Preliminary report of

Micro-planning of malaria intervention activities in malaria endemic western districts of Nepal

with WHO technical support

Venue: 5 malaria endemic districts in the far, mid & western regions.
Dates: 27-29 December 2015 in Dhangadhi & 1-3 January 2016 in Butawal

Submitted to WHO by

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PHI/PHE

EDCD

Background:

Malaria continues to be a foremost public health priority among inclusion and re-emerging vector borne diseases in Nepal with a national aim of a "Malaria-free Nepal by 2025". The country has surpassed targets set by the Millennium Development Goals and is positioned to eliminate indigenous malaria transmission. The modified malaria strategic plan 2014-2025 has taken into deliberation the results of "Micro-stratification of malaria risk areas in 2012", the midterm program review of 2013, the current epidemiology and updated WHO guidelines, particularly for vector control and insecticide resistance management. This plan has inbuilt Government of Nepal's commitment.

The NMSP 2014-2025, aims to sustain zero deaths due to malaria, achieved by the end of 2012, reducing the incidence of indigenous malaria cases by 90%, and number of Village Development Committees (VDCs) having indigenous malaria cases by 70% of current levels by 2018.

The strategic plan has five major strategic objectives:

i) To strengthen strategic information for decision making towards malaria elimination.
ii) To reduce malaria trans-mission further and eliminate the foci wherever feasible.
iii) To improve quality and access to early diagnosis and effective treatment of malaria.
iv) To sustain support from the political leadership and the communities towards malaria elimination through advocacy and communication.
v) To strengthen programmatic technical and managerial capacities towards malaria elimination.

As the program came to 2014, nationwide, the total number of confirmed malaria cases came below 1500, with major number of cases in very few endemic districts i.e. Kanchanpur, Kailali, Bardiya, Rupandehi and Nawalparasi in far, mid and

western regions, which contributed a major part of the malaria disease burden around 70% of total cases.

With regards to the standard interventions for malaria control, in line with the WHO guidelines, Govt. of Nepal, Ministry of health has been intervening with IRS, LLINs as principle methods of vector control for susceptible vectors i.e. *Anopheles annularis, An. maculatus complex, An. fluviatalis, An. minimus* etc., while Microscopy/RDT for the diagnosis and confirmation of the suspected cases of malaria and use of CQ+PQ or ACT+PQ as chemotherapy and chemoprophylaxis depending upon the type of the infections i.e. *Pvivax, Pm falciparum* and mixed. Although there is a broad recommendation on the type of vector control interventions in different risk areas of the VDCs, districts, some of the districts have no clarity on the use of appropriate vector control interventions in different risk areas. The Epidemiology and Disease Control Division /National Malaria Program has realized the importance of micro-planning of the interventions based on no. of suspected and confirmed malaria cases, vector abundance Vs vector control and case management interventions.

In this context, EDCD conducted the below mentioned activities with clear objectives utilizing WHO technical support.

Objectives:

To conduct micro-planning for implementation of the malaria prevention, control and case management interventions in 5 malaria endemic districts in far, mid & western districts.

Methods:

- Three days " Ward level malaria micro-planning program" was organized in Dhangadhi and Butawol where the programs were participated by EDCD, DPHO, VCI, MI, LT, statistical officers and WHO experts with last 3 years (2013-2015) malaria data with line listing in details, including vector abundance

(primary & secondary vectors) for further planning by appropriate intervention to achieve malaria elimination goal.

- First two hour of Day-I, malaria line listing were refined and cross-matched with the service register HMIS 5.3 and 5.9 and spraying data on excel sheet.
- "Malaria in Nepal" presentation by Dr. Ram Raj Panthi in both Dhangadhi as well as Butwol, opened the program with progress, challenges and needed activities/interventions for elimination.
- Prof. Dr. Prakash Ghimire, NPO Malaria-Who Nepal explained the need, objectives and methodology for the activity together with how this activity can contribute in planning appropriate interventions in different stratums.
- The team was divided in groups to complete data entry for analysis and field level validation of the data.
- The data entry group verified the data from HMIS and service register for entering into the final records.
- The field validation team went to selected PHC/HP and also validated the data cross checking the service registers, together with monitoring of the service in case detection, registration, lab investigation and case management. Focused group discussion with the HF staffs were conducted to better understand the HF specific challenges and on how to mitigate the effects of the challenges.
- After the validated data was available, the data was plotted in GIS environment and GIS maps were developed based on case (Pf, Pv, Pmix, Imported, indigenous). Consolidated risk maps followingearlier standardized scoring methods were developed, providing detailed risk maps for appropriate interventions.
- VCI/MI of the respective districts wasalso provided with demonstrationtraining onhow to collect and identify the possible mosquito vectors, using the stereoscopeprovided to 5 program districts, during the same period. The staffs

were also trained on packing/unpacking and the use of the stereoscope provided from EDCD/WHO.

Outputs:

- GIS maps/tables with ward level risk information of 5 malaria endemic districts. (annex-1)
- Selected malaria endemic districts in far, mid and western regions of Nepal have now VDC/Ward wise risk pictures for appropriate vector control and case management interventions to lead the path for malaria elimination by 2025.
- The spot entomological survey method helped the participants to learn the skills on how to collect adult mosquitoes and observe possible breeding places and methods of collecting immature forms (larvae/adult) in the locality. However, due to the unfavorable season for the mosquito breeding, only few breeding places got positive for larvae of *Anopheles* & *Culexspps.*
- Five stereoscopes with other essential entomological tools as per the distribution lists (attached) were supplied and established a district entomological unit in each program distircts (Kailali, Kanchanpur, Bardia, Nawalparasi and Rupandehi).
- In addition, some emergency medicine to Kailali district have also been transported.
- Other malaria commodities as per the travel order have also been transported to 5 malaria endemic districts.

Recommendation:

1. Auto update of the malaria risk needs to be maintained based on the disease data generated every year, which is possible with the timely entry of data in last year developed web based MDIS.
2. It is required to train the newly recruited VCI/MI on vector borne diseases detection, survey, foci investigation and vector control interventions, to get expected response and results in the path of elimination.
3. Case base surveillance for malaria should be strictly implemented as soon as possible.

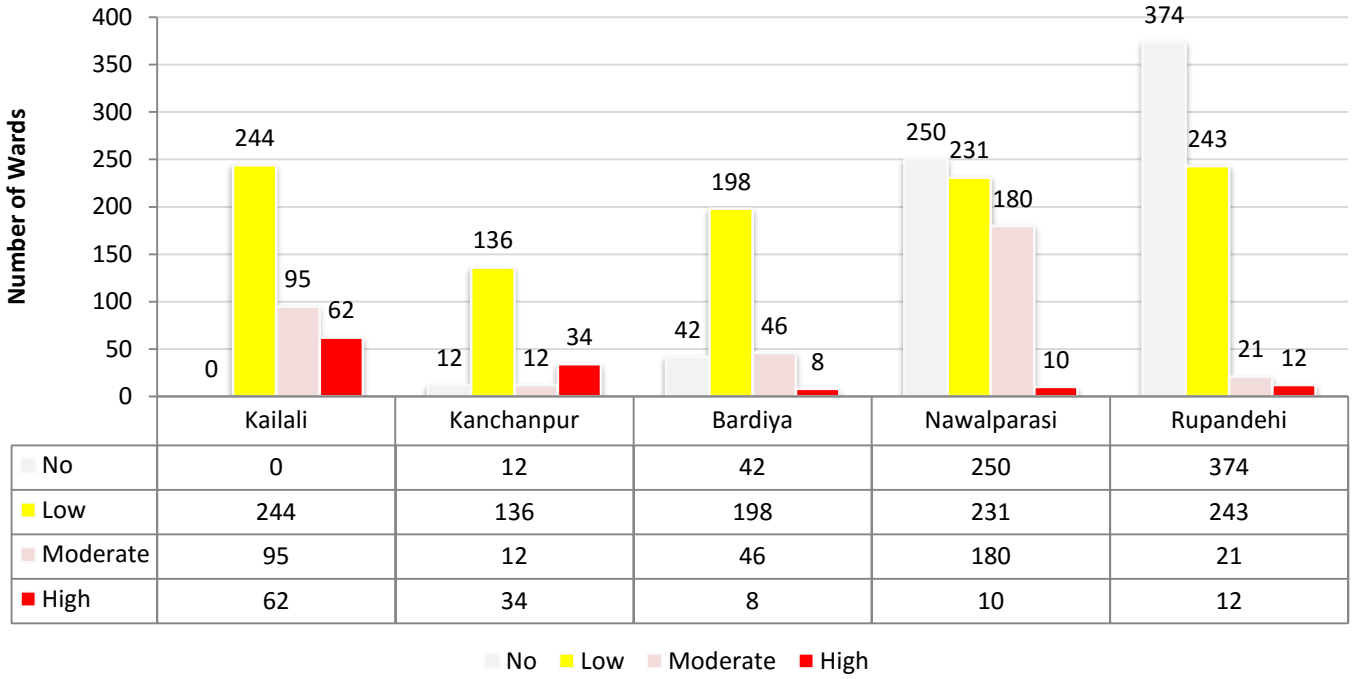
Annex:1

Risk maps- ward wise risks

1. **Risk based on disease**
2. **Risk based on imported Vs indigenous cases and vulnerability**
3. **Risk based on geo-ecology and vector abundance**

Number of Wards in risk of Malaria

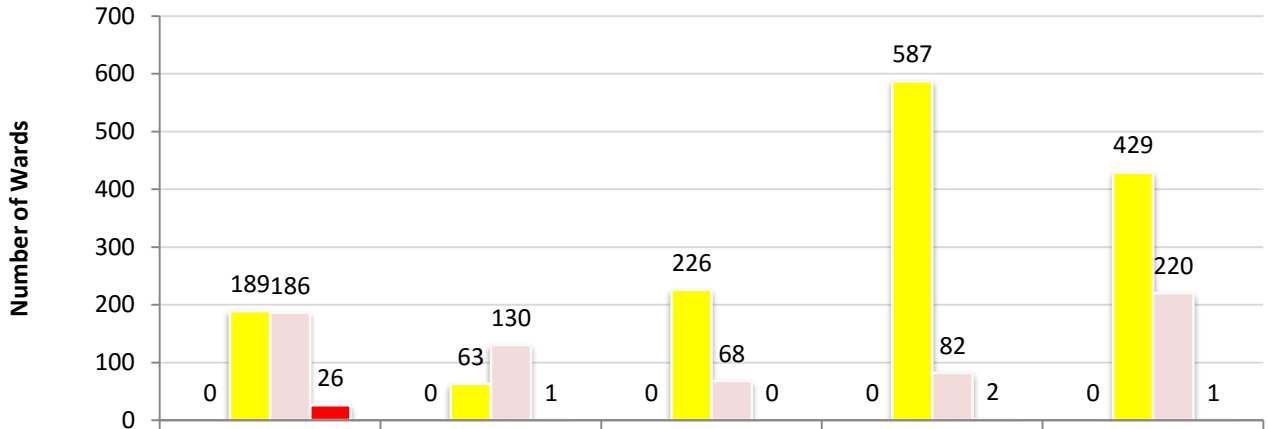
Overall Risk



	Kailali	Kanchanpur	Bardiya	Nawalparasi	Rupandehi
No	0	12	42	250	374
Low	244	136	198	231	243
Moderate	95	12	46	180	21
High	62	34	8	10	12

No Low Moderate High

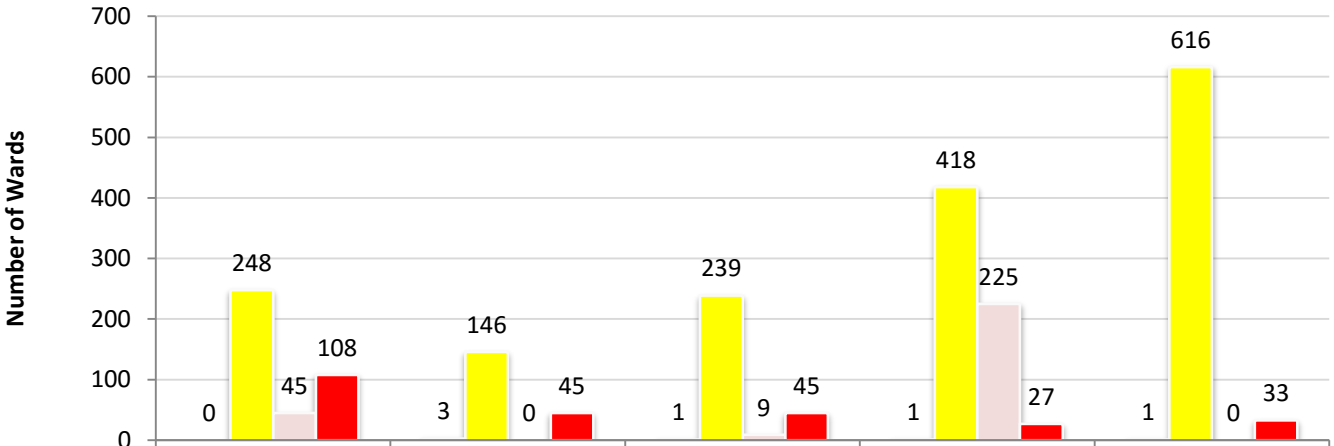
Risk by Disease Burden



	Kailali	Kanchanpur	Bardiya	Nawalparasi	Rupandehi
No	0	0	0	0	0
Low	189	63	226	587	429
Moderate	186	130	68	82	220
High	26	1	0	2	1

