

## Abstract

1. **Surveyed Area** : Udham Singh Nagar district, Uttarakhand
2. **Total Area** : 2,54,188 ha
3. **Geographical Extent** : 28° 53' to 29° 23' North Latitude  
78° 45' to 80° 084' East Longitude
4. **Kind of Survey** : Soil Resource Mapping using Remote Sensing & GIS Techniques
5. **Period of Survey** : 2009
6. **Agro-climatic Region** : 1 (Western Himalayan Region)

### ❖ Soil Series/ Association Mapped and their Extent

Sr. No.	Mapping Unit	Series Association			Area (ha)	Area (%)
1	ALb1a1	Bhaidapur- 1	Haripura	-	15040	5.92
2	ALb1a2	Lalpura	Hardaspur	-	17669	6.95
3	ALb1a3	Sarai	Maachandi	Dudhla	15941	6.27
4	ALb1b1	Bhandia	Haldwani - 1	-	9581	3.77
5	ALb2a1	Dhanuri	Deveria	Bedpur	21501	8.46
6	ALb2a2	Deveria - 1	Bhandia	-	31134	12.25
7	ALb2a3	Purowali	Dudhla	-	25728	10.12
8	ALb2a4	Haripura	Unchagaon	-	26118	10.27
9	ALb2a5	Bhandia	Lalpura	Purowali	131	0.05
10	ALb2c1	Roorkie	Shantipur	-	5841	2.30
11	ALb2c2	Shantipur	-	-	19226	7.56
12	ALb2c3	Khatima	Kilpura	-	12828	5.05
13	ALb2c4	Chakarpur	Kilpura	-	10713	4.21
14	ALb3a1	Nayagaon	Motalhaldu	-	3077	1.21
15	ALg3a1	Deveria - 2	Kelakhera	-	16039	6.31
16	ALh4a1	Kelakhera	Bahadurpur	-	740	0.29
17	Habitation	-	-	-	5310	2.09
18	Waterbodies	-	-	-	17571	6.91
<b>TOTAL</b>					<b>254188</b>	<b>100.00</b>

❖ **Spatial Extent of Landscape/ Physiography Class**

<b>Landscape</b>	<b>Physiography</b>	<b>Area (ha)</b>	<b>Area (%)</b>
Alluvium (AL)	Alluvial plains (b)	214528	84.40
	Stream banks (g)	16039	6.31
	Dissected stream banks (h)	740	0.29
Miscellaneous	Habitation	5310	2.09
	Waterbodies	17571	6.91
<b>TOTAL</b>		<b>254188</b>	<b>100.00</b>

❖ **Spatial Extent of Slope Class**

<b>Slope classes and code</b>	<b>Slope Range</b>	<b>Area (ha)</b>	<b>Area (%)</b>
Nearly level (1)	0-1 %	58231	22.91
Nearly level to very gently sloping (2)	0-3 %	153220	60.28
Very gently to gently sloping (3)	1-5 %	19116	7.52
Gently to moderately sloping (4)	3-10 %	740	0.29
Miscellaneous	Habitation	5310	2.09
	Waterbodies	17571	6.91
<b>TOTAL</b>		<b>254188</b>	<b>100.00</b>

❖ **Spatial Extent of Major Land Use/ Land Cover**

<b>Major Land Use</b>	<b>Area (ha)</b>	<b>Area (%)</b>	
Agriculture (a)	173118	68.11	
Plantation (b)	9581	3.77	
Forest (c)	48608	19.12	
Miscellaneous	Habitation	5310	2.09
	Waterbodies	17571	6.91
<b>TOTAL</b>	<b>254188</b>	<b>100.00</b>	

❖ **Spatial Extent of Land Capability Class**

<b>Land Capability Classes (LCC)</b>	<b>Area (ha)</b>	<b>Area (%)</b>	
Land Capability Class – II	48650	19.14	
Land Capability Class – II-III	13309	52.45	
Land Capability Class – III-IV	740	0.29	
Forest	48609	19.12	
Miscellaneous	Habitation	5310	2.09
	Waterbodies	17571	6.91
<b>TOTAL</b>	<b>254188</b>	<b>100.00</b>	

## **Salient Features**

- 1.** The surveyed area fall under Alluvium landscape with various physiographic subdivisions viz. alluvial plains, stream banks and dissected stream banks.
- 2.** Major part of surveyed area mapped under alluvial plains landform accounting to 84.40 %. Next to this, stream banks landscape having 6.31 % area and dissected stream banks with an area of 0.29 %.
- 3.** Soils of the area have been classified under three Orders i.e. Inceptisols, Entisols and Mollisols in order of their dominance. All the twenty-six soil series identified in the area have been further classified into 5 Suborders; 5 Great Groups; 12 Subgroups and 20 Families.
- 4.** Land use wise, major part of the total geographical area (68.11 %) is occupied by agriculture while forest occupied with 19.12 % of the area and plantation with only about 3.77 %.
- 5.** Land Capability assessment of the district shows that apart from 19.12 % area which is under forest, around 48.67 % of the area is under Land Capability Class II-III. These lands are best suited for cultivation. Around 19.14 % areas are classified under Land Capability Class II. Similarly, around 0.29 % area is classified under Land Capability Class III-IV.