Inventory of Degraded Lands of Surat District, Gujarat Using Remote Sensing Techniques.

ABSTRACT

1. (a) Kind of Survey

: Land Degradation Mapping

(b) Level of Mapping

: Reconnaissance

(c) Scale

: 1:50,000

2. Period of Survey

: December 1997 to April 1998

3. Base Material

: (I) IRS 1B Liss-II False colour composite March 94 and September 94 data.

(II) Survey of India topographical maps in

1: 50,000 scale.

4. (a) Total Area of District:

7,76,161 hectare

(b) Agro. Climatic Zone:

13 (Gujarat Plains and Hills Region)

South Gujarat zone GJ-2 (Surat)

(c) Geographical Extent:

20°-46' to 21°-35' N. Latitude

72°-31' to 74°-17' E. Longitude

5. Nature, extent and percentage of degraded lands in Surat District.

	Type of Degradation	Area in ha	Percentage
	1. Water Erosion		
1.	Plain are affected by severe to very severe water erosion.	24932	3.21
1.	Undulating area affected by severe to very severe water erosion.	23490	3.02
2.	Hilly area affected by severe to very severe water erosion.	6346	0.82
		54768	7.05
	2. Salt Affliction		
1.	Area with salt encrustation (white) having less then 50% Surface Coverage.	986	0.13
3.	Area with salt encrustation (white) having more then 50% Surface Coverage	755	0.10
		1741	0.23
	3. Water Logging		
1.	Seasonal water Logging. (Other than paddy areas)	250	0.03
2.	Permanent water Logging area.	514	0.07
3.	Coastal Marshes / Mangroves.	3437	0.44
		4201	0.54

4.	O	th	er	D	eg	ra	d	a	ti	on	

1.	Rock quarries and spoils.	483	0.06
2.	Brick Kiln	20	0.00
3.	Industrial effluents.	86	0.01
4.	Mud Flats.	23954	3.09
5.	Salt Flats.	216	0.03
		24759	3.19
	Total degradational lands:	85469	11.10
	5. Normal Lands		
1.	Normal Agricultural Land	425210	54.78
2.	Normal open scrub land	45321	5.84
3.	Normal Forest land	155775	20.07
	Total normal lands.	626306	80.69
	6. Miscellaneous Lands		
	ding area under habitation, industries, r coarse and water bodies etc.	64386	8.30
	Grand Total	<u>7,76,161</u>	100.00

6. Salient Findings.

- Under the total geographical area of 7,76,161 ha. of Surat district, 85,469 ha. (11.01 %) sufferes from various, kind of land degradation problems.
- Water erosion is the main degradational feature covering 54,768 ha. (7.05 %) out of the total area.
- An area of 1,741 ha. (0.23 %) is suffering from salt afflication, mainly due to coastal salinity.
- An area of 4,201 ha. (0.54 %) is affected by water logging.
- ➤ Other degraded types of lands, like mud flats, rock quarries, industrial effluents and brick klin activity accounts for 24,759 ha. (3.19 %) of the district area.
- Major part of the district area accounting 6,26,306 ha. (80.69 %) is normal lands, out of which 4,25,210 ha. is agriculture lands, 1,55,775 ha. (20.07 %) forest lands and 45,321 ha. (5.84 %) open scrub.
- Area under habitation, industries, water bodies and rivers accounts for 64,386 (8.30 %).
- > Remote sensing data posses high potential for mapping and monitoring of degraded lands.