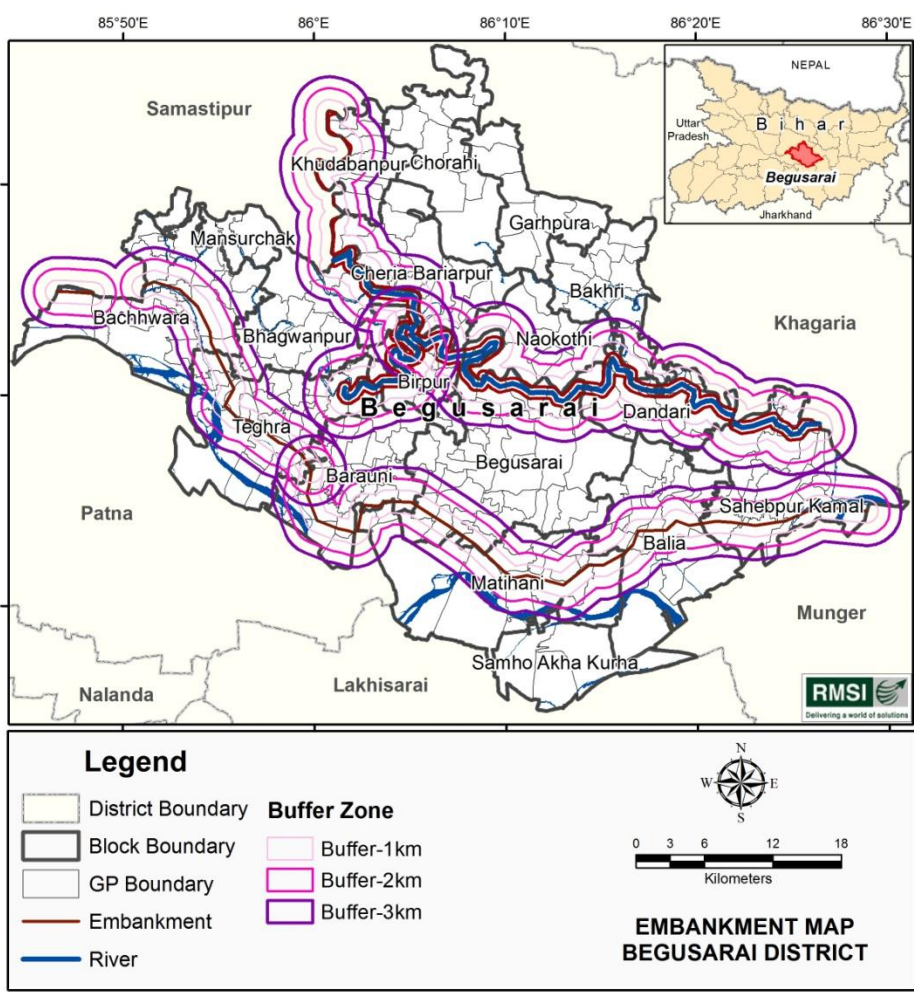
GIS Maps for Begusarai district



