

ABSTRACT/ सारांश

1. सर्वेक्षित क्षेत्र
Survey Area : सुदूर संवेदन तकनीकी का उपयोग करके पोचमपाड जलग्रहण क्षेत्र (जायकवाड़ी नदी घाटी परियोजना) के सूक्ष्म जलग्रहण क्षेत्र “4E4D1f1, 4E4D1f2 & 4E4D1f4, 4E4D1h1 to h6, 4E4D3a2 to a4, 4E4D3f1 to f7, 4E4D3g1 to g9” तालुका- वैजापुर, जिला- औरंगाबाद तथा तालुका- कोपरगाव और श्रीरामपुर जिला- अहमदनगर, महाराष्ट्र
Detailed Soil Survey and Land Use Plan of “4E4D1f1, 4E4D1f2 & 4E4D1f4, 4E4D1h1 to h6, 4E4D3a2 to a4, 4E4D3f1 to f7, 4E4D3g1 to g9” micro-watersheds of Pochampad Catchments (jayakwadi RVP), Taluka- Vaijapur Dist.- Aurangabad & Taluka- Kopergaon and Srirampur dist.- Ahmadnagar, Maharashtra using Remote Sensing
2. कुल मानचित्रित तथा रिपोर्ट किया गया क्षेत्रफल
Total Area Mapped and Reported : २६५८२ हेक्टेयर
26,582 ha
3. उपयोग किये आधार नक्शे
Base map used : 1. उच्च संकल्प उपग्रह छवि (मापक १:१००००)
रिसोर्सट -2 (एलआईएसएस – चार)
High resolution satellite image
on 1: 10,000 Scale Resourcesat-2 (LISS-IV)
2. टोपोशीट (मापक १:५०,०००)
Toposheet on 1: 50,000 Scale
4. भौगोलिक स्थिति
Geographical Location : 19° 45' - 19° 59' N Latitude उत्तर अक्षांश
74° 36' - 74° 48' E Longitude पूर्व देशांतर
5. सर्वेक्षण का प्रकार
Kind of Survey : विस्तृत मृदा सर्वेक्षण Detailed Soil Survey
6. सर्वेक्षण की अवधि
Period of Survey : अप्रैल, २०१६ से जून २०१७
April 2016 to June 2016
7. कृषि जलवायु क्षेत्र
Agro climatic Zone : पश्चिमी पठार एवं पर्वत श्रेणी (ज़ोन- IX)
Western plateau and hill region (IX)

8. Micro-watersheds wise distribution of area(inha)under different soil series विभिन्न सूक्ष्म-जलग्रहण क्षेत्र एवं मृदा श्रेणी के अंतर्गत क्षेत्रफल:

Series Name	Area	4E4D1f1	4E4D1f2	4E4D1f4	4E4D1h1	4E4D1h2	4E4D1h3	4E4D1h4	4E4D1h5	4E4D1h6	4E4D3a2	4E4D3a3	4E4D3a4	4E4D3f1	4E4D3f2	4E4D3f3	4E4D3f4	4E4D3f5	4E4D3f6	4E4D3f7
Apegaon	1979	130	11	94	-	-	-	19	98	15	8	21	59	151	107	111	138	-	79	297
Balanagar	2889	-	472	120	222	718	26	72	1	57	-	-	-	94	-	-	341	30	318	25
Chincholi	1408	270	6	12	-	-	-	28	3	73	7	-	-	144	75	232	35	30	23	-
Devthan	437	-	-	4	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-
Hingangaon	3020	-	198	387	100	363	325	331	9	12	-	48	37	94	-	-	83	61	151	74
Jambhali	1406	15	13	6	8	28	21	105	26	-	157	42	15	-	43	68	30	-	74	50
Lakhegaon	1091	15	2	40	-	1	60	1	137	-	206	11	36	-	-	-	12	-	93	-
Mahalgaon	2211	210	15	20	-	-	36	-	217	67	102	54	157	49	39	109	20	50	246	18
Nilisgaon	256	-	75	-	-	16	92	25	-	-	-	-	44	-	-	-	-	-	4	-
Upla	515	-	-	20	-	1	-	-	-	-	-	18	-	31	-	-	21	-	-	-
Wava	9968	523	86	255	243	20	206	274	457	553	236	609	382	84	505	583	205	374	416	629
Misc	1402	11	81	29	3	18	199	69	35	-	-	131	6	15	-	26	38	29	27	51
Total	26582	1174	959	987	576	1165	989	924	983	777	716	934	736	662	769	1129	923	574	1431	1144
%	100	4.42	3.61	3.71	2.17	4.38	3.72	3.48	3.70	2.92	2.69	3.51	2.77	2.49	2.89	4.25	3.47	2.16	5.38	4.30

