

Report on Soil Resource Mapping of Daman & Diu Union Territories using Remote Sensing Technique

Abstract

1.	Surveyed area	:	Daman & Diu Union Territories
2.	Total Area	:	10427.79 hectare
3.	Geographical Extent	:	Daman: 72°48'19" to 72°54'16" E Longitude 20°28'40" to 20°21'56" N Latitude Diu: 70°52'16" to 71°27'47" E Longitude 20°44'33" to 20°41'55" N Latitude
4.	Agro-climatic Region	:	Zone–XIII. Gujarat Plains and Hills
5.	Kind of Survey	:	Soil Resource Mapping using Remote Sensing Technique
6.	Base Map	:	LISS-III, FCC, April 2006, SOI Toposheet No: 41L14, 41P02, 46D15
7.	Scale of Mapping	:	1:50,000
8.	Period of Survey	:	September, 2015

9. Districtwise Soil Series/Association mapped and their extent:

Sl. No.	Mapping Units	Series Association	Area (ha)	Percentage
Daman				
1	BAn7d1	Mundri	142.69	2.09
2	BAu4a1	Singalvan	53.37	0.78
3	BAu4d1	Singalvan	173.07	2.54
4	BAv3a1	Kamaliakheri-Bhimpur-singalvan	491.76	7.20
5	BAv3b1	Kamaliakheri-Bhimpur-singalvan	168.45	2.47
6	BAv3d1	Baloda-jaggakheri	47.39	0.69
7	BAw2a1	Jirnia-Baloda-Jaggakheri	493.14	7.22
8	BAw2a2	Baloda-Jhirnia	789.76	11.57
9	BAw2a3	Jaggakheri- Kamaliakheri	129.25	1.89
10	BAw2a4	Bhimpur- Jaggakheri	455.51	6.67
11	BAw2b1	Jhirnia- Baloda	529.66	7.76
12	BAw2d1	Jhirnia- Baloda	40.82	0.60
13	CA11d1	Hansot	274.85	4.03
14	CA12a1	Pariyar-Borsad	81.60	1.20
15	CA12b1	Borsad- Pariyar	77.07	1.13
16	CA13b2	Pariyar-Borsad	89.54	1.31

17	CAI3d1	Pariyar-Borsad	223.98	3.28
18	e	Beach	1176.85	17.24
19	f	Habitation	997.22	14.61
20	g	waterbodies	389.65	5.71
	Total		6825.63	100.00
Diu				
1	CAI1d1	Hansot	830.88	23.07
2	CAI2a1	Pariyar-Borsad	542.70	15.07
3	CAI4c1	Dawarka	400.73	11.12
4	CAI4d1	Dawarka	157.39	4.37
5	SDu4a1	Nagwas- Diu	47.26	1.31
6	SDu4b1	Diu- Nagwas	329.59	9.15
7	SDu4d1	Nagwas- Diu	122.48	3.40
8	SDw2a1	Patelwadi	163.55	4.54
9	SDw2a2	Patelwadi	173.17	4.81
10	f	Habitation	336.54	9.34
11	g	waterbodies	497.87	13.82
	Total		3602.16	100.00
	Grand Total		10427.79	

Salient Features:

1. The major geology covered an area 3514.87 ha. (33.71 %) in the survey area is Basalt, followed by Coastal Alluvium 2678.74 ha (25.69 %) and Sand Stone 836.05 ha (8.02%).
2. The surveyed area falls in five major physiographic subdivisions viz., coastal alluvial plain (25.69%), undifferentiated hill side slopes (1.37%), pediments (6.96%), upper pediplains (6.79 %) and lower pediplains (26.61%) of TGA.
3. The soils found in the area are mostly deep to very deep which accounts to 49.53 per cent and all the soils come under soil Entisols and Inceptisols orders.
4. Agriculture is the mainstay of the area representing 32.81% which are mainly under plantation such as rubber, coconut, valuable tree spices, etc.
5. The surveyed area is mainly comes under slight water erosion. About 32.85 percent area is under slight erosion whereas 25.67 per cent area is under slight to moderate water erosion.
6. The area has the land capability classes (LCC) II to VI, whereas class III dominates, accounting 35.89 per cent followed by II (19.47%) and Class IV (10.68%), respectively.

HOW TO USE SOIL RESOURCE MAPPING REPORT

This report embodies the results of the Soil Resource Mapping of Daman & Diu Union Territory and furnishes information on the geographical setting of the union territory, such as location, extent, physiography, relief, drainage, climate, geology, natural vegetation, agriculture, land use and soils.

The report contains information on interpretative grouping of soils and land resources involving land capability classification, soil and land irrigability and hydrological grouping that form a scientific database required for planning and implementation of soil and water conservation and sustainable agriculture development of the area.

Daman & Diu Union Territory spreads over an area of 10428 ha and for administrative purposes, union territory divided into two districts of Daman and Diu, these are situated into two different locations in the Gujarat state. The Daman & Diu is covered by three Survey of India toposheets, namely 41L14, 41P02 and 46D15 on 1:50,000 scale and the same have been used as reference maps for the survey. IRS-1D, LISS-III satellite data has been used for image interpretation and soil mapping. In the report each soil mapping unit is marked by a symbol i.e. BAw2a1 (Basalt Geology; lower pediplain physiography; 0-3% slope; agriculture land use; soil series association, which means the area has dominance of Jhirnia series in association with Baloda and Jaggakheri series). Each soil association is restricted to a maximum of three soil series found within concerned soil mapping unit.

For the use of the soil resource report, first user needs to 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 will help user to locate the area of interest on the map. For the detailed information on soil mapping unit in respect of soil series in the area of interest, its extent, present and proposed land uses reference may be made to Chapters 4, 5 and Appendix-I and II.

The symbols used in the soil mapping unit representing the five levels of mapping viz.,

Geology (parent material)	BA	:	Basalt
Physiography	w	:	Lower pediplain
Slope	2	:	0-3% slope
Land use	a	:	Agriculture
Soils	1	:	Association of soil series

For any additional information and clarification, further correspondence or personal contact may be made with:

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