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(ICAR-NIVEDI)

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LIVESTOCK DISEASE FOREWARNING BULLETIN- June 2019

(SIMPLIFIED SOLUTION! MAGNIFIED OPPORTUNITY!)

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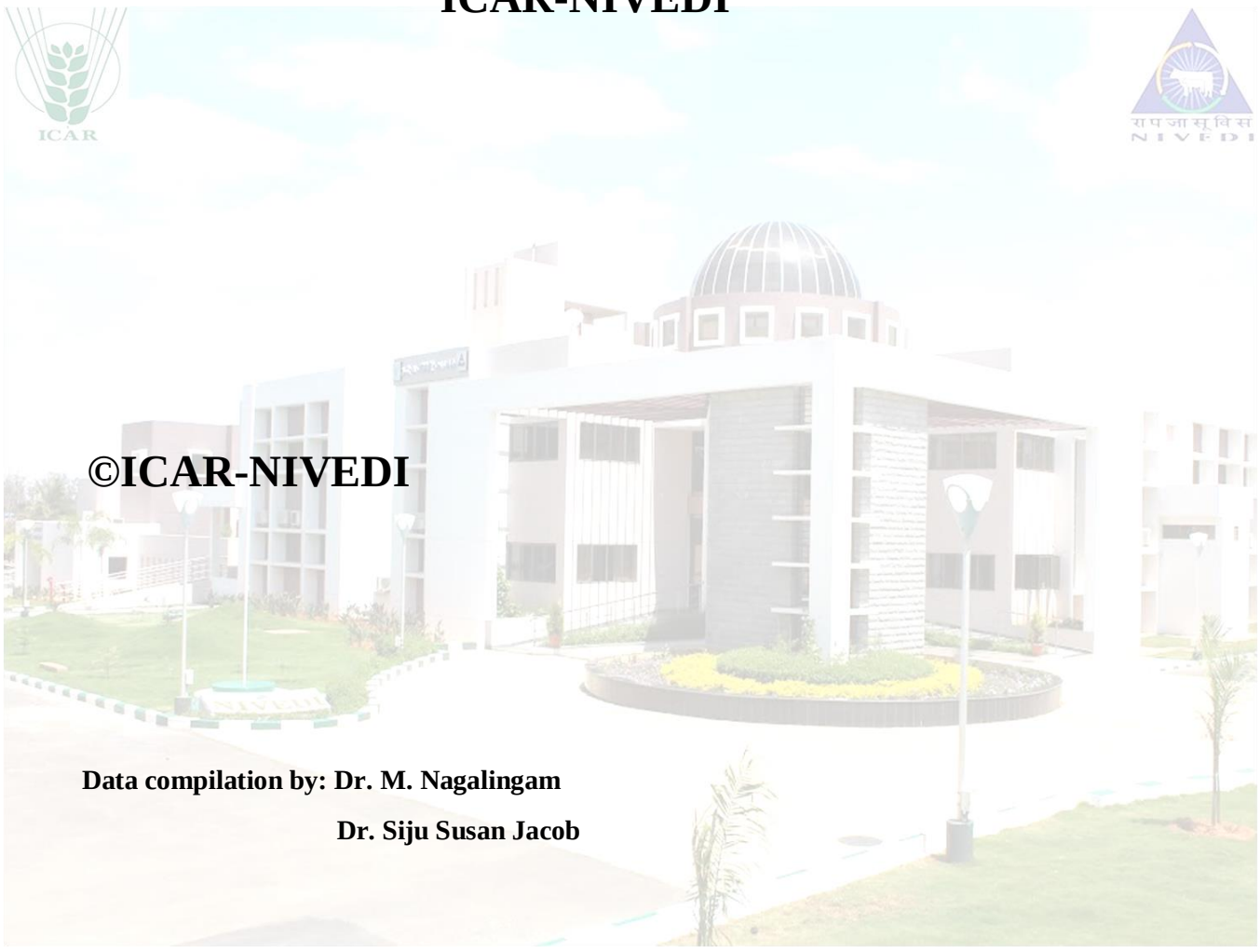

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Disclaimer

The forewarnings are based on the retrospective disease data available in the NADRES database. Hence, for those states wherein data is limited/less, the forewarning may not be realistic. Further the forewarning will not take into consideration the control measures that are *in situ*.

Acknowledgement

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Contents

1. About the bulletin…

Livestock sector also plays a critical role in the welfare of India's rural population. This enterprise provides a flow of essential food products, draught power, manure, employment, income, and export earnings. As it is an important component in poverty alleviation programmes, continuous emphasis is being laid on this sector for enhancing the quality of the primary and secondary products in international market, which in turn demands safe animal health for better products. Therefore, livestock development programmes cannot succeed unless a well-organized animal health service is built up and protection of livestock against diseases and pests particularly against the deadly infections is assured.

India has achieved eradication of rinderpest (RP), CBPP, AHS and Dourine. However, there are several other infectious and non-infectious diseases prevailing in the country causing huge economic loss annually. Prevention, control and eradication of the animal diseases need a thorough understanding of the epidemiology as well their economic impact.

National Institute of Veterinary Epidemiology and Disease Informatics (NIVEDI) has the mandate to carry out research activities in the area of veterinary epidemiology and disease informatics. With the eradication of RP successfully, India has not only proved its ability to face the challenges, but also to succeed, despite various limitations. Similar efforts are needed to control and eradicate the diseases like FMD, PPR, Brucellosis, CSF, HS etc., which cause huge economic loss annually to the livestock industry. To this end, ICAR-NIVEDI has identified 12 priority diseases, based on the past incidence patterns and has built a strong database of these diseases. The database, which is backbone of the National Animal Disease Referral Expert System (NADRES), is used for providing monthly livestock disease forewarning, which is compiled in this monthly bulletin to alert the animal husbandry departments, both at the National/state level, to take appropriate control measures. We hope users/stakeholders find this bulletin useful in their quest to control livestock diseases.

After realising the difficulties in implementing the forewarning results at district level and also considering the importance of forewarning at block level, ICAR-NIVEDI attempted to develop models for predictive analytics at block levels. Similar risk factors like Meteorological and remote sensing variables were used for forewarning at block level. We started providing the forewarning results for Karnataka state on Foot & Mouth disease, Black quarter, HS and PPR on pilot basis.

2. Forewarning Methodology

I. Materials

Livestock disease data

Previous 10 years livestock disease outbreak data retrieved from the NADRES database linked with Risk factors data.

Livestock population data

District wise livestock population data from 19th Livestock census (2012)

Meteorological data

Variables such as precipitation (mm/month), pressure (millibar), relative humidity (%), sea level pressure (millibar), minimum temperature (°C), maximum temperature (°C), wind speed(m/s), vapour pressure (hPa), soil moisture (%), perceptible water (mm), potential evaporation transpiration(mm/day) and cloud (%) were extracted from NCEP-National centre environmental prediction/IMD-Indian meteorological Database/NICRA-National Innovation Climate Resilient Agriculture and other sources for the past five years. Monthly average for the past five years have been calculated and used.

Remote sensing data

Remote sensing variables such as NDVI-Normalised difference vegetation index, EVI-Enhanced vegetation index and LST - Land surface temperature were calculated using MODIS LANDSAT/IRS satellite images for the past five years. Monthly average for the past five years have been calculated and used. Details of the parameters are tabulated below.

SDS Layer Name	Resolution	Description	Units	Data Type	Scaling Factor
500m_16_days_NDVI	500 sq. m	16 day NDVI average	NDVI	16-bit signed integer	0.0001
500m_16_days_EVI	500 sq. m	16 day EVI average	EVI	16-bit signed integer	0.0001
LST_Day_1km	1 sq. km	Day Land Surface Temperature	Kelvin	16-bit unsinged integer	0.02
Lai_1km	1 sq. km	Leaf Area Index	m2plant/m2ground	8-bit unsigned integer	0.1

Global Land data assimilation systems (GLDAS) use sophisticated land surface models (LSMs) to ingest satellite and ground-based observations, as parameters, forcing, and data for assimilation, in order to produce enhanced fields of land surface states and fluxes.

GLDAS Noah Land Surface Model containing the environmental parameters such as Potential evaporation rate (W m-2), Pressure (Pa), Specific humidity (kg/kg), Total precipitation rate (kg m-2 s-1), Soil moisture (kg m-2), Temperature (K), Wind speed (m/s) were downloaded and data was extracted. Data was downloaded from the "GLDAS_NOAH025_M_V2.1" Dataset (https://disc.sci.gsfc.nasa.gov/) by setting the start and end dates. The spatial resolution of dataset is 25 sq. km.

II. Weighted outbreak score

The outbreak data for the month of forecasting is extracted from NADRES database for the period of 10 years from current year. Outbreak data of 12 important livestock diseases are considered. The data is aggregated at district level and the weighted score is defined based on the number of outbreaks for each district in each month considering last 10 years. The weightage score was assigned as 0 for less than three number of outbreaks in last 10 years for selected month, score 1 for 3–6 number of outbreaks and 2 for more than 6 outbreaks. This weightage score for each district is labelled as risk variable in building the models and risk maps.

III. Method

Disease outbreak was predicted by combining predicted results from Generalised Linear Model (Logistic Regression), Gradient Boosting and Random Forest models to form the master chart containing the above parameters using a R programme and the probability of disease outbreak was categorised in 6 risk levels- No risk (NR), Very low risk (V), Low risk (LR), Moderate risk (MR), High risk (HR) and Very high risk (VHR) for enabling the stake holders to take appropriate control measures by suitably allocating available resources.

Given below is the probability distribution of risk interpretations.

S. No.	Probability of risk	Interpretation
1	0	No risk/No or inadequate data
2	0–0.20	Very low risk
3	0.21–0.40	Low risk
4	0.41–0.60	Moderate risk
5	0.61–0.80	High risk
6	0.8–1.0	Very high risk

3. Accuracy of Prediction

Serial No.	Diseases	Accuracy (%)
1.	Anthrax	99.69
2.	Babesiosis	99.69
3.	Black Quarter	94.29
4.	Blue Tongue	99.69
5.	Enterotoxemia	96.30
6.	Fasciolosis	98.92
7.	Foot and mouth disease	95.52
8.	Haemorrhagic septicaemia	93.98
9.	Peste des petits ruminants	92.90
10.	Sheep & Goat pox	95.52
11.	Swine fever	99.07
12.	Theileriosis	98.15
13.	Trypanosomosis	98.77

- **Formula Used:** The **Accuracy** of disease prediction was calculated using the following formula.

$$\frac{\text{TP} + \text{TN}}{\text{Total}} * 100$$

TP-True Positive Observations, TN-True Negative Observations, Total- Total observations.

- Internal Accuracy was performed using 10 years of data. Accuracy obtained was >90% for all the diseases predicted.

4. Moran's I for clustering of Livestock diseases

Moran's I is a tool measures spatial autocorrelation (feature similarity) based on both feature locations and feature values simultaneously. Given a set of features and an associated attribute, it evaluates whether the pattern expressed is clustered, dispersed, or random. The tool calculates the Moran's I Index value and both a Z score and p-value evaluating the significance of that index. In general, a Moran's Index value near +1.0 indicates clustering while an index value near -1.0 indicates dispersion.

In the case of the Spatial Autocorrelation tool, the null hypothesis states that "there is no spatial clustering of the values associated with the geographic features in the study area". When the *p*-value is small and the absolute value of the *Z* score is large enough that it falls outside of the desired confidence level, the null hypothesis can be rejected. If the index value is greater than 0, the set of features exhibits a clustered pattern. If the value is less than 0, the set of features exhibits a dispersed pattern.

The Moran's I statistic for spatial autocorrelation is given as:

$$I = \frac{n}{S_0} \frac{\sum_{i=1}^{n} \sum_{j=1}^{n} w_{i,j} z_i z_j}{\sum_{i=1}^{n} z_i^2} \quad (1)$$

where z_i is the deviation of an attribute for feature i from its mean $(x_i - \bar{X})$, $w_{i,j}$ is the spatial weight between feature i and j, n is equal to the total number of features, and S_0 is the aggregate of all the spatial weights:

$$S_0 = \sum_{i=1}^{n} \sum_{j=1}^{n} w_{i,j} \quad (2)$$

The z_I-score for the statistic is computed as:

$$z_I = \frac{I - \mathrm{E}[I]}{\sqrt{\mathrm{V}[I]}} \quad (3)$$

where:

$$\mathrm{E}[I] = -1/(n-1) \quad (4)$$

$$\mathrm{V}[I] = \mathrm{E}[I^2] - \mathrm{E}[I]^2 \quad (5)$$

Moran I indices measured for interpreting Spacial clustering

state	Anthrax	Babesiosis	BQ	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
ANDHRA PRADESH												
ARUNACHAL PRADESH					0.21							
ASSAM			0.05		0.28		-0.18	0.25	0.07	-0.15		
HIMACHAL PRADESH							0.18					
JAMMU & KASHMIR								0.15				
JHARKHAND						0.00			0.23			
KARNATAKA		-0.13	-0.01	-0.11	-0.10	-0.10	0.32	-0.10			0.01	-0.04
KERALA	0.03		0.03	-0.09		0.08	0.00	0.12	-0.04			
MADHYA PRADESH						0.03	0.00	0.16				
MANIPUR			0.08			-0.05	-0.06	-0.05				
MEGHALAYA			-0.17		-0.13	-0.37				-0.24		
NAGALAND			-0.42			0.05	-0.44			-0.18		
ODISHA										-0.36		
RAJASTHAN	-0.16		-0.11				0.04	0.06				
TAMIL NADU						-0.16						
TRIPURA	0.15											
UTTAR PRADESH		-0.67	-0.67			-0.67		-0.67				
WEST BENGAL												0.11

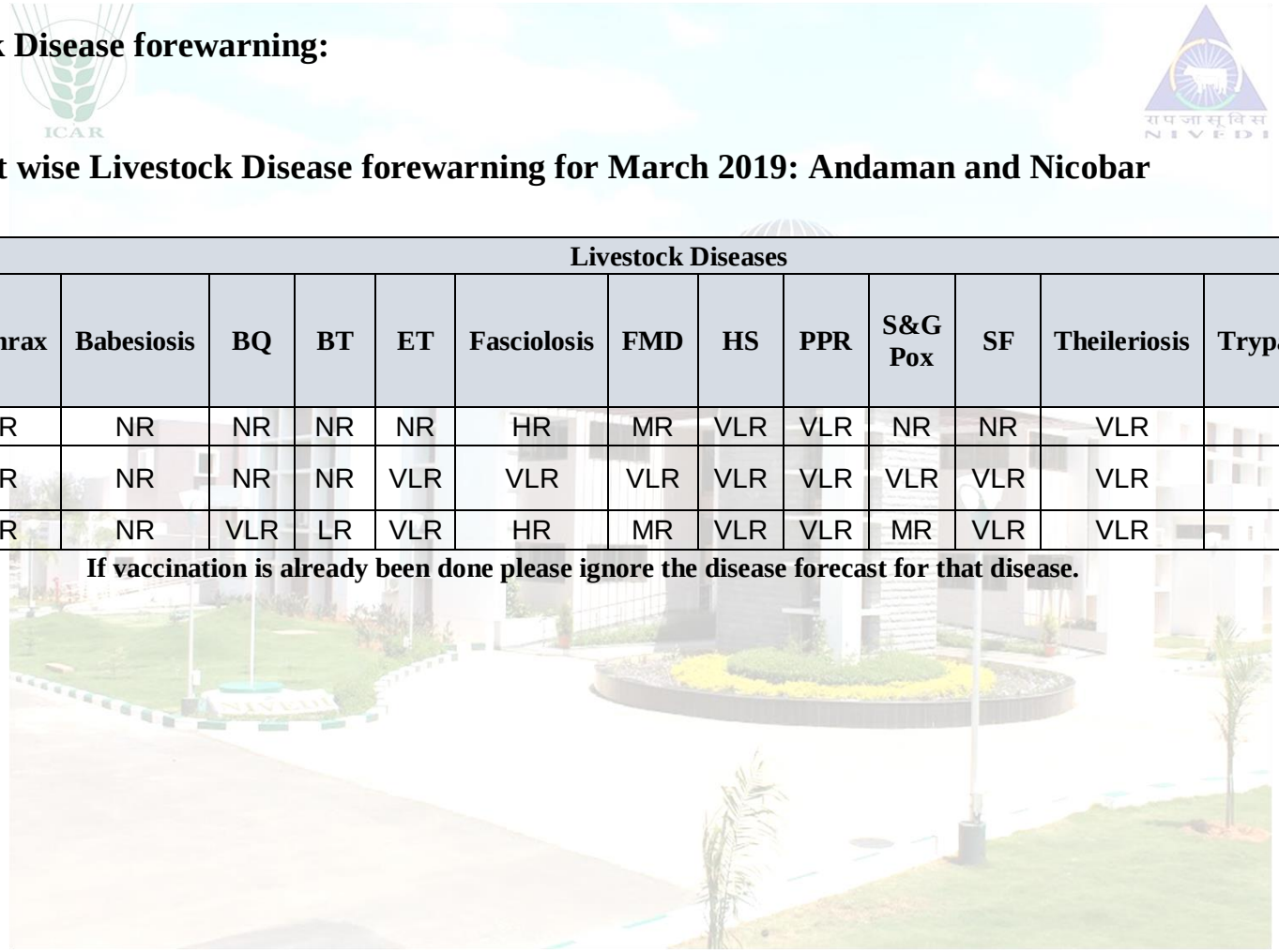
5. Forewarning of livestock disease for the month of March 2019

i) District wise Livestock Disease forewarning:

District wise Livestock Disease forewarning for March 2019: Andaman and Nicobar

Districts of Andaman and Nicobar	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Nicobars	NR	NR	NR	NR	NR	HR	MR	VLR	VLR	NR	NR	VLR	VLR
North & Middle Andaman	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
South Andaman	NR	NR	VLR	LR	VLR	HR	MR	VLR	VLR	MR	VLR	VLR	VLR

If vaccination is already been done please ignore the disease forecast for that disease.