No Low Moderate High

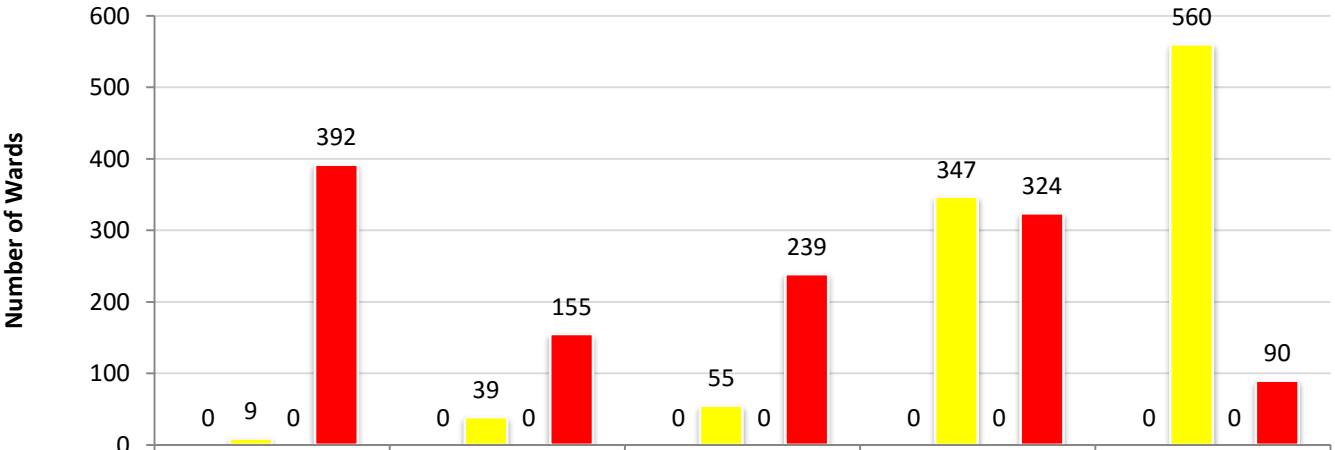
Risk by Ecology



	Kailali	Kanchanpur	Bardiya	Nawalparasi	Rupandehi
No	0	3	1	1	1
Low	248	146	239	418	616
Moderate	45	0	9	225	0
High	108	45	45	27	33

No Low Moderate High

Risk by Vulnerability

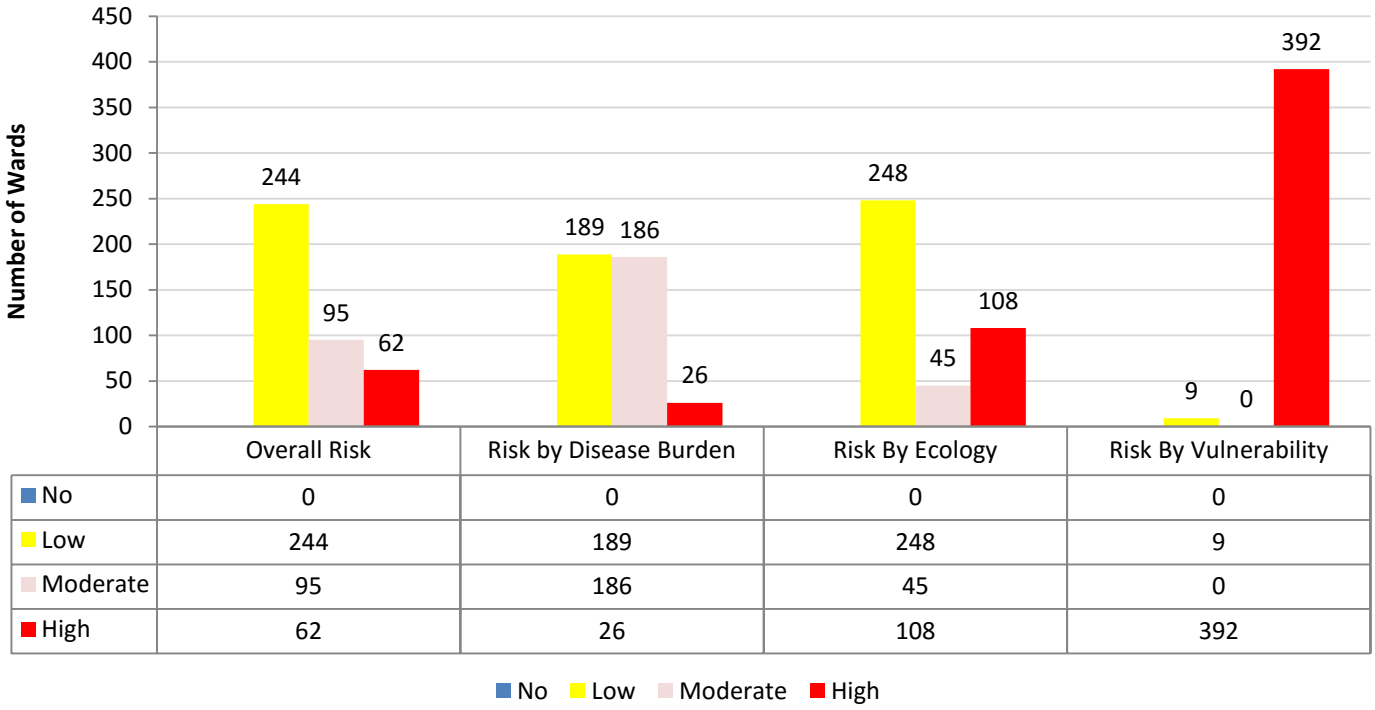


	Kailali	Kanchanpur	Bardiya	Nawalparasi	Rupandehi
No	0	0	0	0	0
Low	9	39	55	347	560
Moderate	0	0	0	0	0
High	392	155	239	324	90

No Low Moderate High

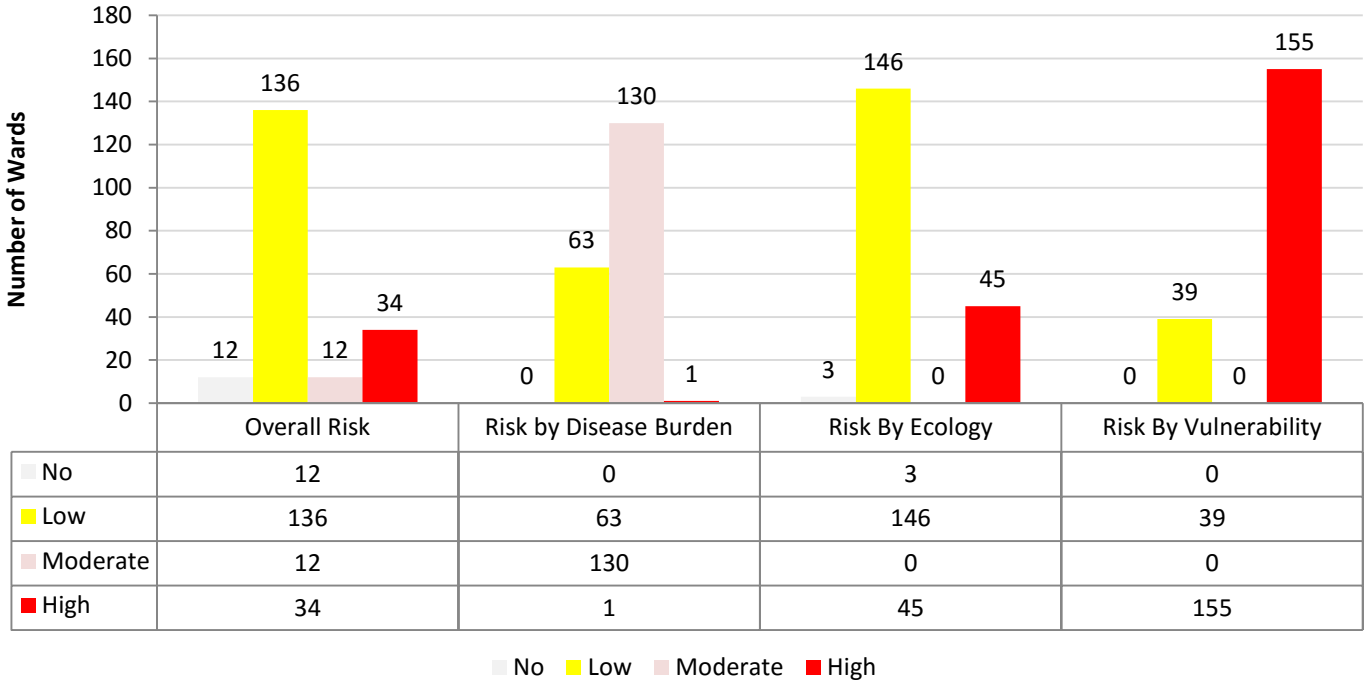
Number of wards with various risk categories of each Districts

Kailali



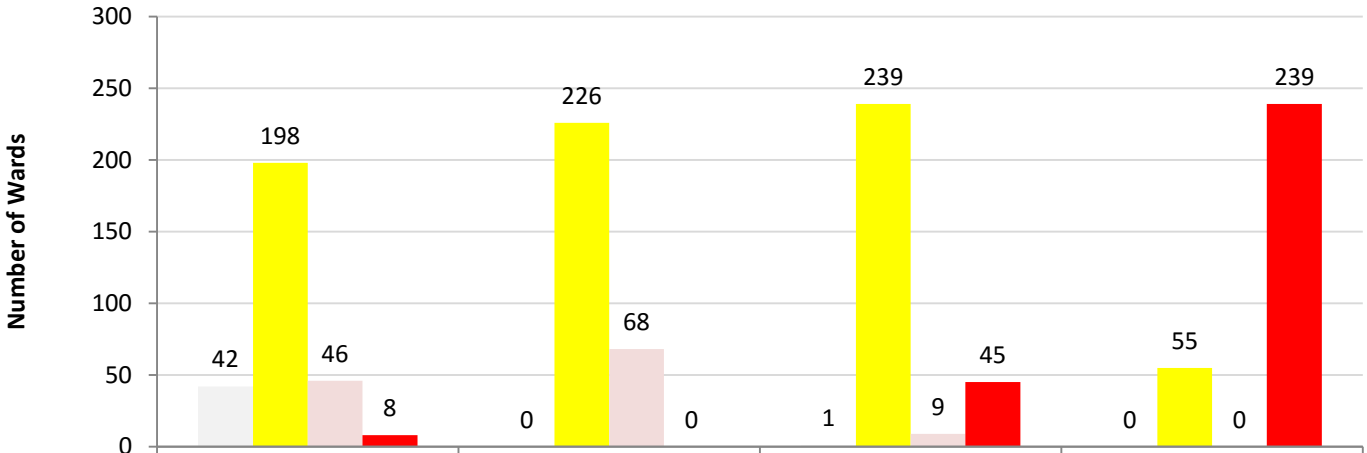
	Overall Risk	Risk by Disease Burden	Risk By Ecology	Risk By Vulnerability
No	0	0	0	0
Low	244	189	248	9
Moderate	95	186	45	0
High	62	26	108	392

Kanchanpur



	Overall Risk	Risk by Disease Burden	Risk By Ecology	Risk By Vulnerability
No	12	0	3	0
Low	136	63	146	39
Moderate	12	130	0	0
High	34	1	45	155

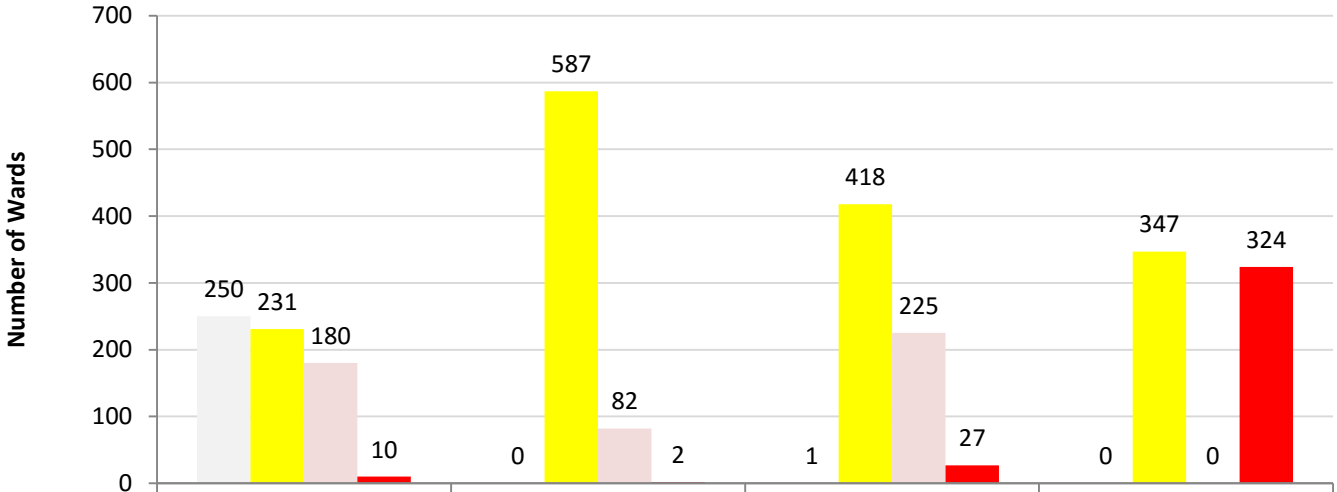
Bardiya



	Overall Risk	Risk by Disease Burden	Risk By Ecology	Risk By Vulnerability
No	42	0	1	0
Low	198	226	239	55
Moderate	46	68	9	0
High	8	0	45	239

No Low Moderate High

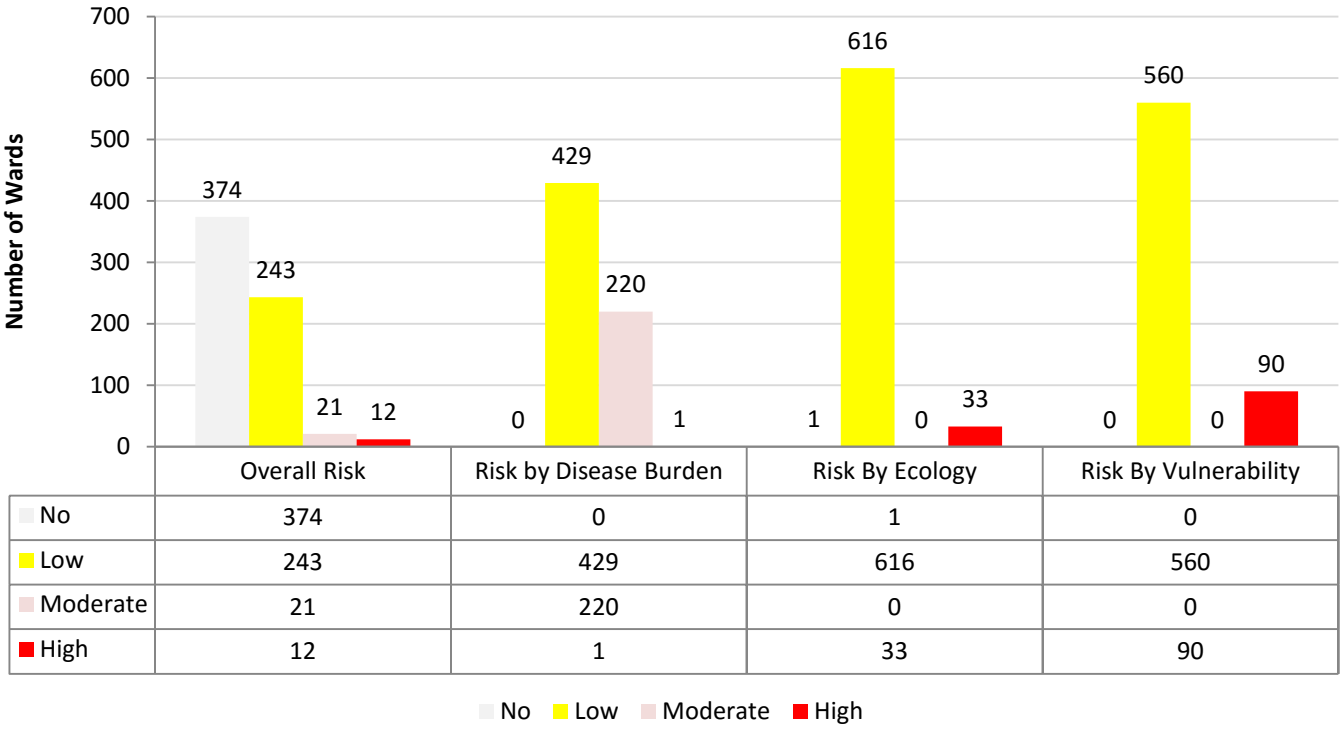
Nawalparasi



	Overall Risk	Risk by Disease Burden	Risk By Ecology	Risk By Vulnerability
No	250	0	1	0
Low	231	587	418	347
Moderate	180	82	225	0
High	10	2	27	324