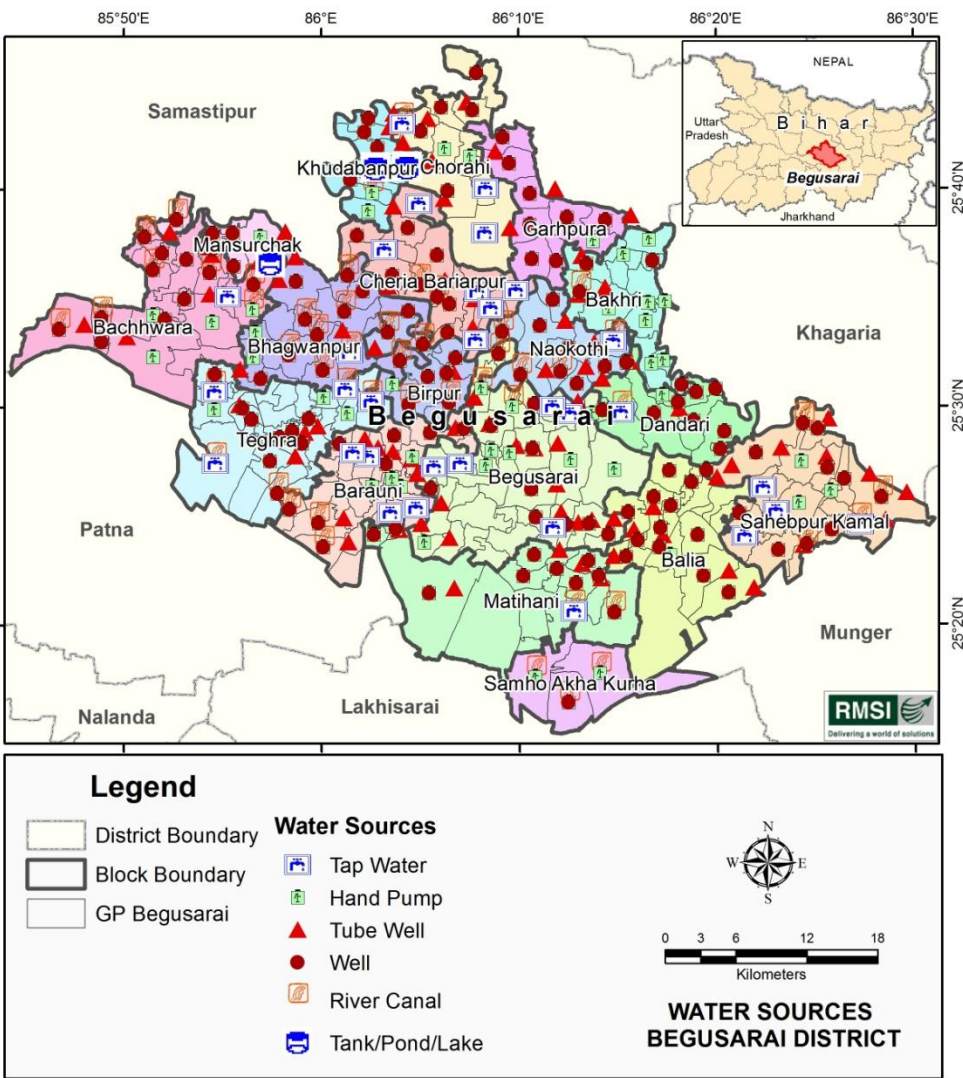
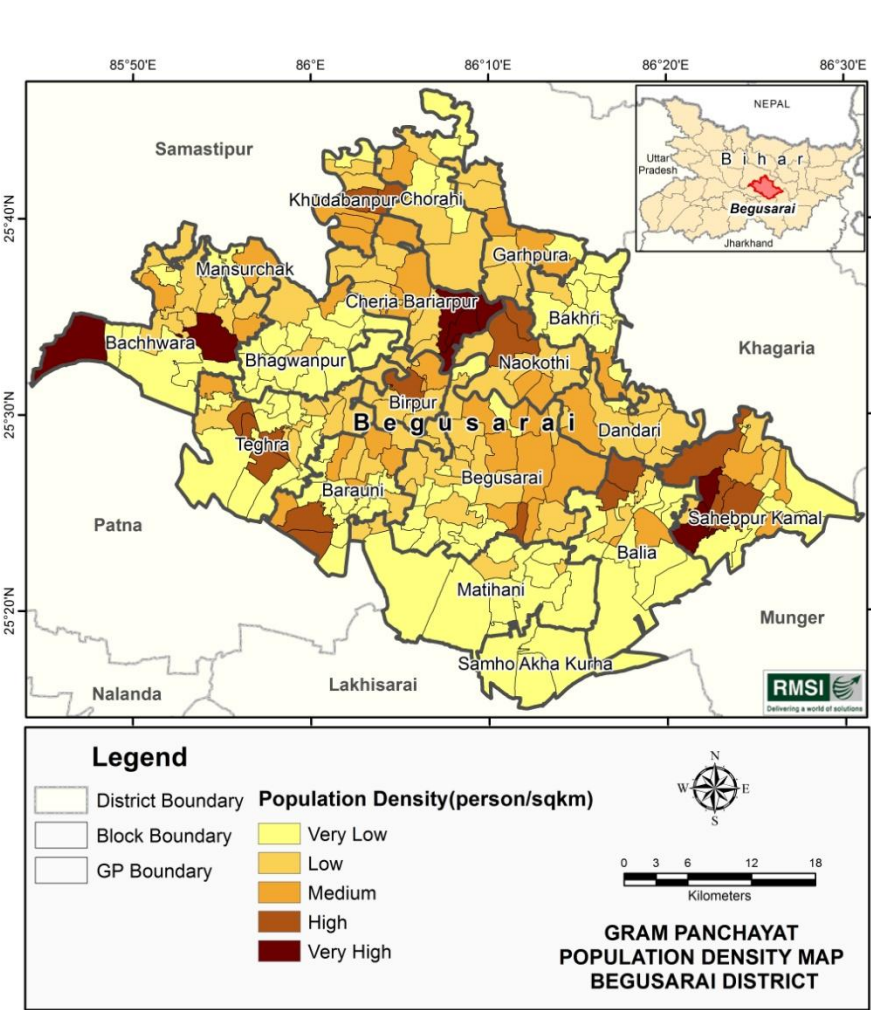
GIS Maps for Begusarai district



