

INVENTORY OF DEGRADED LANDS OF NELLORE DISTRICT,
ANDHRA PRADESH USING REMOTE SENSING TECHNIQUES

A B S T R A C T

1. **Details of Survey**
 - i) Kind of survey Land Degradation Mapping
 - ii) Level of mapping Reconnaissance
 - iii) Scale 1:50,000
2. **Period of survey** October, 1998 - May, 1999
3. **Base material** IRS-1B (FCC Band 2,3,4) on 1:50,000, scale
Survey of India toposheets on 1:50,000 scale
4. **Details of area**
 - i) Total area of district 13,07,600 ha
 - ii) Agro-climatic zones Zone XI East Coast Plains & Hills Regions
 - iii) Zone of A.P. Southern Zone (Costal plain)
 - iv) Geodetical extent 13°30' - 15°06' N Latitude
70°05' - 80°05' E Longitude
5. **Nature, extent and percentage of degraded lands of Nellore district.**

Mapping symbol	Description	Area (ha)	Percent
<u>Water Erosion (We)</u>			
Wela1	Severe water erosion plain agriculture land	21,613	1.65
Wela2	Severe water erosion plain forest land	11,408	0.87
Wela3	Severe water erosion plain plantation land	1,307	0.1
Wela4	Severe water erosion plain open scrub	47,726	3.65
Welb1	Severe water erosion undulating Agriculture land	2,811	0.21
Welb2	Severe water erosion undulating forest land	1,977	0.15
Welb4	Severe water erosion undulating open scrubs	2,875	0.22
Welc1	Severe water erosion rolling agriculture land	45	-
Welc2	Severe water erosion rolling forest land	230	0.02
Welc4	Severe water erosion rolling open scrub	380	0.03
Weld2	Severe water erosion hilly forest	948	0.07
Weld4	Severe water erosion hilly open scrub	384	0.03

We2a1	Very severe water erosion plain agriculture	34	-
We2a2	Very severe water erosion plain forest	13	-
We2b4	Very severe water erosion undulating open scrub	151	0.01
We2d2	Very severe water erosion hilly forest	21	-
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		91,923	7.03

Salt affliction (Sa) Land

Salal	Salt affliction (<50% area) plain agriculture	9,073	0.7
Sala2	Salt affliction (<50% area) plain forest	448	0.03
Sala4	Salt affliction (<50% area) plain open scrub	9,742	0.74
Salb4	Salt affliction (<50% area) undulating open scrub	8	-
Sa2a1	Salt affliction (>50% area) plain agriculture	56	-
Sa2a4	Salt affliction (>50% area) plain open scrub	1,947	0.15
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		21,274	1.63

Water erosion and salt affliction (We/Sa)

We1/Salal	Severe water erosion and salt affliction (<50% area) plain agriculture	5,640	0.43
We1/Sala2	Severe water erosion and salt affliction (<50% area) plain forest	1,176	0.09
We1/Sala4	Severe water erosion and salt affliction (<50% area) plain open scrub	10,406	0.8
We1/Salb2	Severe water erosion and salt affliction (<50% area) undulating forest	77	0.01
We1/Salb4	Severe water erosion and salt affliction (<50% area) undulating open scrub	998	0.07
We1/Sa2a4	Severe water erosion and salt affliction (>50% area) plain open scrub	308	0.02
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		18,605	1.42

Water logging (WL)

W1la1	Waterlogging seasonal plain agriculture	281	0.02
W1la4	Waterlogging seasonal plain open scrub	291	0.02
W12a4	Waterlogging permanent plain open scrub	19	-
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		591	0.05

Mudflat (Mf)

Mfla1	Mudflat seasonal plain agriculture	590	0.04
Mfla4	Mudflat seasonal plain open scrub	2,611	0.20
Mf2a1	Mudflat permanent plain agriculture	1,780	0.24
Mf2a4	Mudflat permanent plain open scrub	26,988	2.06
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		31,969	2.45

Salt flat/Salt pan (Sf/Sp)

Sf2a4	Salt flat (>50% area) plain open scrub	187	0.01
Sf2a4	Salt pan (>50% area) plain open scrub	787	0.06
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		974	0.07

Rockout crops/Rockywaste (Rw)

RW1b4	Rockywaste (< 50% area) undulating open scrub	56	-
Rwlc2	Rockywaste (<50% area) rolling forest	24	-
Rwld2	Rockywaste (<50% area) hilly forest	2,440	0.20
Rwld4	Rockywaste (<50% area) hilly open scrub	405	0.03
Rw2d2	Rockywaste (>50% area) hilly forest	793	0.06
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		3,718	0.29

Stonywaste (Sw)

Sw1b4	Stonywaste (<50% area) undulating open scrub	200	0.02
Swlc2	Stonywaste (<50% area) rolling forest	124	0.01
Swlc4	Stonywaste (< 50% area) rolling open scrub	136	0.01
Swld2	Stonywaste (< 50% area) hilly forest	48	-
Swld4	Stonywaste (< 50% area) hilly open scrub	246	0.02
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		754	0.06

Total of degraded lands		<hr/>	
		1,69,808	13.0

Normal area

1	Agriculture	4,75,061	21.04
1(3)	Agriculture (plantation)	1,421	00.11
1(4)	Agriculture (open scrub)	404	00.03
2	Forest	1,96,236	15.01
2(1)	Forest (Agriculture)	3,939	00.3

2(3)	Forest (Plantations)	6,179	00.24
3	Plantation	7,829	00.60
3(1)	Plantation (Agriculture)	113	00.01
4	Open scrub	2,26,204	17.30
4(1)	Open scrub (Agriculture)	37,645	02.88
4(3)	Open scrub (Plantation)	3,278	00.25
<u>Miscellaneous Lands</u>			
	Canal	1,679	00.13
R	River course	29,480	02.25
S	Settlements	10,336	00.79
W	Water bodies	1,37,988	10.55
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		11,37,792	87.00
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GRAND TOTAL		13,07,600	100.00

6. Salient Findings

* Water erosion is the main degradation type covering 91,923 ha (7.03%) of the total area, out of which 7.01% is affected by severe erosion and rest 0.02% is very severe gully erosion.

* At places degradation due to salt affliction covers 21,274 ha (1.63%) of total area. However, salt affliction with water erosion covers 18,605 ha (1.42%) of total area.

* The second major land degradation in coastal areas consist of 31,969 ha (2.45%) mudflat, 971 ha (0.07%) is affected by salt flat / salt pan.

* The other mappable degradation type of lands are rockywaste 3718 ha (0.28%), stonywaste 754 ha (0.06%) and water logging 591 ha (0.05%)

* Most of the degraded lands are confined in open scrub area which share 8.17% followed by agriculture 3.2%, and forest and plantation 1.51% and 0.1% respectively.

* Most of the degraded lands are confined in plain area (nearly level to gently sloping 0-5%) which cover 11.81% followed by undulating lands 0.7%.

* Out of the total 13% degraded area in the district 2.22% area is found in Atmakur taluk (mostly due to water erosion 1.58%) followed by 1.82% in Sulurpet taluk.

* 87% of the district area is normal land under various land uses.

* The density of population is 183 per sq km in district against the state average of 242 persons per sq km ,