

ABSTRACT

1. **Surveyed Area** : 6A2H Subcatchment of 6A2 (Upper Luni around Sambhar Salt Lake), Luni FPR Catchment; district - Ajmer, Jaipur, Nagaur and Sikar, Rajasthan state
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** : 930687 ha
4. **Kind of Survey** : Rapid Reconnaissance Survey
5. **Period of Survey** : Year 2007 to 2008
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** : 6A2H Upper Luni around Sambhar Salt Lake
 - (e) **Watersheds** : 6A2H1-9
 - (f) **Subwatersheds**
 - (g) **Microwatersheds**

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

Sl. No.	RPMU	Runoff Potential Index	Area (ha)	Percentage
1	AE01	0.70	6447	0.69
2	AE02	0.59	170164	18.28
3	AE03	0.64	29124	3.13
4	AE04	0.59	4394	0.47
5	AE05	0.54	221005	23.75
6	AL01	0.54	170386	18.31
7	AL02	0.54	91638	9.85
8	AL03	0.58	17729	1.90
9	AL04	0.56	9546	1.03

Sl. No.	RPMU	Runoff Potential Index	Area (ha)	Percentage
10	AL05	0.57	94097	10.11
11	AL06	0.61	19205	2.06
12	AL07	0.63	12797	1.38
13	AL08	0.56	925	0.10
14	AL09	0.69	2073	0.22
15	SD01	0.87	25511	2.74
16	SD02	0.78	1785	0.19
17	SD03	0.75	2272	0.24
18	HB	0.00	16971	1.82
19	RIVER	0.00	5786	0.62
20	SALT PAN	0.00	26445	2.84
21	WB	0.00	2387	0.26
Grand Total			930687	100.00

10. Soil Erosion Hazards:

Erosion Class	Total of area (ha)	Percentage	AJMER	JAIPUR	NAGAUR	SIKAR
Non to slight water erosion	492575	52.93	54873	118660	207727	111315
Slight to moderate water erosion	94097	10.11	473	12150	1989	79485
Moderate water erosion	188818	20.29	18734	3533	163563	2988
Moderate to severe water erosion	36396	3.91	3875	6607	9245	16669
Severe water erosion	65139	7	15748	1130	31917	16344
Severe to very severe water erosion	2073	0.22	-	1146	106	821
Misc	51589	5.54	3757	14779	27061	5992
Grand Total	930687	100.00	97460	158005	441608	233614

11. Distribution of Area under Different Priority Categories:

Sl.No.	Priority Category	No. of Microwatersheds	Area (ha)	Percentage
1	Very High (above 70)	15	10663	1.15
2	High (66-70)	42	30442	3.27
3	Medium (61-65)	109	78164	8.40
4	Low (56-60)	576	437189	46.97
5	Very Low (55 & below)	524	374229	40.21
Grand Total		1266	930687	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 **1266** microwatersheds, **57** microwatersheds fall under very high and high category.
- **15** Microwatersheds falls under very high priority with 10663 ha (1.15%) and 42 microwatersheds with 30442 (3.27%) comes under high priority categories which needs immediate attention for appropriate soil and water conservation.
- About 67212 ha (7.22%) is prone for severe to very severe erosion and 36396 ha (3.91%) is prone for moderate to severe erosion hazards.
- Very deep soils covers maximum an area of 849530 ha and follows very shallow to shallow 29568 ha respectively and together constitutes 94.46% of the total surveyed area.
- Only 271570 ha (29.18%) area is well managed whereas 2.0% area is moderately managed, 23.75% area is poorly to moderately managed, 28.87% area is poorly managed and 10.66% area is unmanaged.

HOW TO USE SOIL SURVEY REPORT

The report embodies the results of Rapid Reconnaissance Survey conducted for identification and delineation of priority microwatersheds of 6A2H Subcatchments of Upper Luni FPR Catchment falling in Ajmer, Jaipur, Nagaur and Sikar districts of Rajasthan, covering an area of 930687 ha spread over 1266 microwatersheds. The priorities are fixed on the basis of runoff potential index (RPI). Higher the values of runoff potential index suggest higher priority and vice versa. The concerned maps on the scale of 1:50,000 are appended with the report. This reports also furnishes information on general characteristics of the area such as, location and extent, physiography, relief, drainage, geology, climate, present landuse, natural vegetation, water supply and soils of the area.

In the map, each microwatershed is marked by a symbol like 6A2H1a1 etc. where '6' stands for water resource region, '6A' indicates basin, '6A2' for catchment, '6A2H' for subcatchment, '6A2H1' for watershed, '6A2H1a' for subwatershed and '6A2H1a1' for microwatershed. Within each microwatershed, the Runoff Potential Mapping Units (RPMUs) are delineated and symbolized by capital English alphabets, based on geological origin of the land 'AE' stands for Aeolian, 'AL' stands for Alluvium, 'SD' stands for Sand Stone etc. and their further subdivisions are made on the basis of land and soil characteristics. Each unit connotes a set of physiography, slope, landuse, soil characteristics such as soil depth, colour, texture, severity of erosion and management practices. Mapping units are assigned with respective runoff potential weightage value and different microwatersheds have been categorized as very high, high, medium, low and very low priority areas according to runoff potential index value.

The mapping legends furnished in the Table-3 and differentiating characteristics of each mapping units represented in Table-4.

The details of computation made for determining runoff potential index of various microwatersheds are furnished in Annexure-I and the information of relative priority of microwatersheds in descending order of grading are furnished in Annexure-II.

Microwatersheds categorized under very high and high priority are selected for treatment of degraded lands of these microwatersheds under FPR scheme. Both treatable and non-treatable lands are occupied by each priority (very high and high category) microwatersheds. The ratio of treatable and non-treatable lands in a priority microwatershed varies with the kind, degree and extent of the degraded lands occupied by the some microwatersheds.

For further clarification, information or comments contact may be made to:

Chief Soil Survey Officer

Soil & Land Use Survey of India

I.A.R.I. Buildings, Pusa

New Delhi - 110012

Tel. No. - 011-25843811, 25841263, 25849486

Fax No. - 011-25843811

e-mail: csso-slusi@nic.in

or

Sr. Soil Survey Officer

Soil & Land Use Survey of India

Noida Centre

C - 4, Sector - 1, NOIDA

Gautam Budha Nagar (U. P.) - 201301

Tel. No. - 0120-2442694, 2544804

Fax No. - 0120-2442694

e-mail: ssonoida-slusi@nic.in

Website: <http://slusi.dacnet.nic.in/>