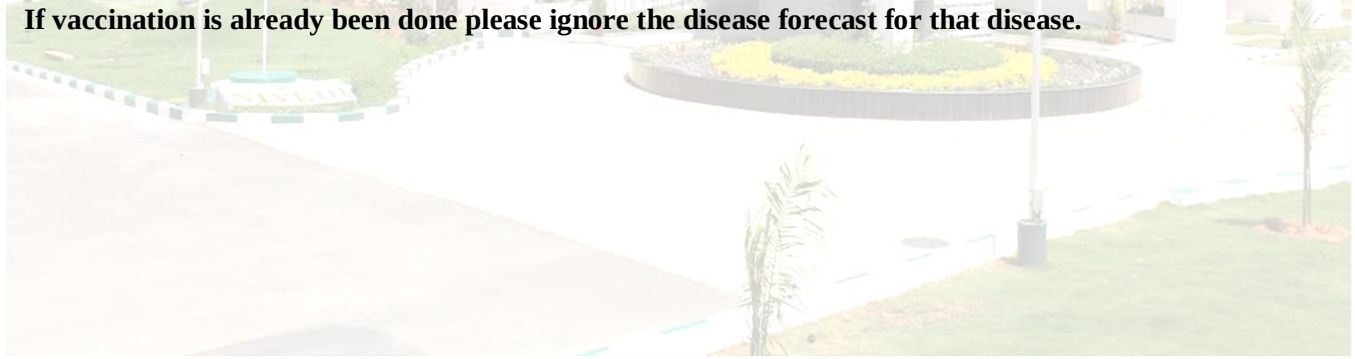


*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Andhra Pradesh

Districts of Andhra Pradesh	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Anantapur	NR	NR	VLR	NR	MR	NR	VLR	VLR	MR	VLR	NR	NR	NR
Chittoor	NR	NR	VLR	NR	VLR	NR	NR	VLR	VLR	VLR	NR	NR	NR
East Godavari	NR	NR	VHR	NR	NR	VLR	NR	HR	VLR	VLR	NR	NR	NR
Guntur	NR	NR	VLR	NR	VLR	NR	VLR	HR	VLR	VLR	NR	NR	NR
Krishna	NR	NR	VLR	NR	VLR	NR	VLR	VLR	MR	MR	VLR	NR	NR
Kurnool	VHR	NR	NR	NR	LR	NR	NR	VLR	LR	VLR	NR	NR	NR
Prakasam	NR	NR	VLR	NR	VLR	NR	VLR	LR	VLR	VLR	NR	NR	NR
Sri Potti Sriramulu Nellore	VHR	NR	VLR	NR	VLR	NR	NR	VLR	VLR	VLR	NR	NR	NR
Srikakulam	VHR	NR	HR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR	NR
Visakhapatnam	NR	NR	VLR	NR	VLR	NR	NR	HR	VLR	VLR	NR	NR	NR
Vizianagaram	NR	NR	VLR	NR	VLR	VLR	VLR	HR	VLR	VLR	NR	NR	NR
West Godavari	NR	NR	VLR	NR	VLR	NR	VLR	HR	VLR	VLR	NR	NR	NR
Y.S.R.	VHR	NR	VLR	NR	VLR	NR	NR	VLR	MR	VLR	NR	NR	NR

If vaccination is already been done please ignore the disease forecast for that disease.



*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Arunachal Pradesh

Districts of Arunachal Pradesh	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Anjaw	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR	VLR
Changlang	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	VLR	VLR	VLR
Dibang Valley	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	NR
East Kameng	NR	NR	NR	NR	NR	VLR	NR	NR	VLR	NR	VLR	NR	NR
East Siang	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Kurung Kumey	NR	NR	NR	NR	NR	VLR	NR	NR	NR	VLR	NR	VLR	NR
Lohit	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	VLR	VLR	NR
Lower Dibang Valley	NR	NR	VLR	NR	NR	VLR	VLR	NR	VLR	VLR	VLR	VLR	NR
Lower Subansiri	NR	NR	VLR	NR	NR	VHR	NR	VLR	NR	NR	VLR	NR	NR
Papum Pare	NR	NR	VLR	NR	NR	VHR	NR	VLR	NR	VLR	VLR	NR	NR
Tawang	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR	NR
Tirap	NR	NR	VLR	VLR	NR	VLR	NR	NR	VLR	NR	VLR	VLR	NR
Upper Siang	NR	NR	VLR	VLR	VLR	VLR	NR	VLR	VLR	VLR	NR	NR	NR
Upper Subansiri	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	VLR	VLR	NR
West Kameng	NR	NR	VLR	NR	VLR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR
West Siang	NR	NR	VLR	NR	NR	VHR	NR	VLR	VLR	VLR	NR	VLR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Assam

Districts of Assam	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Baksa	NR	NR	VHR	NR	NR	VLR	VLR	VLR	NR	VLR	VLR	VLR	NR
Barpeta	NR	NR	VHR	NR	VLR	VHR	VLR	VHR	VLR	VLR	VLR	NR	NR
Bongaigaon	NR	NR	VLR	NR	VLR	VLR	NR	VLR	VLR	VLR	VLR	NR	NR
Cachar	NR	NR	VHR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Chirang	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	NR
Darrang	NR	NR	VLR	NR	VLR	VHR	NR	VHR	MR	VLR	VLR	NR	VLR
Dhemaji	NR	NR	VHR	NR	NR	VHR	VLR	HR	VLR	VLR	HR	HR	VLR
Dhubri	NR	NR	VHR	NR	VLR	VHR	VLR	VLR	VLR	VLR	VLR	NR	NR
Dibrugarh	NR	NR	VHR	NR	VLR	VHR	VLR	VLR	VLR	VLR	VLR	VLR	NR
Dima Hasao	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	NR
Goalpara	NR	NR	VHR	NR	MR	VLR	VLR	HR	VLR	VLR	VLR	VLR	VLR
Golaghat	NR	NR	VHR	NR	NR	VHR	NR	VLR	NR	VLR	VLR	VLR	NR
Hailakandi	NR	NR	VLR	VLR	NR	VLR	VLR	NR	VLR	VLR	VLR	VLR	NR
Jorhat	NR	NR	VHR	NR	VLR	VHR	NR	VLR	VLR	VLR	HR	VLR	NR
Kamrup	NR	NR	VLR	NR	NR	VHR	VLR	VLR	NR	VHR	HR	NR	NR
Kamrup Metropolitan	NR	NR	VLR	NR	VLR	VHR	VLR	VLR	VHR	VLR	HR	NR	NR
Karbi Anglong	NR	NR	HR	NR	VLR	VLR	VLR	VLR	VLR	MR	VHR	HR	NR
Karimganj	NR	NR	VHR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	NR	NR
Kokrajhar	NR	NR	VLR	NR	VLR	VLR	VLR	VHR	VLR	VLR	HR	VLR	NR
Lakhimpur	NR	NR	VHR	NR	NR	VHR	VLR	VHR	VLR	VLR	VHR	VLR	NR
Morigaon	NR	NR	VHR	NR	VLR	VLR	NR	VHR	VLR	VLR	VLR	NR	NR

Continue

Districts of Assam	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Nagaon	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	HR	VLR	NR	NR
Nalbari	NR	NR	HR	NR	VLR	VHR	VLR	VHR	VLR	HR	VLR	NR	NR
Sivasagar	NR	NR	VHR	NR	NR	VHR	VLR	VHR	VLR	NR	HR	NR	NR
Sonitpur	NR	NR	VHR	NR	VLR	HR	VLR	VLR	VLR	VLR	VLR	VLR	NR
Tinsukia	NR	NR	VLR	NR	NR	VLR	VLR	VLR	NR	NR	VLR	NR	NR
Udalguri	NR	NR	VHR	NR	VLR	VHR	VLR	VHR	HR	VLR	HR	NR	VLR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Bihar

Districts of Bihar	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Araria	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	NR	VLR	NR	NR
Arwal	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR
Aurangabad	NR	NR	VLR	NR	NR	VLR	VLR	NR	VLR	NR	NR	VLR	VLR
Banka	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR
Begusarai	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR
Bhagalpur	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	VLR	VLR	VLR
Bhojpur	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	HR
Buxar	NR	NR	VLR	NR	NR	VLR	VLR	NR	VLR	NR	NR	VLR	VLR
Darbhanga	NR	NR	VLR	NR	NR	NR	VLR	NR	VLR	NR	NR	NR	VLR
Gaya	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Gopalganj	NR	NR	NR	NR	VLR	VLR	NR	VLR	VLR	NR	NR	NR	NR
Jamui	NR	NR	NR	NR	NR	VLR	VLR	NR	VLR	NR	NR	VLR	VLR
Jehanabad	NR	NR	VLR	NR	VLR	VLR	VLR	NR	VLR	VLR	NR	VLR	VLR
Kaimur (Bhabua)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	VLR
Katihar	NR	NR	VLR	NR	VLR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR
Khagaria	NR	NR	VLR	NR	VLR	VLR	VLR	NR	VLR	NR	VLR	VLR	VLR
Kishanganj	NR	NR	VLR	NR	NR	VLR	VLR	VLR	NR	NR	VLR	NR	NR
Lakhisarai	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR
Madhepura	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	VLR	VLR
Madhubani	NR	NR	VLR	NR	NR	NR	VLR	NR	VLR	NR	NR	NR	NR
Munger	NR	NR	VLR	NR	VLR	VLR	VLR	NR	VLR	NR	VLR	VLR	NR
Muzaffarpur	NR	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	NR	VLR	VLR

Continue

Districts of Bihar	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Nalanda	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR
Nawada	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR	NR
Pashchim Champaran	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR
Patna	NR	NR	VLR	NR	VLR	VLR	VLR	LR	VLR	VLR	NR	VLR	LR
Purba Champaran	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR	NR
Purnia	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Rohtas	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR	VLR
Saharsa	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	VLR	VLR	VLR
Samastipur	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR
Saran	NR	NR	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	VLR	VLR
Sheikhpura	NR	NR	VLR	NR	VLR	VLR	VLR	NR	VLR	NR	NR	VLR	VLR
Sheohar	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	VLR
Sitamarhi	NR	NR	NR	NR	NR	VLR	NR	VLR	VLR	NR	NR	NR	NR
Siwan	NR	NR	VLR	NR	NR	VLR	NR	NR	VLR	NR	NR	VLR	VLR
Supaul	NR	NR	VLR	NR	VLR	NR	VLR	VLR	HR	VLR	NR	VLR	NR
Vaishali	NR	NR	VLR	NR	NR	VLR	VLR	NR	VLR	NR	NR	VLR	VLR

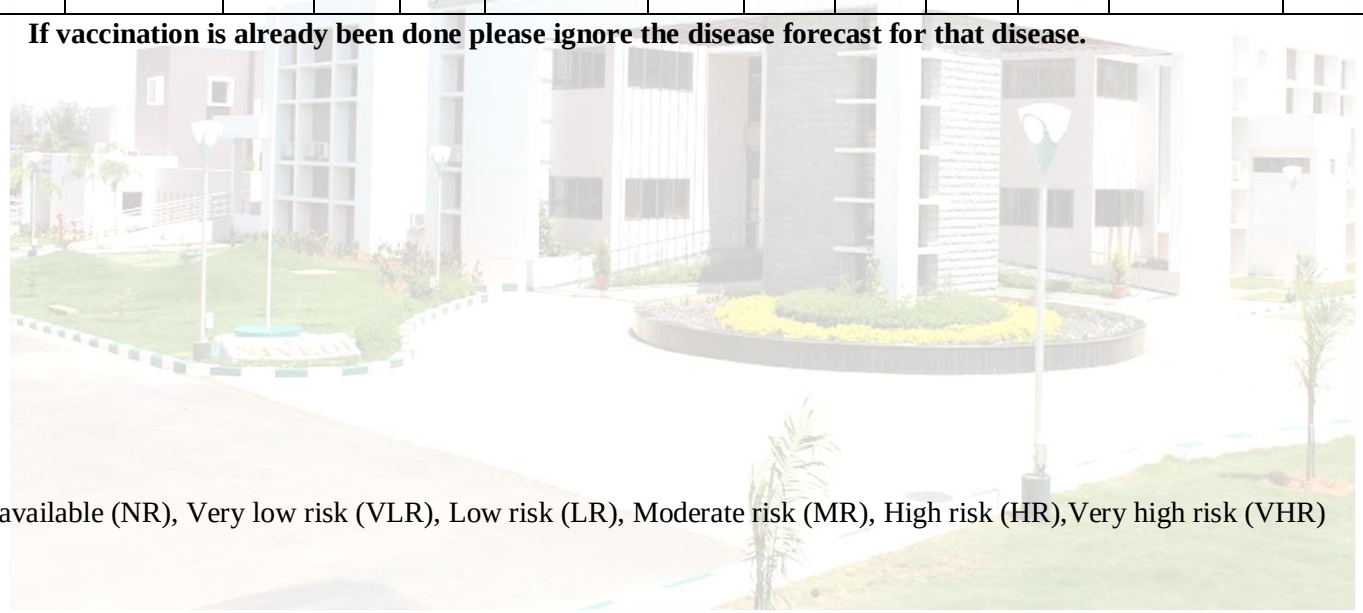
If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Chandigarh

Districts of Chandigarh	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Chandigarh	NR	NR	NR	NR	VLR	VLR	MR	LR	VLR	NR	VLR	VLR	VLR

If vaccination is already been done please ignore the disease forecast for that disease.



*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Chhattisgarh

Districts of Chhattisgarh	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Bastar	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	NR
Bijapur	NR	NR	VLR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR
Bilaspur	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR	NR	VLR
Dakshin Bastar Dantewada	NR	NR	VLR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR
Dhamtari	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	VLR	VLR	NR	NR
Durg	NR	NR	NR	NR	VLR	VLR	VLR	NR	VLR	NR	NR	NR	NR
Janjgir-champa	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR	NR
Jashpur	NR	NR	NR	NR	NR	VLR	VLR	NR	VLR	NR	NR	VLR	VLR
Kabeerdham	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR	VLR
Korba	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	VLR	VLR
Koriya	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR	NR
Mahasamund	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR
Narayanpur	NR	NR	VLR	NR	NR	NR	VLR	NR	VLR	NR	NR	NR	VLR
Raigarhh	NR	NR	VLR	VLR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR	VLR
Raipur	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Rajnandgaon	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR
Surguja	NR	NR	VLR	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR
Uttar Bastar Kanker	NR	NR	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	NR	NR

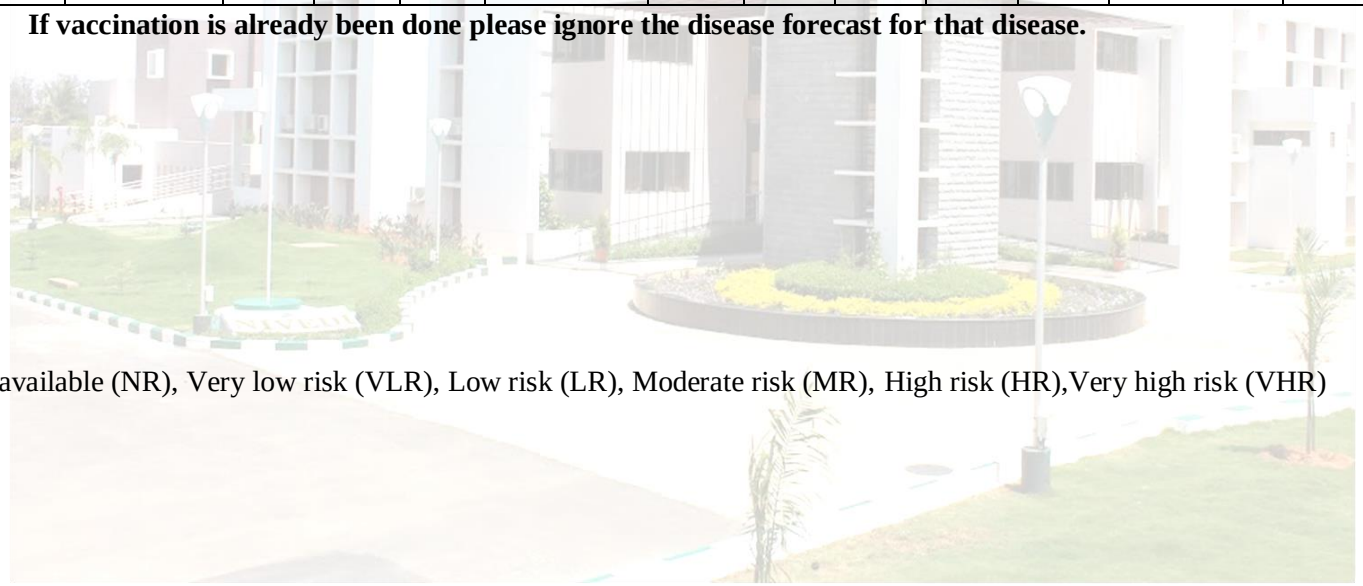
If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Dadra and Nagar Haveli

Districts of Dadra and Nagar Haveli	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Dadra and Nagar Haveli	NR	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR	NR

If vaccination is already been done please ignore the disease forecast for that disease.



