

Soil Resource of Samastipur District, Bihar

Abstract

1. **Surveyed Area** : Samastipur district, Bihar
2. **Location** : Latitude 25° 27' 35" to 26° 05' 20" N
Longitude 85° 31' 45" to 86° 23' 52" E
3. **Agroclimatic Region** : Middle Gangetic Plain
(Zone – IV as per planning commission)
4. **Total Area of the District** : 267547 ha
5. **Kind of Survey** : Soil Resource Mapping using Remote Sensing and GIS Techniques
6. **Base Map** : IRS-ID Geocoded Satellite Imagery (1:50,000 scale)
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

9. Soil Series Association mapped and their respective area:

Sl. No.	Mapping Unit	Soil Series Association	Area(ha)	Area %
01	ALb1a1	Bishunapur-Pratappur	34023	12.72
02	ALb1a2	Jitwaria-Morsand	36249	13.55
03	ALb1a3	Darhiasagar-Godhna	41995	15.70
04	ALb2a1	Shahpur-Manurchak	21266	7.95
05	ALb2b1	Majhaul-Ismaila	4888	1.83
06	ALe2a1	Murgiachak-Hakimabad	6627	2.48
07	ALg2a1	Bhagwanpur-Bariyahi	26298	9.83
08	ALn2a1	Bamoura-Sanhanayatola	34432	12.87
09	ALn2a2	Kurni-Dudhpura-Balhi	31085	11.62
10	Habitation		15490	5.79
11	River		4155	1.55
12	Waterbody		11039	4.13
		Grand Total	267547	100.00

10. Salient Features:

⇒ Physiographic division of the soils of the Samastipur district of Bihar:

Landscape	Physiography	Area (ha)	Area %
Alluvium	Alluvial Plain	138421	51.74
	Flood Plain	65517	24.49
	Levee	6627	2.48
	Stream banks	26298	9.83
Habitation		15490	5.79
River		4155	1.55
Waterbody		11039	4.13
Total		267547	100

⇒ Soils of the district fall in three slope classes:

- Nearly level to Level sloping : 133533 ha (49.91%)
- Nearly level to very gently sloping : 103330 ha (38.62%)
- Habitation : 15490 ha (5.79%)
- River : 4155 ha (1.55%)
- Waterbody : 11039 ha (4.13%)

⇒ Various land use / land cover classes of the district are as under

- Agriculture : 231975 ha (86.70%)
- Plantation : 4888 ha (1.83%)
- Habitation : 15490 ha (5.79%)
- River : 4155 ha (1.55%)
- Waterbody : 11039 ha (4.13%)

⇒ Erosion classes of the soils of the district are as under

- The soils comprising of 133533 ha (49.91%) fall under non to slight erosion.
- The soils comprising of 103330 ha (38.62 %) fall under slight to moderate erosion.
- Habitation : 15490 ha (5.79%)
- River : 4155 ha (1.55%)
- Waterbody : 11039 ha (4.13%)

⇒ Soils of the area are taxonomically classified into two orders i.e Inceptisols. and Entisols. All the 19 soils series identified in the area are further classified into 5 sub order, 5 great group, 6 sub group and 10 families.

HOW TO USE SOIL RESOURCE MAPPING REPORT

This report embodied the results of the Soil Resource Mapping of Samastipur 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**.

Samastipur district of Bihar is spread over an area of 267547 ha. The district is covered by 11 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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