Series Name	4E4D3g1	4E4D3g2	4E4D3g3	4E4D3g4	4E4D3g5	4E4D3g6	4E4D3g7	4E4D3g8	4E4D3g9
Apegaon	86	-	138	184	20	-	-	-	213
Balanagar	-	-	-	-	-	-	270	118	5
Chincholi	49	-	68	10	-	-	-	-	343
Devthan	42	44	11	312	-	-	-	-	-
Hingangaon	-	209	-	-	-	-	157	369	12
Jambhali	-	226	13	-	26	3	165	104	168
Lakhegaon	66	4	12	-	33	219	126	-	17
Mahalgaon	44	-	597	37	46	35	2	-	41
Nilisgaon	-	-	-	-	-	-	-	-	-
Upla	-	283	-	117	24	-	-	-	-
Wava	262	78	667	737	716	497	30	234	107
Misc	-	79	104	-	115	266	70	-	-
Total	549	923	1610	1397	980	1020	820	825	906
%	2.07	3.47	6.06	5.26	3.69	3.84	3.08	3.10	3.41

9. Micro-watersheds wise Distribution of Area under various Land Capability units (LCU) विभिन्न भूमि क्षमता ईकाई एवं सूक्ष्म-जलग्रहण क्षेत्र के अंतर्गत क्षेत्रफल:-

Land Capability Unit	Area	%	4E4D1f1	4E4D1f2	4E4D1f4	4E4D1h1	4E4D1h2	4E4D1h3	4E4D1h4	4E4D1h5	4E4D1h6	4E4D3a2	4E4D3a3	4E4D3a4	4E4D3f1	4E4D3f2	4E4D3f3	4E4D3f4	4E4D3f5	4E4D3f6	4E4D3f7
Iles-1	4445	16.72	30	141	145	86	231	406	394	172	12	282	89	88	72	43	-	130	36	275	108
IIles-1	2930	11.02	-	303	275	133	331	25	105	1	54	81	15	-	60	-	68	200	54	361	41
IIIes-2	7433	27.96	383	42	223	243	20	175	123	178	321	140	428	301	235	342	335	229	213	268	655
IIles-3	4842	18.22	270	55	130	-	-	55	170	377	247	104	202	140	-	270	359	113	161	210	271
IVes-1	1546	5.82	-	241	153	111	549	1	10	-	3	-	15	-	87	-	-	157	1	-	-
IVes-2	190	0.71	100	-	-	-	-	-	10	-	-	-	7	-	-	41	-	-	-	32	-
IVes-3	3638	13.69	380	65	32	-	-	128	43	220	140	109	47	201	193	73	341	55	80	241	18
IVes-4	109	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	17	-
Vles-1	47	0.18	-	31	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc	1402	5.27	11	81	29	3	18	199	69	35	-	-	131	6	15	-	26	38	29	27	51
Total	26582		1174	959	987	576	1165	989	924	983	777	716	934	736	662	769	1129	923	574	1431	1144
%	100	100.00	4.42	3.61	3.71	2.17	4.38	3.72	3.48	3.70	2.92	2.69	3.51	2.77	2.49	2.89	4.25	3.47	2.16	5.38	4.30

Land Capability Unit	4E4D3g1	4E4D3g2	4E4D3g3	4E4D3g4	4E4D3g5	4E4D3g6	4E4D3g7	4E4D3g8	4E4D3g9
Iles-1	66	513	25	117	34	196	352	215	187
IIles-1	-	25	-	-	49	26	332	376	15
IIIes-2	323	78	295	637	519	354	30	234	109
IIles-3	25	-	521	596	217	138	-	-	211
IVes-1	-	184	-	-	-	-	34	-	-
IVes-2	-	-	-	-	-	-	-	-	-
IVes-3	93	-	665	47	46	35	2	-	384
IVes-4	42	44	-	-	-	5	-	-	-
Vles-1	-	-	-	-	-	-	-	-	-
Misc	-	79	104	-	115	266	70	-	-
Total	549	923	1610	1397	980	1020	820	825	906
%	2.07	3.47	6.06	5.26	3.69	3.84	3.08	3.10	3.41