*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Daman and Diu

Districts of Daman and Diu	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Daman	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Diu	NR	NR	VLR	NR	VLR	VLR	VLR	LR	VLR	VLR	VLR	VLR	VLR

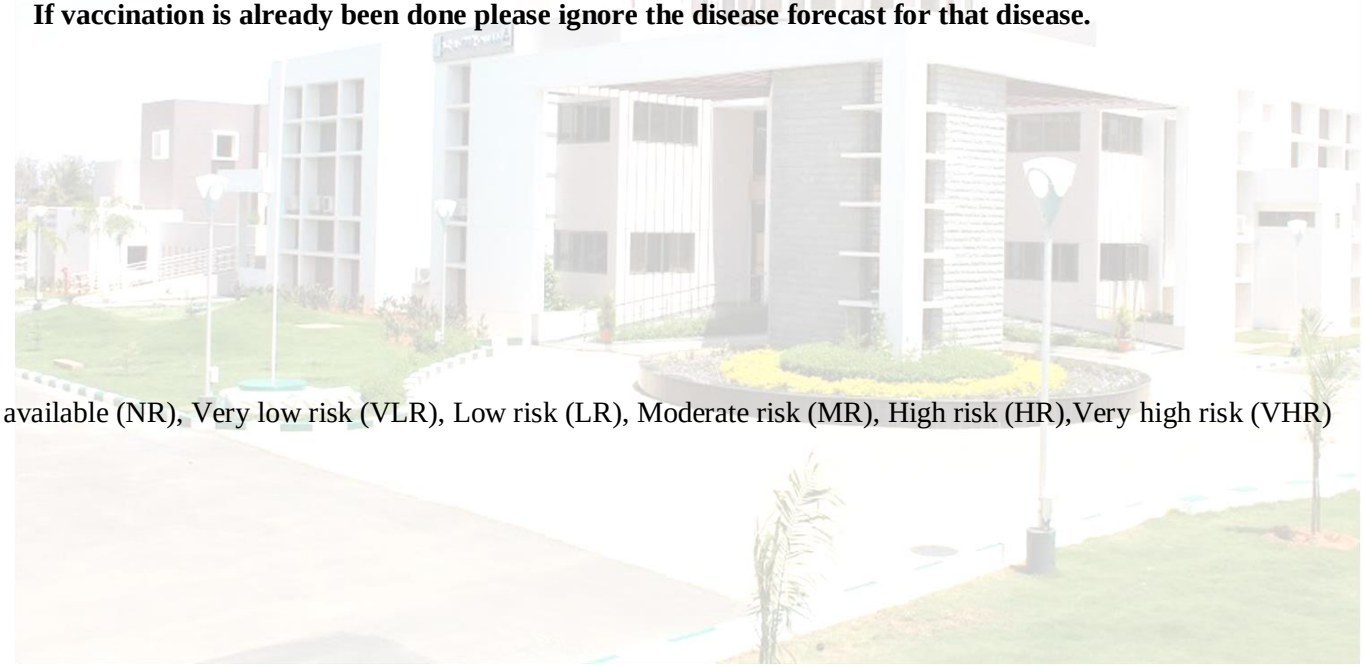
If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Goa

Districts of Goa	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
North Goa	NR	NR	MR	NR	VLR	VLR	MR	MR	VLR	VLR	NR	NR	NR
South Goa	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	NR	NR

If vaccination is already been done please ignore the disease forecast for that disease.



*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019:Gujarat

Districts of Gujarat	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Ahmadabad	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	VLR	VLR
Amreli	NR	NR	VLR	NR	VLR	VLR	NR	VLR	HR	VLR	NR	VLR	NR
Anand	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	VLR	VLR	NR
Banas Kantha	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	NR	NR	VLR	NR
Bharuch	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	VLR	NR	NR
Bhavnagar	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	VLR	VLR
Dohad	NR	NR	NR	NR	VLR	NR	NR	NR	VLR	NR	NR	VLR	NR
Gandhinagar	NR	NR	NR	NR	NR	NR	LR	NR	NR	NR	NR	VLR	NR
Jamnagar	NR	NR	VLR	NR	VLR	NR	NR	VLR	VLR	NR	NR	NR	NR
Junagadh	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR
Kachchh	NR	NR	VLR	NR	VLR	VLR	VLR	HR	VLR	VLR	NR	MR	NR
Kheda	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR	NR
Mahesana	NR	NR	VLR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Narmada	NR	NR	VLR	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR
Navsari	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	VLR	NR	NR
Panch Mahals	NR	NR	VLR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR
Patan	NR	NR	VLR	NR	NR	NR	VLR	HR	VLR	NR	VLR	VLR	NR
Porbandar	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	NR	NR	VLR	VLR
Rajkot	NR	NR	VLR	NR	NR	NR	NR	HR	VLR	NR	NR	NR	NR
Sabar Kantha	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR
Surat	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Surendranagar	NR	NR	VLR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR
Tapi	NR	NR	VLR	VLR	NR	VLR	NR	NR	NR	NR	NR	VLR	NR
The Dangs	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	VLR	NR
Vadodara	NR	NR	VLR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR
Valsad	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	VLR	NR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Haryana

Districts of Haryana	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Ambala	NR	NR	NR	LR	VLR	NR	NR	NR	NR	NR	VLR	NR	NR
Bhiwani	NR	NR	NR	NR	VLR	NR	NR	NR	HR	NR	VLR	NR	NR
Faridabad	NR	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	VLR	VLR
Fatehabad	NR	NR	NR	NR	VLR	NR	NR	NR	VLR	NR	VLR	NR	NR
Gurgaon	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR
Hisar	NR	NR	NR	NR	LR	NR	NR	VLR	MR	NR	MR	VLR	NR
Jhajjar	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	HR	NR	NR
Jind	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	NR	VLR	NR	NR
Kaithal	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	VLR	NR	NR
Karnal	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	VLR	VLR	VLR
Kurukshetra	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	HR	VLR
Mahendragarh	NR	NR	NR	NR	VLR	NR	NR	NR	VLR	NR	VLR	NR	NR
Mewat	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR
Palwal	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR
Panchkula	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR
Panipat	NR	NR	NR	NR	NR	NR	VLR	NR	NR	VLR	NR	VLR	VLR
Rewari	NR	NR	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	NR	VLR
Rohtak	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	VLR
Sirsa	NR	NR	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR
Sonipat	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR
Yamunanagar	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Himachal Pradesh

Districts of Himachal pradesh	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Bilaspur	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	VLR	VLR
Chamba	NR	NR	NR	VLR	NR	NR	VLR	NR	VLR	VLR	NR	NR	NR
Hamirpur	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	NR	NR	VLR	NR
Kangra	NR	NR	NR	NR	VLR	NR	VLR	NR	VLR	VLR	NR	NR	NR
Kinnaur	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	NR	VLR
Kullu	NR	NR	NR	VLR	NR	VLR	MR	VLR	VLR	VLR	NR	VLR	VLR
Lahul & Spiti	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	NR	NR
Mandi	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	MR	VLR	VLR	VLR	VLR
Shimla	NR	NR	VLR	NR	VLR	NR	LR	VLR	LR	MR	NR	VLR	NR
Sirmaur	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR	NR
Solan	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	NR	NR	VLR	NR
Una	NR	NR	NR	NR	VLR	NR	VLR	NR	VLR	NR	NR	NR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Jammu and Kashmir

Districts of Jammu and Kashmir	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Anantnag	NR	NR	NR	NR	VLR	NR	VLR	VLR	NR	HR	VLR	NR	NR
Badgam	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	NR	HR	NR	VLR	VLR
Bandipore	NR	NR	VLR	NR	NR	VLR	HR	NR	VLR	MR	VLR	VLR	NR
Baramula	NR	NR	VLR	NR	NR	NR	VLR	VLR	NR	VLR	NR	NR	NR
Doda	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	NR	NR	NR	NR
Ganderbal	NR	NR	VLR	NR	NR	NR	HR	NR	VLR	VLR	NR	VLR	NR
Jammu	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Kargil	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Kathua	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR	NR	NR	NR
Kishtwar	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR
Kulgam	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	MR	NR	VLR	NR
Kupwara	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	VLR	NR	VLR	VLR
Leh(Ladakh)	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Pulwama	NR	NR	NR	NR	VLR	NR	LR	NR	VLR	HR	VLR	NR	NR
Punch	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	VLR	NR	VLR	NR
Rajouri	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR	NR
Ramban	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	VLR	NR	VLR	NR
Reasi	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	VLR	NR	NR	NR
Samba	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR	VLR	NR
Shupiyan	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	MR	VLR	VLR	NR
Srinagar	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	VLR	VLR	VLR	VLR
Udhampur	NR	NR	NR	VLR	VLR	NR	VLR	VLR	VLR	NR	NR	NR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Jharkhand

Districts of Jharkhand	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Bokaro	NR	VHR	VHR	NR	MR	VHR	LR	VLR	MR	VLR	VLR	VHR	VHR
Chatra	NR	VHR	NR	VLR	NR	LR	LR	VLR	LR	VLR	NR	LR	VHR
Deoghar	NR	VHR	MR	NR	VLR	VHR	LR	LR	MR	NR	NR	VHR	VHR
Dhanbad	NR	VHR	LR	NR	VLR	VHR	LR	LR	LR	NR	NR	VHR	VHR
Dumka	VHR	VHR	VHR	NR	MR	VHR	VLR	LR	MR	VLR	VLR	HR	VHR
Garhwa	NR	VHR	MR	NR	VLR	HR	NR	LR	VLR	VLR	NR	MR	VHR
Giridih	NR	MR	VLR	NR	VLR	VHR	LR	VLR	MR	VLR	VLR	HR	VHR
Godda	NR	NR	LR	NR	VLR	VHR	VLR	MR	MR	NR	VLR	VLR	VHR
Gumla	NR	VHR	VLR	NR	VLR	VHR	MR	VLR	MR	VLR	NR	VHR	VHR
Hazaribagh	NR	VHR	VHR	NR	LR	VHR	VLR	VLR	LR	VLR	NR	VHR	VHR
Jamtara	NR	VHR	MR	NR	VLR	VHR	LR	LR	MR	NR	NR	HR	VHR
Khunti	NR	VHR	NR	NR	NR	VHR	LR	VLR	VLR	NR	NR	VHR	HR
Koderma	NR	VHR	NR	NR	NR	VLR	VLR	NR	VLR	NR	NR	VLR	LR
Latehar	NR	VHR	VLR	NR	NR	VHR	VLR	VLR	LR	NR	NR	LR	VHR
Lohardaga	NR	VHR	VLR	NR	NR	VHR	MR	VLR	LR	VLR	NR	VHR	HR
Pakur	NR	VHR	VHR	NR	VLR	VHR	MR	HR	LR	VLR	VLR	LR	VHR
Palamu	NR	VHR	VHR	NR	VLR	HR	LR	VLR	LR	VLR	NR	VHR	VHR
Pashchimi Singhbhum	NR	VHR	HR	NR	VLR	VHR	VLR	VLR	LR	VLR	NR	LR	LR
Purbi Singhbhum	NR	VHR	HR	NR	VLR	VHR	MR	VLR	HR	VLR	NR	VHR	VHR
Ramgarh	NR	NR	NR	NR	VLR	LR	VLR	VLR	VLR	VLR	NR	LR	VLR
Ranchi	NR	VHR	VLR	NR	VLR	VHR	LR	VLR	LR	VLR	VLR	VHR	VHR
Sahibganj	VHR	VHR	VHR	NR	MR	HR	VLR	MR	MR	NR	VLR	HR	HR
Seraikela - Kharsawan	NR	VHR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR	VLR
Simdega	NR	VHR	VLR	NR	VLR	VHR	LR	VLR	LR	VLR	NR	HR	VHR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Karnataka

Districts of Karnataka	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Bagalkot	NR	NR	VLR	NR	HR	HR	VLR	HR	VLR	MR	NR	NR	NR
Bangalore	NR	NR	VLR	VLR	VLR	VLR	LR	LR	LR	LR	NR	VLR	VLR
Bangalore Rural	NR	NR	VLR	VLR	VLR	NR	VLR	LR	LR	VLR	NR	VLR	NR
Belgaum	NR	NR	MR	NR	LR	VLR	VLR	VHR	LR	LR	NR	NR	VLR
Bellary	VHR	NR	VLR	NR	HR	NR	VLR	MR	LR	MR	NR	NR	NR
Bidar	NR	NR	MR	NR	MR	NR	VLR	MR	LR	VLR	NR	NR	NR
Bijapur	NR	NR	NR	NR	MR	NR	VLR	MR	LR	HR	NR	NR	NR
Chamarajanagar	VHR	NR	VLR	VLR	VLR	VLR	LR	VLR	VLR	LR	NR	NR	NR
Chikkaballapura	VHR	NR	NR	NR	LR	NR	VLR	LR	MR	LR	NR	VLR	NR
Chikmagalur	NR	NR	MR	VLR	VLR	VLR	VLR	LR	LR	VLR	NR	VLR	NR
Chitradurga	MR	NR	MR	NR	MR	NR	VLR	HR	LR	MR	NR	VLR	NR
Dakshina Kannada	NR	NR	VLR	NR	VLR	VLR	MR	MR	VLR	VLR	VLR	NR	NR
Davanagere	HR	NR	MR	NR	MR	VLR	VLR	MR	VLR	MR	NR	NR	NR
Dharwad	NR	NR	MR	NR	LR	NR	VLR	MR	VLR	VLR	NR	NR	NR
Gadag	NR	NR	VLR	NR	LR	VLR	LR	HR	LR	MR	NR	VLR	VLR

Continue

Districts of Karnataka	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Gulbarga	NR	NR	MR	NR	LR	VLR	VLR	MR	LR	VLR	NR	VLR	VLR
Hassan	VHR	NR	MR	VLR	VLR	NR	VLR	LR	LR	VLR	NR	VLR	NR
Haveri	NR	NR	MR	NR	LR	NR	VLR	LR	VLR	MR	NR	VLR	NR
Kodagu	NR	NR	VLR	VLR	VLR	VLR	VLR	MR	VLR	VLR	VLR	VLR	NR
Kolar	VHR	NR	NR	VLR	LR	NR	VLR	LR	MR	MR	VLR	NR	VLR
Koppal	VHR	NR	MR	NR	MR	NR	VLR	HR	LR	LR	NR	NR	NR
Mandya	NR	NR	VLR	VLR	MR	NR	VLR	MR	LR	LR	NR	NR	NR
Mysore	NR	NR	MR	VLR	LR	NR	LR	MR	LR	LR	NR	NR	NR
Raichur	HR	NR	VLR	NR	MR	VLR	VLR	HR	LR	MR	NR	NR	NR
Ramanagara	NR	NR	VLR	VLR	LR	NR	LR	LR	LR	MR	NR	HR	NR
Shimoga	NR	NR	MR	VLR	LR	NR	LR	MR	LR	LR	VLR	VLR	NR
Tumkur	VHR	NR	MR	VLR	MR	NR	VLR	LR	LR	VHR	VLR	NR	NR
Udupi	NR	NR	VLR	NR	VLR	VLR	MR	MR	VLR	VLR	VLR	VLR	NR
Uttara Kannada	NR	NR	MR	VLR	LR	NR	VLR	MR	LR	NR	VLR	VLR	NR
Yadgir	NR	NR	MR	NR	MR	NR	VLR	MR	LR	MR	NR	NR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Kerala

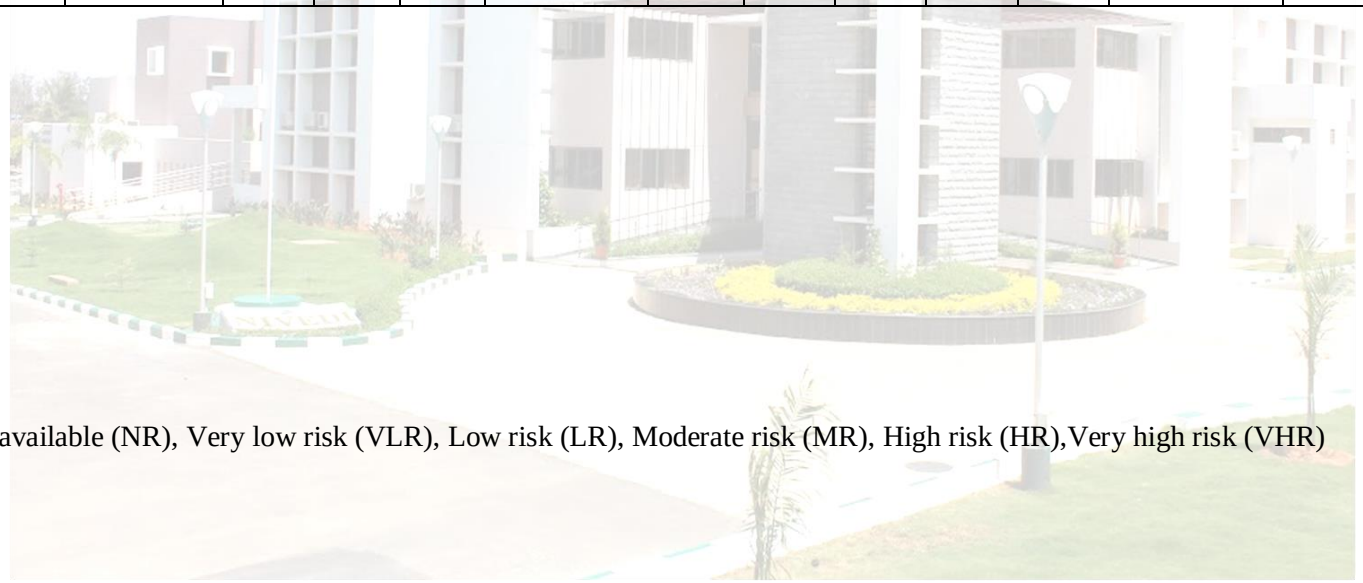
Districts of Kerala	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Alappuzha	NR	NR	NR	NR	NR	VLR	HR	HR	VLR	VLR	VLR	VLR	VLR
Ernakulam	NR	NR	NR	NR	NR	NR	VHR	HR	HR	VLR	NR	VLR	VLR
Idukki	VHR	NR	NR	VLR	NR	VLR	HR	VLR	VLR	NR	NR	VLR	NR
Kannur	NR	NR	NR	NR	NR	NR	VHR	VLR	VLR	NR	NR	VLR	NR
Kasaragod	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR	NR
Kollam	NR	NR	NR	NR	NR	VLR	HR	HR	VHR	NR	VLR	NR	NR
Kottayam	NR	NR	NR	NR	NR	NR	VHR	VLR	VLR	VLR	VLR	NR	NR
Kozhikode	NR	NR	NR	NR	NR	VLR	VHR	MR	VLR	VLR	NR	VLR	VLR
Malappuram	NR	NR	NR	NR	VLR	VLR	HR	VLR	VLR	NR	VLR	VLR	VLR
Palakkad	NR	NR	NR	NR	NR	NR	HR	HR	MR	NR	NR	VHR	VLR
Pathanamthitta	VHR	VHR	NR	NR	NR	NR	VHR	VLR	VLR	NR	VLR	VLR	VLR
Thiruvananthapuram	NR	NR	NR	NR	VLR	VLR	HR	HR	HR	NR	NR	VLR	LR
Thrissur	NR	NR	NR	NR	VLR	VLR	HR	HR	HR	VLR	NR	VLR	VLR
Wayanad	NR	VHR	NR	NR	NR	VLR	HR	VLR	VLR	NR	VLR	MR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Lakshadweep