No Low Moderate High

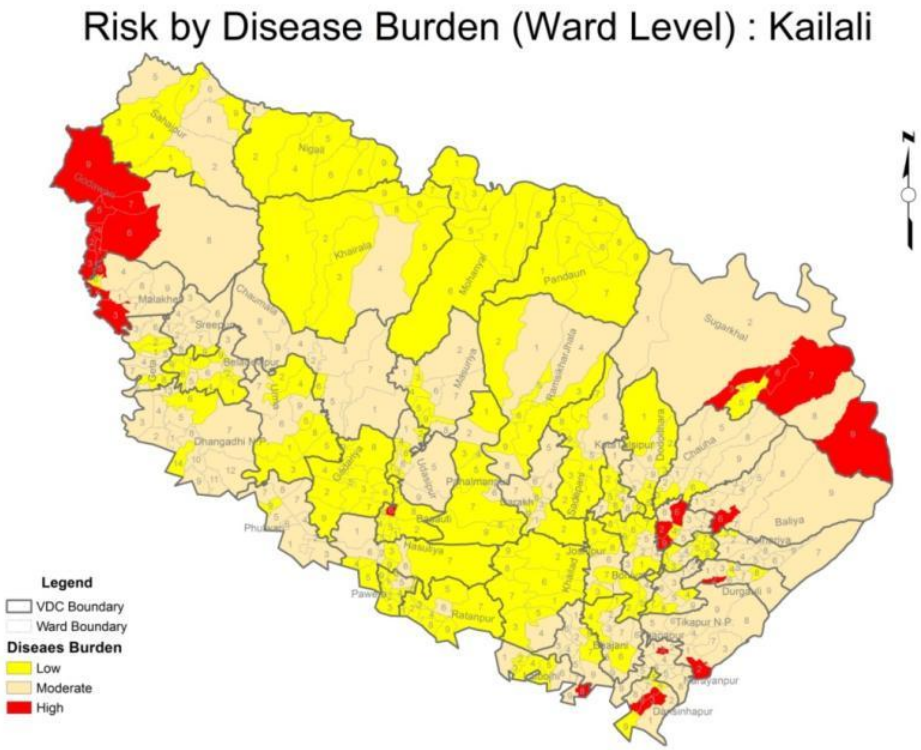
Rupandehi

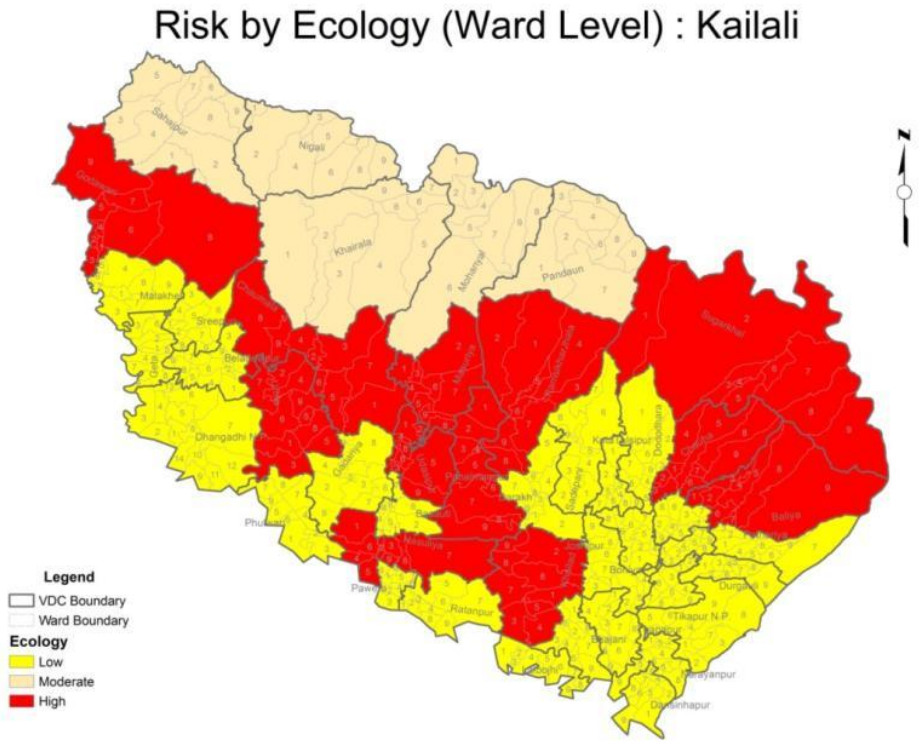


	Overall Risk	Risk by Disease Burden	Risk By Ecology	Risk By Vulnerability
No	374	0	1	0
Low	243	429	616	560
Moderate	21	220	0	0
High	12	1	33	90

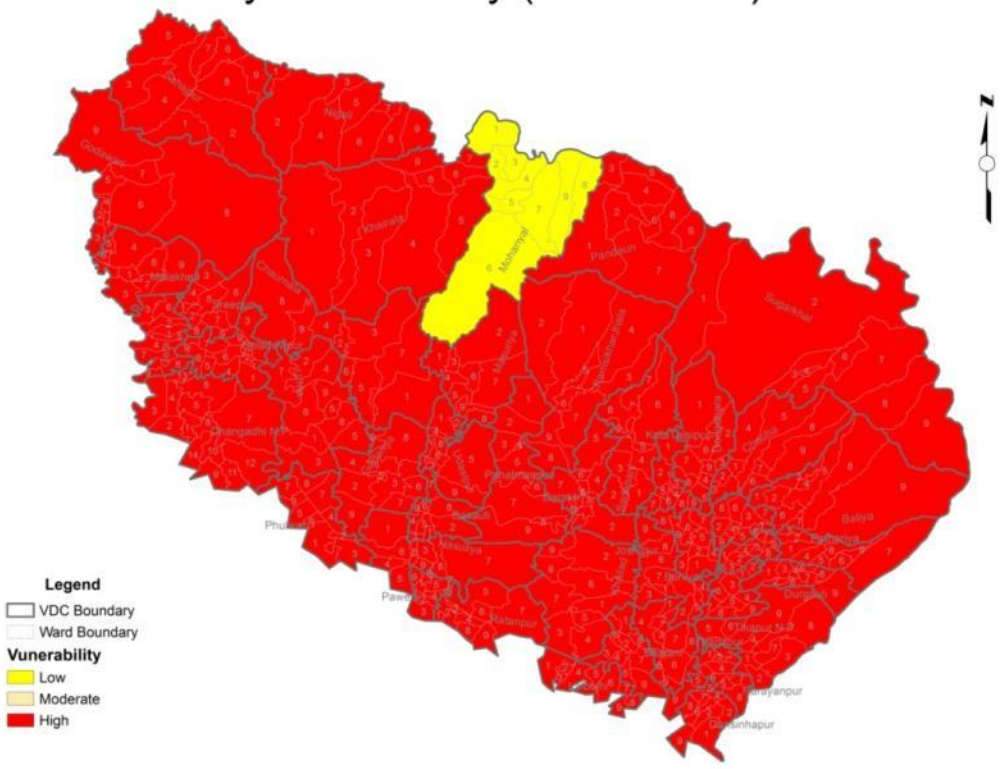
No Low Moderate High

Annex 1: Ward level Malaria Risk Map of 5 Malaria Endemic Districts

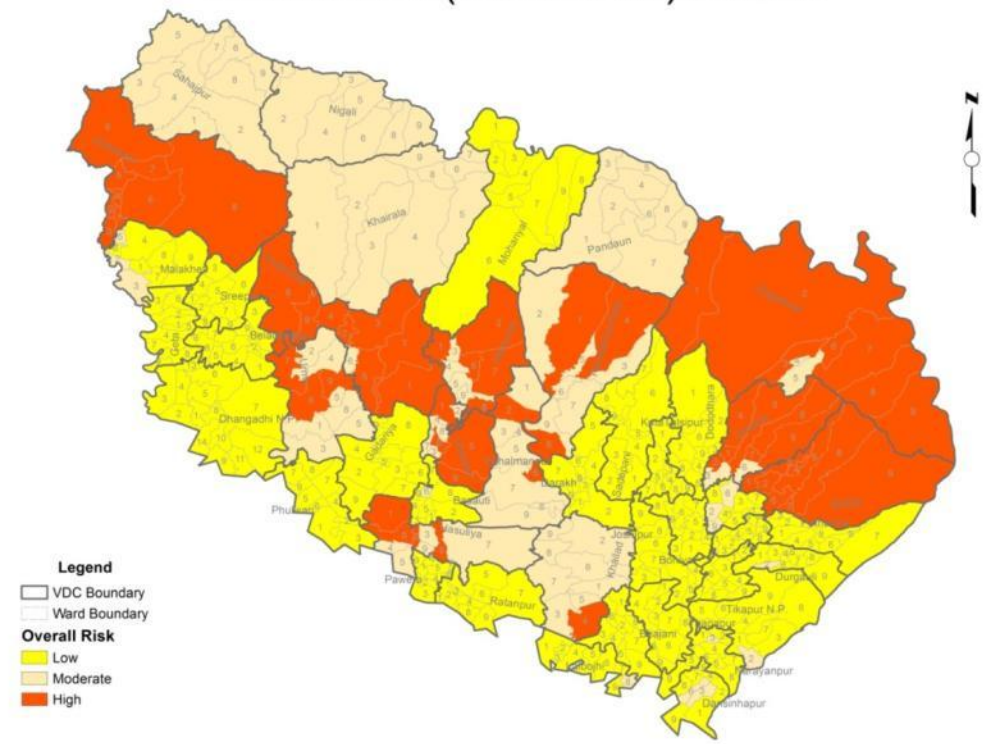




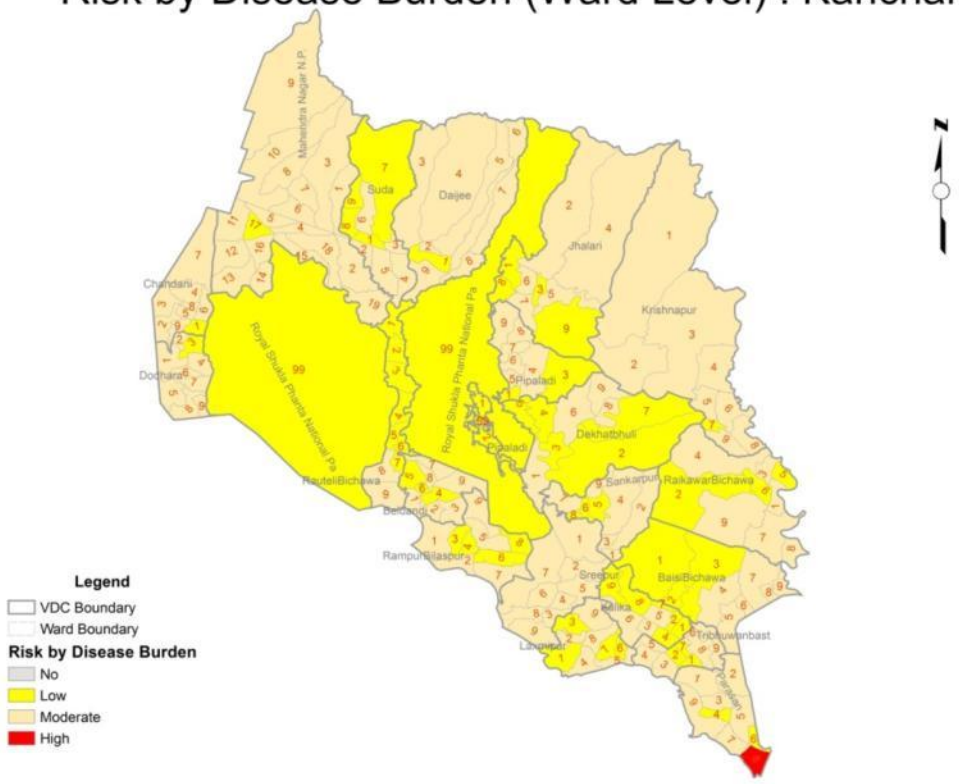
Risk by Vulnerability (Ward Level) : Kailali



