

Report on Detailed Soil Survey and Land Use of 5F2C4t1, 5F2C4t2, 5F2C4u1 and 5F2C4v1 Microwatersheds of Sabarmati Catchment, District - Aravali, Gujrat and District- Dungarpur, Rajasthan.

A B S T R A C T

1. **Surveyed Area** : 5F2C4t1, 5F2C4t2, 5F2C4u1 and 5F2C4v1 Microwatersheds of Sabarmati Catchment, District- Aravali, Gujrat and District- Dungarpur, Rajasthan.
2. **Location** : The micro watersheds lie between
Latitude: 23°39'to 23°46' N,
Longitude: 73°29' to 73°36'E,
3. **Total Surveyed Area** : 10,714 ha.
4. **Number of Villages** : 27
5. **Type of Survey** : Detailed Soil Survey.
6. **Period of Survey** : Feb 2014 to March 2014.
7. **Agro-climatic Zone** : GJ-4 North Gujarat Zone, as per NARP (Gujarat) RJ-8 Southern Humid Plain Zone as per NARP (Rajasthan)
8. **Base map** : 1. Village cadastral map (16":1 mile)
2. SOI toposheet (1:50,000)
3. True image (1:7,000)

9. Distribution of Soil Series and Their Extent of Area

Sl. No	Series Name	No. of Mapping Units	Total Area (ha)	Percentage (%)
1	Borsad	1	136	1.3
2	Lakhanpur	4	1107	10.4
3	Latipura	2	388	3.6
4	Liliamba	3	704	6.6
5	Phulera	4	6921	64.6
6	Rangela	1	204	1.9
7	Sukhiya	5	785	7.3
8	Wakota	1	262	2.5
	Misc.	-	207	1.9
	Total		10,714	100.0

10. Area under different Soil Depth with percentage

Soil depth class	Area (ha)	Percentage (%)
Shallow (10-25cm)	7,706	71.9
Moderately deep (25-50cm)	1107	10.4
Deep (50-100cm)	704	6.6
Very deep (>100cm)	990	9.2
Misc.	207	1.9
Total	10714	100.0

11. Area under different Erosion Classes with their percentage

Erosion	Area (ha)	Percentage (%)
None to slight	1367	12.8
Moderate	1649	13.8
Severe	7491	71.5
Misc.	207	1.9
Total	10,714	100.0

12. Area under various Land Capability Classes & their percentage

S. No	Land Capability Class	Area (ha)	Percentage (%)
1.	II-1	1186	11.1
2.	IIs-1	136	1.2
3.	Ile-1	299	2.8
4.	III-1	45	0.4
5.	IIIes-1	69	0.6
6.	IIIes-2	1066	9.8
7.	IVes-1	215	2.1
8.	IVes-2	45	0.4
9.	IVes-3	525	4.9
10.	IVes-1	997	9.1
11.	Forest	5924	55.7
12.	Misc.	207	1.9
Total.		10,714	100.0

13. Area under different slope classes & their percentage

S. No.	Slope Class	Area (ha)	Percentage (%)
1.	Very Gently (1-3%) slope	1727	16.1
2.	Gently (3-5%) slope	1333	12.4
3.	Moderately (5 -10%) slope	631	4.9
4.	Strongly sloping (10-15%) slope	997	9.2
5.	Moderately steep slope(15-25)	368	3.4
6.	Very steep (25-33%) slope	5556	51.9
7.	Misc.	207	1.9
	Total	10,714	100.0

Salient Points:

- Out of the total surveyed area of 10,714 ha, 7,706 ha (71.9%) is occupied by shallow soils, 1,107 ha (10.4%) by moderately deep soils, 704 ha (6.6%) by deep soils and 990 ha (9.3%) by very deep soils.
- Around 5,924 ha (55.3%) area falls under strongly sloping to very steep slopes (hilly area), 1,964 ha (17.3%) is under gently to moderate slope and the remaining 1,727 ha (16.1%) is under nearly level to very gently sloping topography.
- Area suffers from severe erosion covering 7,491 ha (71.5%) area, needs immediate attention for soil conservation measures.
- Apart 1580 ha lands are capability class IV are marginally suited for agriculture but suited for Agri-silvipastoral farming system & 1,080 ha lands have been place in capability class-III moderately good lands for agriculture suited for Agri-silviculture farming system.
- The lands under capability class-III & IV area under rainfed farming needs water conservation & harvesting structure for increasing productivity from these soils.