

Soil Resource of Begusarai District, Bihar

Abstract

- 1. Surveyed Area** : Begusarai district, Bihar
- 2. Location** : Latitude 25° 14' 58" to 25° 46' 31" N
Longitude 85° 44' 10" to 86° 31' 01" E
- 3. Agroclimatic Region** : Middle Gangetic Plain
(Zone – IV as per planning commission)
- 4. Total Area of the District** : 192370 ha
- 5. Kind of Survey** : Soil Resource Mapping using Remote Sensing and GIS Techniques
- 6. Base Map** : (a) IRS-ID Geocoded Satellite Imagery (1:50,000 scale)
(b) Survey of India Topographical maps on 1:50,000 scale
- 7. Scale of Mapping** : 1:50,000
- 8. Period of Survey** : December, 2014 to January, 2015

A. Soil Series Association mapped and their respective area:

Sl. No.	Mapping symbol	Mapping Unit	Soil Series and Association	Area (ha)	Area (%)
1	01	ALb1a1	Bishunapur-Pratappur	7116	3.70
2	02	ALb1a2	Babothan-Barigarapur	17266	8.98
3	03	ALb1a3	Darhiasagar-Godhna	16366	8.51
4	04	ALb2a1	Badki Balia	33550	17.44
5	07	ALb2b1	Ismaila -Majhaul	2935	1.53
6	08	ALe2e1	Hakimabad -Murgichak	16089	8.36
7	09	ALg2a1	Bariyahi- Bhagwanpur	30067	15.63
8	05	ALn2a1	Bamoura-Sanhanayatola	29049	15.10
9	06	ALn2a2	Mohanpur-Khamhar	17567	9.13
10	10	H	Habitation	10779	5.60
11	11	R	River	4680	2.43
12	12	W	Waterbody	6906	3.59
Grand Total				192370	100

B. Physiographic division of the soils of the Begusarai district of Bihar:

Landscape	Physiography	Area (ha)	Area (%)
Alluvium	Alluvial Plain (b)	77233	40.16
	Flood Plain (n)	46616	24.23
	Levee (e)	16089	8.36
	Stream banks (g)	30067	15.63
Habitation	Miscellaneous	10779	5.60
River		4680	2.43
Waterbody		6906	3.59
Total		192370	100

C. Soils of the district fall in three slope classes:

Slope classes	Area (ha)	Area (%)
Nearly level to Level sloping	77233	40.16
Nearly level to very gently sloping	92772	48.22
Habitation	10779	5.60
River	4680	2.43
Waterbody	6906	3.59

D. Various land use / land cover of the district are as under

Land use classes	Area (ha)	Area (%)
Agriculture	167070	86.85
Plantation	2935	1.53
Habitation	10779	5.60
River	4680	2.43
Waterbody	6906	3.59

E. Erosion classes of the soils of the district are as under

Erosion classes	Area (ha)	Area (%)
none to slight erosion	77233	40.16
slight to moderate	92772	48.22
Habitation	10779	5.60
River	4680	2.43
Waterbody	6906	3.59

F. Soil depth classes of the soils of the district are as under

Depth class	Area (ha)	Area (%)
Very deep	170005	88.53
Habitation	10779	5.60
River	4680	2.43
Waterbody	6906	3.59

Salient Features:

- Total area of the district is under alluvium landscape and it is divided into four physiographic units i.e. alluvium plain, flood plain, levees and stream/ river bank.
- Total 17 nos. of soil series have been identified and mapped.
- In the district 167070 ha (86.85%) area is under agriculture followed by plantation 2935 ha (1.53%) and miscellaneous land i.e. habitation 10779 ha (5.60%), river 4680 ha (2.43%) and waterbody 6906 ha (3.59%).
- About 77233 ha (40.16%) and 92772 ha (48.22%) of survey area having slope range 0-1% and 1-3% respectively.
- About 77233 ha (40.16%) area having none to slight erosion hazards and 92772 ha (48.22%) suffer from slight to moderate erosion needs to attention for soil conservation measures.
- Soils of the area are taxonomically classified into two orders i.e Inceptisols and Entisols. All the 17 soils series identified in the area are further classified into 4 sub order, 4 great group, 7 sub group

HOW TO USE SOIL RESOURCE MAPPING REPORT

This report embodied the results of the Soil Resource Mapping of Begusarai district, Bihar providing information on the geographical setting of the district such as location, extent, physiography, relief, drainage, climate, geology, natural vegetation, agriculture, land use and soils.

The report contains other information on Interpretative grouping of soils (Chapter 8) such as land capability classes, land irrigability classes, soil suitability grouping and hydrological grouping and also recommendation for crops; horticulture development, forest, forage and grassland development; water harvesting, water storage and water management that are essential for soil and land resource management. The genesis and classification of the soils are also discussed in Chapter 5.

Begusarai district of Bihar is spread over an area of 192370 ha. The district is covered by 09 SOI topographical sheets on the scale of 1:50,000 which are used as base material along with satellite imageries.

Each soil mapping units is marked by mapping unit i.e ALb1a1 (Alluvium; alluvial plain; 0-1% slope; agriculture land use; soil series association describing Bishunapur as dominant series in association with Pratappur series). Each soil association is restricted to a maximum of three soil series.

For the use of the soil resource report, first locate the area of interest on the map and note down the soil mapping units. Permanent features such as road, stream, lakes and village habitation etc. shown on the map, help to locate the area of interest on the map. For the detailed information on soil mapping unit in respect of soil series of the area of interest, its extent, present and proposed land uses and reference may be made to Chapter 4, appendix I and II.

The mapping unit used in soil mapping represents the five levels of mapping i.e ALb1a1 may be referred as follows:

AL	-	Alluvium	-	Landscape
b	-	Alluvial plain	-	Physiography
1	-	0-1% slope	-	Slope Class
a	-	Agriculture land	-	Land Use
1	-	Association of soil series with erosion and management soil unit.		

Any comment and suggestion on the report would be welcome. For further enquiry or clarification, correspondence or personal contact may be established with either of the following address

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