

REPORT ON DETAILED SOIL SURVEY AND LAND USE OF Ha5j, Ha5k, Ha5n, Ha5p, Ha5r, Ha5s, Ha5u AND Ha5v SUB WATERSHEDS OF HIRAKUD (R.V.P) CATCHMENT, DEOGARH, SAMBALPUR AND SUNDARGARH DISTRICTS OF ORISSA STATE.

ABSTRACT

1. Survey area : Priority sub watersheds Ha5j, Ha5k, Ha5n, Ha5p, Ha5r, Ha5s, Ha5u and Ha5v of HiraKud (R.V.P.) catchment.
2. Type of Survey : Detailed Soil Survey.
3. Total surveyed area : 22490 ha.
4. Period of Survey : November, 1998 to May, 2000.
5. Agro climatic zone : VII Eastern Plateau and Hill Region or 1. North-West plateau region.

6. Soil Series and Their Distribution

| Sl. No. | Soil series | No. of mapping units | Sub watershed wise area (ha.) | | | | | | | | Total % |
|---------------|-----------------|----------------------|-------------------------------|-------------|--------------|--------------|--------------|-------------|--------------|--------------|---------------|
| | | | Ha5j | Ha5k | Ha5n | Ha5p | Ha5r | Ha5s | Ha5u | Ha5v | |
| 1 | Amgaon (AG) | 2 | 24 0.1 | 85 0.4 | 55 0.2 | 104 0.5 | 100 0.4 | 1 | 191 0.8 | 10 0.1 | 570 2.5 |
| 2 | Bargaria (BA) | 4 | - | 184 0.9 | 72 0.3 | 23 0.1 | 94 0.4 | - | 682 3.0 | - | 1055 4.7 |
| 3 | Bendukani (BK) | 2 | 22 0.1 | 59 0.3 | 411 1.8 | 291 1.3 | 109 0.5 | 331 1.5 | 69 0.3 | 588 2.6 | 1880 8.4 |
| 4 | Edla (ED) | 6 | 500 2.2 | 619 2.7 | 306 1.4 | 782 3.5 | 441 2.0 | 96 0.4 | 630 2.8 | 30 0.1 | 3404 15.1 |
| 5 | Parkala (PK) | 4 | - | - | 48 0.2 | 45 0.2 | 92 0.4 | 43 0.2 | 84 0.4 | 179 0.8 | 491 2.2 |
| 6 | Pravasuni (PV) | 5 | 198 0.9 | 7 | 86 0.4 | 307 1.3 | 126 0.6 | 89 0.4 | 358 1.6 | 73 0.3 | 1244 5.5 |
| 7 | Sarabmunda (SM) | 2 | 2906 12.9 | 1085 4.8 | 2903 13.0 | 1279 5.7 | 2334 9.9 | 621 2.8 | 919 4.1 | 1466 6.5 | 13413 59.7 |
| Total | | 25 | 3650 16.2 | 2039 9.1 | 3881 17.3 | 2831 12.6 | 3196 14.2 | 1181 5.3 | 2933 13.0 | 2346 10.4 | 22057 98.1 |
| Miscellaneous | | | 50 0.2 | 61 0.2 | 29 0.1 | 69 0.3 | 39 0.2 | 38 0.1 | 141 0.7 | 6 0.1 | 433 1.9 |
| Grand Total | | | 3700 16.4 | 2100 9.3 | 3910 17.4 | 2900 12.9 | 3235 14.4 | 1219 5.4 | 3074 13.7 | 2352 10.5 | 22400 100 |

7. Series Wise Distribution of Area under Different Land Capability Classes

| Sl. No. | Land Capability Class | Area in ha. & % | Soil Series |
|---------------|-----------------------|-----------------|--|
| 1. | II | 4142 (18.3) | Amgaon, Bargaria, Edla, Parkala and Pravasuni. |
| 2. | III | 2585 (11.5) | Bargaria, Edla, Parkala and Pravasuni. |
| 3. | IV | 37 (0.2) | Edla |
| 4. | VI | 1880 (8.4) | Bendukani |
| 5. | VII | 13413 (59.7) | Sarabmunda |
| Total | | 22057 (98.1) | |
| Miscellaneous | | 433 (1.9) | |
| Grand Total | | 22490 (100) | |