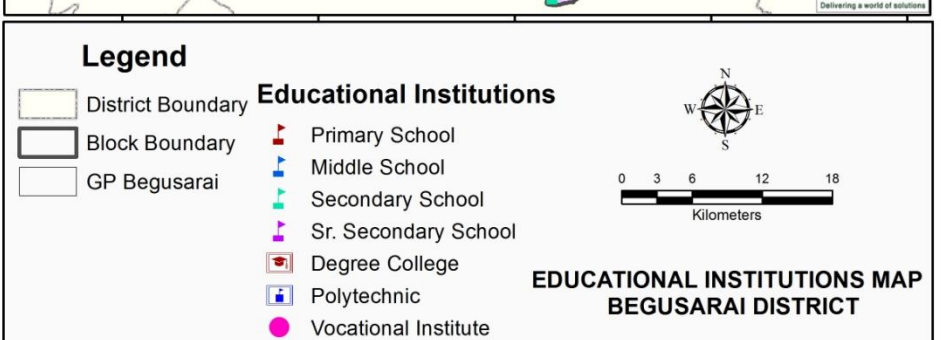
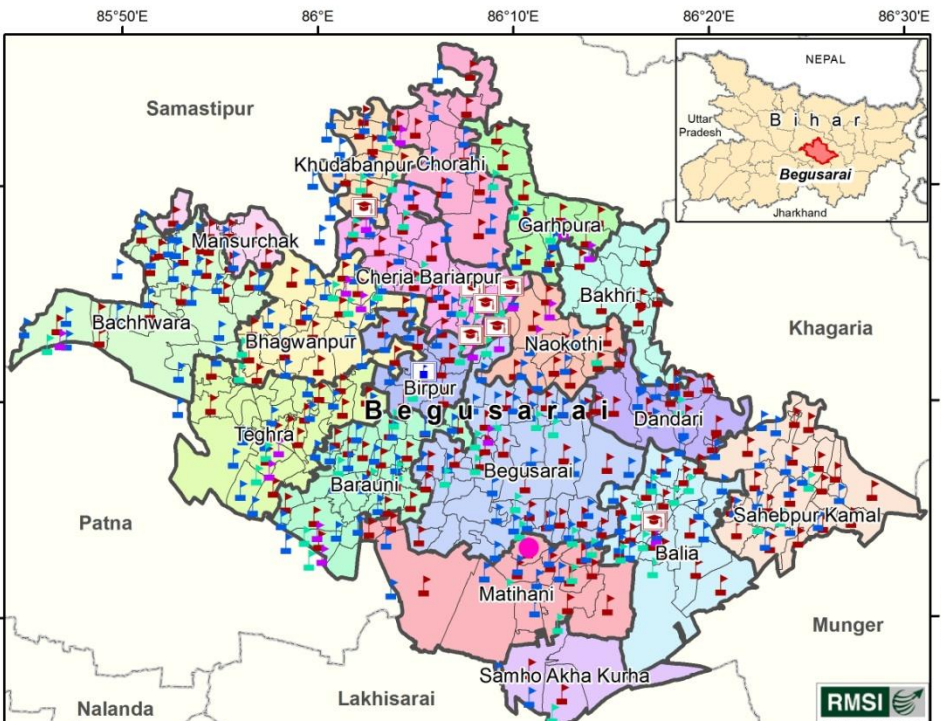
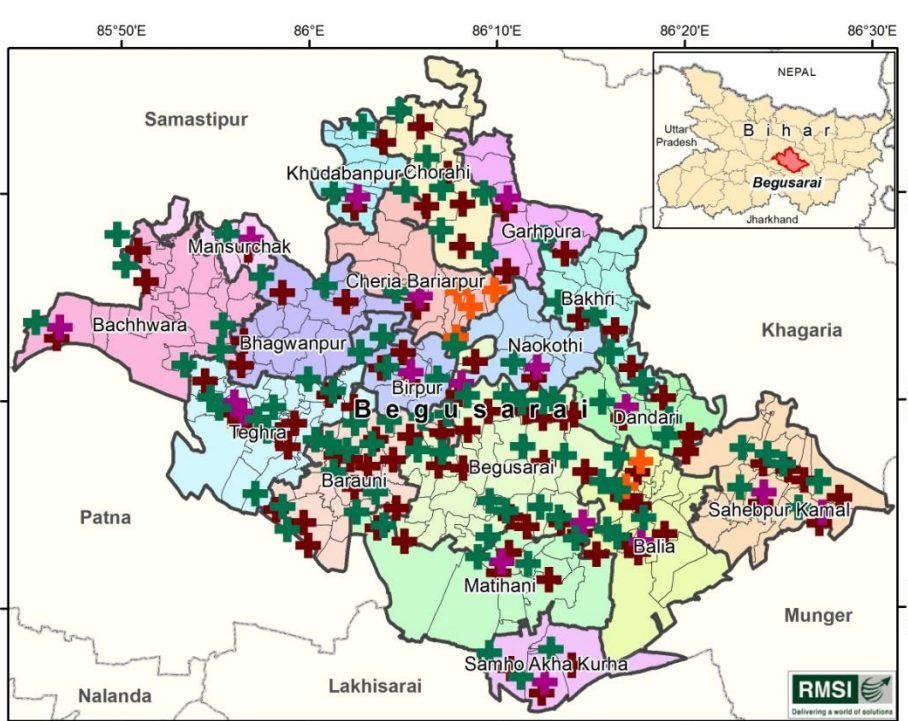
GIS Maps for Begusarai district