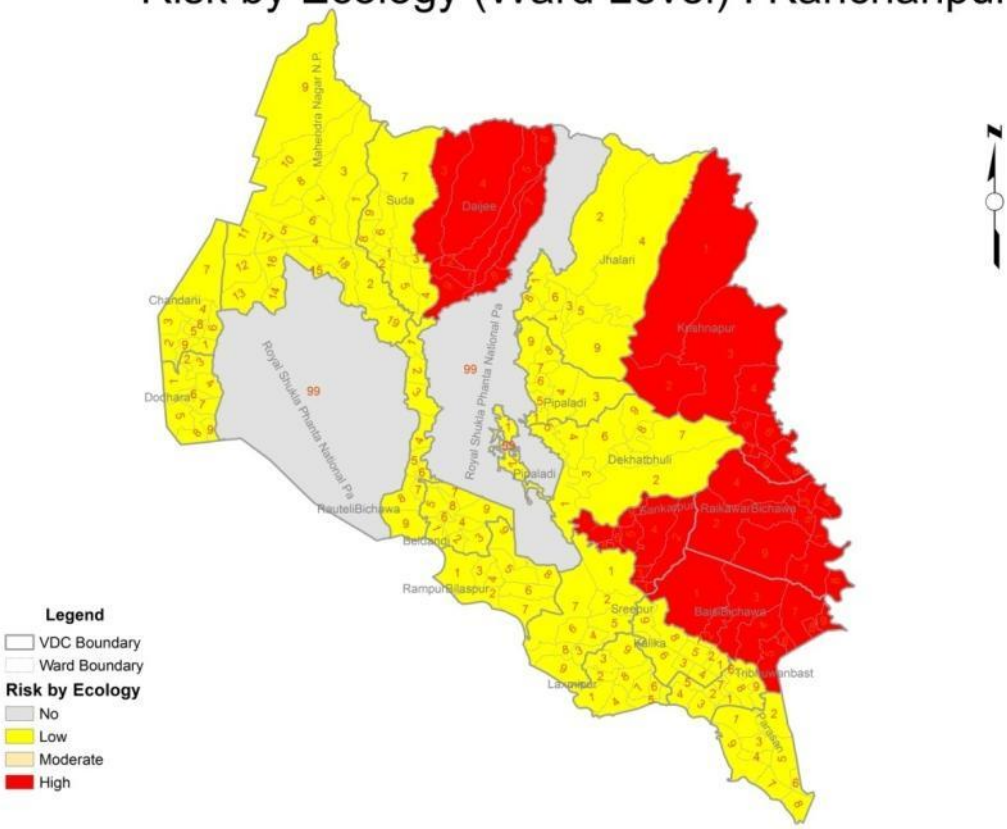
Overall Risk (Ward Level) : Kailali



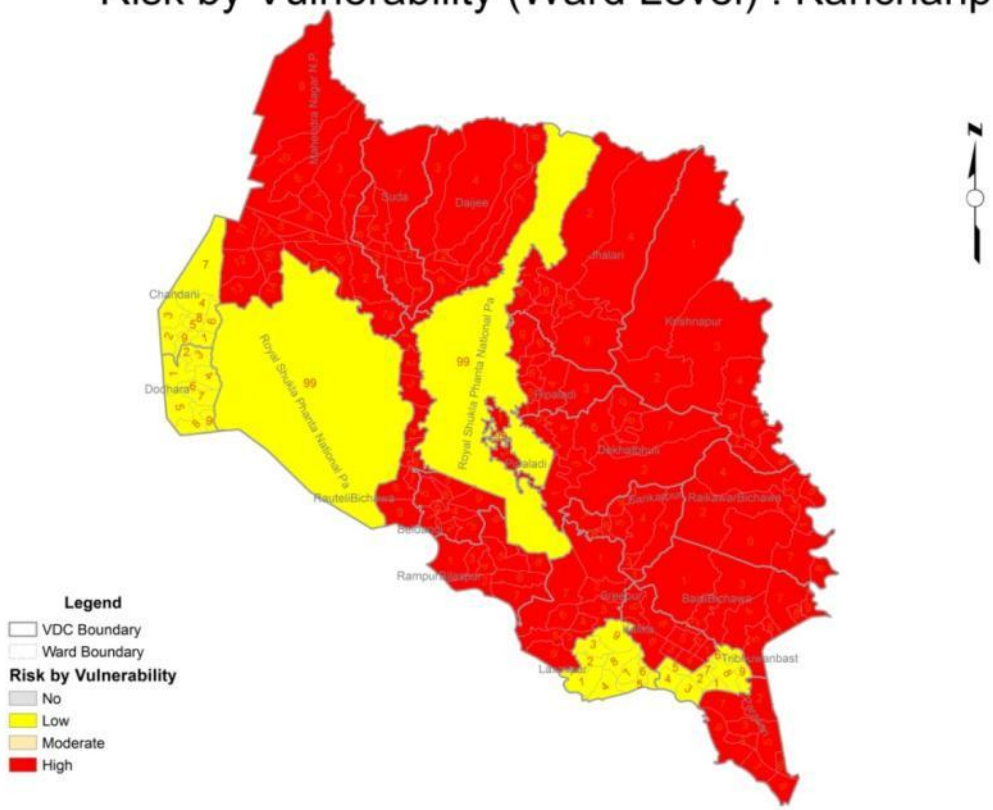
Risk by Disease Burden (Ward Level) : Kanchanpur



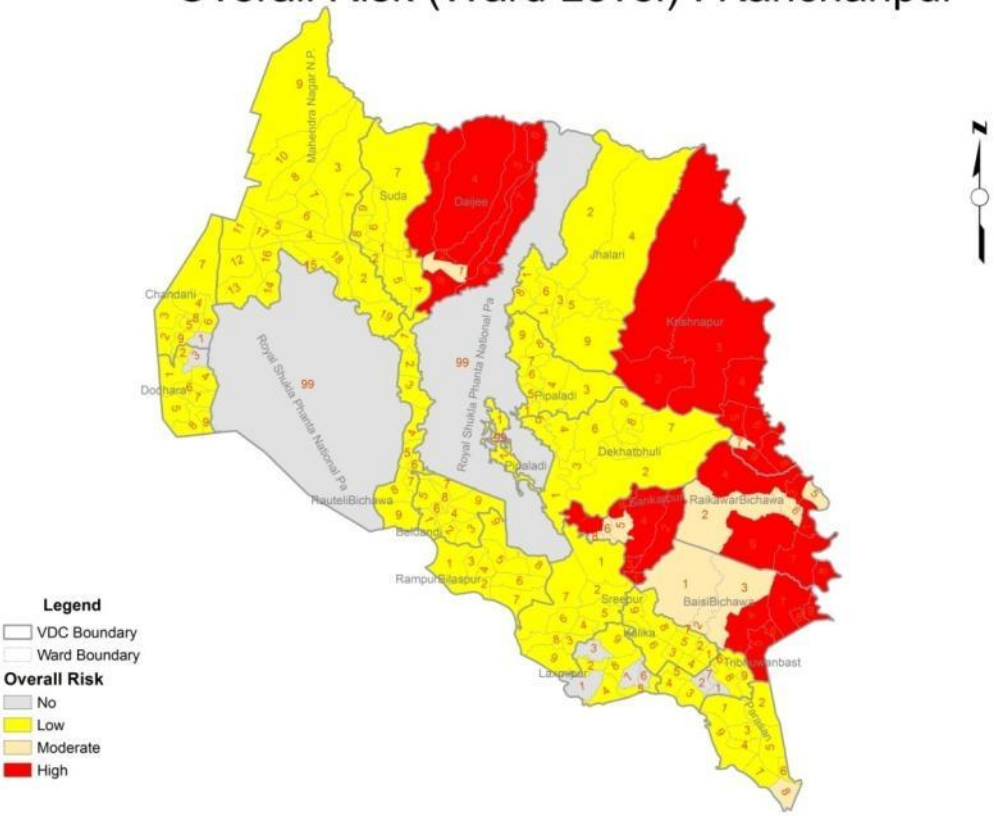
Risk by Ecology (Ward Level) : Kanchanpur



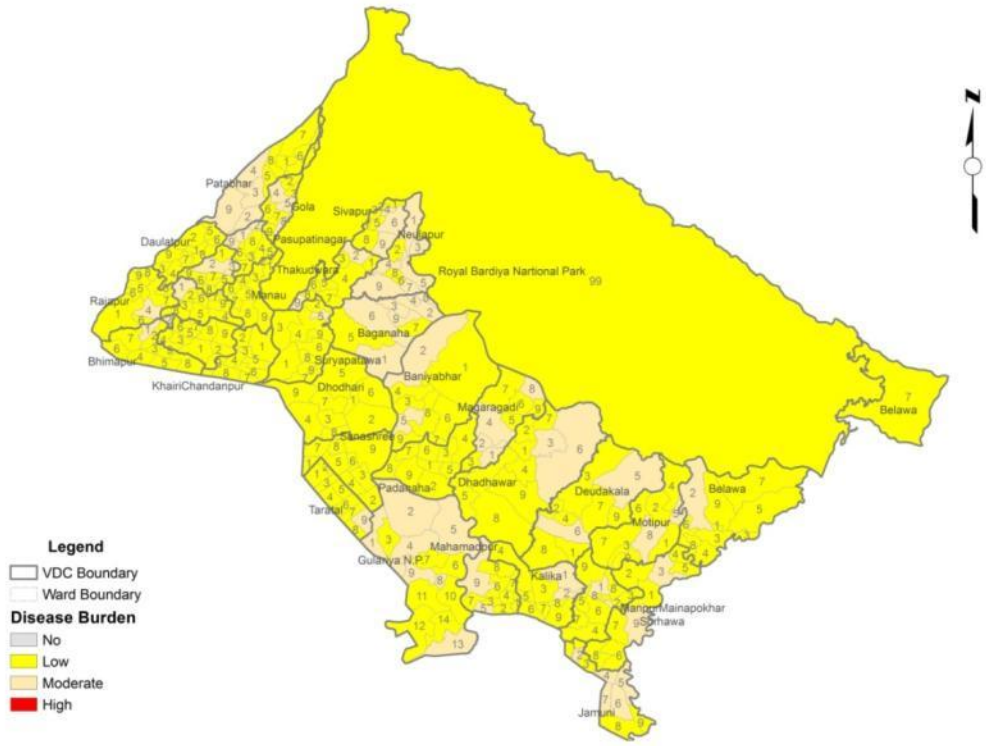
Risk by Vulnerability (Ward Level) : Kanchanpur



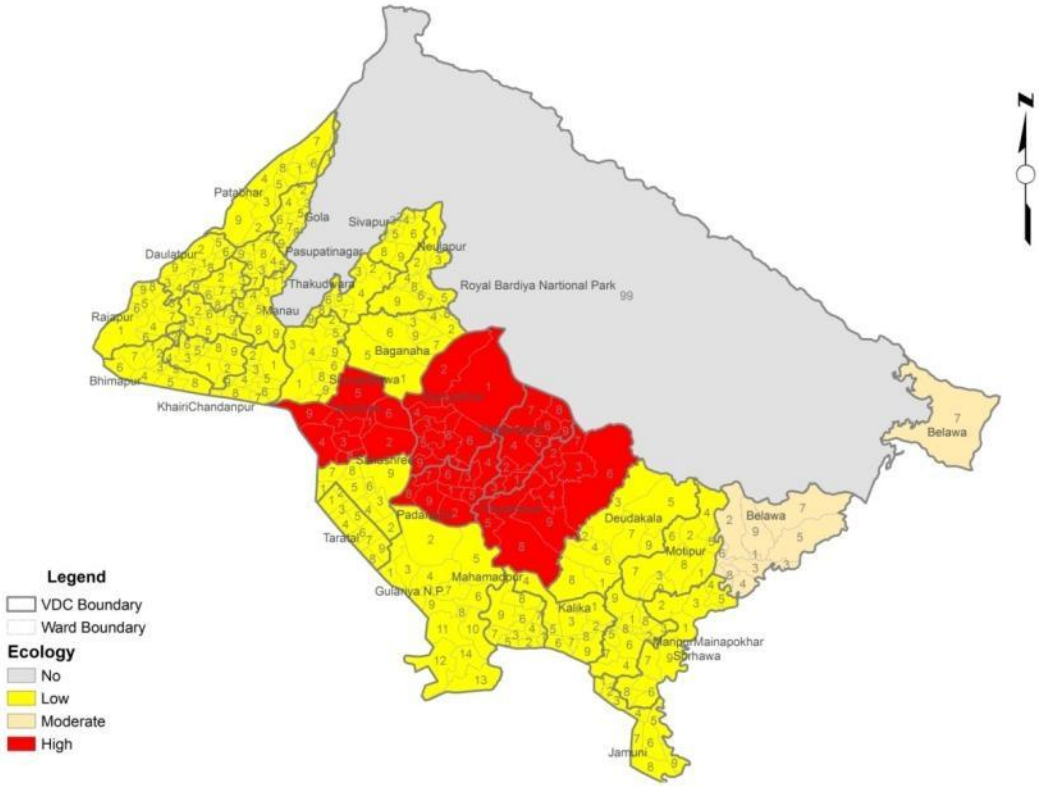
Overall Risk (Ward Level) : Kanchanpur



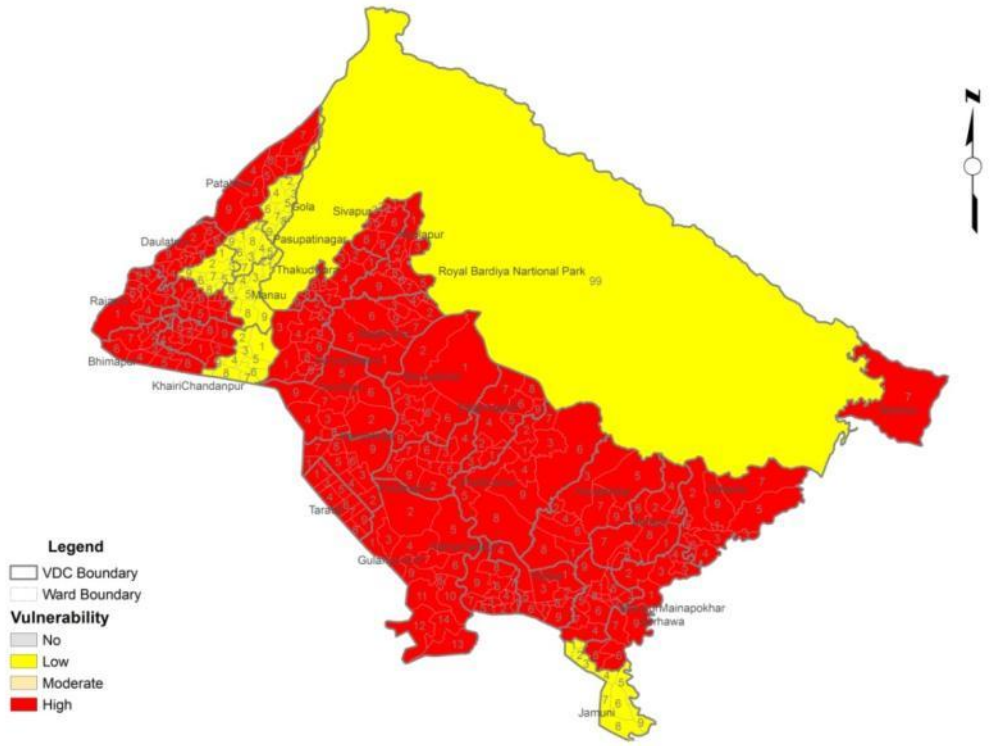
Risk by Disease Burden (Ward Level) : Bardiya



