

Inventory of Degraded Lands of East, West and South Garo Hills Districts of Meghalaya Using Remote Sensing Techniques

ABSTRACT

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| 1. | a Kind of Survey | Land degradation mapping |
| | b Level of Mapping | Reconnaissance |
| | c Scale | 1:50,000 |
| 2. | Period of Survey | Nov., 1994 - April, 1995 |
| 3. | Base Materials | Indian Remote Sensing Satellite (IRS-1B) data and Survey of India (SOI) toposheets in 1:50,000 scale. |
| 4. | a Total Area of District | 816700 ha |
| | b Agro-Climatic Zone | Eastern Himalayan Zone (Zone No.2 as per National Planning Commission) |
| | c Geographical extent | 25°8' - 26°2' N latitude and 89°50' - 91°2' E longitude |

5. Statement showing nature, extent and percentage of degraded lands in districts

Mapping Symbol	Degradation Type / Normal land	Total Area (ha)	Distribution of area in District (ha)			Percentage of total	
			West Garo Hills	East Garo Hills	South Garo Hills	Garo Hills districts combined	Problematic area
Water logging		7910	*370700	*260300	*185700	*816700	
O4a	Temporary waterlogging	6990	6990 (2.0)	-	-	0.9	8.2
O4b	Permanent waterlogging	920	920 (0.2)	-	-	0.1	1.1
Jhuming		76810					
F5a	Current Jhum land	56858	25350 (6.8)	25027 (9.6)	6481 (3.5)	7.0	67.1
F5b	Abandoned Jhum land	19952	9256 (2.5)	9174 (3.5)	1522 (0.8)	2.4	23.6
Total Degraded land		84720 (10.4)	42516 (11.5)	34201 (13.1)	8003 (4.3)	10.4	100
Normal Lands							
AN	Normal Agriculture	38618	28406 (7.7)	7782 (3.0)	2430 (1.3)	4.7	-
FN	Normal Forest	591527	265151 (71.5)	176837 (67.9)	149539 (80.6)	72.4	-
F(O)N	Normal Forest but presently under open scrub/pasture	2790	101 (0.03)	2314 (0.9)	375 (0.2)	0.4	-
ON	Normal Pasture/Open Scrub	92541	32015 (8.6)	36586 (14.1)	23940 (12.9)	11.3	-
N	Water body /river, rocky land	5087	2008 (0.54)	1708 (0.7)	1371 (0.7)	0.6	-
H	Habitation	1417	503 (0.1)	872 (0.3)	42 (0.02)	0.2	-
Total Normal land		731980 (89.6)	328184 (88.5)	226099 (86.9)	177697 (95.7)	89.6	
Grand Total		816700	370700	260300	185700		

Figures in the parenthesis indicate the percentage

* Figures represent total district area

6. Salient Findings

- Out of total geographical area of 816700 ha of Garo Hills Districts, 10.4% area (84720 ha) suffers from land degradation problems. The major problem is shifting cultivation (Jhuming) which accounts 90.7% of the total problematic area of the districts. The other degradation problem is waterlogging which covers 9.3% of problem area.
- Shifting cultivation being a dominant practice in each and every district, current Jhuming covers maximum area of 56858 (7.0%) ha which is followed by abandoned Jhum land covering 19952 (2.4%) ha.
- Shifting cultivation is dominant in West Garo Hills covering 34606 (9.3% of the district area) ha followed by East Garo Hills covering 34201(13.1% of the district area) ha and least in South Garo Hills with 8003 (4.3% of the district area) ha.
- Waterlogging problem exists only in lower alluvial plains of West Garo Hills but South and East Garo hills have no waterlogged area. Total waterlogged area of 7910 ha consists of temporary waterlogged (6990 ha) and permanent waterlogged land (920 ha).
- Remote sensing data possesses high potential for mapping and monitoring of Jhum cultivation and waterlogged area but single time data is not adequate for accurate mapping. Multitemporal data is required for reliable mapping of waterlogging and Jhum dynamics.