10. Micro-watersheds wise Distribution of Area under various Erosion Classes विभिन्न भू-क्षरण वर्गों एवं सूक्ष्म-जल ग्रहण क्षेत्रों के अंतर्गत क्षेत्रफल:

Erosion Class	Total Area	%	4E4D1f1	4E4D1f2	4E4D1f4	4E4D1h1	4E4D1h2	4E4D1h3	4E4D1h4	4E4D1h5	4E4D1h6	4E4D3a2	4E4D3a3	4E4D3a4	4E4D3f1	4E4D3f2	4E4D3f3	4E4D3f4	4E4D3f5	4E4D3f6	4E4D3f7
Moderate erosion (e2)	23478	88.3	1163	606	805	462	582	789	845	948	774	716	788	730	560	769	1103	727	544	1387	1093
Severe erosion (e3)	1702	6.4		272	153	111	565	1	10		3	-	15		87	-	-	158	1	17	-
Misc	1402	5.3	11	81	29	3	18	199	69	35	-	-	131	6	15	-	26	38	29	27	51
Total area	26582	100	1174	959	987	576	1165	989	924	983	777	716	934	736	662	769	1129	923	574	1431	1144
%	100		4.42	3.61	3.71	2.17	4.38	3.72	3.48	3.70	2.92	2.69	3.51	2.77	2.49	2.89	4.25	3.47	2.16	5.38	4.30



Erosion Class	4E4D3g1	4E4D3g2	4E4D3g3	4E4D3g4	4E4D3g5	4E4D3g6	4E4D3g7	4E4D3g8	4E4D3g9
Moderate erosion (e2)	507	616	1506	1397	865	749	716	825	906
Severe erosion (e3)	42	228	-	-	-	5	34	-	-
Misc	-	79	104	-	115	266	70	-	-
Total area	549	923	1610	1397	980	1020	820	825	906
%	2.07	3.47	6.06	5.26	3.69	3.84	3.08	3.10	3.41

11. Series wise Distribution of Area under various Land Capability Classes

विभिन्न भूमि क्षमता वर्गों के अंतर्गत आने वाले क्षेत्र की मृदा श्रेणी के अंतर्गत वितरण:

LCU	Total Area	%	Apegaon	Balanagar	Chincholi	Devthan	Hingangaon	Jambhali	Lakhegaon	Mahalgaon	Nilisgaon	Upla	Wava
IIes-1	4445	16.72	-	-	-	-	1687	1298	945	-	-	515	-
IIIes-1	2930	11.02	-	1745	-	-	931	108	146	-	-	-	-
IIIes-2	7433	27.96	1143	-	-	-	-	-	-	-	-	-	6290
IIIes-3	4842	18.22	836	-	-	351	-	-	-	-	-	-	3655
IVes-1	1546	5.82	-	1144	-	-	402	-	-	-	-	-	-
IVes-2	190	0.71	-	-	151	-	-	-	-	39	-	-	-
IVes-3	3638	13.69	-	-	1257	-	-	-	-	2172	209	-	-
IVes-4	109	0.41	-	-	-	86	-	-	-	-	-	-	23
Vles-1	47	0.18	-	-	-	-	-	-	-	-	47	-	-
Misc	1402	5.27	-	-	-	-	-	-	-	-	-	-	-
Total	26582	-	1979	2889	1408	437	3020	1406	1091	2211	256	515	9968
%		100	7.44	10.87	5.30	1.64	11.36	5.29	4.10	8.32	0.96	1.94	37.50

12. Salient features मुख्य विशेषताएं:

- ❖ कुल सर्वेक्षित क्षेत्र (२६५८२ हे.) का 46.6% (१२३८४ हेक्टेयर) माध्यम गहरी भूमि १४.५%(३,८७५ हे.) उथली भूमि एवं ५.२%(१०४६ हेक्टेयर) गहरी भूमि, और ७५१५ हे. (२८.२ %) गहरी भूमि हैं ।

Out of the total surveyed area of 26,582 ha about 46.6% (12,384 ha) land is under moderately deep soils. About 14.5% (3,875 ha) area comes under shallow soils followed by 5.2 % (1,406 ha) area under deep soils and 7515 ha (28.2%) area under very deep soils.