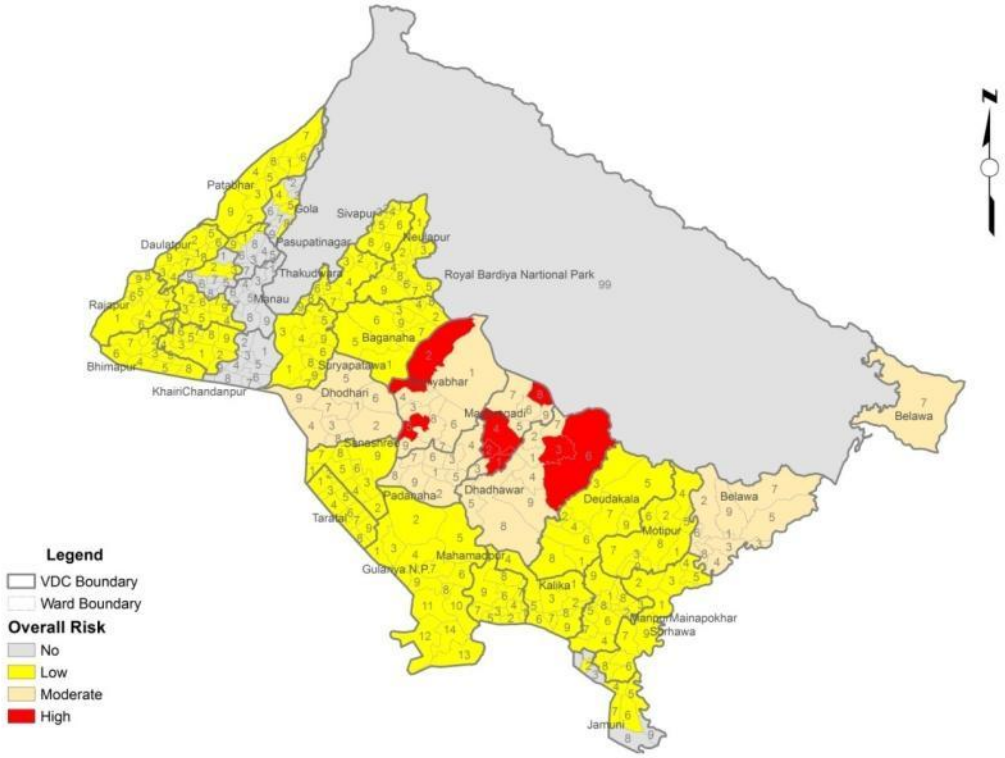
Risk by Ecology (Ward Level) : Bardiya



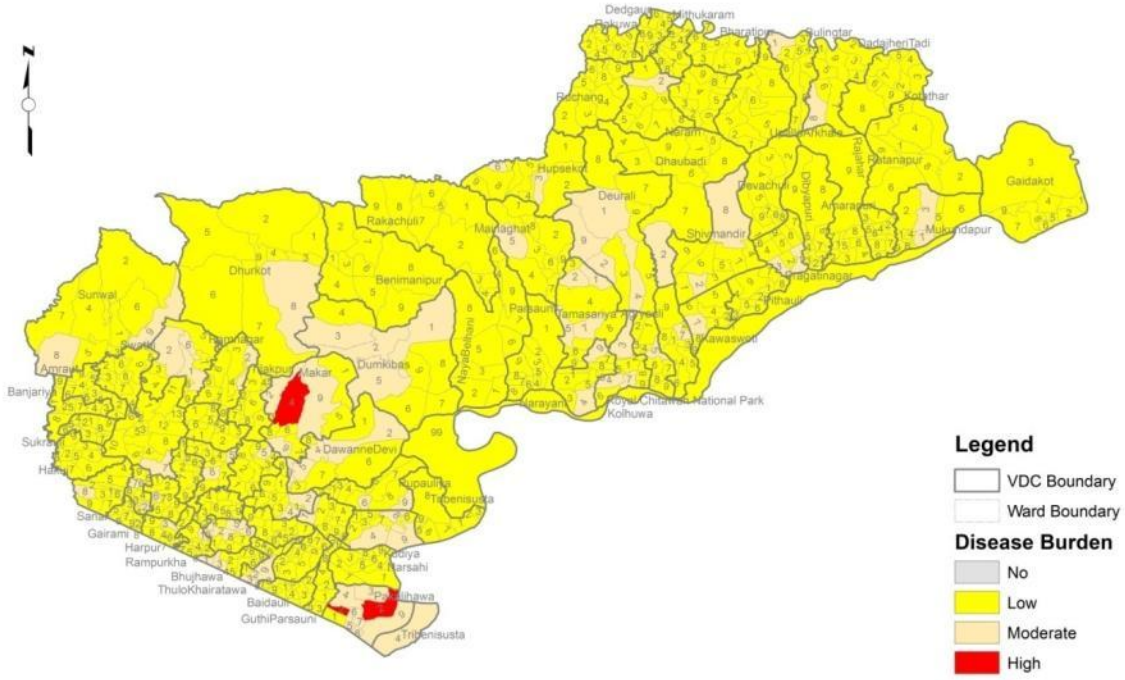
Risk by Vulnerability (Ward Level) : Bardiya



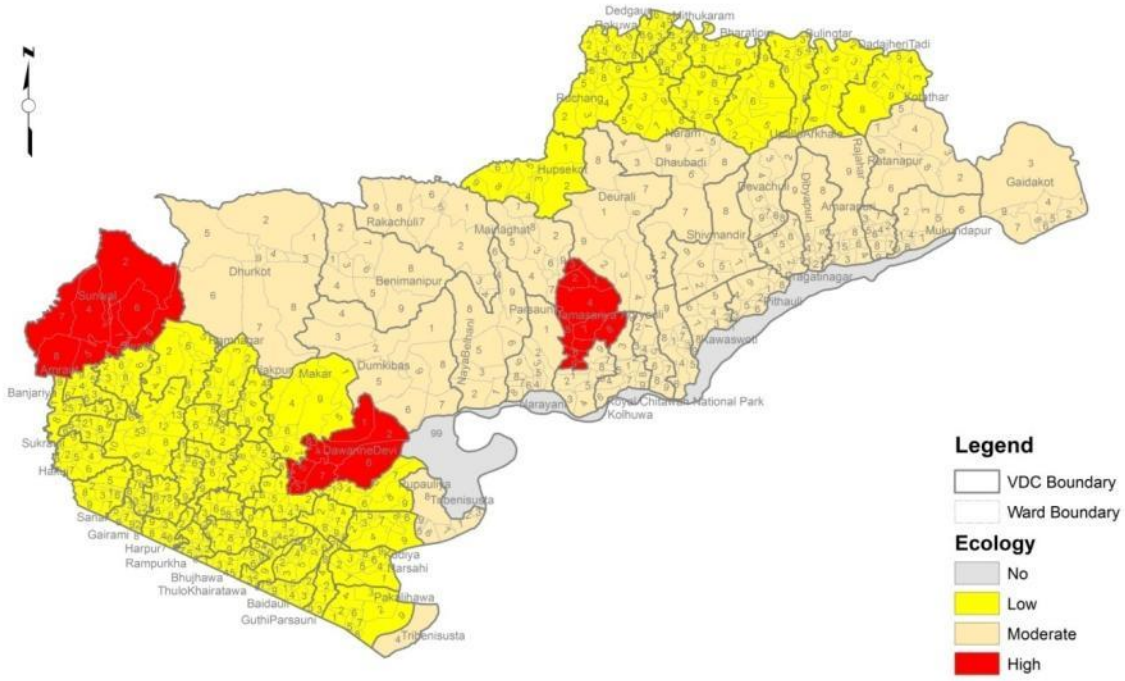
Overall Risk (Ward Level) : Bardiya



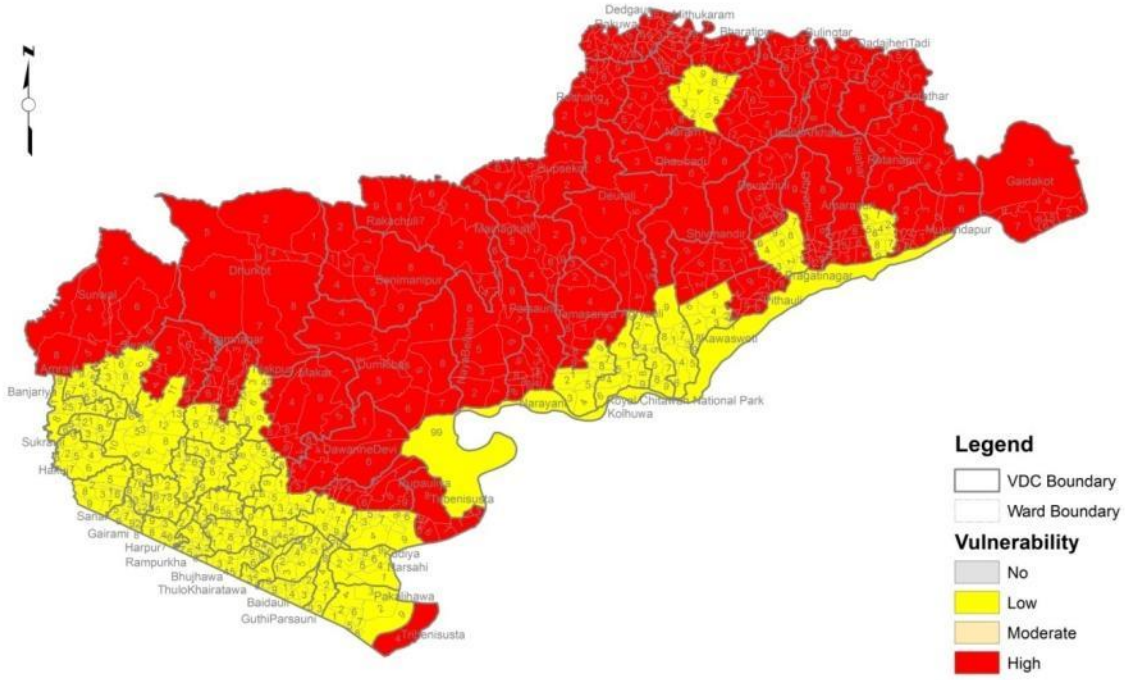
Risk by Disease Burden (Ward Level) : Nawalparasi



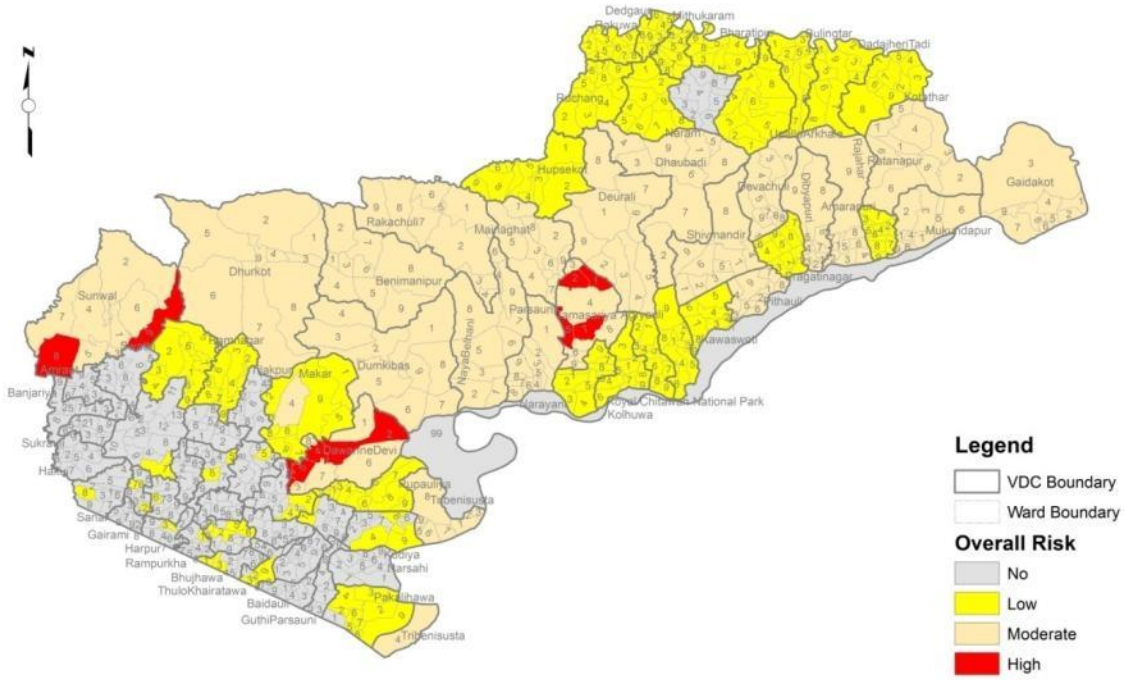
Risk by Ecology (Ward Level) : Nawalparasi



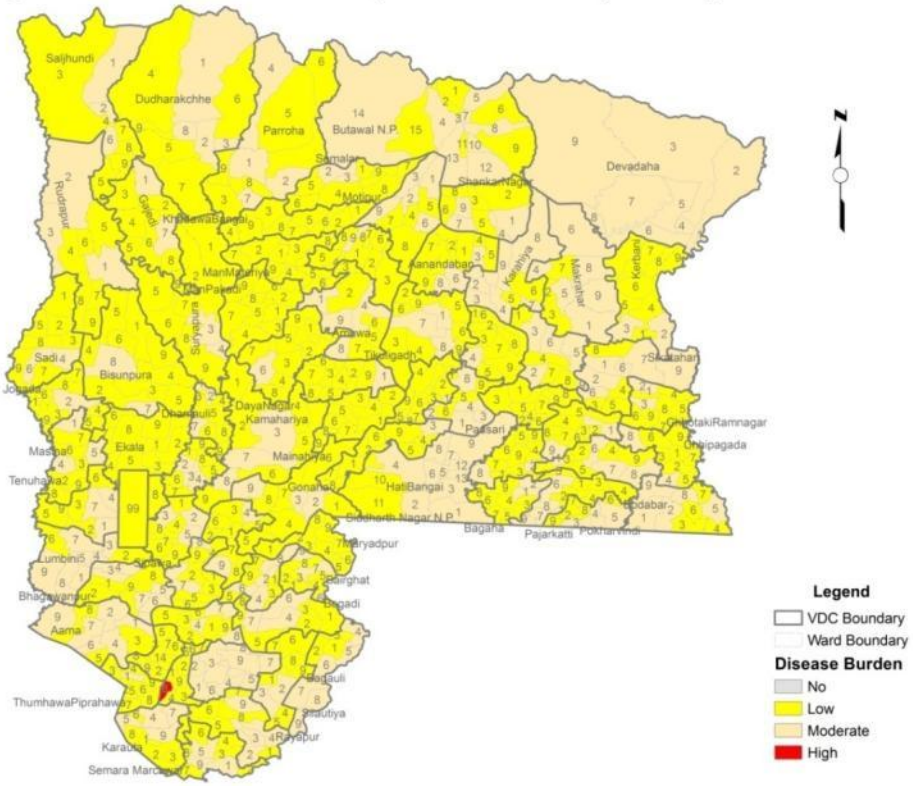
Risk by Vulnerability (Ward Level) : Nawalparasi



