

**Inventory of
Soil and Land Resources of
Kannur District, Kerala
Using Remote Sensing Technique**

Bangalore Centre



**Soil and Land Use Survey of India
(Department of Agriculture & Co-operation)
Ministry of Agriculture
Government of India
IARI Buildings, New Delhi-110012**

Inventory of Soil and Land Resources of Kannur District, Kerala Using Remote Sensing Techniques

ABSTRACT

1.	Survey Area	:	Kannur District, Kerala State, India
2.	Geographical Extent	:	74° 52' to 76° 07' East Longitudes 11° 40' to 12° 48' North Latitudes
3.	Agro-climatic Region	:	Agro-climatic Zone-XII (West Coast Plains & Ghat Region)
4.	Total Geographical Area	:	2,96,626 ha
5.	Kind of Survey	:	Soil Resource Mapping (SRM) using Remote Sensing Technique
6.	Base Maps	:	(i) Survey of India Toposheets (scale 1:50,000) (ii) Geology Map (scale 1:2,50,000) of Geological Survey of India (iii) Satellite Imagery (scale 1:50,000) of LISS-III (IRS-1D)
7.	Scale of Mapping	:	1:50,000 Scale
8.	Period of Survey	:	April, 2013 to May, 2013

9. Mapping unit wise soil association and their extent

S. No.	Mapping Units	Soil Series Association	Area (ha)	Area (%)
1	CAI2a1	Aiyyur and Azhikkod	9002	3.0
2	CAI2b1	Azhikkod and Aiyyur	23151	7.8
3	CKn6b1	Kulakkad and Taliparamba	2575	0.9
4	CKn8b1	Taliparamba and Kulakkad	22533	7.6
5	GGn6b1	Nedumpoil and Muthikkulam	21113	7.1
6	GGn6c1	Muthikkulam and Nedumpoil	4450	1.5
7	GGn8b1	Irumbamutti and Muthikkulam	20230	6.8
8	GGn8c1	Muthikkulam and Irumbamutti	28385	9.6
9	GGp2a1	Kutikol and Poyilor	5882	2.0
10	GGp3b1	Poyilor and Kutikol	10738	3.6
11	GGu4b1	Kulikkiyad, Manikadavu and Edayar	3310	1.1
12	GGu4c1	Edayar and Manikadavu	743	0.3
13	GGw2a1	Kutikol and Varikara	14501	4.9
14	LAI3b1	Timri and Nadukani	4154	1.4
15	LAI3d1	Nadukani and Timri	1752	0.6
16	LAI4b1	Nooriyad and Kannur	6945	2.3
17	LAI4d1	Kannur and Nooriyad	2608	0.9
18	LAn6b1	Mathamangalam, Vottolli and Panjasheri	61140	20.6
19	LAo3b1	Panayur and Amakkavu	984	0.3
20	LAu4b1	Edathanthukara and Parikulam	30120	10.2
21	LAv3b1	Amakkavu and Panayur	10238	3.5
22	e	ROC , Barren lands etc.	587	0.2
23	f	Habitation, Builtup area etc.	2240	0.8
24	g	Water bodies	9245	3.1
		Grand total	296626	100.0

SALIENT FEATURES:

- ❖ Agriculture has dominant area in the district occupying 228900 ha (77.16%), with plantation crops occupying major area followed by forest area 33578 ha (11.32 %) and miscellaneous area of 12072 ha (4.07 %).
- ❖ The physiography of the district is dominated by Hills (54.1%) followed by pediments (11.5%) with Coastal Alluvial plains constituting 10.8% of the total area of the district.
- ❖ 30 percent of the area has been classified under land capability class III, 28 percent under land capability class IV-V, 14 percent under VI, 12 percent under land capability class II and 11 percent under forest area.
- ❖ As per the soil irrigation potential, 45 per cent of the area has very severe soil limitations for sustained use under irrigation; whereas 26 per cent lands have severe soil limitations for sustained use under irrigation.
- ❖ As per the Land Irrigability Class, 43 per cent lands have land that is temporarily classed as not suitable for sustained use under irrigation pending further investigation followed by 15.51 per cent lands that have moderate limitations for sustained use under irrigation.
- ❖ Taxonomically soils have been classified under five soil orders namely Inceptisols, Alfisols, Ultisols, Mollisols and Entisols respectively.
- ❖ The survey area is dominated by Strongly sloping to moderately steep lands accounting 89278 ha (30.1%) whereas steep to very steep area 24.0 % followed by nearly level to very gently sloping lands accounting 52536 ha (17.7%) .
- ❖ Majority of the area is under very deep soils constituting 69 per cent followed by deep soils covering 25 per cent and mere 2 per cent of the area is under shallow soils.
- ❖ Nearly 60 per cent area is affected by moderate water erosion hazard followed by none to slight Erosion, Moderate Erosion 57283 ha (19.3) and 9.6% area coming under Moderate Erosion, Severe Erosion.