- ❖ कुल सर्वेक्षण में ४९.३२% (१३,११२ हेक्टेयर) कम ढलान, और ४५.३९% (१२०६८ हेक्टेयर) बहुत कम ढलान की भूमि है।

About 49.32% (13112 ha) area has gentle slope, while 45.39% (12,068ha) of the total surveyed area occurs on very gentle slope.

- ❖ कुल क्षेत्रफल का लगभग ८८.३२% (२३४७८ हेक्टेयर) मध्यम कटाव भू-क्षरण से प्रभावित है। जिसमें मिट्टी के स्वास्थ्य और अवनति रोकने के लिए निगरानी की जरूरत है।

About 88.32% (23478 ha) of total area suffers moderate erosion hazards. Which needs to be monitored for soil health and degradation.

- ❖ कुल क्षेत्रफल का लगभग ६.४% (१७०२ हेक्टेयर) तीव्र गली भू-क्षरण से प्रभावित है। जिसमें मिट्टी के स्वास्थ्य और अवनति रोकने पर मृदा और जल संरक्षण के उपायों के लिए तत्काल ध्यान देने की जरूरत है।

About 6.4% (1702 ha) area suffer from severe gully erosion hazards. Which needs immediate attention for proper soil and water conservation measures as per the landform characteristics.

- ❖ भूमि क्षमता वर्ग-II के अंतर्गत १६.७२% (४,४४५ हेक्टेयर) भूमि, गहन फसल के लिए और कृषि-बागवानी फसल प्रणाली के लिए उपयुक्त है। उसी प्रकार भूमि क्षमता वर्ग-III के अंतर्गत ५७.२०% (१५,२०५ हेक्टेयर) भूमि, कृषि, कृषि-बागवानी संवर्धन फसल प्रणाली और पशुपालन आधारित फसल प्रणाली के लिए काफी उपयुक्त है।

About 16.72 % (4445 ha) are under Land capability class II-suitable for intensive cropping and for adoptions of Agri-horticulture cropping system. Similarly about 57.20 % (15,205 ha) ha land under land capability class III-is fairly suitable for agriculture, Agri-Horti-Silvi culture cropping system and animal husbandry based cropping system.

HOW TO USE SOIL SURVEY REPORT

The present report furnishes a detailed account of various characteristics of the surveyed area, like physiography, relief, geology, climate, natural vegetation, land use and soils. Description of the soil series recognized in the area, like detailed information on soil characteristics, classification, potentialities and limitations are given in the report. Interpretations of different soil mapping units for various applied aspects of agricultural development such as land use plans, soil and water management, soil conservation plans, identification of areas for afforestation, engineering applications, and eco-restoration and waste-land management have been given in different chapters. Different problems of the area have also been depicted and their corrective measures are thereby suggested. Soil survey interpretations for land capability class, soil and land irrigability class, hydrological grouping and paddy grouping are described in chapter 7.

In order to use the report, the user will locate the area of his interest on the soil map appended with the report. Permanent features like roads, village sites, streams and ponds etc. would help for location of specific area. On the map each soil unit has been delineated and represented by symbolic expression dealing with all technical description. The abbreviated symbol of mapping unit shows information about the name of soil series, soil depth, soil texture, land slope gradient, erosion condition and land surface features like gravelliness, stoniness or rockiness. It refers to a particular type of soil like an example L5rB2 that represents L- Lakhegaon series, 5- Very Deep , r- clay texture of surface, B- very gently sloping (1-3%)', 2- moderate erosion, Details of the soil mapping unit with description, extent in each micro-watershed and their multipurpose interpretations (like land capability units, soil and land irrigability classes, paddy soil grouping, hydrological grouping etc) have been shown in appendix I (Guide to soil mapping units).

The differentiating morphological characteristics of soil series are furnished in table 5 and the typifying pedon of soil series are described in Appendix II where detailed description of soils and morphological description of representative soil profiles along with their analytical data are given. Village wise mapping units, their area extent, and present land use and management status, physiography, predominant slope, land use and land capability classification etc. are given in Appendix III.

For any clarification and comments, correspondence may be made to

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