Districts of Lakshadweep	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Lakshadweep	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR



*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Madhya Pradesh

Districts of Madhya Pradesh	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Alirajpur	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	VLR	VLR	NR
Anuppur	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR	NR
Ashoknagar	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR	NR
Balaghat	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR	VLR	NR
Barwani	NR	NR	VLR	NR	NR	VLR	VLR	NR	VLR	NR	NR	NR	NR
Betul	NR	NR	VHR	NR	VLR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Bhind	NR	NR	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	NR	NR
Bhopal	NR	NR	NR	NR	NR	NR	NR	MR	VLR	NR	NR	NR	NR
Burhanpur	NR	NR	NR	NR	NR	VLR	VLR	VLR	LR	VLR	NR	NR	NR
Chhatarpur	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Chhindwara	NR	NR	HR	NR	VLR	NR	VLR	MR	VLR	VLR	LR	NR	NR
Damoh	NR	VHR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	VLR	NR
Datia	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR
Dewas	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Dhar	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR
Dindori	VHR	NR	VLR	NR	VLR	NR	VLR	HR	VLR	VLR	NR	NR	NR
East Nimar	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR	VLR	NR
Guna	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	VLR
Gwalior	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR
Harda	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR	NR
Hoshangabad	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	VLR	NR	VLR	NR
Indore	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Jabalpur	NR	NR	VLR	NR	NR	NR	NR	MR	VLR	NR	NR	NR	NR
Jhabua	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR
Katni	NR	NR	VLR	NR	NR	NR	NR	MR	NR	NR	NR	NR	NR

Continue

Districts of Madhya Pradesh	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Khargone (West Nimar)	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR	NR
Mandla	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	VLR	VLR
Mandsaur	NR	NR	NR	NR	VLR	NR	VLR	VLR	LR	VLR	NR	VLR	NR
Morena	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR	VLR
Narsimhapur	NR	NR	NR	NR	NR	VLR	VLR	VLR	MR	NR	NR	NR	NR
Neemuch	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Panna	NR	NR	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	NR	NR
Raisen	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	NR	NR	VLR	NR
Rajgarh	NR	NR	NR	VLR	NR	NR	NR	NR	VLR	NR	NR	NR	NR
Ratlam	NR	NR	NR	NR	VLR	NR	NR	VLR	VLR	NR	VLR	NR	NR
Rewa	NR	NR	VLR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	NR	NR
Sagar	NR	NR	VLR	NR	NR	NR	NR	MR	LR	NR	NR	NR	NR
Satna	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Sehore	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR
Seoni	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	VLR	VLR	NR
Shahdol	NR	NR	VLR	NR	NR	VLR	VLR	LR	VLR	NR	NR	VLR	NR
Shajapur	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR
Sheopur	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Shivpuri	NR	NR	NR	NR	VLR	NR	VLR	VLR	LR	NR	NR	NR	NR
Sidhi	NR	NR	VLR	NR	NR	NR	VLR	VLR	MR	NR	NR	VLR	VLR
Singrauli	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	NR	NR	VLR	LR
Tikamgarh	NR	NR	NR	NR	NR	NR	VLR	VLR	LR	VLR	NR	NR	NR
Ujjain	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Umaria	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Vidisha	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Maharashtra

Districts of Maharastra	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Ahmadnagar	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR
Akola	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR
Amravati	NR	NR	VLR	NR	VLR	NR	NR	VLR	VLR	HR	NR	NR	NR
Aurangabad	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Bhandara	NR	NR	NR	NR	VLR	NR	VLR	VLR	LR	VLR	VLR	NR	NR
Bid	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR	NR
Buldana	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	VLR	NR	NR
Chandrapur	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR
Dhule	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR
Gadchiroli	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR
Gondiya	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR
Hingoli	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR
Jalgaon	NR	NR	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	VLR	NR
Jalna	NR	NR	NR	NR	VLR	VLR	NR	VLR	VLR	NR	NR	NR	NR
Kolhapur	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Latur	NR	NR	VLR	NR	VLR	VLR	NR	VLR	NR	VLR	NR	NR	NR
Mumbai	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Mumbai Suburban	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Nagpur	NR	NR	VLR	NR	VLR	NR	VLR	VLR	LR	VLR	VLR	NR	VLR
Nanded	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Nandurbar	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	VLR	NR	NR
Nashik	NR	NR	VLR	NR	VLR	VLR	VLR	MR	VLR	VLR	NR	NR	VLR
Osmanabad	NR	NR	NR	NR	VLR	NR	VLR	VLR	NR	LR	NR	NR	VLR
Parbhani	NR	NR	VLR	VLR	NR	NR	VLR	NR	VLR	NR	NR	NR	NR
Pune	NR	NR	VLR	NR	VLR	VLR	LR	VLR	MR	MR	NR	NR	VLR

Continue

Districts of Maharastra	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Raigarh	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	NR
Ratnagiri	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR	VLR
Sangli	NR	NR	NR	NR	VLR	VLR	NR	MR	NR	VLR	VLR	VLR	NR
Satara	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	NR
Sindhudurg	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	NR
Solapur	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	NR	NR
Thane	NR	NR	VLR	NR	VLR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR
Wardha	NR	NR	NR	NR	VLR	VLR	NR	VLR	VLR	NR	NR	VLR	NR
Washim	NR	NR	NR	VLR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR
Yavatmal	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Manipur

Districts of Manipur	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Bishnupur	NR	NR	LR	NR	NR	VHR	MR	VLR	VLR	VLR	VLR	NR	NR
Chandel	NR	NR	VHR	NR	NR	VHR	VLR	VLR	NR	VLR	HR	NR	VLR
Churachandpur	NR	NR	VHR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR
Imphal East	NR	NR	VHR	VLR	NR	VHR	VLR	LR	NR	NR	VHR	NR	NR
Imphal West	NR	NR	MR	VLR	NR	VHR	MR	LR	VLR	VLR	VHR	VLR	VLR
Senapati	NR	NR	VLR	VLR	VLR	VHR	MR	LR	VLR	NR	VLR	VLR	NR
Tamenglong	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VHR	NR	NR
Thoubal	NR	NR	HR	NR	NR	VHR	HR	VLR	NR	NR	HR	NR	NR
Ukhrul	NR	NR	VLR	VLR	VLR	VLR	VLR	LR	NR	NR	VHR	NR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Meghalaya

Districts of Meghalaya	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
East Garo Hills	NR	NR	VLR	NR	VLR	VLR	LR	LR	VLR	VLR	VLR	VLR	VLR
East Jaintia Hills	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
East Khasi Hills	VHR	NR	MR	NR	VLR	VLR	VHR	VLR	VLR	HR	VHR	VLR	VLR
Jaintia Hills	NR	NR	VLR	NR	NR	NR	VHR	VLR	NR	VLR	VLR	NR	NR
North Garo Hills	NR	NR	MR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Ribhoi	VHR	NR	VLR	NR	NR	NR	HR	VLR	NR	HR	HR	NR	NR
South Garo Hills	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR
Southwest Garo Hills	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Southwest Khasi Hills	NR	NR	LR	NR	VLR	VLR	MR	LR	VLR	VLR	VLR	VLR	VLR
West Garo Hills	NR	NR	VHR	NR	VLR	VLR	VHR	VHR	VLR	VLR	VHR	VLR	VLR
West Khasi Hills	NR	NR	VHR	VLR	NR	NR	VHR	MR	VLR	VLR	VHR	VLR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Mizoram

Districts of Mizoram	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Aizawl	NR	NR	VLR	VLR	NR	NR	MR	VLR	NR	VLR	HR	NR	NR
Champhai	NR	NR	VHR	VLR	NR	VLR	VLR	LR	VLR	VLR	HR	NR	NR
Kolasib	NR	NR	VLR	NR	NR	NR	LR	NR	NR	VLR	VLR	NR	NR
Lawngtlai	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	VLR	NR	NR
Lunglei	NR	NR	VLR	NR	NR	VLR	MR	VLR	VLR	NR	VLR	NR	NR
Mamit	NR	NR	VLR	NR	NR	NR	VLR	VLR	NR	VLR	VLR	NR	NR
Saiha	NR	NR	VLR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	NR
Serchhip	NR	NR	VLR	VLR	NR	VLR	LR	VLR	VLR	VLR	VLR	NR	VLR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Nagaland

Districts of Nagaland	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Dimapur	NR	NR	VLR	VLR	NR	NR	VLR	NR	VLR	VLR	HR	NR	NR
Kiphire	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	NR
Kohima	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	VLR	NR	NR
Longleng	NR	NR	NR	NR	NR	VLR	VLR	NR	LR	NR	HR	NR	NR
Mokokchung	NR	NR	VLR	NR	NR	VLR	NR	NR	NR	NR	VLR	NR	NR
Mon	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	VLR	VLR	NR
Peren	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	NR	NR
Phek	NR	NR	NR	VLR	NR	VLR	VLR	NR	VLR	NR	HR	VLR	NR
Tuensang	NR	NR	NR	NR	NR	VLR	VLR	NR	VLR	NR	VHR	NR	VLR
Wokha	NR	NR	VLR	NR	NR	VLR	VLR	VLR	LR	VLR	VLR	NR	NR
Zunheboto	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	HR	NR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: NCT of Delhi

Districts of NCT of Delhi	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Central	NR	NR	VLR	NR	NR	NR	NR	NR	VLR	NR	NR	VLR	NR
East	NR	NR	NR	NR	NR	VLR	NR	NR	VLR	NR	NR	NR	NR
New Delhi	NR	NR	NR	NR	NR	NR	VLR	NR	VLR	VLR	NR	VLR	VLR
North	NR	NR	NR	NR	NR	VLR	NR	VLR	VLR	NR	NR	NR	NR
North East	NR	NR	NR	NR	NR	VLR	NR	NR	VLR	NR	NR	NR	NR
North West	NR	NR	VLR	NR	NR	VLR	NR	NR	NR	NR	NR	NR	NR
South	NR	NR	NR	NR	NR	VLR	VLR	NR	VLR	NR	NR	NR	NR
South West	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	VLR	VLR	VLR
West	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Odisha

Districts of Odisha	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Anugul	VHR	NR	VLR	NR	NR	NR	NR	HR	VLR	NR	NR	VLR	NR
Balangir	NR	NR	VLR	NR	NR	VLR	VLR	VLR	MR	VLR	NR	VLR	VLR
Baleshwar	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Bargarh	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Baudh	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR	NR
Bhadrak	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR	VLR
Cuttack	NR	NR	VHR	NR	NR	VLR	VLR	VHR	VLR	VLR	NR	VLR	VLR
Debagarh	NR	NR	VLR	NR	NR	VLR	NR	VLR	VLR	MR	NR	VLR	NR
Dhenkanal	NR	NR	LR	NR	NR	NR	VLR	VLR	VLR	NR	NR	VLR	VLR
Gajapati	NR	NR	VLR	NR	NR	VLR	VLR	HR	VLR	NR	NR	VLR	NR
Ganjam	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	VLR	NR
Jagatsinghapur	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR
Jajapur	NR	NR	VLR	NR	NR	HR	VLR	VLR	VLR	NR	NR	VLR	VLR
Jharsuguda	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR	NR
Kalahandi	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	NR	NR	VLR	VLR
Kandhamal	VHR	NR	VLR	NR	NR	VLR	VLR	HR	LR	NR	NR	VLR	VLR
Kendrapara	NR	NR	VHR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR
Kendujhar	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR	NR
Khordha	NR	NR	VHR	NR	VLR	VLR	LR	HR	MR	NR	NR	VLR	VLR
Koraput	VHR	NR	VLR	VLR	VLR	VLR	LR	VLR	VLR	NR	NR	LR	VLR
Malkangiri	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	MR	NR	VLR	VLR
Decemberurbhanj	NR	NR	VLR	NR	NR	VLR	VLR	LR	MR	VLR	NR	VLR	VLR
Nabarangapur	VHR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Nayagarh	NR	NR	VLR	NR	NR	VLR	NR	VLR	HR	NR	NR	VLR	NR
Nuapada	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR

Continue

Districts of Odisha	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Puri	NR	NR	HR	NR	NR	VLR	MR	VLR	VLR	NR	NR	HR	VLR
Rayagada	VHR	NR	VLR	NR	NR	VLR	VLR	HR	MR	NR	NR	NR	VLR
Sambalpur	NR	NR	HR	NR	NR	VLR	NR	VLR	VLR	NR	NR	NR	VLR
Subarnapur	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR
Sundargarh	MR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	VLR	VLR	VLR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Puducherry

Districts of Puducherry	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Karaikal	NR	VHR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Mahe	NR	VHR	NR	VLR	NR	VLR	LR	VLR	VLR	VLR	VLR	VLR	VLR
Puducherry	NR	VHR	NR	NR	NR	HR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Yanam	NR	NR	VLR	NR	NR	HR	VLR	VLR	VLR	VLR	VLR	VLR	VLR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Punjab

Districts of Punjab	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Amritsar	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	NR	VLR	NR
Barnala	NR	NR	NR	NR	VLR	NR	NR	VLR	VLR	NR	VLR	VLR	NR
Bathinda	NR	NR	NR	NR	VLR	VLR	VLR	NR	VLR	NR	NR	VLR	VLR
Faridkot	NR	VHR	NR	NR	VLR	VLR	NR	NR	NR	VLR	NR	VLR	VLR
Fatehgarh Sahib	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	VLR	VLR
Firozpur	NR	NR	NR	NR	VLR	NR	VLR	VLR	NR	VLR	VLR	HR	NR
Gurdaspur	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR
Hoshiarpur	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	VLR	NR
Jalandhar	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	VLR	VLR	NR
Kapurthala	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR
Ludhiana	NR	NR	NR	NR	VLR	NR	NR	LR	VLR	NR	VLR	LR	NR
Mansa	NR	NR	NR	NR	VLR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR
Moga	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	NR	NR	VLR	NR
Muktsar	NR	NR	NR	NR	VLR	VLR	VLR	NR	VLR	VLR	VLR	VLR	NR
Patiala	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR	VLR	VLR
Rupnagar	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Sahibzada Ajit Singh Nagar	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR	VLR	NR
Sangrur	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	NR	VLR	VLR	NR
Shahid Bhagat Singh Nagar	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR	NR	VLR	NR
Tarn Taran	NR	NR	NR	NR	NR	NR	VLR	NR	NR	VLR	NR	VLR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Rajasthan

Districts of Rajasthan	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Ajmer	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	VLR	NR	VLR	VLR
Alwar	NR	NR	NR	VLR	VLR	NR	VLR	VLR	VLR	NR	VLR	NR	NR
Banswara	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR
Baran	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Barmer	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	LR	VLR	VLR	VLR	VLR
Bharatpur	NR	NR	VLR	NR	VLR	VLR	NR	VLR	VLR	VLR	NR	NR	NR
Bhilwara	NR	NR	VLR	VLR	VLR	NR	MR	VLR	VLR	NR	NR	VLR	VLR
Bikaner	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Bundi	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	VLR	NR
Chittaurgarh	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	NR	NR	NR	NR
Churu	NR	NR	VLR	NR	LR	VLR	VLR	VLR	MR	VLR	VLR	VLR	NR
Dausa	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR	NR
Dhaulpur	NR	NR	NR	NR	VLR	LR	VLR	VLR	VLR	VLR	NR	NR	NR
Dungarpur	NR	NR	VLR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR
Ganganagar	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Hanumangarh	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	MR	VLR	VLR	VLR
Jaipur	NR	NR	VLR	NR	HR	NR	MR	VLR	VLR	VLR	NR	NR	NR
Jaisalmer	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	LR	VLR	VLR	VLR	VLR
Jalor	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR
Jhalawar	NR	NR	NR	NR	NR	VLR	VLR	NR	VLR	NR	NR	NR	NR
Jhunjhunun	NR	NR	NR	NR	VLR	NR	NR	VLR	VLR	NR	NR	VLR	NR
Jodhpur	NR	NR	VLR	NR	VLR	NR	VLR	VLR	MR	VLR	VLR	VLR	NR
Karauli	NR	NR	VLR	NR	NR	VLR	NR	VLR	VLR	NR	NR	NR	NR
Kota	NR	NR	VLR	NR	VLR	NR	NR	NR	VLR	NR	NR	NR	NR
Nagaur	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR

