

Inventory of Degraded Lands of Balaghat District, Madhya Pradesh Using Remote Sensing Technique

ABSTRACT

- **Kind of survey** : Land Degradation Mapping
- **Level of mapping** : Reconnaissance
- **Scale** : 1: 50,000
- **Period of survey** : May, 1996 to June, 1997
- **Base materials** : IRS-1B LISS-II FCC of May, 93 & Nov., 94 and Survey of India Toposheets on 1: 50,000 scale.
- **Total area of District** : 9,24,500 ha
- **Agro-climatic Zone** : 7- Eastern Plateau & Hills Regions
- **Geographical Extent** : 21° 19' to 22° 24' N Latitudes and 79° 39' to 81° 03' E Longitudes
- **Nature, Extent and of Degraded Lands in Balaghat District, Madhya Pradesh**

S. No.	Mapping Symbol	Description	Area (ha)	%
Water Erosion				
1.	A1a	Agriculture, plain, severe to very severe erosion	13,484	1.40
2.	A1b	Agriculture, undulating, severe to very severe erosion	8,307	0.90
3.	A1d	Agriculture, plain, moderately to severely gullied	458	0.05
4.	A1e	Agriculture, undulating moderately to severely gullied	262	0.03
5.	A(o)1a	Agriculture, under open scrub, plain, severe to very severe erosion	2,492	0.30
6.	A(o)1b	Agriculture, under open scrub, undulating, severe to very severe erosion	1,250	0.10
7.	F1a	Forest, plain, severe to very severe erosion	18,980	2.10
8.	F1b	Forest, undulating, severe to very severe erosion	10,870	1.20
9.	F1a/b	Forest, plain and undulating, severe to very severe erosion	47	0.01
10.	F1c	Forest, hilly, severe to very severe erosion	6,871	0.70
11.	F1d	Forest, plain, moderately to severely gullied	440	0.05
12.	F1e	Forest, undulating, moderately to severely gullied	760	0.09
13.	F1f	Forest, hilly, moderately to severely gullied.	475	0.06
14.	F(A)1a	Forest, under agriculture, plain, severe to very severe erosion.	14,144	1.52
15.	F(A)1b	Forest, under agriculture, undulating, severe to very severe erosion.	2,883	0.30

16.	F(o)1a	Forest, under open scrub, plain, severe to very severe erosion	2,267	0.20
17.	F(o)1b	Forest, under open scrub, undulating, severe to very severe erosion	1,154	0.10
18.	F(o)1c	Forest, under open scrub, hilly, severe to very severe erosion	250	0.03
19.	F(o)1e	Forest, under open scrub, undulating, moderately to severely gullied	300	0.03
20.	O1a	Open scrub, plain, severe to very severe erosion	8,260	0.80
21.	O1b	Open scrub, undulating, severe to very severe erosion	5,695	0.60
22.	O1c	Open scrub, hilly, severe to very severe erosion	1,251	0.13
23.	O1d	Open scrub, plain, moderately to severely gullied	197	0.02
24.	O1e	Open scrub, undulating, moderately to severely gullied	1,459	0.20
25.	O(A)1a	Open scrub, under agriculture, plain, severe to very severe erosion	4,259	0.50
26.	O(A)1b	Open scrub, under agriculture, undulating, severe to very severe erosion	3,486	0.40
27.	O(F)1a	Open scrub, under forest, plain, severe to very severe erosion	710	0.08
28.	O(F)1b	Open scrub, under forest, undulating, severe to very severe erosion	152	0.02
29.	O(P)1b	Open scrub, under plantation, undulating, severe to very severe erosion	377	0.04
Sub Total			1,11,540	12.00
Other Degraded Lands				
30.	6b	Open cast mines	1348	0.20
31.	6c	Rock quarries & spoils	53	0.01
Total Degraded Lands			1,12,941	12.20
Area Under Normal Lands				
1.	AN	Agriculture, normal land	3,05,894	33.10
2.	A(P)N	Agriculture, under plantation, normal land	150	0.02
3.	A(O)N	Agriculture, under open scrub, normal land	3,637	0.40
4.	FN	Forest, normal land	4,72,512	51.10
5.	F(A)N	Forest, under Agriculture, normal land	3,559	0.40
6.	F(O)N	Forest, under open scrub, normal land	228	0.03
7.	F(P)N	Forest, under plantation, normal land	778	0.09
8.	ON	Open scrub, normal land	668	0.07
9.	O(A)N	Open scrub, under Agriculture, normal land	785	0.08
10.	O(P)N	Open scrub, under plantation, normal land	194	0.02
11.	O(F)N	Open scrub, under forest, normal land	373	0.04
12.	H	Habitation	4,445	0.50
13.	R	River	3,181	0.35
14.	W	Water bodies	1,953	0.20
15.	NP	National park	13,202	1.44
Sub Total			8,11,559	87.80
Grand Total			9,24,500	100.00

Salient Findings:

- Out of the total geographical area of 9,24,500 ha an area of 1,12,941 ha (12.2%) suffers from land degradation problems. The major problem is of water erosion that accounts 98.7% of the total degraded lands of the district. Other degradation problems are open cast mine and rock quarries that cover 1.3% of the problem area.
- An area of 1,07,189 ha (11.6%) is subjected to severe to very severe sheet erosion.
- An area of 4,351 ha (0.45%) is subjected to gullied erosion.
- Severe to very severe sheet as well as gullied erosion is prevalent in 26253 ha (2.8%) under agriculture, 5944 ha (6.4%) under forest, 25,846 ha (2.8%) under open scrub and 1,401 ha (0.02%) under other degraded land i.e. open cast mines and rock quarries.
- Remote sensing data possess high potential for mapping and monitoring of degraded land.
- Normal lands cover major part of the district. Out of the total 8,11,559 ha (87.8%) normal land, 3,09,681 ha (33.5%) is under agriculture, 4,77,077 ha (51.6%) is under forest, 2,020 ha (0.2%) is under open scrub and remaining 22,781 ha (2.5%) is under other land uses i.e. habitation, water bodies, river, etc.