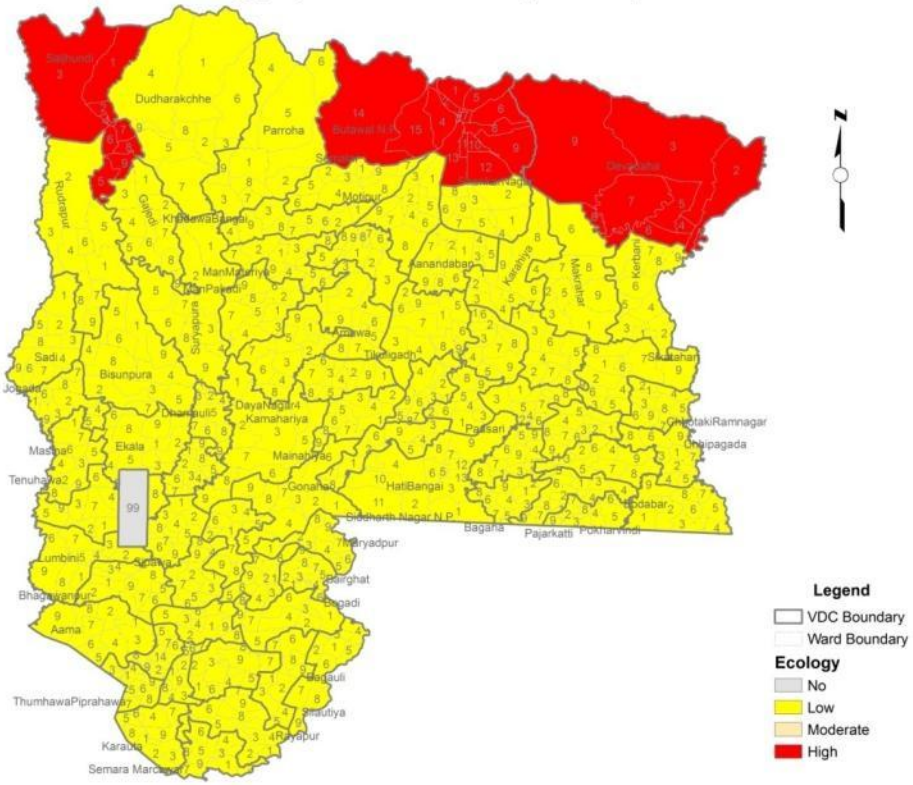
Overall Risk (Ward Level) : Nawalparasi



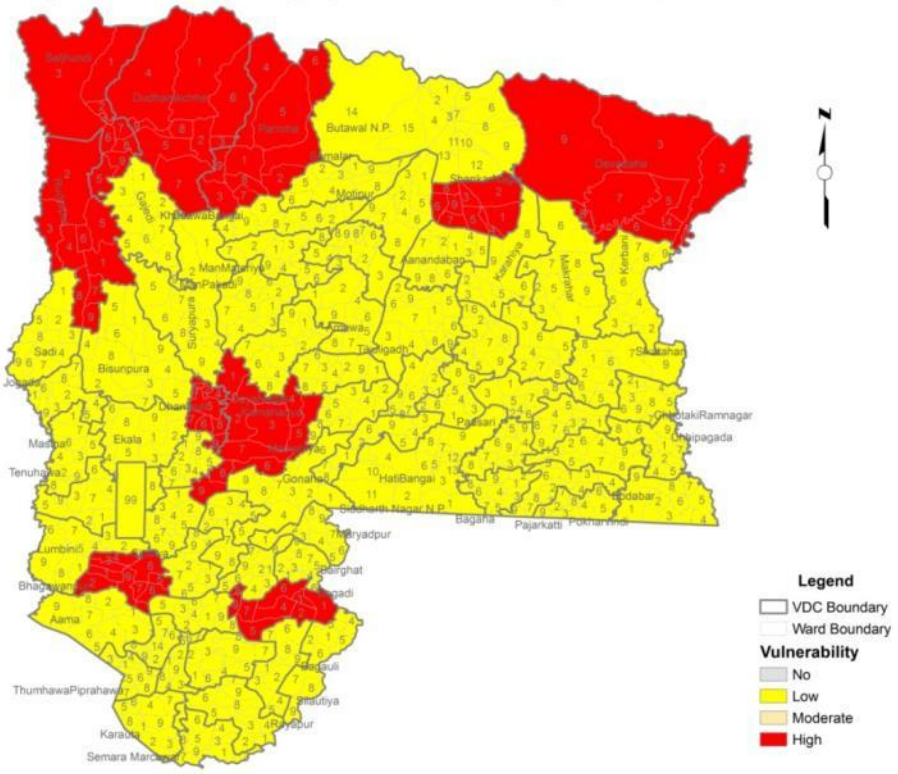
Risk by Disease Burden (Ward Level) : Rupandehi



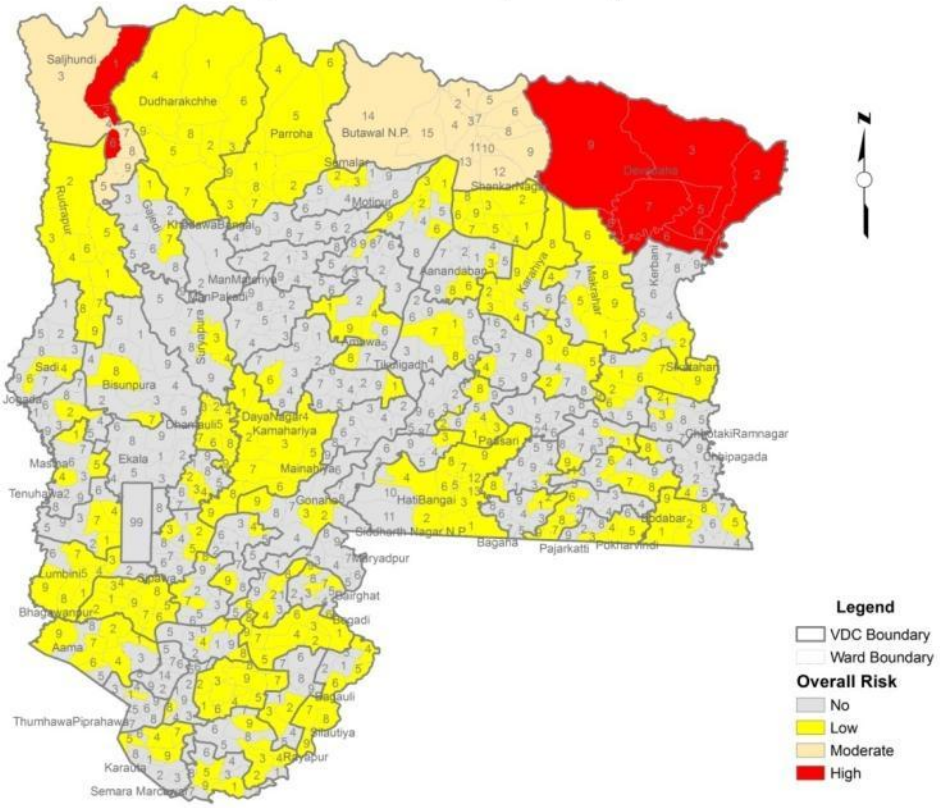
Risk by Ecology (Ward Level) : Rupandehi



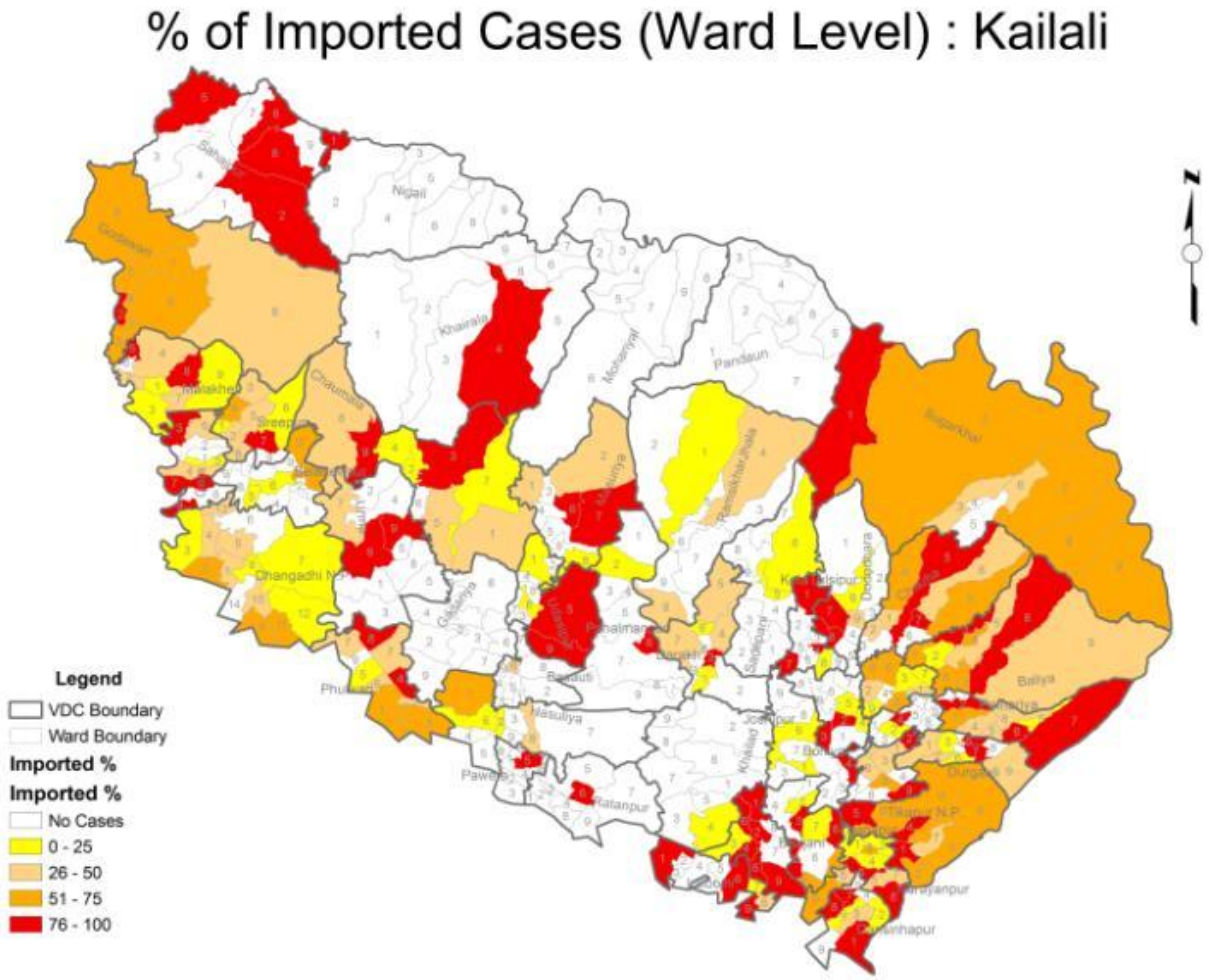
Risk by Vulnerability (Ward Level) : Rupandehi