Continue

Districts of Rajasthan	Livestock Diseases												
	Anthrax	**Babesiosis**	**BQ**	**BT**	**ET**	**Fasciolosis**	**FMD**	**HS**	**PPR**	**S&G Pox**	**SF**	**Theileriosis**	**Trypanosomosis**
Pali	NR	NR	VLR	VLR	VLR	NR	VLR	VLR	VLR	VLR	NR	NR	NR
Pratapgarh	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR
Rajsamand	NR	VHR	NR	NR	VLR	NR	VLR	NR	VLR	NR	VLR	NR	NR
Sawai Madhopur	NR	NR	VLR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Sikar	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	NR	VLR	VLR	NR
Sirohi	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR
Tonk	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	VLR
Udaipur	NR	VHR	VLR	NR	VLR	NR	MR	VLR	VLR	VLR	NR	VLR	VLR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Sikkim

Districts of Sikkim	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
East District	NR	NR	VLR	NR	NR	NR	VLR	VLR	NR	VLR	VLR	VLR	NR
North District	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	NR	NR
South District	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	VLR	VLR	VLR	NR
West District	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	NR	VLR	VLR	NR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Tamil Nadu

Districts of Tamil Nadu	Livestock Disease												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Ariyalur	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR
Chennai	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR
Coimbatore	VHR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	NR	VLR	NR
Cuddalore	NR	NR	VLR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	VLR
Dharmapuri	NR	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR
Dindigul	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	VLR	NR	NR
Erode	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR
Kancheepuram	NR	NR	HR	VLR	VLR	NR	VLR	MR	VLR	VLR	NR	VLR	NR
Kanniyakumari	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR	VLR
Karur	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	LR	NR	NR
Krishnagiri	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	NR	NR	VLR	NR
Madurai	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Nagapattinam	NR	NR	VLR	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	NR
Namakkal	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Perambalur	NR	NR	VLR	NR	VLR	VLR	NR	VLR	VLR	NR	VLR	NR	NR
Pudukkottai	NR	NR	VLR	VLR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Ramanathapuram	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR	VLR
Salem	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR
Sivaganga	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	VLR	NR	VLR	VLR
Thanjavur	NR	NR	VLR	VLR	VLR	NR	VLR	VLR	VLR	MR	VLR	NR	NR
The Nilgiris	NR	NR	NR	NR	VLR	NR	VLR	VLR	NR	VLR	VLR	NR	NR
Theni	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR
Thiruvallur	VHR	NR	VLR	VLR	VLR	NR	NR	VLR	VLR	VLR	NR	NR	VLR
Thiruvarur	NR	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR
Thoothukkudi	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	NR	VLR	VLR	VLR

Continue

Districts of Tamil Nadu	Livestock Disease												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Tiruchirappalli	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR
Tirunelveli	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Tiruppur	NR	NR	NR	NR	NR	NR	VLR	VLR	HR	VLR	VLR	VLR	NR
Tiruvannamalai	VHR	NR	VLR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR
Vellore	VHR	NR	VLR	NR	VLR	VLR	NR	NR	HR	NR	NR	NR	NR
Viluppuram	VHR	NR	VHR	NR	VLR	NR	NR	VLR	VLR	VLR	NR	VLR	NR
Virudhunagar	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	NR	VLR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Telangana

Districts of Telangana	Livestock Diseases												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Adilabad	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	VLR	NR	NR	NR
Hyderabad	NR	NR	VLR	NR	VLR	NR	NR	LR	VLR	VLR	NR	NR	NR
Karimnagar	NR	NR	VLR	NR	LR	VLR	VLR	VLR	LR	VLR	NR	VLR	VLR
Khammam	NR	NR	VLR	NR	VLR	NR	NR	NR	VLR	VLR	NR	NR	NR
Mahbubnagar	NR	NR	VLR	NR	VLR	NR	VLR	VLR	LR	VLR	VLR	VLR	NR
Medak	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	LR	VLR	NR	VLR	VLR
Nalgonda	NR	NR	VLR	NR	LR	NR	NR	LR	LR	LR	NR	NR	NR
Nizamabad	NR	NR	NR	NR	VLR	VLR	NR	VLR	VLR	VLR	NR	NR	NR
Rangareddy	NR	NR	VLR	NR	VLR	VLR	NR	LR	VLR	VLR	NR	NR	NR
Warangal	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	LR	LR	NR	VLR	VLR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Tripura

Districts of Tripura	Livestock Disease												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Dhalai	NR	VHR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	NR
North Tripura	NR	VHR	HR	NR	NR	VLR	VHR	HR	MR	VLR	VLR	VLR	NR
South Tripura	NR	VHR	VHR	NR	NR	MR	HR	VLR	VHR	HR	VLR	VLR	VLR
West Tripura	NR	VHR	VHR	NR	NR	HR	VHR	VHR	VHR	HR	VLR	VLR	VLR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Uttar Pradesh

Districts of Uttar Pradesh	Livestock Disease												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Agra	NR	NR	NR	NR	VLR	VLR	NR	VLR	VLR	NR	NR	NR	NR
Aligarh	NR	NR	NR	NR	VLR	NR	VLR	NR	VLR	NR	NR	NR	NR
Allahabad	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	NR	VLR
Ambedkar Nagar	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Amethi	NR	NR	VLR	NR	NR	NR	NR	VLR	VLR	NR	VLR	VLR	VLR
Auraiya	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR	NR	NR	VLR
Azamgarh	NR	NR	VLR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR
Baghpat	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	VLR	VLR
Bahraich	NR	NR	VLR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	VLR
Ballia	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR
Balrampur	NR	NR	VLR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Banda	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	VLR	NR	NR
Bara Banki	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR
Bareilly	NR	VHR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR
Basti	NR	NR	NR	VLR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR
Bijnor	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	VLR
Budaun	NR	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	NR	VLR	VLR
Bulandshahr	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	NR	NR	VLR	NR
Chandauli	NR	NR	VLR	NR	VLR	VLR	NR	VLR	VLR	NR	NR	VLR	LR
Chitrakoot	NR	NR	VLR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR
Deoria	NR	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR
Etah	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR
Etawah	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	VLR	VLR
Faizabad	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Farrukhabad	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Continue

Districts of Uttar Pradesh	Livestock Disease												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Fatehpur	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR
Firozabad	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR	NR	NR	NR
Gautam Buddha Nagar	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR
Ghaziabad	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR
Ghazipur	NR	NR	VLR	NR	NR	NR	VLR	NR	VLR	NR	NR	VLR	VLR
Gonda	NR	NR	NR	NR	NR	VLR	NR	VLR	VLR	NR	VLR	VLR	NR
Gorakhpur	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR
Hamirpur	NR	NR	NR	NR	NR	VLR	VLR	NR	VLR	NR	NR	NR	NR
Hapur	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	VLR
Hardoi	NR	NR	VLR	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	VLR
Jalaun	NR	NR	VLR	NR	VLR	VLR	NR	NR	VLR	VLR	NR	VLR	VLR
Jaunpur	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	VLR	VLR
Jhansi	NR	NR	VLR	NR	NR	NR	NR	VLR	VLR	VLR	NR	VLR	VLR
Jyotiba Phule Nagar	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	VLR
Kannauj	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	VLR
Kanpur Dehat	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR	NR
Kanpur Nagar	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR
Kanshiram Nagar	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR
Kaushambi	NR	NR	NR	NR	VLR	VLR	NR	VLR	VLR	VLR	NR	VLR	VLR
Kheri	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Kushinagar	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR
Lalitpur	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	VLR	NR
Lucknow	NR	NR	VLR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
MahaDecembera Nagar	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	VLR	NR	NR	NR
Mahoba	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR

Continue

Districts of Uttar Pradesh	Livestock Disease												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Mahrajganj	NR	NR	VLR	NR	NR	VLR	NR	VLR	VLR	NR	NR	NR	NR
Mainpuri	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	VLR
Mathura	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR
Mau	NR	NR	VLR	NR	NR	NR	VLR	NR	VLR	NR	NR	VLR	VLR
Meerut	NR	NR	NR	NR	NR	NR	NR	LR	VLR	NR	NR	VLR	HR
Mirzapur	NR	VHR	VLR	NR	NR	NR	NR	NR	VLR	NR	NR	VLR	HR
Moradabad	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Muzaffarnagar	NR	NR	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR
Pilibhit	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	VLR	NR
Pratapgarh	NR	NR	NR	VLR	NR	VLR	NR	NR	VLR	NR	NR	VLR	VLR
Rae Bareli	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	NR	VLR	VLR	NR
Rampur	NR	NR	NR	NR	NR	NR	VLR	NR	VLR	NR	NR	VLR	VLR
Saharanpur	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	VLR
Sambhal	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Sant Kabir Nagar	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR
Sant Ravidas Nagar	NR	NR	VLR	NR	VLR	NR	NR	VLR	VLR	NR	NR	VLR	VLR
Shahjahanpur	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	VLR
Shamli	NR	NR	NR	NR	VLR	VLR	VLR	NR	VLR	VLR	NR	VLR	VLR
Shrawasti	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR
Siddharthnagar	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	NR	NR	NR
Sitapur	NR	NR	NR	NR	NR	NR	NR	VLR	NR	NR	NR	NR	NR
Sonbhadra	NR	NR	VLR	NR	NR	NR	NR	VLR	VLR	NR	NR	VLR	HR
Sultanpur	NR	NR	NR	NR	NR	NR	NR	VLR	VLR	NR	NR	NR	NR
Unnao	NR	NR	VLR	NR	VLR	NR	VLR	VLR	VLR	NR	VLR	NR	NR
Varanasi	NR	NR	VLR	NR	NR	NR	NR	VLR	VLR	VLR	NR	VLR	VLR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: Uttarakhand

Districts of Uttarakhand	Livestock Disease												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Almora	NR	NR	NR	NR	VLR	NR	VLR	VLR	VLR	NR	NR	NR	VLR
Bageshwar	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR
Chamoli	NR	NR	VLR	VLR	NR	VLR	VLR	VLR	VLR	NR	NR	VLR	VLR
Champawat	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR	VLR
Dehradun	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR	NR
Garhwal	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	NR	NR	VLR	NR
Hardwar	NR	NR	NR	NR	NR	NR	VLR	MR	VLR	NR	NR	NR	NR
Nainital	NR	NR	VLR	NR	NR	VLR	VLR	LR	VLR	VLR	LR	VLR	VLR
Pithoragarh	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	NR	NR	NR	VLR
Rudraprayag	NR	NR	VLR	VLR	NR	VLR	VLR	VLR	VLR	NR	NR	NR	NR
Tehri Garhwal	NR	NR	NR	NR	NR	NR	VLR	VLR	VLR	NR	VLR	NR	NR
Udham Singh Nagar	NR	NR	VLR	NR	VLR	NR	VLR	LR	LR	NR	MR	VLR	NR
Uttarkashi	NR	NR	VLR	NR	NR	NR	VLR	VLR	VLR	NR	MR	NR	NR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

District wise Livestock Disease forewarning for March 2019: West Bengal

Districts of West Bengal	Livestock Disease												
	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis
Bankura	NR	NR	VHR	NR	NR	VLR	HR	VHR	HR	VLR	VLR	LR	VLR
Barddhaman	VHR	NR	VHR	NR	NR	VLR	VLR	VHR	VHR	VLR	VLR	HR	HR
Birbhum	NR	VHR	VHR	VLR	NR	VLR	VLR	HR	VHR	VLR	VLR	VLR	VLR
Dakshin Dinajpur	NR	NR	VHR	NR	VLR	VLR	VLR	VLR	HR	VLR	VLR	VHR	MR
Darjiling	NR	NR	NR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Haora	NR	VHR	VHR	VLR	VLR	VLR	VLR	VLR	HR	HR	NR	HR	VLR
Hugli	NR	NR	VHR	VLR	NR	VLR	VLR	VLR	HR	HR	NR	VHR	MR
Jalpaiguri	NR	NR	VLR	VLR	NR	VLR	MR	VLR	MR	VLR	VLR	VLR	VLR
Koch Bihar	NR	NR	HR	NR	NR	VLR	VLR	VHR	VLR	VLR	VLR	VLR	NR
Kolkata	NR	NR	VLR	NR	VLR	VLR	VLR	VLR	HR	VLR	NR	LR	VLR
Maldah	NR	NR	VHR	NR	VLR	VLR	VLR	VLR	VHR	VLR	MR	MR	VLR
Murshidabad	VHR	NR	VHR	NR	VLR	VLR	VLR	HR	HR	VLR	VLR	LR	VLR
Nadia	NR	NR	MR	NR	VLR	NR	NR	HR	LR	VLR	NR	VLR	VLR
North Twenty Four Parganas	NR	NR	VHR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	LR	VLR
Paschim Medinipur	NR	NR	VHR	VLR	VLR	VLR	HR	VHR	MR	LR	VLR	LR	VLR
Purba Medinipur	NR	NR	HR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR
Puruliya	NR	VHR	HR	NR	VLR	VLR	MR	MR	HR	VLR	NR	VLR	VLR
South Twenty Four Parganas	NR	VHR	VHR	NR	VLR	VLR	VLR	VLR	LR	LR	VLR	LR	VLR
Uttar Dinajpur	NR	NR	VLR	NR	NR	VLR	VLR	VLR	VLR	VLR	VLR	VLR	VLR

If vaccination is already been done please ignore the disease forecast for that disease.

*No risk/No data available (NR), Very low risk (VLR), Low risk (LR), Moderate risk (MR), High risk (HR),Very high risk (VHR)

State wise Livestock Disease forewarning for March 2019

Sl.No	State Name	Anthrax	Babesiosis	BQ	BT	ET	Fasciolosis	FMD	HS	PPR	S&G Pox	SF	Theileriosis	Trypanosomosis	Total no. of Diseases events likely to occur
1	Andaman and Nicob ar	0	0	0	0	0	2	0	0	0	0	0	0	0	2
2	Andhra Pradesh	4	0	2	0	0	0	0	5	0	0	0	0	0	11
3	Arunachal Pradesh	0	0	0	0	0	3	0	0	0	0	0	0	0	3
4	Assam	0	0	17	0	0	14	0	10	2	3	9	2	0	57
5	Bihar	0	0	0	0	0	0	0	0	1	0	0	0	1	2
6	Chandigarh	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Chhattisgarh	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Dadra and Nagar Haveli	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Daman and Diu	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Goa	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Gujarat	0	0	0	0	0	0	0	3	1	0	0	0	0	4
12	Haryana	0	0	0	0	0	0	0	0	1	0	1	1	0	3
13	Himachal Pradesh	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Jammu and Kashmir	0	0	0	0	0	0	2	0	0	3	0	0	0	5
15	Jharkhand	2	21	8	0	0	20	0	1	1	0	0	15	20	88
16	Karnataka	9	0	0	0	2	1	0	6	0	2	0	1	0	21
17	Kerala	2	2	0	0	0	0	13	6	4	0	0	1	0	28
18	Lakshadweep	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Madhya Pradesh	1	1	2	0	0	0	0	1	0	0	0	0	0	5
20	Maharashtra	0	0	0	0	0	0	0	0	0	1	0	0	0	1
21	Manipur	0	0	4	0	0	6	1	0	0	0	6	0	0	17
22	Meghalaya	2	0	2	0	0	0	5	1	0	2	4	0	0	16
23	Mizoram	0	0	1	0	0	0	0	0	0	0	2	0	0	3
24	Nagaland	0	0	0	0	0	0	0	0	0	0	5	0	0	5
25	NCT of Delhi	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	Odisha	5	0	5	0	0	1	0	6	1	0	0	1	0	19
27	Puducherry	0	3	0	0	0	2	0	0	0	0	0	0	0	5
28	Punjab	0	1	0	0	0	0	0	0	0	0	0	1	0	2
29	Rajasthan	0	2	0	0	1	0	0	0	0	0	0	0	0	3
30	Sikkim	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	Tamil Nadu	5	0	2	0	0	0	0	0	2	0	0	0	0	9
32	Telangana	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	Tripura	0	4	3	0	0	1	3	2	2	2	0	0	0	17
34	Uttar Pradesh	0	2	0	0	0	0	0	0	0	0	0	0	3	5
35	Uttarakhand	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	West Bengal	2	4	14	0	0	0	2	7	10	2	0	4	1	46
Total No districts likely to report		**32**	**40**	**60**	**0**	**3**	**50**	**26**	**48**	**25**	**15**	**27**	**26**	**25**	**377**

*Number of predicted disease incidence was summarised considering only High risk and Very high risk (+HR)

Andaman and Nicobar

A total of 3 districts in Andaman and Nicobar are likely to report 1 major livestock disease i.e., Fasciolosis in 2 districts.

Andhra Pradesh

A total of 13 districts in Andhra Pradesh are likely to report the 3 major livestock diseases. i.e., Anthrax, Black Quarter and Haemorrhagic Septicaemia in which Haemorrhagic Septicaemia is likely to occur in 4 districts and Anthrax in 3 districts. Black Quarter is predicted to occur in 2 districts.

Arunachal Pradesh

A total of 16 districts from Arunachal Pradesh are likely to report 1 disease i.e., Fasciolosis in 3 districts.

Assam

A total of 27 districts from Assam are likely to report 7 major livestock diseases i.e. Black Quarter, Fasciolosis, Haemorrhagic Septicaemia, Peste des petits ruminants, Sheep & Goat pox, Swine Fever and Theileriosis in which 17 districts are prone to Black Quarter. 14 districts are likely to report Fasciolosis and 10 districts are predicted for Haemorrhagic Septicaemia disease. Swine Fever and Sheep & Goat pox diseases are predicted to occur in 9 and 3 districts respectively. Peste des petits ruminants and Theileriosis diseases are likely to occur in 2 districts.

