

Inventory of Rapid Reconnaissance Soil Survey in various Subcatchments of Lower Luni FPR Catchment (6A2), Districts: Barmer, Jalor, Jodhpur, Pali, Sirohi and Udaipur districts of Rajasthan

ABSTRACT

- 1. Surveyed Area** : 6A2A(Part), 6A2B, 6A2C (Part) and 6A2D (Part) Subcatchments of 6A2 of Lower Luni FPR Catchment; Barmer, Jalor, Jodhpur, Pali, Sirohi and Udaipur districts of Rajasthan
- 2. Location** : 24°40'53" to 25°57'50" North Latitude and 71°16'14" to 73°27'57" East Longitude
- 3. Total Area Surveyed** : 18,14,111ha
- 4. Kind of Survey** : Rapid Reconnaissance Survey
- 5. Period of Survey** : Year 2006 to 2007
- 6. Agro climatic zone** : XIV- Western Dry Region
- 7. Base Maps** : Survey of India Toposheets on 1:50,000 scale
- 8. Hydrological Divisions :**
 - (a) Water Resource Region** : 6 (The Ephemeral drainage in Rajasthan)
 - (b) Basin** : 6A Great Rann of Kutch and Luni
 - (c) Catchment** : 6A2 Mainly Luni
 - (d) Subcatchments** : 6A2A
6A2B
6A2C
6A2D

9. Areal Extent of Different Runoff Potential Mapping Units (RPMUs):

Sl. No.	RPMU	Runoff Potential Index	Area (ha)	Percentage
1	AE01	61	4606	0.25%
2	AE02	70	18584	1.02%
3	AE03	62	4367	0.24%
4	AE04	58	45596	2.51%
5	AE05	59	50452	2.78%
6	AE06	59	1545	0.09%
7	AE07	56	223252	12.31%
8	AE08	57	41744	2.30%
9	AE09	54	230417	12.70%
10	AE10	54	34757	1.92%
11	AE11	56	43202	2.38%
12	AE12	60	1708	0.09%
13	AE13	55	203064	11.19%
14	AE14	59	7017	0.39%
15	AE15	55	617	0.03%
16	AL01	66	26456	1.46%
17	AL02	56	36064	1.99%
18	AL03	58	6479	0.36%
19	AL04	61	6289	0.35%
20	AL05	56	1542	0.09%
21	AL06	61	20142	1.11%
22	AL07	63	6551	0.36%
23	AL08	56	113696	6.27%
24	AL09	55	63659	3.51%
25	GG01	91	58322	3.21%
26	GG02	78	18011	0.99%
27	GG03	96	28747	1.58%
28	GG04	83	3721	0.21%
29	GG05	77	19458	1.07%
30	GG06	74	8686	0.48%
31	GG07	75	29839	1.64%
32	GG08	71	18995	1.05%
33	GG09	75	5831	0.32%
34	GG10	72	7868	0.43%
35	GG11	69	14641	0.81%
36	GG12	64	12881	0.71%
37	GG13	61	12789	0.70%
38	GG14	60	153453	8.46%
39	GG15	65	34929	1.93%
40	GG16	59	11096	0.61%
41	GG17	70	2879	0.16%
42	GG18	58	16268	0.90%
43	GG19	67	3236	0.18%
44	GG20	61	9608	0.53%
45	GG21	73	7927	0.44%
46	GG22	58	62373	3.44%
47	QZ01	88	919	0.05%
48	QZ02	79	589	0.03%
49	QZ03	72	5750	0.32%
50	QZ04	60	1303	0.07%

51	HB	Habitation	7090	0.39%
52	RIVER	River	62256	3.43%
53	WB	Water bodies	2840	0.16%
Grand	Total		1814111	100.00

10. Soil Erosion Hazards:

Erosion Class	Total of area (ha)	Percentage	Barmer	Jalor	Jodhpur	Pali	Sirohi	Udaipur
Non to slight water erosion	775303	42.74	329094	352414	-	38349	55446	-
Slight to moderate water erosion	261449	14.41	157604	92996	281	1217	9351	-
Moderate water erosion	335197	18.48	75432	142006	-	73433	44326	-
Moderate to severe water erosion	107528	5.93	31200	30062	-	17816	25266	3184
Severe water erosion	233701	12.88	33111	60690	-	65482	63921	10497
Very severe water erosion	28747	1.58	15862	9901	-	1505	1479	-
Miscellaneous	72186	3.98	16970	40391	-	7588	7237	-
Grand Total	1814111	100.00	659273	728460	281	205390	207026	13681

11. Distribution of Area under Different Priority Categories:

Sl.No.	Priority Category	No.of Microwatersheds	Area in ha	Area Percentage
1	Very High (above 70)	260	193143	10.65
2	High (66-70)	131	95019	5.24
3	Medium (61-65)	276	216256	11.92
4	Low (56-60)	1104	963505	53.11
5	Very Low (55 & below)	393	346188	19.08
Grand Total		2164	1814111	100.00

12. Salient Features:

- ⇒ Delineation and codification is done up to microwatersheds level in order to have viable size of the treatment area.
- ⇒ Out of the total 2164 microwatersheds, 391 microwatersheds fall under very high and high category.
- ⇒ 260 microwatersheds falls under very high priority with 193143 ha (10.65%) and 131 microwatersheds with 95019 (5.24%) comes under high priority categories which needs immediate attention for proper soil and water conservation.
- ⇒ About 262448 ha (14.46%) is prone for severe to very severe erosion and 442725 ha (24.41%) is prone for moderate to severe erosion hazards.
- ⇒ Very deep to deep soils covers maximum an area of 1469925 ha and fallows very shallow to shallow 118416 ha respectively and together constitutes 87.56% of the total surveyed area.
- ⇒ About 605645 ha (33.39 %) area are under Poorly to Moderately Managed susceptible to moderate to severe water erosion that needs appropriate soil and water conservation measures.