

Soil Resource Mapping of West Garo Hills District, Meghalaya

ABSTRACT

1. **Survey Area** : *West Garo Hill district, Meghalaya*
2. **Agro climatic Zone** : *Eastern Himalayan zone (Zone No-2 as per National Planning Commission)*
3. **Total Area** : *3,67,700 ha*
4. **Period of field visit** : *March-April'03 & March-April'04*
5. **Type of Survey** : *Reconnaissance Survey for Soil Resource Mapping using Remote Sensing Technique*

6. Extent of area under different Mapping Unit and Association of Soil Series mapped:

Sl. NO.	Map Symb	Mapping Uuit	Soil Association	Area (ha)	Area (%)
1	1	ALb2a1	Damalgiri-Nunmati-Shyamnagar	33793	9.19
2	2	ALb2a2	Nunmati-Shyamnagar-Chimisenggiri	3485	0.95
3	3	GGi4c1	Atmal Damalgiri-Degranggiri	1831	0.50
4	4	GGi5c1	Atmal Damalgiri-Degranggiri	923	0.25
5	5	GGn7c1	Rongkhongiri-Thomagiri-Chasinggiri	117288	31.90
6	6	GGn7c2	Megonggiri-Jinjalgiri-Chibragiri	11174	3.04
7	7	GGn8c1	Rongkhongiri-Thomagiri	18605	5.06
8	8	GGn8c2	Megonggiri-Jinjalgiri	14108	3.84
9	9	GGo3c1	Gomnigiri-Dopgiri	3	0.00
10	10	GGr5c1	Upperdamalgiri-Bamandanga	18108	4.92
11	11	SDi4c1	Rongbilbanggiri-Jenggitchukgiri	179	0.05
12	12	SDn7c1	Aphalgiri-Baispara-Daluagiri	125519	34.14
13	13	SDn8c1	Baispara-Aphalgiri-Daluagiri	5733	1.56
14	14	SDo3a1	Chandanpara	308	0.08
15	15	SDo3c1	Chandanpara	723	0.20
16	16	SDr5c1	Rangapani-Rengsipara-Songmagiri	14368	3.91
17	17	Misc.Lands		1552	0.42
			Grand Total	367700	100.00

7. Salient Features:

- ⇒ *Soil of West Garo hills district, Meghalaya mainly fall under five physiography.*
 - *Hill top / Ridge – 2933 ha, (0.80 %).*
 - *Hill side slope – 292427 ha, (79.53 %)*
 - *Foot hill – 1034 ha (0.28%).*
 - *Hillock / Hummock - 32476 ha (8.83 %)*
 - *Alluvium plain / Flood plain – 37278 ha (10.14 %)*
- ⇒ *Soils of the district fall in six slope classes : -*
 - *Nearly level to very gently sloping (0 – 3%), 37278 ha (10.14%)*
 - *Very gently to gently sloping (1-5%) - 1034 ha (0.28%)*
 - *Gently to moderately sloping (3-10%) – 2010 ha (0.55%)*
 - *Moderately sloping to strongly sloping (5-15%) – 33399 ha (9.08%)*
 - *Moderately steep to steep sloping (15-33%) – 253981 ha (69.07%)*
 - *Very steep to extremely steep sloping (>33%) -38446 ha (10.46%)*
- ⇒ *Various land use / land cover classes of the district are as under*
 - *Agriculture & Jhum :- 37586 ha (10.22%)*
 - *Forest : - 328562 ha (89.36%)*
 - *Miscellaneous land :-*
 - *(River, habitation etc.) 1552 ha (0.42%)*
- ⇒ *Soils of the area are taxonomically classified into four orders i.e. Alfisols, Entisols, Inceptisols and ultisols. All the twenty five soils series identified in the area are further classified into 8 sub-orders, 11 great groups, 14 subgroups and 25 families.*
- ⇒ *The soils comprising of 37278ha (10.14%) falls under none to slight erosion*
- ⇒ *The area of 1031ha(0.28 %) represents slight to moderate erosion*
- ⇒ *Moderate erosional land 279702ha (76.07%)*
- ⇒ *48137ha (13.09 %)accounts moderate to severe erosion.*

HOW TO USE SOIL SURVEY REPORT

This report embodies the results of the Soil Resource mapping of West Garo Hills district of Meghalaya and furnishes information on the geographical setting of the district, such as location, extent, physiography, relief, drainage, climate, geology, natural vegetation, agriculture, land use and soils.

Other information on interpretative grouping of soil and land resources provides management guidelines on land capability classes, soil suitability grouping and recommended crops; horticulture development; forest, forage and grassland development; rehabilitation of saline, alkali and other degraded soils, water harvesting, water storage and water management. The genesis and classification of the soils of the district are also discussed.

West Garo Hills district is spread over an area of 367700 ha. The district is covered by 15 SOI topographical sheets on the scale of 1:50,000 which have been used as base maps. Each soil mapping unit is marked with symbols like GGi4c1 indicating granite-gneisses landscape. Hill top / Ridge with 3-10% slope, forest land use and soils series association which has dominance of Upper Damalgiri series (UD) in association with Atmal Damalgiri (AD) and Degranggui (DR) series. Association of soil series is in general restricted to the maximum of three soil series.

*For the use of soil resource report, first it is to locate the area of interest on the map and note down the soil mapping units. Permanent features such as road, stream, Lakes and village/ habitation etc. shown on the map help to locate the area of interest on the map. For the detailed information on soil mapping unit in respect of soil series of the area of interest, its extent, present and proposed land uses, reference may be made to **Chapter-4, 6 and Appendix – 1.***

The symbol used in soil mapping represents the five level of mapping i.e. GGi4c1 may be referred to as :

GG represents Granite gneisses Landscape

i represents Hill top / Ridge

4 represents 3-10% Slope Class

c represents Forest Land Use Class

1 represents Association of Soil Series along with the descriptions of soils, soil erosion and their management.

For any further details and suggestion, correspondence or personal contact maybe made to:

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