Bihar

A total of 38 districts from Bihar are likely to report 1 major livestock disease i.e., Peste des petits ruminants in Supaul district.

Gujarat

A total of 26 districts from Gujarat are likely to report 2 major livestock diseases i.e., Haemorrhagic Septicaemia and Peste des petits ruminants in which Haemorrhagic Septicaemia is reported to predict in 3 districts and Peste des petits ruminants is likely to occur in 1 district i.e., Amreli.

Haryana

A total of 21 districts from Haryana are likely to report 3 major livestock diseases i.e., Peste des petits ruminants, Swine fever and Theileriosis diseases. 1 district is likely have Peste des petits ruminants i.e., Bhiwani district. Swine fever and Theileriosis diseases are likely to report in Jhajjar and Kurukshetra districts respectively.

Jammu and Kashmir

A total of 22 districts in Jammu and Kashmir are likely to report 2 major livestock diseases i.e., Foot and Mouth disease and Sheep & Goat pox. 3 districts are prone to have Sheep & Goat pox and 2 districts are prone to Foot and Mouth disease.

Jharkhand

A total of 24 districts in Jharkhand are likely to report 8 major livestock diseases i.e., Anthrax, Babesiosis, Black Quarter, Fasciolosis, Haemorrhagic Septicaemia, Peste de pestis ruminants, Theileriosis and Trypanosomosis. 21 districts are predicted to have Babesiosis. Fasciolosis and Trypanosomosis diseases are reported to occur in 20 districts. Theileriosis disease is likely to report in 15 districts and Black Quarter in 8 districts. Anthrax disease is likely to report in 2 districts. Both Haemorrhagic Septicaemia and Peste de pestis ruminants diseases are predicted in Pakur and Purbi Singhbhum districts respectively.

Karnataka

A total of 30 districts in Karnataka are likely to report 6 major livestock diseases i.e. Anthrax, Enterotoxemia, Fasciolosis, Haemorrhagic Septicaemia, Sheep & Goat pox and Theileriosis. 9 districts are likely to prone for Anthrax. Haemorrhagic Septicaemia disease occurrence is predicted in 6 and districts. Enterotoxemia and Sheep & Goat pox diseases are predicted to occur in 2 districts. Fasciolosis and Theileriosis diseases are likely to occur in Bagalkot and Ramanagara districts.

Kerala

A total of 14 districts in Kerala are likely to report 6 major livestock diseases i.e. Anthrax, Babesiosis, Foot & Mouth disease, Haemorrhagic Septicaemia, Peste de pestis ruminants and

Theileriosis. 13 districts are prone to Foot & Mouth disease and 6 districts are likely to have Haemorrhagic Septicaemia. Peste de pestis ruminants disease is predicted in 4 districts. Anthrax and Babesiosis diseases are likely to occur in 2 districts and Theileriosis disease is reported to predict in Palakkad district.

Madhya Pradesh

A total of 50 districts in Madhya Pradesh are likely to have 4 major livestock diseases i.e., Anthrax, Babesiosis, Black Quarter and Haemorrhagic Septicaemia. 2 districts are prone to have Black Quarter and Babesiosis is likely to predict in Damoh district. Anthrax and Haemorrhagic Septicaemia diseases are reported to occur in Dindori district.

Maharashtra

A total of 36 districts in Maharashtra are likely to report 1 major livestock disease i.e Sheep & Goat pox in Amravati district.

Manipur

A total of 9 districts in Manipur are likely to report 4 major livestock disease i.e., Black Quarter, Fasciolosis, Foot & Mouth disease and Swine fever. Fasciolosis and Swine fever are predicted to occur in 6 districts. Black Quarter disease is likely to predict in 2 districts. Foot & Mouth disease is likely to predict in 1 district i.e., Thoubal district.

Meghalaya

A total of 11 districts in Meghalaya are likely to have 6 major livestock diseases i.e., Anthrax, Black Quarter, Foot and Mouth Disease, Haemorrhagic Septicaemia, Sheep & Goat pox and swine fever. 5 districts are prone to have Foot and Mouth Disease and 4 districts are likely to have swine fever Disease. 2 districts are likely to predict Anthrax, Black Quarter and Sheep & Goat pox diseases. Haemorrhagic Septicaemia disease is likely to report in 1 district i.e., West Garo Hills.

Mizoram

A total of 8 districts in Mizoram are likely to report 2 major livestock diseases i.e., Black Quarter and swine fever in which swine fever is likely to report in 2 districts and Black Quarter is predicted to occur in 1 district i.e., Champhai district.

Nagaland

A total of 11 districts in Nagaland are likely to report 1 major livestock disease, i.e. swine fever in 5 districts.

Odisha

A total of 29 districts in Odisha are likely to report 6 major livestock diseases, i.e. Anthrax, Black Quarter, Fasciolosis, Haemorrhagic Septicaemia, Peste de pestis ruminants and Theileriosis. Haemorrhagic Septicaemia disease is prone to occur in 6 districts. Anthrax and Black Quarter diseases are likely to occur in 5 districts. Fasciolosis, Peste de pestis ruminants and Theileriosis diseases are likely to predict in Jajapur, Nayagarh and Puri districts respectively.

Puducherry

A total of 4 districts in Puducherry likely to have 2 major livestock diseases i.e., Babesiosis and Fasciolosis in 3 and 2 districts respectively.

Punjab

A total of 20 districts in Punjab are likely to report 2 major livestock diseases, i.e. Babesiosis and Theileriosis in Faridkot and Firozpur districts respectively.

Rajasthan

A total of 32 districts in Rajasthan are likely to report 2 major livestock diseases, i.e. Babesiosis and Enterotoxemia. 2 districts have a threat for Babesiosis and 1 district i.e., Jaipur is likely to predict for occurrence of Enterotoxemia disease.

Tamil Nadu

A total of 31 districts in Tamil Nadu are likely to report 3 major livestock diseases i.e., Anthrax, Black Quarter and Peste de pestis ruminants. Anthrax disease is likely to occur in 5 districts. Black Quarter and Peste de pestis ruminants diseases are likely to predict in 2 districts.

Tripura

Dhalai, North Tripura, South Tripura and West Tripura are likely to report 7 major livestock diseases i.e., Babesiosis, Black Quarter, Fasciolosis, Foot and Mouth disease, Haemorrhagic Septicaemia, Peste de pestis ruminants and Sheep & Goat pox in which Babesiosis is likely to

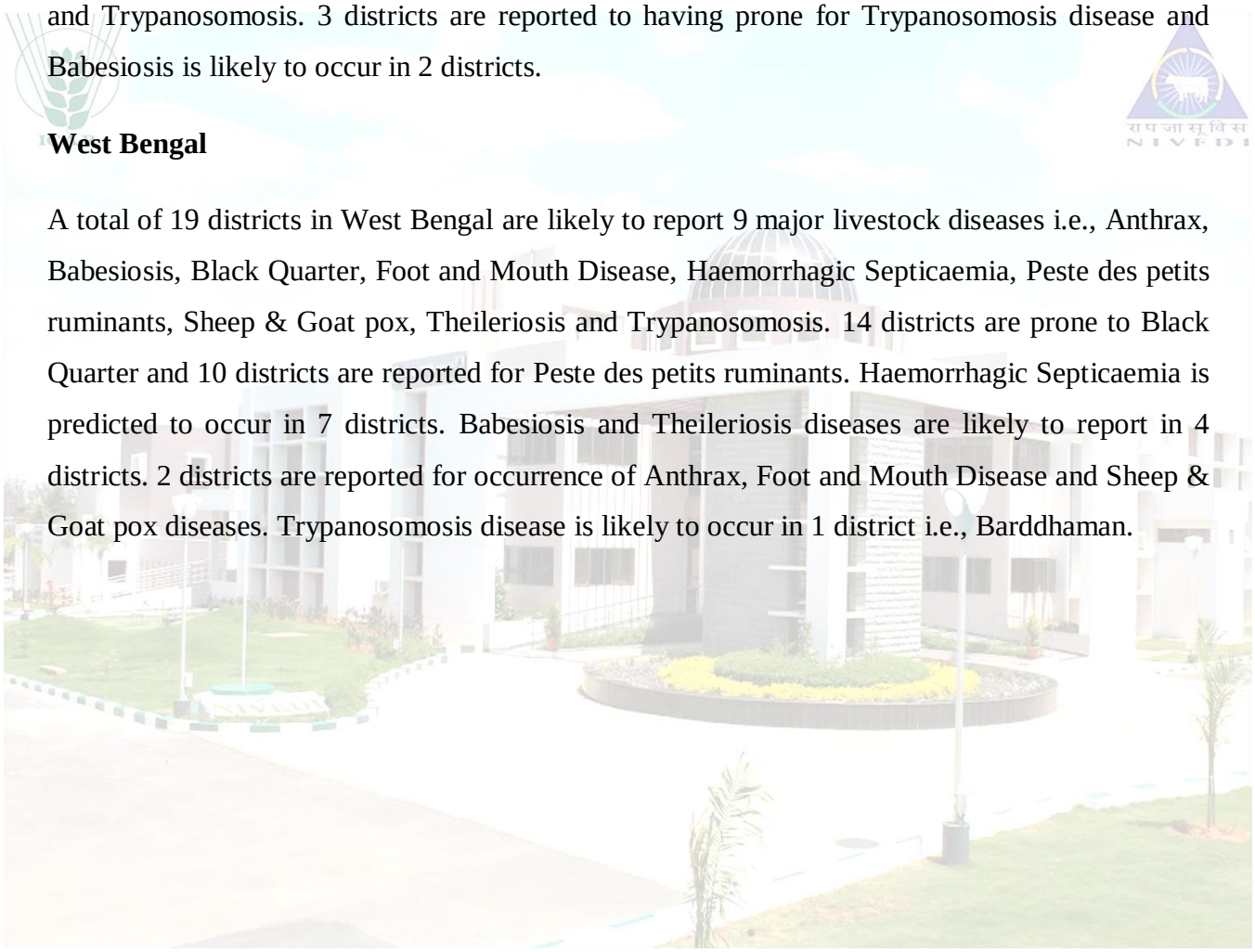
report in 4 districts. Black Quarter and Foot and Mouth disease are likely to report in 3 districts. Haemorrhagic Septicaemia, Peste de pestis ruminants and Sheep & Goat pox diseases are predicted to report in 2 districts each. Fasciolosis disease is predicted to occur in 1 district i.e., West Tripura.

Uttar Pradesh

A total of 83 districts in Uttar Pradesh are likely to report 2 major livestock diseases i.e., Babesiosis and Trypanosomosis. 3 districts are reported to having prone for Trypanosomosis disease and Babesiosis is likely to occur in 2 districts.

West Bengal

A total of 19 districts in West Bengal are likely to report 9 major livestock diseases i.e., Anthrax, Babesiosis, Black Quarter, Foot and Mouth Disease, Haemorrhagic Septicaemia, Peste des petits ruminants, Sheep & Goat pox, Theileriosis and Trypanosomosis. 14 districts are prone to Black Quarter and 10 districts are reported for Peste des petits ruminants. Haemorrhagic Septicaemia is predicted to occur in 7 districts. Babesiosis and Theileriosis diseases are likely to report in 4 districts. 2 districts are reported for occurrence of Anthrax, Foot and Mouth Disease and Sheep & Goat pox diseases. Trypanosomosis disease is likely to occur in 1 district i.e., Barddhaman.



iii) Diseases, Species affected, clinical signs and its preventive measures.

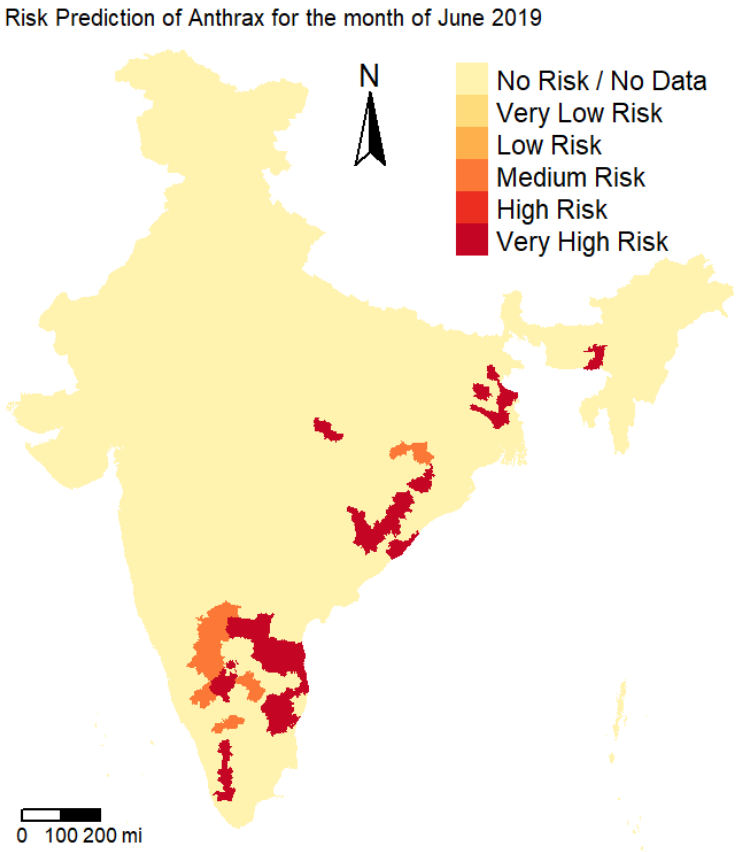
Sl No.	Disease	Species Affected	Clinical Signs	Preventive Measures
1	Anthrax	Most of the mammals and ruminants are highly susceptible. Pigs and Horses are moderately susceptible. Carnivores are relatively resistant.	Convulsion and sudden death with oozing of blood from natural orifices such as rectum and nose prior to death. Occasionally oedema develops in the throat and shoulder over a period of one week before death.	Ring vaccination and report of disease is advised. Vaccination to be done in consultation with the veterinarians and as decided by state animal husbandry authorities. Strict biosecurity measures May be followed. Carcass May be disposed by deep burying covered with lime powder. Contaminated area May be disinfected with 4% formalin or 10% caustic soda. Grazing area May be restricted.
2	Babesiosis	Cattle. Cross breeds are more susceptible.	High temperature, jaundice like symptoms, yellowish mucosal membrane of eye, rectum and coffee colour urine.	Periodical application of acaricides in and around the animal shed and on the animals. For therapeutic application, di-aminizine or imidocarb can be useful.
3.	Black Quarter (BQ)	Common disease for cattle and sheep but occasionally goats and pigs also suffer from the disease.	High fever and lameness followed by swelling in the neck, shoulder, lumbar, gluteal and sacral regions. Skin over the affected area become dark and crepitate on palpation. Loss of feed intake, colic, lateral recumbency, dyspnoea and death.	Affected animals May be treated with suitable antibiotics. Vaccination to be done in consultation with the veterinarians and as decided by state animal husbandry authorities. Strict biosecurity measures May be followed. Grazing area May be restricted. Carcass May be disposed hygienically.
4.	Bluetongue(BT)	Sheep are more susceptible than goats.	Fever, swelling of face, neck, eyelids respiratory distress, nasal discharge, Salivation, necrotic ulcers on tongue, dental pad, gum, lips hyperaemia of muzzle and May bleed at muco-cutaneous junction. Affected tongue May become swollen,	Vector control using insecticides and good water management. Vaccination of susceptible animals preferably in the month of May. Do not shear sheep during winter months. Restriction in

			cyanotic and purple blue in colour – 'blue tongue'.	animal movement, segregation of affected animals and symptomatic treatment. Strict bio security measures.
5.	Enterotoxemia (ET)	Common disease of sheep and goats especially among the young animals.	Dullness, opisthotonos, convulsions, coma and sudden death. Affected adult sheep, which survive for several days May show diarrhoea and staggering.	Affected animals May be treated with suitable antibiotics. Vaccination to be done in consultation with the veterinarians and as decided by State Animal Husbandry Authorities. Strict biosecurity measures May be followed. Carcass May be disposed hygienically. Grazing area to be restricted, stall fed, vitamins and probiotics May be provided.
6.	Fasciolosis	Cattle, buffalo, sheep and goats.	Progressive anaemia, pale mucous membrane, sub-mandibular oedema (bottle jaw), loss of appetite, weakness in movement, isolated from flock while grazing, loss in production.	The animal should not be allowed to graze in water stagnant field or sub-merged fodder should not be given directly to the animals. The sub-merged fodder can be processed through hay/silage preparation, where metacercaria will die through the process. The affected animals can be treated by Carbon tetrachloride/ Rafoxanide/ Nitroxynil/ Niclofolan /Closantel/Oxyclozanide, under Veterinarian & under strictsupervision.
7.	Foot and Mouth Disease(FMD)	Cattle, buffalo, sheep, goats and pigs are often affected domesticated species, but the disease is more severe in cattle and pigs.	Fever, loss of feed intake, drop in milk production, drooling of saliva like ropey string, vesicles develop on the tongue, lips, gums, and palate and eventually rupture. Concurrent to oral lesions, vesicles also appear in inter digital skin and coronary band of the feet. The animal	Regular vaccination and seromonitoring. Disinfection with sodium carbonate (4%) or 10% washing soda and strict biosecurity measures to be followed and animal movement May be controlled.