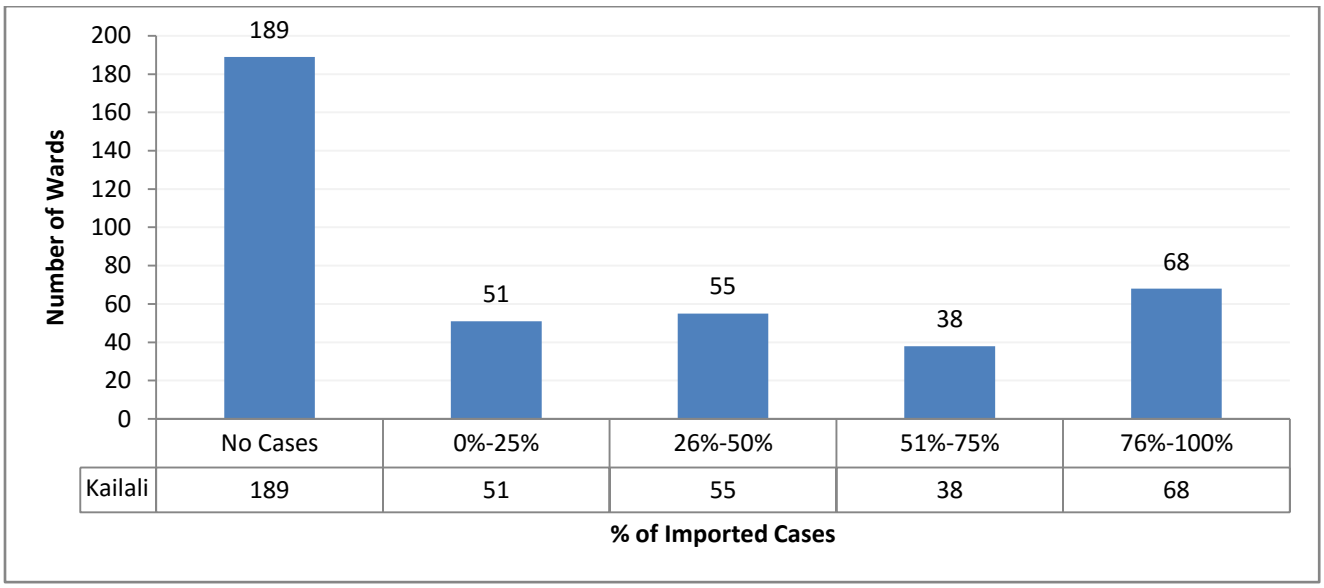


Overall Risk (Ward Level) : Rupandehi

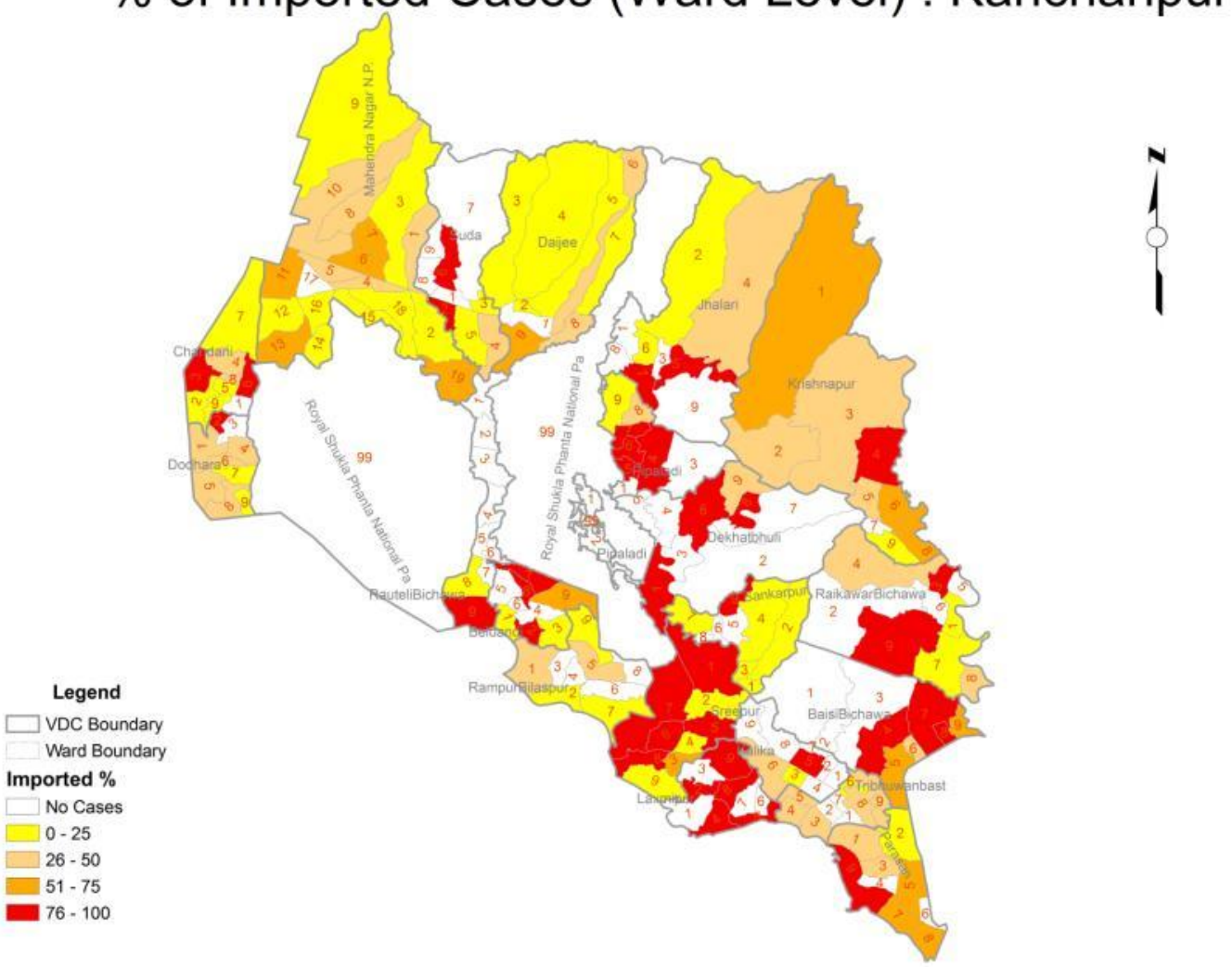


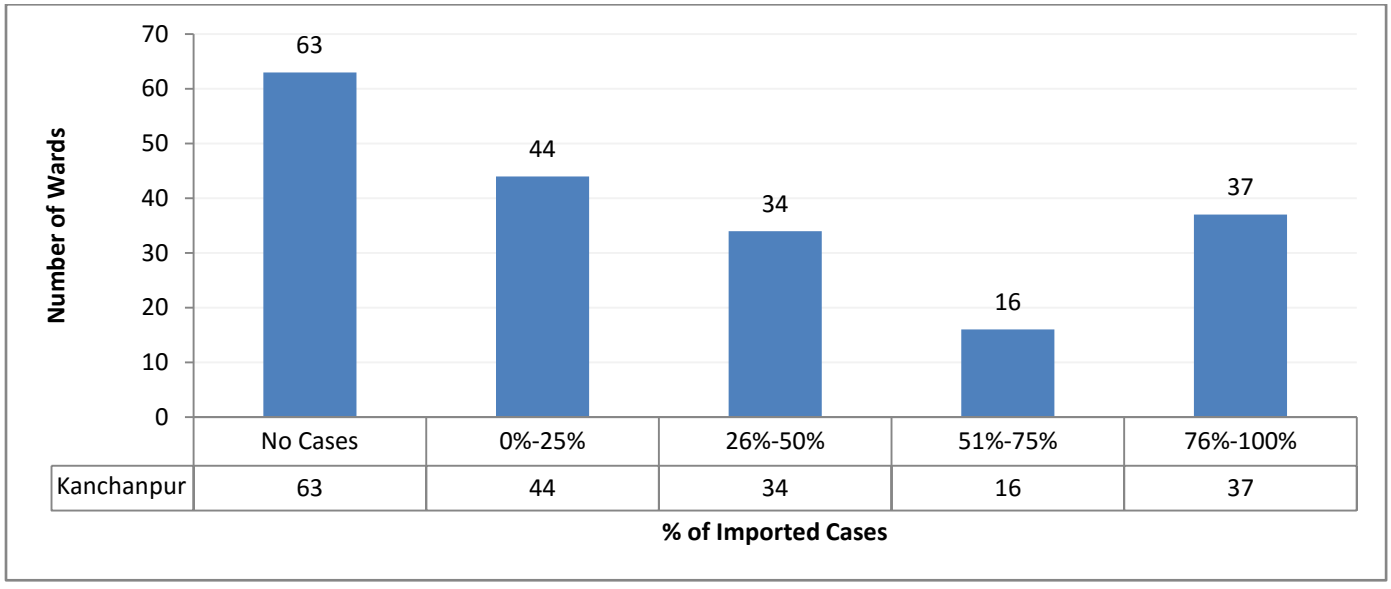
% of Imported cases in each wards



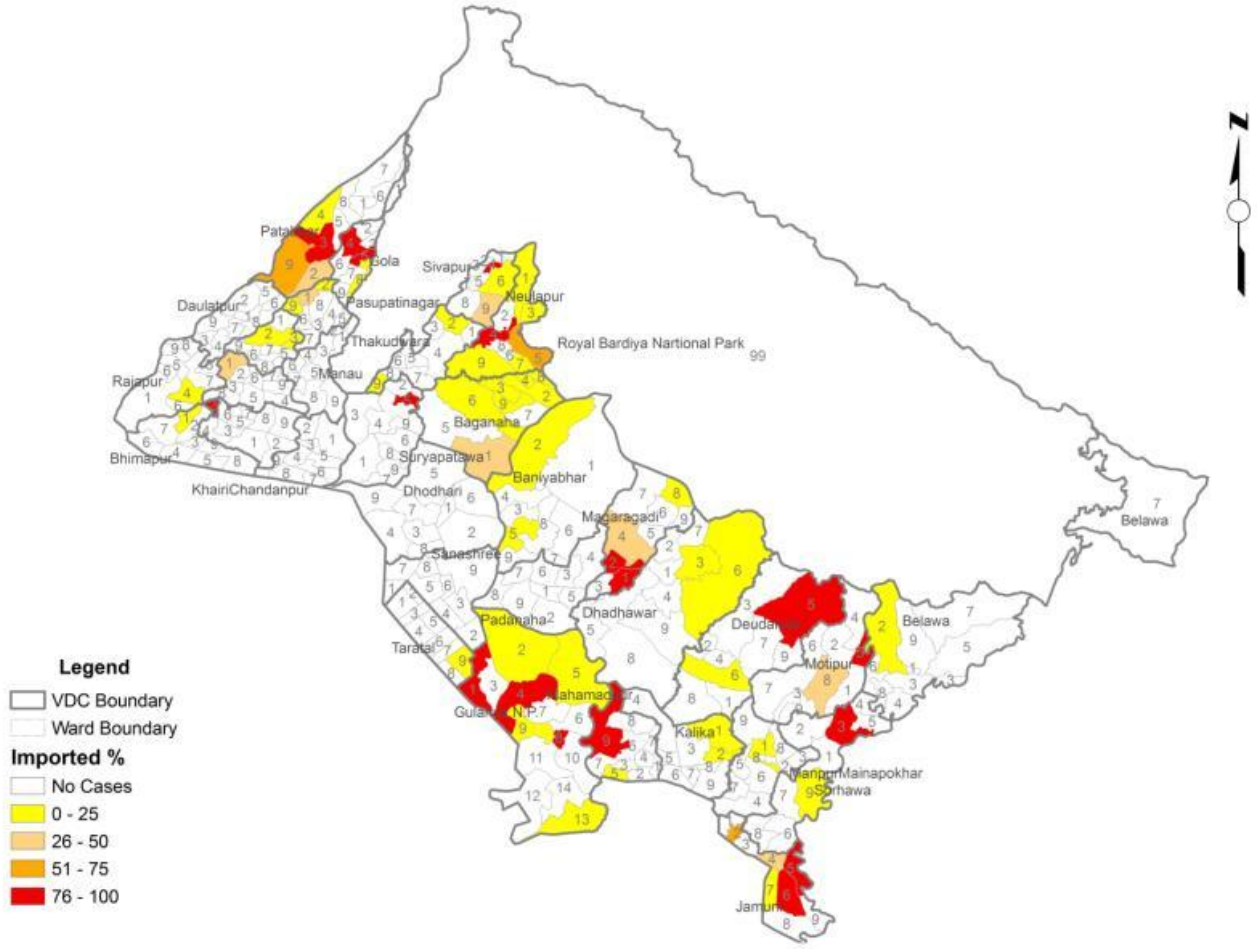


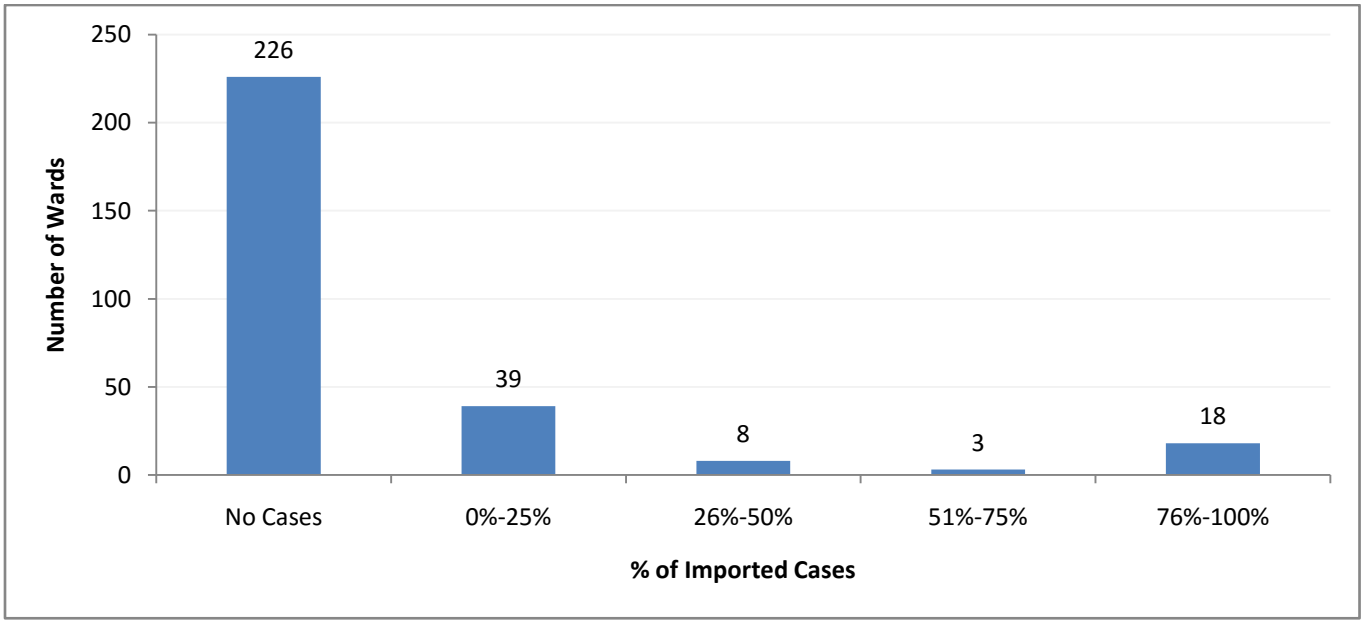
% of Imported Cases (Ward Level) : Kanchanpur



