

Inventory of Degraded Lands of Kohima, Phek, Wokha, Zunheboto, Mokokchung, Tuensang and Mon districts of Nagaland using Remote Sensing Techniques

Abstract

1. **Kind of Survey:** Land Degradation Mapping
2. **Level of Mapping:** Reconnaissance
3. **Scale:** 1:50,000
4. **Period of Survey:** November,2006 to February,2007
5. **Base Materials:**
 - I) IRS-P6 Geo-coded Satellite Imagery (1:50,000)
 - II) Survey of India Topographical Maps in 1:50,000 scale
6. **Total Area of Nagaland (Seven Districts)** 16, 57,900 ha.
7. **Agroclimatic Zone:** Eastern Himalayan Region (II) as per Planning Commission
8. **Geographical Extent:** 25^o 06' to 27^o 04' North Latitudes and 93^o 21' to 95^o 15' East Longitudes

9. Nature, Extent and Percentage of Degraded Land of Nagaland

Sl. No	Mapping Symbol	Description	District Area (ha)							Total Area (ha)	%
			Kohima	Wokha	Mokokchung	Zunheboto	Tuensang	Phek	Mon		
		Shifting Cultivation									
1.	i) Sc1d2	Current Jhum	12950 (3.20)	11984 (7.36)	10785 (6.68)	13672 (10.89)	85501 (20.22)	14796 (7.30)	47049 (26.34)	196737	11.87
	ii) Sc2d2	Abandoned Jhum	58671 (14.52)	14418 (8.86)	16228 (0.05)	15883 (12.66)	45845 (10.84)	21866 (10.79)	20937 (11.72)	193848	11.69
		Water Erosion									
2.	We1d2	Severe Water Erosion	27787 (6.88)	160 (0.10)	186 (0.11)	1058 (0.84)	2102 (0.50)	16569 (8.18)	1351 (0.76)	49213	2.97
		Waterlogging									
3.	WI1a1	Seasonal Waterlogging	-	1465 (0.90)	65 (0.04)	-	-	-	11 (0.01)	1541	0.09
		Total Degraded Land	99408 (24.60)	28027 (17.22)	27264 (16.88)	30613 (24.39)	133448 (31.56)	53231 (26.27)	69348 (38.83)	441339	26.62
		Total Geographical Area	404100	162800	161500	125500	422800	202600	178600	1657900	

Figure in parenthesis denotes percentage

10. Nature, Extent and Percentage of Degraded Land under different Land Use/ Land Cover of Nagaland

Sl. No	Land Use/ Land cover	Mapping Symbol	Description	District Area (ha)							Total Area (ha)	%
				Kohima	Wokha	Mokokchung	Zunheboto	Tuensang	Phek	Mon		
1.	Agriculture	WI1a1	Seasonal Waterlogging	-	1465 (0.90)	65 (0.04)	-	-	-	11 (0.01)	1541	0.09
2.	Forest											
		i) Sc1d2	Current Jhum	12950 (3.20)	11984 (7.36)	10785 (6.68)	13672 (10.89)	85501 (20.22)	14796 (7.30)	47049 (26.34)	196737	11.87
		ii) Sc2d2	Abandoned Jhum	58671 (14.52)	14418 (8.86)	16228 (0.05)	15883 (12.66)	45845 (10.84)	21866 (10.79)	20937 (11.72)	193848	11.69
		iii) We1d2	Severe Water Erosion	27787 (6.88)	160 (0.10)	186 (0.11)	1058 (0.84)	2102 (0.50)	16569 (8.18)	1351 (0.76)	49213	2.97
			Total	99408 (24.60)	26562 (16.32)	27199 (16.84)	30613 (24.39)	133448 (31.56)	53231 (26.27)	69337 (38.82)	439798	26.53
			Total Degraded Land	99408 (24.60)	28027 (17.22)	27264 (16.88)	30613 (24.39)	133448 (31.56)	53231 (26.27)	69348 (38.83)	441339	26.62
			Total Geographical Area	404100	162800	161500	125500	422800	202600	178600	1657900	

Figure in parenthesis denotes percentage

11. Nature, Extent and Percentage of Degraded Land under different Land form/ Physiography of Nagaland

Sl. No.	Land form/ Physiography	Mapping Symbol	Description	District Area (ha)							Total Area (ha)	%
				Kohima	Wokha	Mokokchung	Zunheboto	Tuensang	Phek	Mon		
1.	Plain Land (0-3% slope)	Wl1a1	Seasonal Waterlogging	-	1465 (0.90)	65 (0.04)	-	-	-	11 (0.01)	1541	0.09
			Total	-	1465 (0.90)	65 (0.04)	-	-	-	11 (0.01)	1541	0.09
2.	Hill (> 15% slope)											
		i) Sc1d2	Current Jhum	12950 (3.20)	11984 (7.36)	10785 (6.68)	13672 (10.89)	85501 (20.22)	14796 (7.30)	47049 (26.34)	196737	11.87
		ii) Sc2d2	Abandoned Jhum	58671 (14.52)	14418 (8.86)	16228 (0.05)	15883 (12.66)	45845 (10.84)	21866 (10.79)	20937 (11.72)	193848	11.69
		iii) We1d2	Severe Water Erosion	27787 (6.88)	160 (0.10)	186 (0.11)	1058 (0.84)	2102 (0.50)	16569 (8.18)	1351 (0.76)	49213	2.97
			Total	99408 (24.60)	26562 (16.32)	27199 (16.84)	30613 (24.39)	133448 (31.56)	53231 (26.27)	69337 (38.82)	439798	26.53
			Total Degraded Land	99408 (24.60)	28027 (16.32)	27264 (16.88)	30613 (24.39)	133448 (31.56)	53231 (26.27)	69348 (38.83)	441339	26.62
			Total Geographical Area	404100	162800	161500	125500	422800	202600	178600	1657900	

Figure in parenthesis denotes percentage

13. Salient Feature:

- ★ The degraded land of Nagaland covers 26.62 % of its total geographical area.
- ★ Out of total degraded land the maximum degraded area is found in Mon district (38.83 %) followed by Tuensang district (31.56 %), Phek (26.27 %), Kohima (24.60 %) and Zunheboto (24.39 %) districts.
- ★ Wokha and Mokokchung districts of Nagaland have less area affected by shifting cultivation & severe water erosion as compared to other districts.
- ★ Shifting cultivation / Jhum is the dominant factor responsible for land degradation in Nagaland.
- ★ Phek district (8.18 %) is the most affected due to severe water erosion in degraded forest followed by Kohima (6.88 %) district.
- ★ Seasonal water logging mainly occupies in valley plain of Wokha (1465 ha.) district followed by Mokokchung(65ha) and Mon (11ha) district.