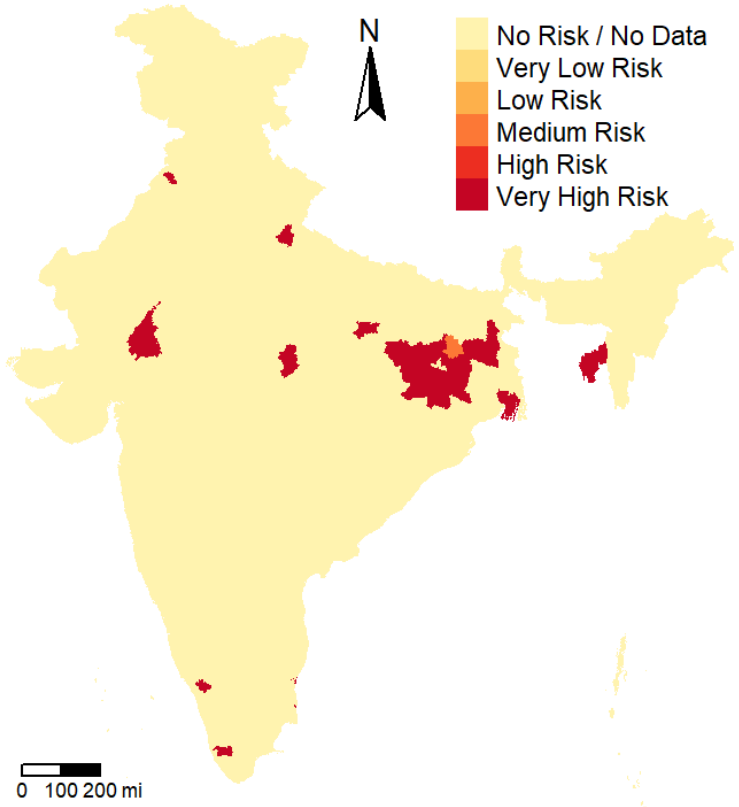
			May open and close its mouth with a characteristic smacking sound. Sheep and goats May show lameness. In pigs, lesions May be seen on snout and also on the feet.	
8.	Haemorrhagic septicaemia (HS)	Common disease for cattle and buffaloes but also occur among other species such as pigs, sheep, goats and many wild animals.	The disease starts with high fever, respiratory distress and haemorrhages may be seen on the mucous membranes. There is lacrymation, nasal discharge, drop in milk production and anorexia. As the disease progress ear droop, animals are prostrated with cyanosis of mucous membranes. There May be oedema along the head, neck, thorax, vulva and anal areas. Sudden death occurs within few hours of clinical signs.	Affected animals May be treated with suitable antibiotics. Vaccination to be done in consultation with the veterinarians and as decided by state animal husbandry authorities. Strict biosecurity measures May be followed. Carcass May be disposed hygienically and stress factors May be reduced by good animal husbandry practices.
9.	Peste des Petits Ruminants(PPR)	Goats and sheep are most affected domestic animals.	Fever, nasal and ocular discharge, respiratory distress, necrotic lesions in buccal mucosa, gum, dental pad, palate, tongue and diarrhoea. Animals May die because of dehydration and pneumonia.	Vaccination of susceptible animals of above 3 months old age. Restriction on animal movement, strict biosecurity measures and proper disposal of carcass.
10.	Sheep & Goat pox (S & G pox)	Sheep and Goats	Respiratory distress and pock lesions over the non-hairy parts of body, more common in teat, udder, scortum, head, neck, ear, perineum, inner aspect of thighs and under tail.	Vaccination of susceptible animals of above 3 months old age. Symptomatic treatment of affected animals. Restriction on animal movement, strict biosecurity measures and proper disposal of carcass.
11.	Swine Fever (SF)	Pigs	Fever, Conjunctivitis, purplish discolouration of snout, ears, abdomen, inner side of the legs and staggering gait.	Vaccination of susceptible animals. Restriction on animal movement, strict biosecurity measures and proper disposal of carcass
12.	Theileriosis	Large Ruminants. Cross bred cattle are more vulnerable.	High temperature, yellowish eye, sometime eye May be heavily swollen, icteric mucosal membrane of	Periodical application of acaricides in and around the animal shed and on the animals. Vaccination

			rectum, dark yellowish urine, sometime May reach to coffee colour. Antibiotic is of no use to check fever.	in endemic areas with *Theileria annulata* schizont cell culture vaccine. Therapeutic application of buparvaquone can be useful in both early and advanced stages of the infection.
13.	Trypanosomosis	Domestic and wild carnivores and herbivores including cattle, buffalo, horse, donkey, camel, dog and cats. Buffaloes are known as carriers.	Fluctuating high fever which is not responded by antibiotic, swollen lymph gland, chronic emaciation and weakness, loss of appetite, gradual loss of production.	The affected animal should be treated with diaminazine compounds or chloride and sulphate salts of quinapyramine. Periodical spray of insecticide in and around animal shed to remove the flies.

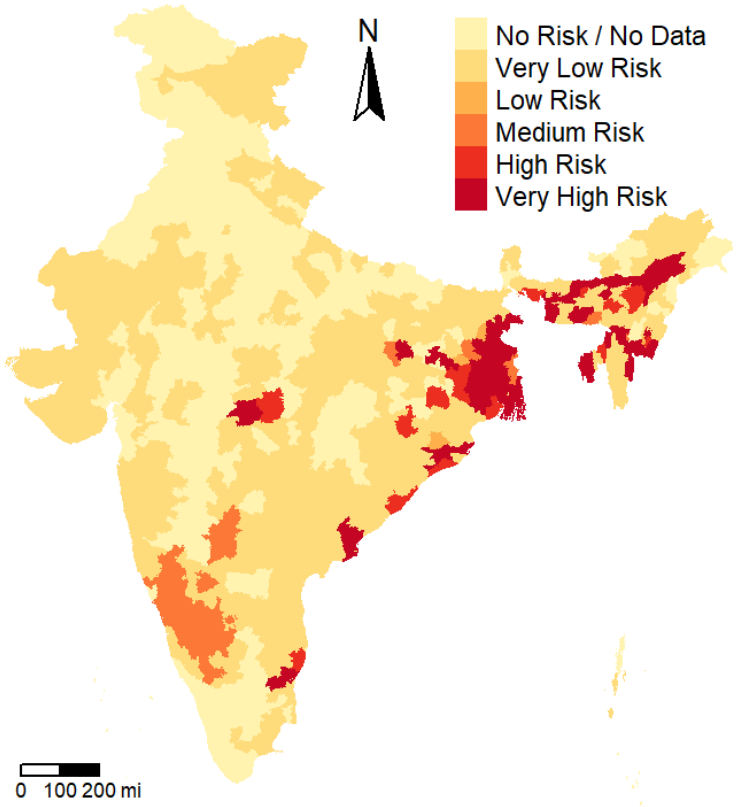
iv) Livestock Risk Prediction - Disease forewarning Maps



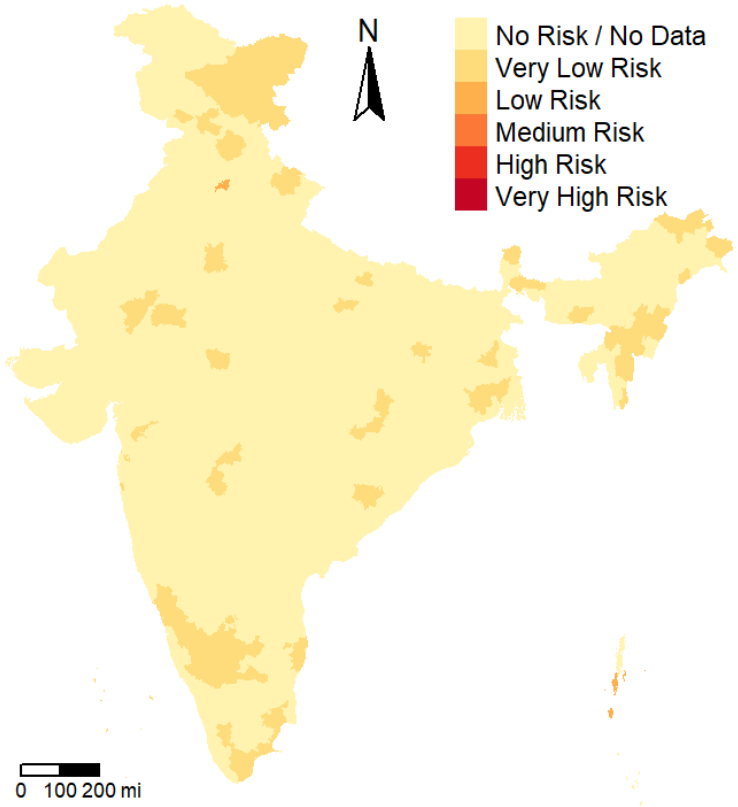
Risk Prediction of Babesiosis for the month of June 2019



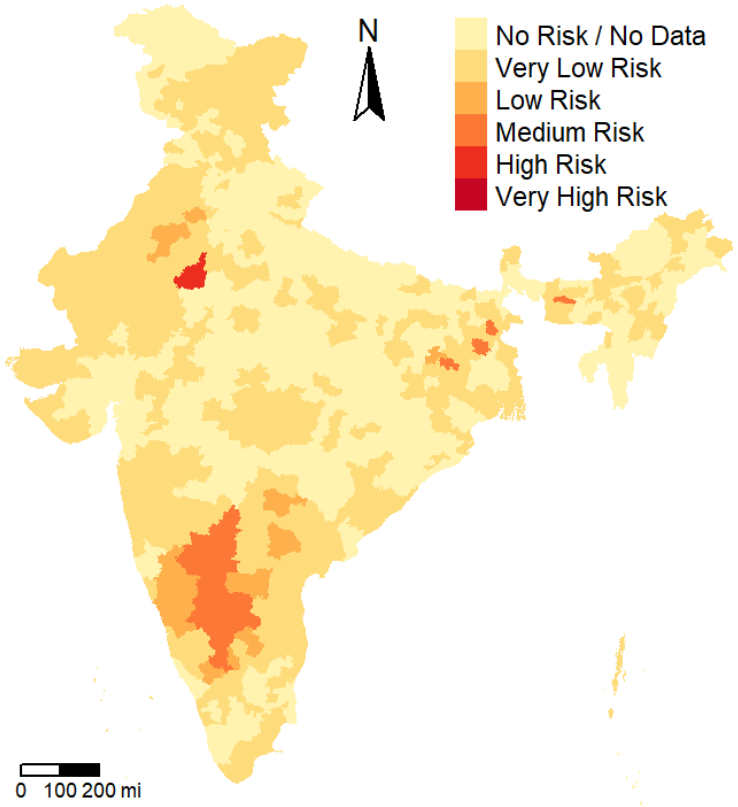
Risk Prediction of Black quarter for the month of June 2019



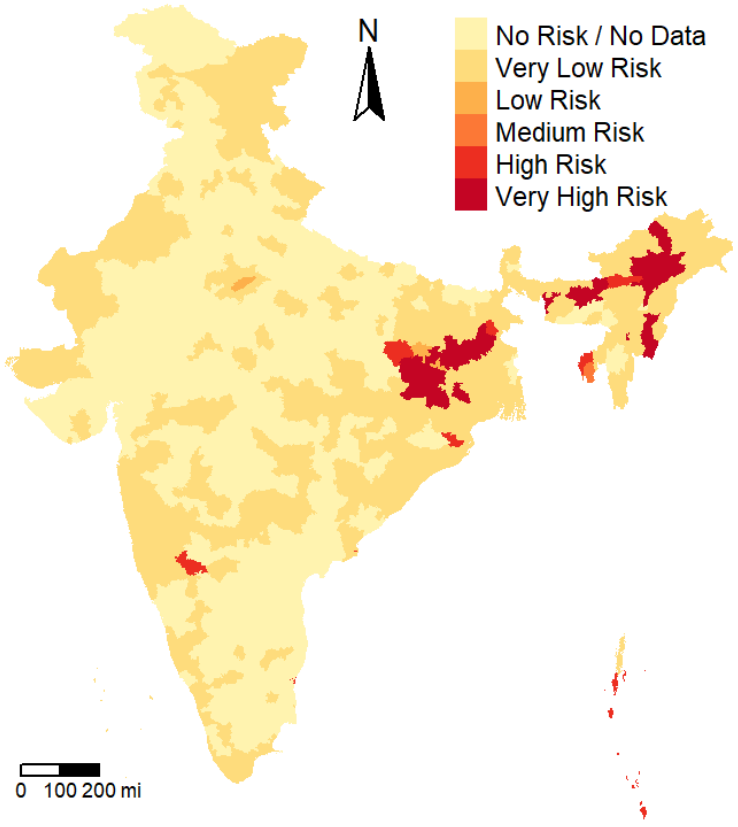
Risk Prediction of Bluetongue for the month of June 2019



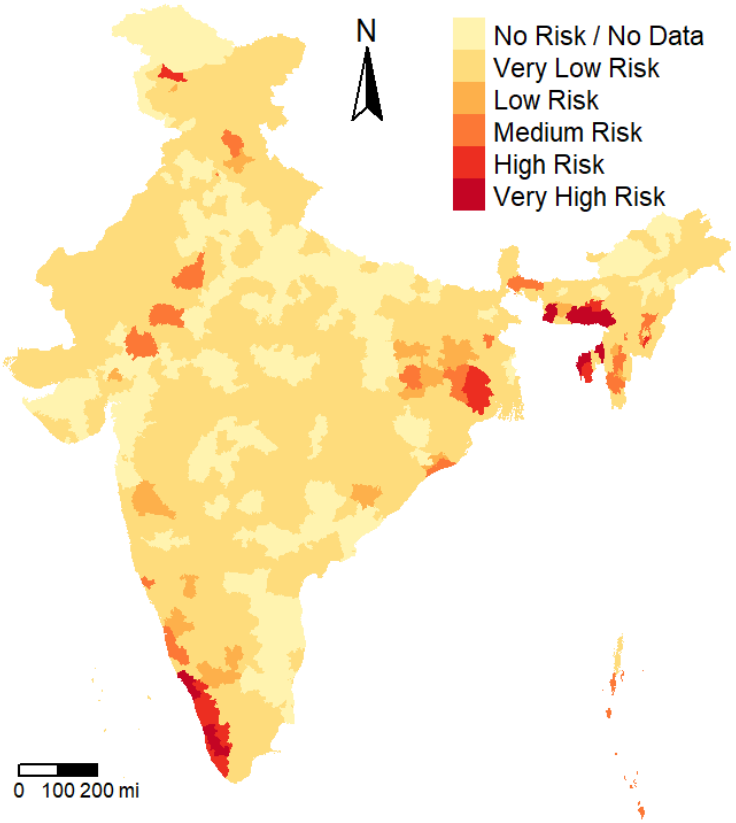
Risk Prediction of Enterotoxemia for the month of June 2019



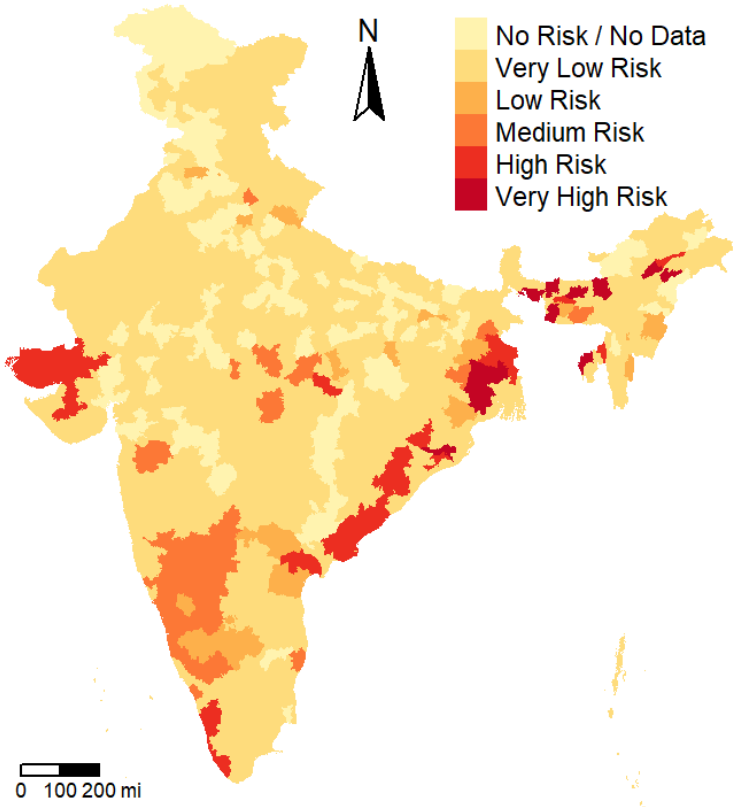
Risk Prediction of Fascioliasis for the month of June 2019



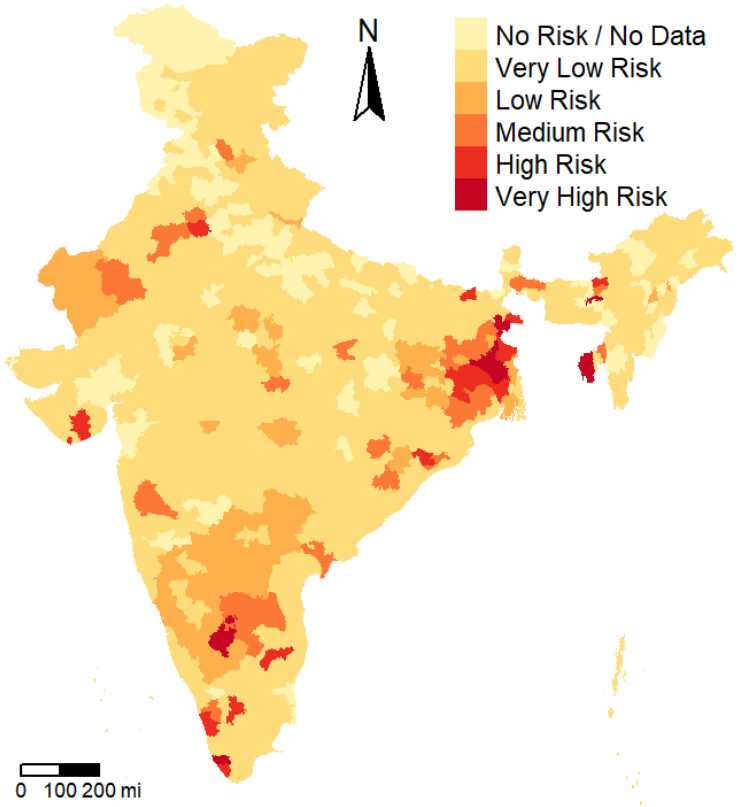
Risk Prediction of Foot and mouth disease for the month of June 2019



