# Abstract

## Inventory of Degraded Lands of Munger District, Bihar Using Remote Sensing Techniques

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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 : April, 1996 (Initial)
   April - May, 1997 (Revised)

3. Base Materials : i. IRS 1A (FCC Band 2,3,4) dated April 89 and IRS 1B (FCC Band 2,3 & 4) dated December 95, Geocoded.

   ii. SURVEY OF INDIA toposheets on 1:50,000 scale

4. Study area : Munger Distt. Bihar

   a. Geographical Extent : 85°35' to 86°52' E longitude
      24°23' to 25°30' N latitude
   b. Total area covered : 6,34,594 ha
   c. Agro climatic zone of India : (NARP Zone) South Bihar alluvial plain (B1-3)
   d. Agro climate region of India : Middle Gangetic Plains

5. **Nature & Extent of degraded lands in District.**

| Sl. No. | Particulars | Area (ha) | (%) |
|---|---|---|---|
| **A. Normal areas** | | | |
| I | AN | 281649 | 44.38 |
| II | FN | 107592 | 16.96 |
| III | FN (A) | 1728 | 0.27 |
| IV | PN | 14432 | 2.28 |
| V | ON | 2904 | 0.46 |
| VI | H | 47488 | 7.48 |
| VII | R | 700 | 0.11 |
| VIII | W | 27315 | 4.30 |
| IX | Misc. | 6169 | 0.97 |
| | **Total normal land** | **489977** | **77.21** |

| Sl. No. | Particulars | Area in ha. | (%) |
|---|---|---|---|
| B | **Degraded lands** | | |
| 1. | **Water Erosion** | | |
| a | Severe to very severe erosion A1a, 01b, 01c 0(p)1c,F1b, F1c, P(O)1a | 56314 | 8.88 |
| b | Severe to very severe gully erosion01e, F1e, F1f | 10066 | 1.59 |
| c | Very severe gully erosion 01h, F1h | 13881 | 2.18 |
| | **Sub-total** | **80261** | **12.65** |
| 2. | **Water logging** | | |
| a. | Seasonal A4a, 04a | 63762 | 10.05 |
| b | Permanent 4b | 120 | 0.02 |
| | **Sub-total** | 63882 | 10.07 |
| 3. | **Other degradation** | | |
| a | Rock quarries 6c | 458 | 0.07 |
| b | Brick kiln 6d | 16 | - |
| | **Sub-total** | 474 | 0.07 |
| | **Total degraded land** | **1,44,617** | **22.79** |
| | **Grand Total** | **6,34,594** | **100.00** |

## 6. Salient Findings

- Soil erosion is the major degradational problem of the area followed by waterlogging, other degradational problems due to rock quarries and brick kilns are confined to limited areas and specific sites.

- Degraded land covers 1,44,617 ha area. This corresponds to about 22.79 percent of the total geographical area of the district.

- Among the different intensities of erosion marked in the district, severe sheet erosion encompassed an area of nearly 4.07 percent of the district, whereas severe to very severe gully erosion and very severe gully erosion covers 4.81 and 3.77 percent respectively.

- Waterlogging is confined to depressional area of Gangetic alluvial plain and differentiated as seasonal and permanent on the basis of period of wetness, which hampers the normal growth of crops.

- Waterlogging occupies 63,882 ha or (10.07%) of the district area of which seasonal waterlogging spread over 10.05 percent where as permanent waterlogging has the minor extent of about 120 ha which accounts 0.02 percent of the district area.

- Other human induced degradational problems due to rock quarries and brick kilns cover 474 ((0.07%) area of the district.

- Degraded lands in the order extent covers 13.56 percent of the district area under agriculture, 6.62 percent under open scrub and 2.37 percent under forest respectively and 0.3% in changed land use.

- Among the major physiographic divisions of the district such as plains, undulating and hilly, degraded land under plains occupies an area of 14.39 percent of the district followed by undulating 7.53 percent and hilly 0.80 percent.

- Normal lands spreading over agriculture, forest and open scrub land use encompass together 408305 ha accounting for 64.34 percent of the district area.