

INVENTORY OF DEGRADED LANDS OF SIDHI DISTRICT, MADHYA PRADESH USING REMOTE SENSING TECHNIQUES

ABSTRACT

1. Details of survey

- ❖ Kind of survey - Land Degradation Mapping.
- ❖ Level of mapping - Reconnaissance
- ❖ Scale - 1:50,000.

2. Period of survey - December, 1998 to June, 2000.

3. Data tool

- IRS-1A (FCC Band 2, 3, 4).
- ❖ 1. Base map - Survey of India Toposheets.
- 1: 50,000 scales.

4. Details of area

- ❖ Total area of district - 10,39,194 ha.
- ❖ Agro-climatic zones - Central Plateau & Hill Regions VIII.
- ❖ Zone of M.P. - Western zone
- ❖ Geographical extent - 23⁰45' -24⁰45' N Latitude
81⁰15' - 82⁰45' E Longitude

5. Nature, extent and percentage of degraded lands in Sidhi district

Mapping Symbol	Description	Area (ha.)	%
Water erosion (We)			
Wela1	Severe Water erosion, plain, agricultural land.	20219	1.94
Wela2	Severe water erosion, plain, forestland.	132	0.01
Wela4	Severe Water erosion, plain, open scrubs.	873	0.08
Welb1	Severe Water erosion, undulating agricultural land.	17627	1.70
Welb2	Severe Water erosion, undulating forest.	17483	1.68
Welb4	Severe Water erosion, undulating open scrub.	7561	0.73
Welc1	Severe Water erosion, rolling agricultural land.	423	0.04

We1c2	Severe Water erosion, rolling forestland.	813	0.08
We1d1	Severe Water erosion, hilly, forestland.	184	0.02
We1d2	Severe Water erosion, hilly, forestland.	16193	1.57
We1d4	Severe Water erosion, hilly, open scrub.	5152	0.49
We2b1	Very severe Water erosion, undulating, agricultural land.	22763	2.19
We2b2	Very severe Water erosion, undulating, forestland.	16881	1.62
We4b4	Very severe water erosion, (Shallow ravines < 3 meters) undulating, open scrub/ thin vegetation.	3456	0.33
We3c1	Very severe water erosion, rolling (gullied land), agricultural land (medium to thick vegetation).	1143	0.11
We3c2	Very severe water erosion, rolling (gullied land), forestland (Medium to thick vegetation).	654	0.06
We5c1	Very severe erosion, shallow ravines (< 3 meter) erosion, agricultural land.	6527	0.63
We7c2	Very severe water erosion, deep ravines (> 3 meters) erosion, rolling, forestland.	2092	0.20
We6c4	Very severe water erosion, deep ravines (> 3 meters), and erosion, rolling, open scrubs.	3729	0.36
Total		1,43,905	13.85

Mining of Minerals (Mn)			
(Open cast mining)			
Mn1b1	Mining of Minerals (coal), undulating, agricultural land.	392	0.04
Mn1d2	Mining of Minerals (coal), undulating, forestland.	924	0.09
Mn1b4	Mining of Minerals (coal), undulating, open scrub.	350	0.03
Total		1,666	0.16
Rocky waste(RW)			
RW1b2	Rocky waste, undulating, forest	1518	0.14
RW1c2	Rocky waste, rolling, forest	6090	0.59
RW1d2	Rocky waste, hilly, forest	51550	4.96
RW2d2	Rocky waste, hilly, forest	22545	2.17

		Total	81,703	7.86
Stony waste (Sw)				
SW1a4	Stony waste, plain, open scrubs.		262	0.02
SW1b4	Stony waste, undulating, open scrubs.		1200	0.12
		Total	1462	0.14
		Grand Total	2,28,736	22.01

Normal area				
1	Agriculture		392773	33.79
1 (3)	Agriculture (Plantation)		1265	0.12
1 (4)	Agriculture (Open Scrub)		1136	0.11
2	Forest		291515	28.05
2 (1)	Forest (Agriculture)		21886	2.11
2 (3)	Forest (Plantation)		263	0.02
3	Plantation		1025	0.10
4	Open Scrub		43906	4.22
4 (1)	Open Scrub (Agriculture)		6196	0.60
4 (3)	Open Scrub (Plantation)		939	0.09
5	Area under Settlement		22106	2.13
W	Area under Water Bodies		563	0.05
R	Area under River.		21954	2.11
	Area under Road.		3789	0.36
	Area under Rail Line		1142	0.11
		Total	8,10,458	77.99
		Grand total	10,39,194	100.00

6. Salient Findings

1. Water erosion is the main degradation type covering 228736 ha. (22.01%) of the total area, out of which 8.34% is affected by severe erosion, 4.31% affected by very severe water erosion and rest 1.20% affected by Ravines erosion.
2. Other degradation types of lands are rocky waste 81703 ha. (7.86%), mining of minerals (coal) is 1666 ha (0.16%) and stony waste 1462 ha (0.14%).
3. Most of the degraded lands are confined in forest area which are 13.17% followed by agriculture 6.67% and open Scrubs 2.17%.
4. Topographically the degraded lands mapped are hilly area 9.29% undulating area 8.59% plain area 2.07% and in rolling area 2.06%.
5. 77.99% of the district area has normal land under various land uses.