

### Abstract

1.	<b>Survey area</b>	:	Report on Detailed Soil Survey and Land Use Plan of 2B7B5a1 to a4, b1 to b5, c1 to c8, 2B7B6a1 to a5, b1 to b5 and 2B7B7a1 to a8, b1 to b9, c1 to c6 Microwatersheds in Left bank and Right bank, Lower Ramganga Subcatchment, Ramganga Catchment (FPR)
2.	<b>Geo-graphical Location</b>	:	Lies between 28° 35' to 29° 15' North Latitude and between 78° 45' to 79° 30' East Longitude
3.	<b>Type of Survey</b>	:	Detailed Soil Survey using Remote Sensing Techniques
4.	<b>Base map used</b>	:	High Resolution Satellite Imagery and Survey of India Toposheets.
5.	<b>Total area mapped</b>	:	29098 ha
6.	<b>Agro Climatic Region</b>	:	Zone- V Upper Gangetic Plain
7.	<b>Period of Survey</b>	:	June, 2014 to August, 2014
8.	<b>Scale of map</b>	:	1:12,500 Scale

#### Names of Soil Series and their Extent

S. no.	Soil Series	No. of mapping unit	Area (ha)	Area (%)
1.	<b>Bhadasana (B)</b>	5	2369	8.14
2.	<b>Deory (D)</b>	12	6315	21.70
3.	<b>Gaddi Khera (G)</b>	10	5780	19.86
4.	<b>Lalpur (L)</b>	6	1173	4.03
5.	<b>Lalwara (LW)</b>	3	2080	7.15
6.	<b>Mundla (M)</b>	7	4927	16.93
7.	<b>Nawabpur (N)</b>	3	673	2.31
8.	<b>Rampur (R)</b>	7	1931	6.64
9.	<b>Udhampur (U)</b>	4	1482	5.13
10.	<b>Water Bodies &amp; River</b>	-	801	2.75
11.	<b>Habitation</b>	-	1567	5.39
<b>TOTAL</b>		<b>57</b>	<b>29098</b>	<b>100.00</b>

### Distribution of Area under different Depth Class

S. no.	Soil Depth Class	Area (ha)	Area (%)
1.	Very deep (d5)	26730	91.86
2.	Water Bodies & River	801	2.75
3.	Habitation	1567	5.39
<b>TOTAL</b>		<b>29098</b>	<b>100.00</b>

### Distribution of Area under different Soil Erosion Class

S. no.	Erosion Class	Area (ha)	Area (%)
1.	None to slight erosion (e1)	16992	58.40
2.	Moderate erosion (e2)	9738	33.47
3.	Water Bodies & River	801	2.75
4.	Habitation	1567	5.39
<b>TOTAL</b>		<b>29098</b>	<b>100.00</b>

### Distribution of Area under different Land Capability Class

S. no.	Land Capability Class	Soil Series	Area (ha)	Area (%)
1.	II	Bhadasana, Deory, Gaddi Khera, Lalpur, Mundla, Nawabpur, Rampur and Udhampur	24361	83.72
2.	III	Bhadasana, Gaddi Khera, Lalpur and Rampur	2369	8.14
3.	Water Bodies & River	-	801	2.75
4.	Habitation	-	1567	5.39
<b>TOTAL</b>			<b>29098</b>	<b>100.00</b>

### Distribution of Area under different Slope Class

S. no.	Slope	Area (ha)	Area (%)
1.	Plain to nearly level slope (A)	3407	11.71
2.	Very gentle slope (B)	20954	72.01
3.	Gentle slope (C)	2369	8.14
4.	Water Bodies & River	801	2.75
5.	Habitation	1567	5.39
<b>TOTAL</b>		<b>29098</b>	<b>100.00</b>

### Salient Features of the Area

- 26730 ha (91.86 %) area is covered by very deep soils.
- 16992 ha (58.40 %) area is covered by none to slight erosion.
- 9738 ha (33.47 %) area are subjected to moderate erosion and thus require integrated soil conservation measures.
- 2368 ha (8.14 %) area is covered by habitation and water bodies.

- About 24361 ha (83.72 %) of total surveyed area comes under LCC – II good land for cultivation and can be adopted for crop based farming system.
- About 2369 ha (8.14 %) area comes under LCC – III fairly good for cultivation, suitable for horticultural based cropping system

## HOW TO USE SOIL SURVEY REPORT

The present report furnishes a detailed account of various characteristics of the surveyed area like physiography, relief, geology, climate, natural vegetation, land use and soils. Detailed description of soils series recognized in the area and interpretation of different soil mapping units for various applied aspects of agricultural development, such as land use planning, soil and water management, soil conservation are given in relevant chapters. Different problems of the area have been depicted and corrective measures have also been suggested.

In order to use the report, the user will locate the area of his interest on the soil map appended with the report. On the map, each soil mapping unit has been delineated and represented by symbolic expression. The abbreviated symbol of mapping unit reflects information about the name of soil series, soil depth, surface texture, land gradient, erosion status and surface features like gravelliness, stoniness and rockiness. The soil mapping unit is demarcated as **L5fC2** where ‘**L**’ represents for ‘Lalpur’ Soil Series, ‘**5**’ for very deep soil depth, ‘**f**’ for silt loam surface texture, ‘**C**’ for gentle sloping (3-5%), ‘**2**’ for moderate water erosion.

The details of the soil mapping units, their description and multipurpose interpretative groupings have been shown in **Annexure- I** (Guide to Soil Mapping Units). The differentiating morphological characteristics of soil series are furnished in **Table: 5** and the morphological pedon description of soil series is described in **Annexure- II**. Microwatershed wise mapping unit list is given in **Annexure– III**. Analytical methods are described in **Annexure– IV**. The glossary of scientific terms used in this report is given in **Annexure–V**. The symbols used in the report are also illustrated in **Annexure- VI**.

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