

## **Report on Mining in Forest Areas**

The Forest Survey of India, in collaboration with the Indian Bureau of Mines (IBM), Nagpur undertook a Study in March, 1998 under the aegis of a Committee constituted under the Ministry of Environment & Forests, Government of India, with the objective to analyze the extent of leased area for mining under forest cover. The Study focused on the mining areas of five important metal minerals (bauxite, copper, iron, chromite and manganese), which caused the most environmental degradation. Bihar, Madhya Pradesh and Orissa; which make a major contribution in the total production of the minerals, viz bauxite (76%), chromite (97%), copper (64%), iron (57%) and manganese (55%) were selected for the Study. The area under Study in Bihar are presently exclusively in Jharkhand, whereas those in M.P. fall today in both M.P. and Chhattisgarh.

The IBM prepared the maps of the mineral resources by delineating the boundaries of the leased areas of these minerals on SOI toposheets on a scale of 1:50,000. These maps were used as base maps by FSI. The boundaries of the leased areas were digitized and overlaid on the classified forest cover maps. The forest cover maps were prepared using IRS-1B(LISS II) satellite data of 1997-98. Fig 5 shows forest cover map (covering parts of Bihar and Orissa) with boundaries of leased mining areas.

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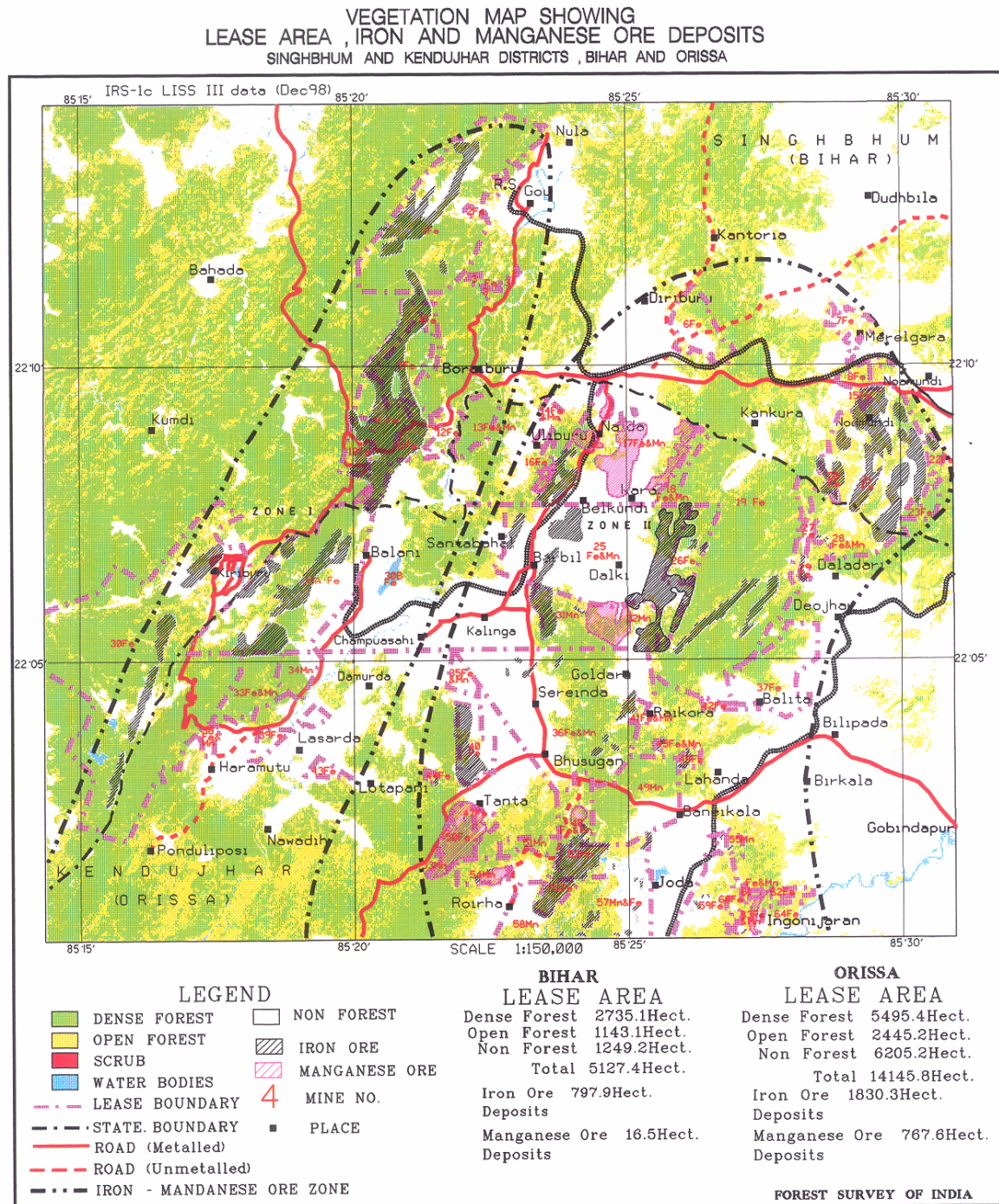


Fig.5: Vegetation Map Showing Ore deposits Bihar(Singbhum) and Orissa(Kendujhar)

It was found in the Study that a total of 260 mining leases covered an area of 90,695 ha in 1994. Using GIS, it was found that 53,217 ha of the leased area were under forest cover of which 71% was dense forest and 29%, open forest. Forest cover in mining areas by state is given in Table 7 and by minerals in Table 8

**Table 7: Forest cover in mining areas by States****(in ha)**

State	Lease area	Forest cover		
		Dense	Open	Total
Jharkhand	21589	7,564	2,587	10,151
Orissa	37664	9,764	9,499	19,263
Madhya Pradesh	11507	8,286	860	9146
Chhattisgarh	19935	12,102	2,555	14,657
<b>Total</b>	<b>90695</b>	<b>37,716</b>	<b>15,501</b>	<b>53,217</b>

**Table 8: Forest cover in mining areas by minerals**

Minerals	Forest cover(ha.)		
	Dense	Open	Total
Bauxite	13,212	2,112	15,324
Chromite	1,096	1,077	2,173
Copper	471	591	1,062
Iron and Manganese	22,937	11,721	34658
<b>Total</b>	<b>37,716</b>	<b>15,501</b>	<b>53,217</b>