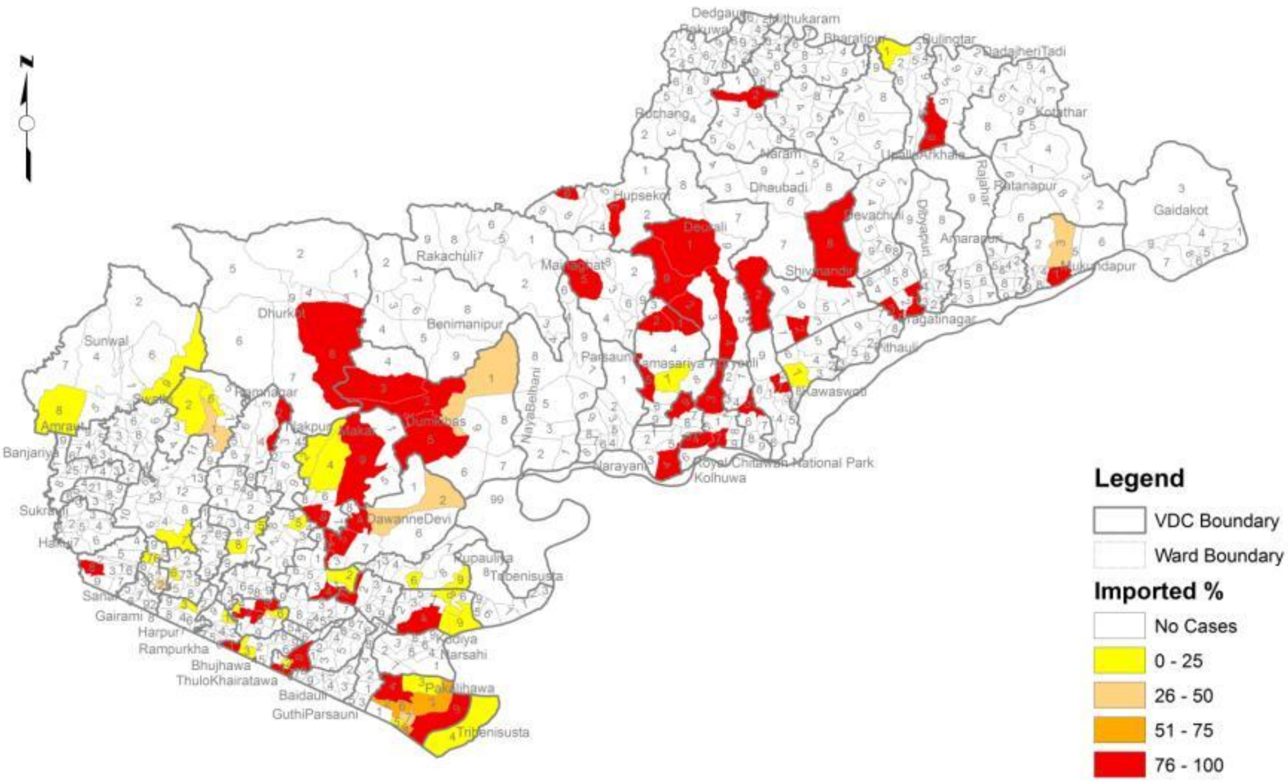


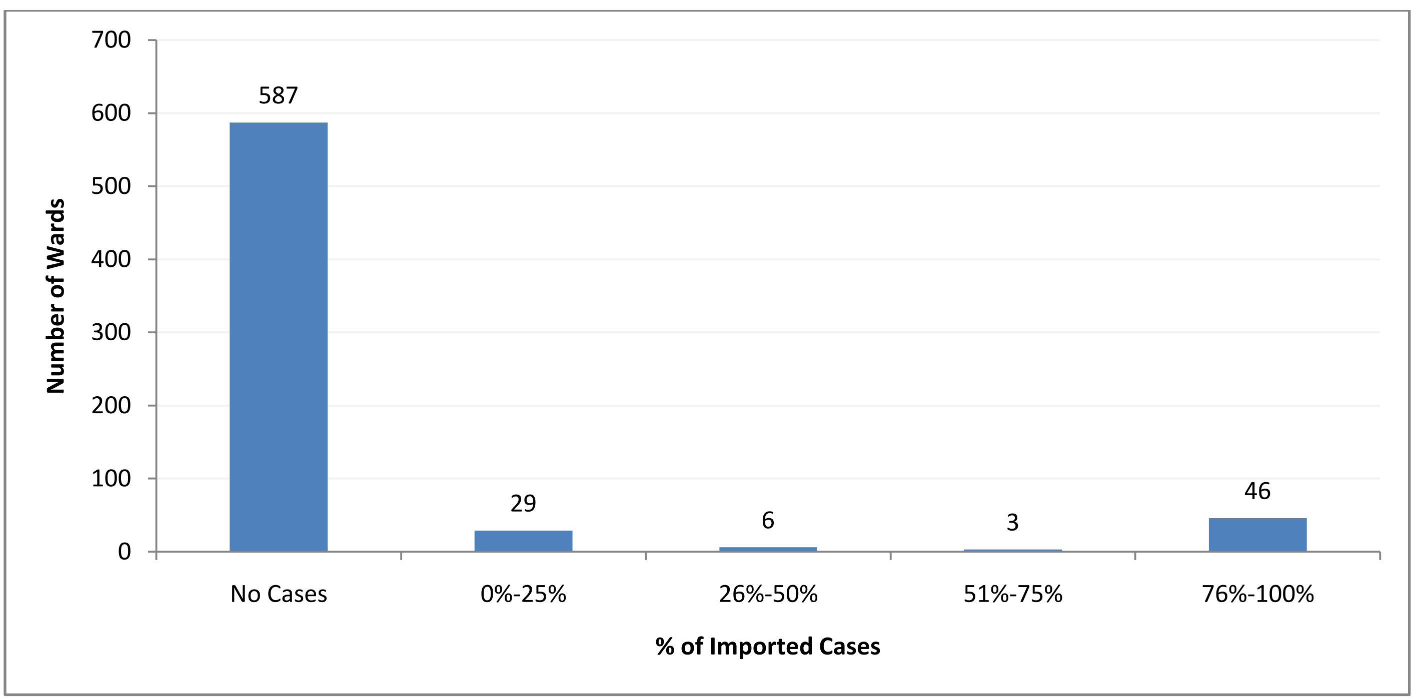
% of Imported Cases (Ward Level) : Bardiya



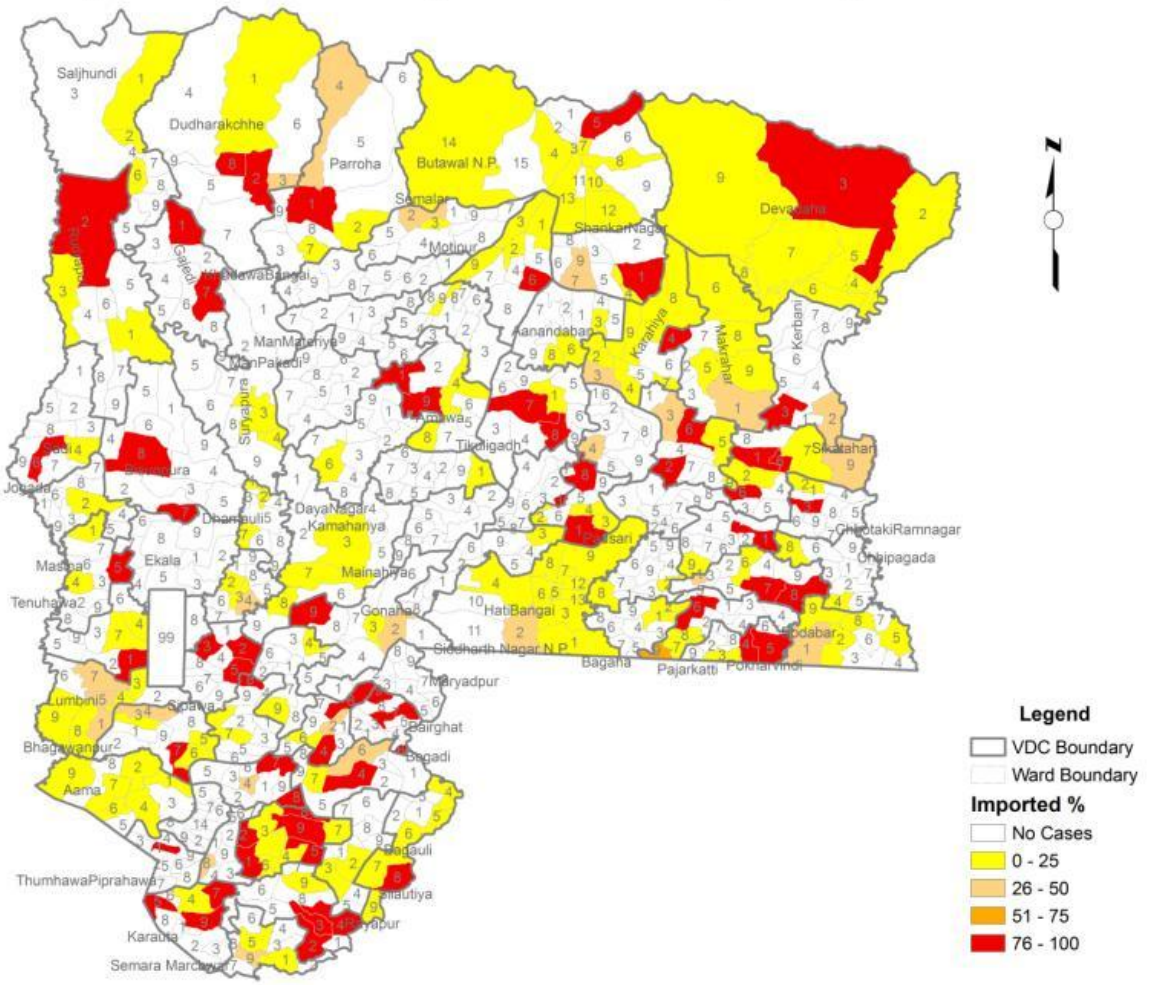


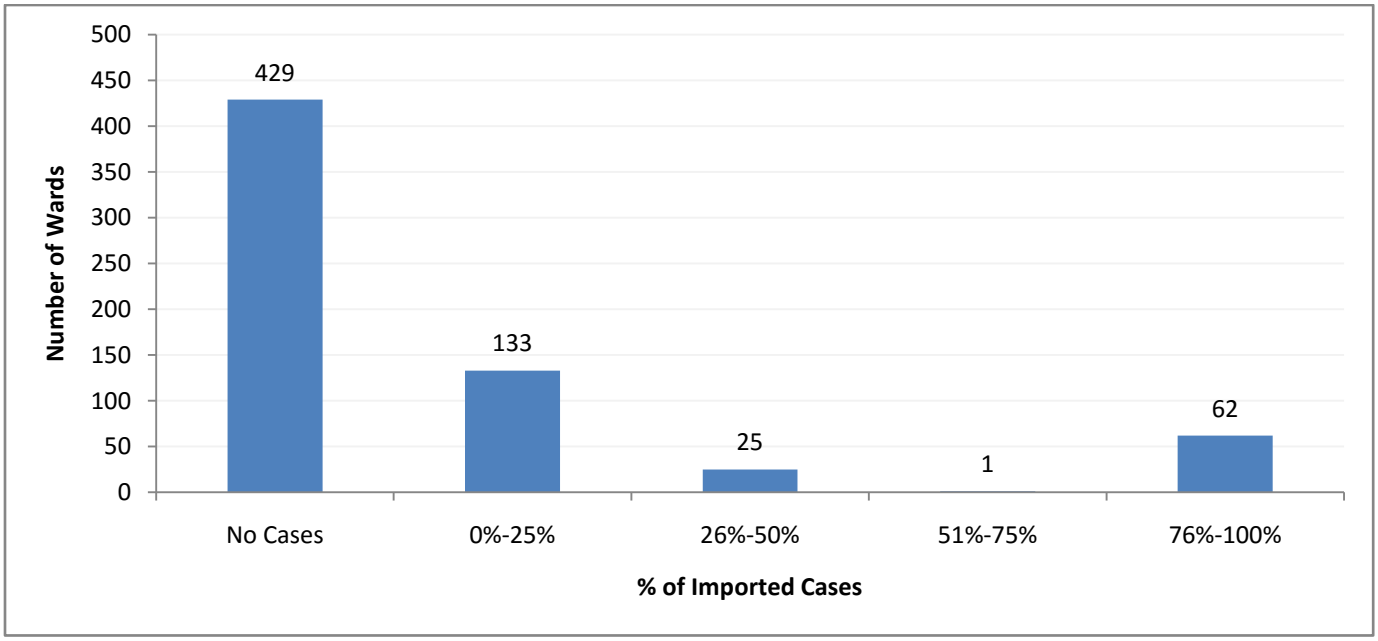
% of Imported Cases (Ward Level) : Nawalparasi



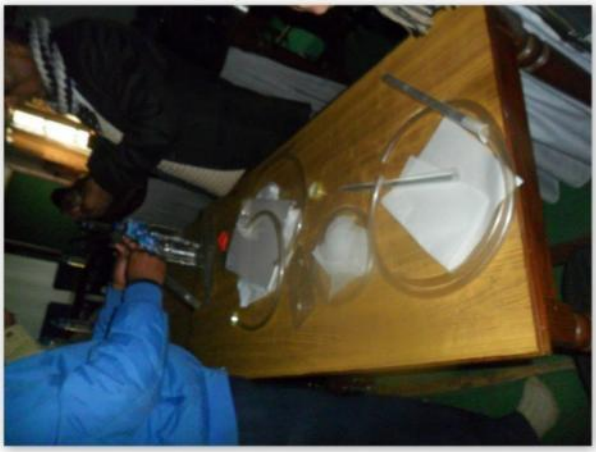


% of Imported Cases (Ward Level) : Rupandehi

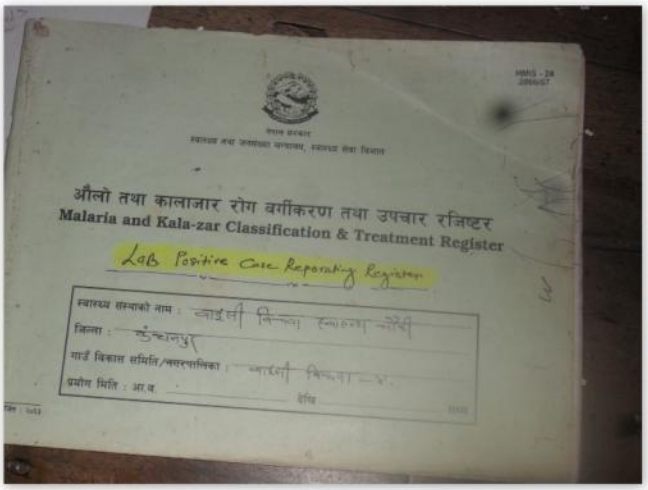




Glimps of the Malaria Microplanning in 5 Malaria Endemic Distircts (Kanchanpur, Kailali, Bardiya, Rupandehi and Nawalparasi)




जिल्ला जनस्वास्थ्य कार्यालय
स्वास्थ्य चौकी
बाईसी बिचवा, कञ्चनपुर


औलो तथा कालाजार रोग वर्गीकरण तथा उपचार रजिष्टर
Malaria and Kala-zar Classification & Treatment Register
LAB Positive Case Reporting Register


औलो रोगको उपचार तालिका
(PF Malaria Treatment Chart)


ONE STEP Malaria HRP–II
SD
Malaria Ag P.f/P.v


जिल्ला जनस्वास्थ्य कार्यालय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