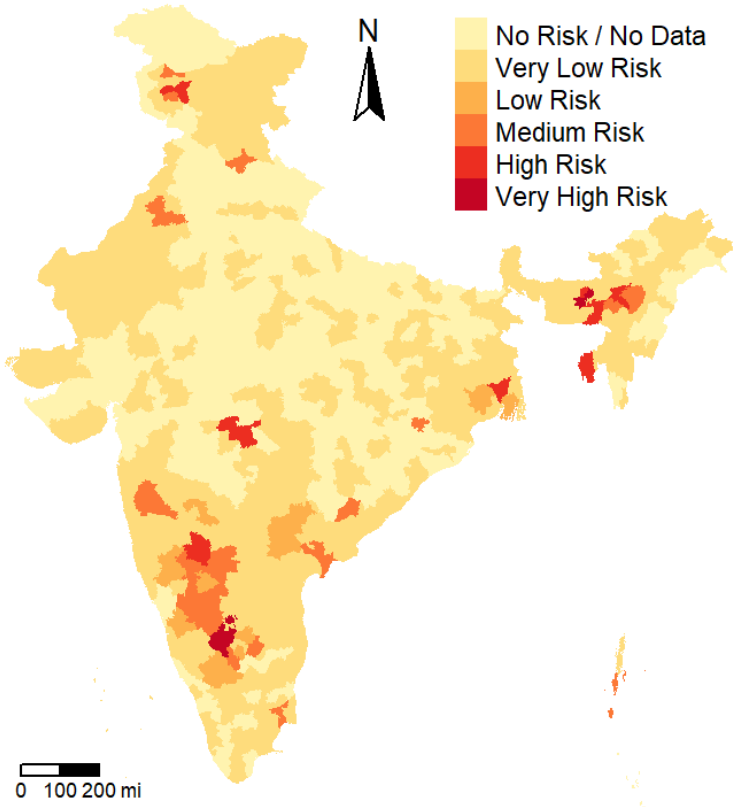
Risk Prediction of Haemorrhagic septicaemia for the month of June 2019



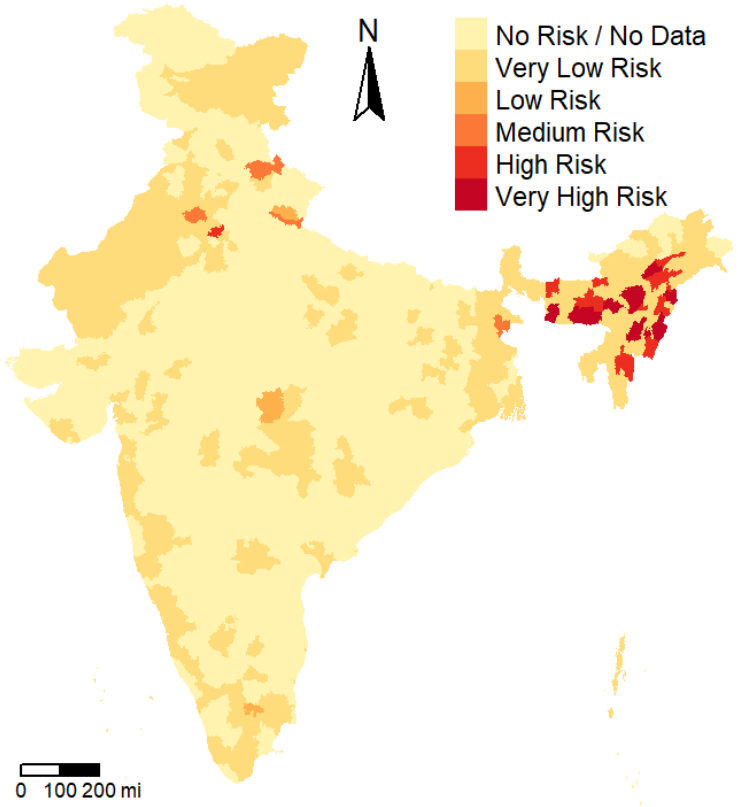
Risk Prediction of Peste des petits ruminants for the month of June 2019



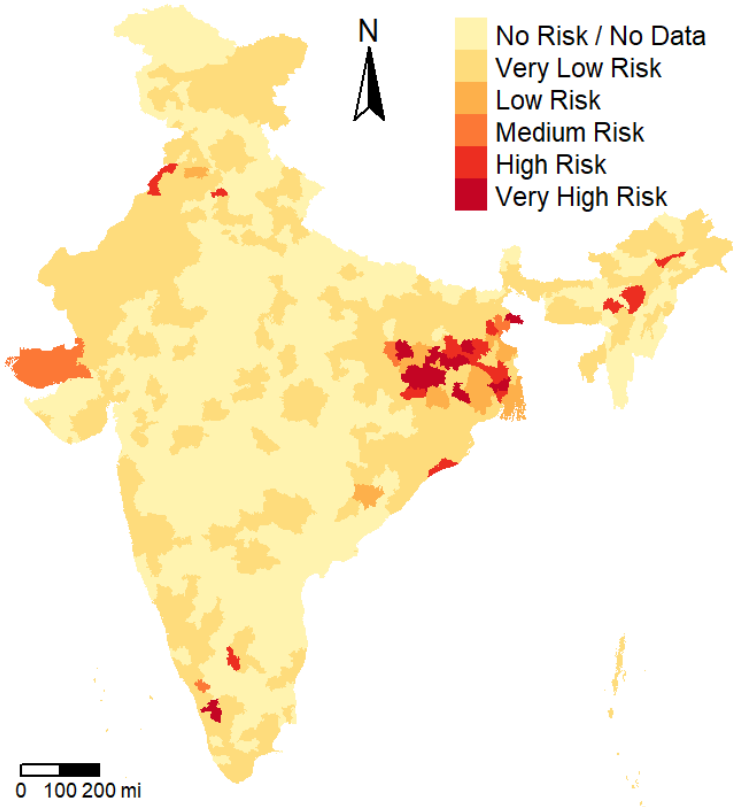
Risk Prediction of Sheep and Goat pox for the month of June 2019



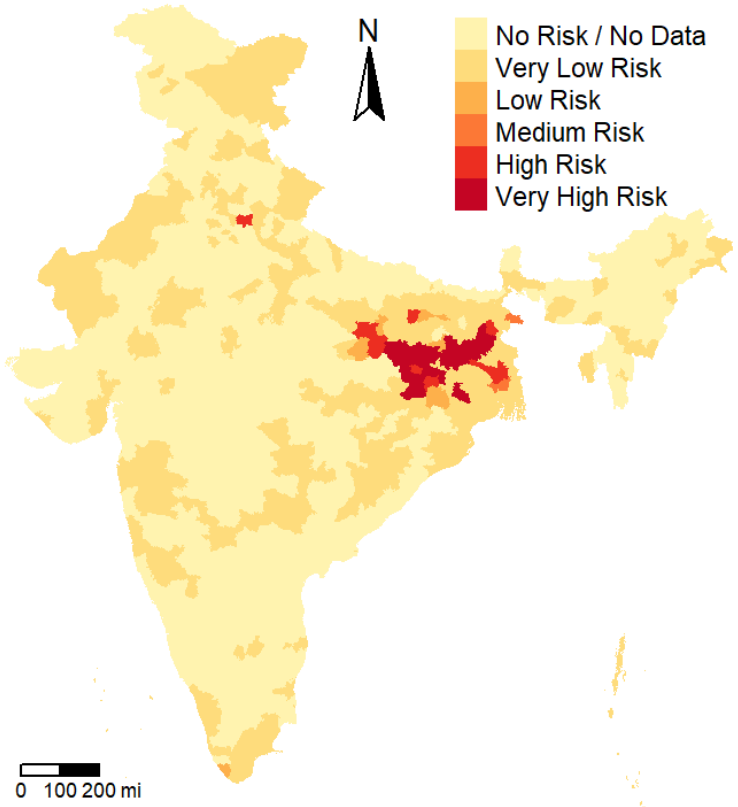
Risk Prediction of Swine fever for the month of June 2019



Risk Prediction of Theileriosis for the month of June 2019



Risk Prediction of Trypanosomiasis for the month of June 2019



6. Launch of Mobile Android app. & link to download

Livestock forewarning application (LDF) can be downloaded following the link provided: http://www.nivedi.res.in/android_nadres/LDF.apk. Further launch of LDF application was done, the news provided below.

7. Appendix

a) R Code

```
#pars month_number=8; year_number=2006; current_year=2017;

nadres_func=function (current_year, year_number, month_number)

{

args = commandArgs(trailingOnly=TRUE)

if (length(args)<3) {

stop("Correct number of arguments must be supplied", call.=FALSE)

 }

current_year=args[1]

year_number=args[2]

month_number=args[3]

df_total<-NULL

month_name=data.frame(

month=c(1:12),

month_names=c("February","February","March","April","May","October","October","September","September","O
ctober","November","December")

)

ss<-fread(file="NADRES.csv",header=T,check.names = F)

col_pars=names(ss)

vars= paste(col_pars[7:ncol(ss)],collapse = "+")

options(verbose = F)

for(disease in c(8,10,11,12,24,31,35,37,48,60,62,65,70,72,79))

{

# disease=8

rs<-dbSendQuery(mydb,"SELECT index_state.state_name,index_state.state_id,index_district.district_id,
index_district.district_name, year_list.year, outbreak_data_final.month,
ls_sp_index.species_name,disease_master.disease_id, disease_master.disease_name,
```

```
outbreak_data_final.number_of_outbreaks, outbreak_data_final.number_susceptible,
outbreak_data_final.number_of_attacks, outbreak_data_final.number_of_deaths

        FROM ls_sp_index INNER JOIN (year_list INNER JOIN (disease_master INNER JOIN (index_district INNER
JOIN (index_state INNER JOIN outbreak_data_final ON index_state.state_id = outbreak_data_final.state_id) ON
index_district.district_id = outbreak_data_final.district_id) ON disease_master.disease_id =
outbreak_data_final.disease_id) ON year_list.year = outbreak_data_final.year) ON ls_sp_index.species_id =
outbreak_data_final.species_id; ")

data = fetch(rs, n=-1)

 # year change

data<-subset(data,data$year>=year_number&data$disease_id==disease)

df<-sqldf("SELECT
state_id,state_name,district_id,district_name,disease_id,disease_name,month,sum(number_of_outbreaks)as
outbreak FROM data GROUP BY
state_id,district_id,state_name,district_name,month,disease_id,disease_name",drv="SQLite")

ss1<-subset(ss,ss$disease_id==disease)

attach(ss1,warn.conflicts = F)

attach(df,warn.conflicts = F)

dd<-merge(ss1, df, by = c("state_id","district_id","disease_id","month"),all.x=TRUE)

attach(dd,warn.conflicts = F)

out<-data.frame(outbreak)

out<-ifelse(outbreak>=1,1,0)

out[is.na(out)]<-0

final<-cbind(dd,out)

 final1<-final[which(final$disease_id==disease),]

cat("For disease: ",as.character(unique(ss1["disease_name"])),"\n")

ncs= ncol(final1)-5

temp = data.frame(final1[,8:ncs])

for(i in 1:ncol(temp)){

temp[is.na(temp[,i]), i] <- mean(temp[,i], na.rm = TRUE)

 }

 final2<-
cbind(final1$state_id,final1$state_name.x,final1$district_id,final1$district_name.x,final1$disease_id,final1$diseas
e_name.x,final1$out,final1$month,temp)
```

```
setnames(final2,old=c("final1$state_id","final1$state_name.x","final1$district_id","final1$district_name.x","final1
$disease_id","final1$disease_name.x","final1$out","final1$month"),new=c("state_id","state_name","district_id","
district_name","disease_id","disease_name","out","month"))

formula=paste("out ~",vars)

as.formula(formula)

model<-glm(formula,data = final2, family = binomial(link="logit"),maxit=20)

new<-data.frame(final2[,8:ncol(final2)])

prediction<-predict(model,type="response")

n2=randomForest(as.formula(formula),final2)
  prediction_rf<-predict(n2,type="response")

  gbm_model=gbm.step(data=final2, gbm.x = 8:ncol(final2), gbm.y = 7, family = "bernoulli", tree.complexity = 1,
learning.rate = 0.01,
                   bag.fraction = 0.5, n.trees = 5,keep.fold.fit=T,tolerance.method="fixed"
                   , step.size = 5,n.folds = 10)
  prediction_gbm<-predict(gbm_model,n.trees=gbm_model$gbm.call$best.trees,type="response")
  prediction=numeric()
  for (i in 1:length(prediction_glm)) {
    # if(prediction_glm[i]>prediction_rf[i])
    # {
    #   if(prediction_glm[i]>prediction_gbm[i])
    #   {
    #     prediction[i]=prediction_glm[i]
    #   }
      if(prediction_glm[i] >= prediction_gbm[i] &&prediction_glm[i] >= prediction_rf[i])
      {
        prediction[i]=prediction_glm[i];
      }

      if(prediction_gbm[i] >= prediction_glm[i] &&prediction_gbm[i] >= prediction_rf[i])
      {
        prediction[i]=prediction_gbm[i];
      }

      if(prediction_rf[i] >= prediction_glm[i] &&prediction_rf[i] >= prediction_gbm[i]) {
        prediction[i]=prediction_rf[i];
      }

      }
summary(prediction)
vv<-round(prediction,2)

  df1<-cbind(final2,vv)

df_total<-rbind(df_total,df1)

gc()

}

f=function(m){

if(m<=0.0) i=1

else if(m>=0.0 && m<=0.20) i=2
```

```
else if(m>=0.21 && m<=0.40) i=3

else if(m>=0.41 && m<=0.60) i=4

else if(m>=0.61 && m<=0.80) i=5

elsei=6

}

df_total$cate=factor(mapply(f,df_total$vv),levels=1:6,labels=c("","","","MR","","HR"))

write.csv(df_total,"nadres_outbreak.csv")

####### ACCURACY

df_total=read.csv("nadres_outbreak.csv",header = T)

dir.create(path = paste(month_name[month_number,2],current_year))

df_poa=df_total

df_poa$cate=factor(mapply(f,df_poa$vv),levels=1:6,labels=c(0,0,0,0,1,1))

df_poa=df_poa[which(df_poa$month==month_name[month_number,1]),]

df_p=df_poa[,c("disease_name","out","cate")]

df_acc=cbind(data.frame(c(1:ow(df_tot_res))),data.frame(df_tp_tn[,1]),(df_tp_tn[,2]/df_tot_res[,2])*100)

df_acc=setNames(df_acc,c("No","Disease","Accuracy"))

print(df_acc)

dis_acc=paste(paste(month_name[month_number,2]," ",current_year,"/",sep = ""),"Disease Accuracy
",month_name[month_number,2]," ",current_year,".csv",sep="")

write.csv(df_acc,dis_acc,row.names = F)

##########PLOT

i=1

plot_dir=paste(paste(month_name[month_number,2],"
",current_year,"/",sep=""),month_name[month_number,2]," ",current_year," N",sep="")

dir.create(path = plot_dir)

disease = c(8,10,11,12,31,35,37,48,60,65,70,72,79)

while(i<=length(disease))

{

kar=readOGR(dsn = "1shp/2011_Dist.shp",verbose = FALSE)

cols=as.character(unique(df_total[df_total$disease_id==disease[i],"disease_name"]))
```

```
df_disease=df_total[which(df_total$month==month_name[month_number,1] &df_total$disease_id==disease[i]),]

df_disease=df_disease[,c(2:5,(ncol(df_disease)-1))]

df_disease=setNames(df_disease,c("ST_CEN_CD","state_name","DT_CEN_CD","district_name","vv"))

kar@data=merge(data.frame(kar@data),data.frame(df_disease),by=c("ST_CEN_CD","DT_CEN_CD"),all.x=T)

kar$vv[is.na(kar$vv)]<-0

#View(kar@data)

colours<-c("#FFFFFF","#FFFF00","#FFC1C1","#FF7150","#FF8500","#FF0000")

kar$lb=factor(mapply(f,kar$vv),levels=1:6,labels=c("No Risk / No Data","Very Low
Risk","LowRisk","MediumRisk","HighRisk","Very High Risk"))

cols=gsub("&", "and",cols)

disname= gsub("\\."," ",cols)

cat("Plot for disease:",disname,"\n")

plot_loc=paste(plot_dir,"/",disname,"/",sep="")

dir.create(plot_loc)

file_name=paste(plot_loc,disname,".png",sep="")

plot_title= paste(disname," risk prediction(",month_name[month_number,2]," ",current_year,")",sep="")

png(file_name)

print(spplot(obj = kar,c("lb"),col.regions=colours,main = plot_title,scales=list(draw = TRUE)))

dev.off()

i=i+1
```

b) Abbreviations

NADRES : National Animal Disease Referral Expert System

R : R environment for statistical computing

BQ : Black Quarter

BT : Blue tongue

ET : Enterotoxemia

FMD : Foot and Mouth disease

HS : Haemorrhagic Septicaemia

PPR : Peste des petits ruminants

S&G POX : Sheep and Goat pox

SF : Swine Fewer

hPa : Hectopascals

NR : No risk/No data available

VLR : Very low risk

LR : Low risk

MR : Moderate risk

HR : High risk

VHR : Very high risk

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