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**Inventory of Soil & Land Resource
of Ernakulam District, Kerala
Using Remote Sensing Techniques**

Bangalore Centre



**Soil and Land Use Survey of India
(Department of Agriculture & Co-operation)
Ministry of Agriculture
Government of India
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INVENTORY OF SOIL RESOURCE OF ERANAKULAM DISTRICT OF KERALA STATE USING REMOTE SENSING TECHNIQUES

ABSTRACT

1. **Survey Area** : Ernakulum District (Kerala, India)
2. **Geographical Extent** : 76° 12' 00" to 76° 46' 00" East Longitudes
9° 42' 38" to 10° 18' 00" North Latitudes
3. **Agro-climatic Region** : Zone No.12 (West Coast Plains & Hills Region)
4. **Total Geographical Area** : 3,07,331 ha
5. **Kind of Survey** : Soil Resource Mapping using
Remote Sensing Techniques
6. **Base Map** : a) LANDSAT Imagery
b) SURVEY OF INDIA Toposheets
7. **Scale of Mapping** : 1: 50,000
8. **Period of Survey** : April, 2012 to May, 2012.

9. **Soil Series Association mapped and their respective area:**

Sl. No.	Mapping Units	Soil Series Association	Area (ha.)	Percentage
1	CAb2b1	Kochal-Varapuzha	18603	6.05
2	CKn6b1	Pambakuda-Randampuzha-Kaladi	23679	7.70
3	CKn6c1	Randampuzha-Kaladi	6537	2.13
4	CKn8b1	Ramamangalam-Kaladi	5448	1.77
5	CKn8c1	Randampuzha-Ramamangalam	18539	6.03
6	CKu4b1	Kizhiillam-Chandrapra-Vazhakkulam	23314	7.59
7	CKu4c1	Kannimangalam-Chandrapra	1273	0.41
8	CKv3b1	Manjapra-Pulluvazhi	21844	7.11
9	CKw2a1	Vengur-Pattukua	3891	1.27
10	CKw2b1	Sreemulanagaram-Vengur-Pattukua	10366	3.37
11	GNn6b1	Mulavur-Muvattupuzha-Nerimangalam	9361	3.05
12	GNn6c1	Nerimangalam-Muvattupuzha	5920	1.93
13	GNn8b1	Eastmaradi-Kothamangalam	1522	0.50

14	GNn8c1	Kothamangalam-Eastmaradi	42189	13.73
15	GNu4b1	Bhutattankattu-Aaramile	10669	3.47
16	GNu4c1	Aaramile-Vadattupara	1192	0.39
17	GNv3b1	Vadakkemaradi-Tekkumaradi-Parakkadavu	6487	2.11
18	GNw2b1	Parakkadavu-Vadakkemaradi-Tekkumaradi	5225	1.70
19	LAn6b1	Kolancheri-Panjasheri	6619	2.15
20	LAu4b1	Askaranadu-Puthrukka	13372	4.35
21	LAv3b1	Pattimattom-Vengola	11098	3.61
22	LAW2b1	Vengola-Pattimattom	10952	3.56
23	ML	Marshy land	2405	0.78
24	WL	Wet land	7094	2.31
25	e	Rock out crops	2585	0.84
26	f	Habitation	21812	7.10
27	g	Water body	15335	4.99
Total			307331	100.00

Salient Features:

1. The major geology covered in the survey area is Charnockite (37.4 %), followed by Gneiss (26.9 %) and Laterite (13.7%).
2. The area falls in five major physiographic subdivisions viz., undifferentiated hill side slopes (39%), pediments (16.2%), upper pediplains (12.8 %), lower pediplains (9.9 %) and coastal alluvial plain (6.1%).
3. The soils found in the area are mostly deep to very deep which accounts to 72.5 per cent and all the soils come under four different soil orders, i.e., Entisols, Inceptisols, Alfisols, and Ultisols.
4. Agriculture is the mainstay of the area representing 60% which are mainly under plantation such as rubber, coconut, valuable tree spices, etc.
5. The area is mainly affected by slight to moderate water erosion. About 20.3 per cent area is under slight erosion whereas 63.7 per cent area is under moderate water erosion.
6. The area has the land capability classes (LCC) II to VI, where class II dominates, accounting 34.2 per cent followed by Forest (24.2%) and Class III (10.4%), respectively.