GIS Maps for Begusarai district



GIS Maps for Begusarai district



Highlights of HVCA

❖ Earthquake:

- Construction quality of the residential buildings, particularly the traditional semi-pucca and pucca houses don't follow engineering standards and are vulnerable to earthquake

❖ Flood:

- Flood mitigation measures include several initiative in the upstream of the river and construction of embankments along the river in the districts
- Map shows the embankments within the district and the level of vulnerability of blocks/GPs due to flood hazard
- Casualties reported during flood are mostly to boat accidents and due to snake bites

❖ Drought:

- Change in rainfall pattern affects crop yield in the districts particularly less rainfall during Rabi season
- Districts have Agriculture Contingency Plans focusing on flood and drought

❖ Cold waves:

- Districts experience severe cold wave conditions during winter months
- Casualty mostly among poor people living in kutcha houses who are less protected

❖ Wind Hazard:

- Begusarai, Bhagalpur and Khagaria lie in High Damage Risk Zone (wind velocity 169 km/h)
- SW part of Banka lies in Moderate Damage Risk Zone (Wind velocity 140 km/h) and rest part lies in High Damage Risk Zone

❖ Fire Hazard:

- As per fire risk assessment of “Fire Hazard and Risk Analysis in India” for revamping the Fire Services in the Country, Bihar report, MHA, 2012, most parts of these districts fall in “very high risk zone” based on population density, residential and industrial built up.
- Fire stations numbers and functioning needs to be strengthened

❖ Epidemics:

- Prevalence of conducive situation for water and vector-borne diseases due to waterlogging from continuous rain and flood conditions
- No major outbreak of diseases in districts in recent past probably due to non-conducive temperature for pathogens to multiply in monsoon months

❖ Industrial/ Chemical hazard:

- Begusarai district is prone as oil refineries, fertilizers, and other industries are in Barauni Block

❖ Stampede- Hazard due to overcrowding:

- Various melas and festivals in the districts can lead to stampede e.g. Shravan mela, Bausi mela, Teldiha mela, Chhatha Puja, etc.
- Crowd management planning needs to be strengthened with all supporting infrastructure and services

❖ Rail/Road accidents:

- NH and State Highways in the districts pass through the inhabited areas
- These stretches having dense trees and turnings reduce the visibility which lead to many fatal accidents every year
- These stretches need to be illuminated and trees should be pruned in order to reduce its proneness to road accidents
- Accident prone rail stretches should be manned

❖ Lightning:

- Installation of “Tarit Chalak” on high rise buildings to reduce the impact

आपदा नहीं हो भारी ।
यदि पूरी हो तैयारी ॥

Thank you



Delivering a world of solutions

info@rmsi.com

www.rmsi.com