

Report on Detailed Soil Survey and Land Use of 5F1B1q1, 5F1B1q2, 5F1B1r1, 5F1B1r2, 5F1B1s1, 5F1B3b2, 5F1B3d1, 5F1B3f1, 5F2C3a2 and 5F2C3n2 Microwatersheds of Sabarmati Catchment, District Sabarkantha, Gujarat.

A B S T R A C T

1. **Surveyed Area:** 5F1B1q1, 5F1B1q2, 5F1B1r1, 5F1B1r2, 5F1B1s1, 5F1B3b2, 5F1B3d1, 5F1B3f1, 5F2C3a2 and 5F2C3n2 Microwatersheds of Sabarmati Catchment, District Sabarkantha, Gujarat.
2. **Location:** The micro watersheds lie between
Latitude: 23°17' to 23°21' N, 23°37' to 23°40' N and 23°53' to 24°02' N
Longitude: 73°10' to 73°18' E, 74°23' to 74°28' E and 74°30' to 74°36' E,
3. **Total Surveyed Area:** 24, 395 ha.
4. **Number of Villages:** 63
5. **Type of Survey:** Detailed Soil Survey.
6. **Period of Survey:** May 2008 to June 2008 & Feb 2011 to March 2011.
7. **Agro-climatic Zone:** 5 (Semi Arid Eastern Plain Zone under NARP)
8. **Base map:** Cadastral maps (1 6": 1 mile scale).

9. Distribution of Soil Series and Their Extent of Area

Sl. No	Series Name	No. of Mapping Units	Total Area (ha)	Percentage (%)
1	Borsad	3	935	3.8
2	Lakhanpur	3	1288	5.3
3	Latipura	2	859	3.5
4	Liliamba	2	616	2.5
5	Mulad	2	1266	5.2
6	Phulpur	3	13815	56.6
7	Sudhiya	5	2615	10.7
8	Wakota	3	1458	6.0
	Misc.	-	1543	6.3
	Total	23	24,395	100.0

10. Area under different Soil Depth with percentage

Soil depth class	Area (ha)	Percentage (%)
Shallow (10-25cm)	16430	67.3
Moderately deep (25-50cm)	1288	5.3
Deep (50-100cm)	616	2.5
Very deep (>100cm)	4518	18.5
Misc.	1543	6.3
Total	24,395	100.0

11. Area under different Erosion Classes with their percentage

Erosion	Area (ha)	Percentage (%)
None to slight	2800	11.5
Moderate	2811	11.5
Severe	17241	70.7
Misc.	1543	6.3
Total	24,395	100.0

12. Area under various Land Capability Classes & their percentage

S. No	Land Capability Class	Area (ha)	Percentage (%)
1.	Ile-1	2500	10.2
2.	Ile-2	669	2.7
3.	Iles-1	1240	5.1
4.	IIIe-1	414	1.7
5.	IIIes-1	206	0.8
6.	IIIes-2	844	3.5
7.	IIIes-3	549	2.3
8.	IVes-1	224	0.9
9.	IVes-2	617	2.5
10.	IVes-3	1127	4.6
11.	VIes-1	250	1.0
12.	Forest	14212	58.3
13.	Misc.	1543	6.3
Total.		24,395	100.0

13. Area under different slope classes & their percentage

S. No.	Slope Class	Area (ha)	Percentage (%)
1.	Very Gently (1-3%) slope	5148	21.1
2.	Gently (3-5%) slope	2115	8.7
3.	Moderately (5 -10%) slope	1774	7.3
4.	Moderately steep (10-25%) slope	2785	11.4
5.	Very steep (33-50%) slope	11030	45.2
6.	Misc.	1543	6.3
	Total	24,395	100.0

Salient Points:

- Out of the total surveyed area of 24,395 ha, 16,430 ha (67.3%) is occupied by shallow soils, 1,288 ha (5.3%) by moderately deep soils, 616 ha (2.5%) by deep soils and 4,518 ha (18.5%) by very deep soils.
- Around 13,815 ha (56.6%) area falls under moderately steep to very steep slopes (hilly area). 3,889 ha (16.0%) is under gently to moderate slope and the remaining 5,148 ha (21.1%) is under very gently sloping topography.
- Area suffers from severe erosion covering 17,241 ha (70.7%) area, needs immediate attention for soil conservation measures.