

# Inventory of Soil Resources of 24 Parganas (North and South) Districts, West Bengal Using Remote Sensing and GIS Techniques

## ABSTRACT

1. **Survey Area** : 24 Parganas (North and South) Districts, West Bengal
2. **Geographical Extent** : 88° 5' 0" to 89° 20' 0" E Longitudes and 21° 31' 0" to 23° 15' 2" N Latitudes
3. **Agro Climatic Region** : Lower Gangetic Plain ( Zone no. III as per planning commission)
4. **Total area of the district** : **1405673 ha.**  
(399265 ha. in North and 1006408 ha. in South)
5. **Kind of Survey** : Soil Resources Mapping using remote sensing techniques.
6. **Base map** : a) IRS – ID Geocoded Satellite Imagery (1: 50000 scale)  
b) SOI –toposheet (1:50000 scale)
7. **Scale of Mapping** : 1 : 50000
8. **Period of Survey** : January to March, 2009

### 9. Soil Series association mapped and their respective area

Mapping Symbol	Mapping Unit	Soil Association	North 24PGS	South 24PGS	Total Area (ha)	Area (%)
1	ALm2d1	Lakhmipur	0	3736	3736	0.27
2	ALm2e2	Kakdwip-Sandeshkhali	171	5334	5505	0.39
3	ALm1c1	Jharkhali-Sandeshkhali-Namkhana	2911	208218	211129	15.02
4	ALm2c1	Jharkhali-Namkhana	157	11761	11918	0.85
5	ALm2a4	Basanti-Kulpi-Sandeshkhali	980	3357	4337	0.31
6	ALm2a1	Sagar-Kulpi-Basanti	46227	242775	289002	20.56
7	ALm2a2	Basanti-Sandeshkhali	9504	19223	28727	2.04
8	ALm1a2	Kulpi-Chandi	8329	22091	30420	2.16
9	ALm2a6	Bishnupur-Chandipur-Basanti	85	3835	3920	0.28
10	ALm1a1	Keyatala-Kulpi	10992	149437	160429	11.41
11	ALm2a3	Chandi-Namkhana-Kulpi	2638	15352	17990	1.28
13	ALm2a5	Buldia-Raidighi	2303	10914	13217	0.94
14	ALm3a1	Bishnupur-Sagar-Chandipur	4961	5995	10956	0.78
16	ALg3a1	Chandi-Raidighi-Kulpi	1103	661	1764	0.13
17	ALf1a1	Buldia - Bishnupur	2495	102	2597	0.18
18	ALb2a2	Buldia-Keyatala	42761	1	42762	3.04
19	ALb2a1	Dadpur-Bhangore	55348	63	55411	3.94
20	ALb3a2	Bishnupur-Buldia-Baduria	38958	638	39596	2.82
21	ALb3b1	Dadpur-Chandipur-Bishnupur	799	937	1736	0.12
22	ALb2b1	Bhangore-Chandipur	77109	4480	81589	5.80
23	HS	Habitation	23529	5946	29475	2.10
24	RI	River	14224	278573	292797	20.83
25	WB	Water Bodies	53681	12979	66660	4.74
		<b>Grand Total</b>	<b>399265</b>	<b>1006408</b>	<b>1405673</b>	<b>100.00</b>

### Salient Features:

❖ Total 17 nos soil series have been mapped in 24Parganas (North and South district).

❖ Soils of both the districts are very deep

❖ Soils of the 24parganas districts, West Bengal fall under three major physiography

● Alluvial plains	138736 ha	9.87 %
● Lower deltas	799675 ha	56.88%
● Paleo channel	58576 ha	4.17 %
● Stream banks	19754 ha	1.41%

❖ Soils of the districts fall in four slope classes

● Level to nearly level slope	190849 ha	13.58 %
● Nearly level to very gently slope	745255 ha	53.01 %
● Very gently to gently slope	57147 ha	4.07 %
● Very gently to very gently slope	23490 ha	1.67 %

❖ Soils of the districts have three erosion classes

● None to slight water erosion	929170 ha	66.10%
● Slight water to Moderate water erosion	58576 ha	4.17%
● Moderate water erosion	28995 ha	2.06%

❖ Soils under different Land Capability classes

● II	160429 ha	11.41 %
● II-III	590960 ha	42.04 %
● III-IV	244193 ha	17.37 %
● IV	21159 ha	1.51 %