8. Specific Problems in the Survey Area

| Sl. No. | Particulars | Total area | Percentage |
|---------|--------------------------------------|------------|------------|
| 1. | Shallow soils | 15293 | 68 % |
| 2. | Moderate slope | 1419 | 6.3 % |
| 3. | Moderately steep to very steep slope | 13413 | 59.6 % |
| 4. | Severely eroded land | 15330 | 68.2 % |
| 5. | Severely stony and rocky land | 15293 | 68.0 % |

9. Sub-watershed wise Distribution of Area (ha) under Different Land Capability Classes.

| Sl. No. | Land Capability Classes | Sub-watersheds | | | | | | | | Total Area (ha.) | % |
|---------------|-------------------------|----------------|------|------|------|------|------|------|------|------------------|------|
| | | Ha5j | Ha5k | Ha5n | Ha5p | Ha5r | Ha5s | Ha5u | Ha5v | | |
| 1. | II | 517 | 615 | 353 | 756 | 561 | 75 | 1182 | 83 | 4142 | 18.3 |
| 2. | III | 201 | 266 | 214 | 505 | 295 | 154 | 741 | 203 | 2585 | 11.5 |
| 3. | IV | - | 14 | - | - | 1 | - | 22 | - | 37 | 0.2 |
| 4. | VI | 26 | 59 | 411 | 291 | 105 | 381 | 69 | 588 | 1880 | 8.4 |
| 5. | VII | 2906 | 1085 | 2903 | 1279 | 2234 | 621 | 919 | 1466 | 13413 | 59.7 |
| Total | | 3650 | 2039 | 3881 | 2831 | 3196 | 1181 | 2933 | 2346 | 22057 | 98.1 |
| Miscellaneous | | 50 | 61 | 29 | 69 | 39 | 38 | 141 | 6 | 433 | 1.9 |
| Grand Total | | 3700 | 2100 | 3910 | 2900 | 3255 | 1219 | 3074 | 2352 | 22490 | 100 |

10. Salient Features of the Survey Area

| Sl.No. | Particulars | Area (ha.) | % |
|--------|--|------------|------|
| 1. | Total area surveyed | 22490 | 100 |
| 2. | Miscellaneous area | 433 | 1.9 |
| 3. | Area under cultivation | 6764 | 30.1 |
| 4. | Area suitable for cultivation | 6764 | 30.1 |
| 5. | Area suitable for pasture development and afforestation | 3499 | 15.6 |
| 6. | Area under reserve forest | 15293 | 68.0 |
| 7. | Good cultivable land | 4142 | 18.3 |
| 8. | Moderately good cultivable land | 2585 | 11.5 |
| 9. | Fairly good cultivable land | 37 | 0.2 |
| 10. | Area under irrigation | - | - |
| 11. | Area under kharif crop | 2869 | 12.0 |
| 12. | Area under rabi crops | 4950 | 22.0 |
| 13. | Area under shallow soils | 15293 | 68.0 |
| 14. | Area under deep soils | 491 | 2.2 |
| 15. | Area under very deep soils | 6273 | 27.8 |
| 16. | Area under moderate slope | 1419 | 6.3 |
| 17. | Area under strong slopes | 13413 | 59.7 |
| 18. | Area under steep slopes | 1527 | 6.8 |
| 19. | Area under very steep slopes | 11831 | 52.6 |
| 20. | Area under moderate erosion | 4540 | 20.2 |
| 21. | Area under severe erosion | 15330 | 68.2 |
| 22. | Area under unfavourable soil texture (very light or heavy) | 4967 | 22.1 |
| 23. | Severely stony and rocky area | 15293 | 68.0 |
| 24. | Terraced and bunded land | 1903 | 8.4 |