

## सारांश/ABSTRACT

1. **Survey Area** : 4F2D and 4F2E Sub-Catchment of 4F2  
*सर्वेक्षित क्षेत्र* Catchment, Gajapati, Ganjam, Kandhamal, Khordha and Nayagarh Districts of Odisha State  
4F2 कैचमेंटके 4F2D और 4F2E उप-कैचमेंटमें ओड़िशाराज्य के गजपति, गंजम, कंधमाल, खोरधा और नयागढ़ जिले
2. **Total Area Mapped and Reported** : 7,92,369 ha  
*मैपकियागया क्षेत्रफल* : ७,९२,३६९ हेक्टर
3. **Geographical Location** : 19° 07' - 20° 20' N Latitude *उत्तर अक्षांश*  
*भौगोलिक स्थिति* 84° 01' - 85° 08' E Longitude *पूर्वदेशांतर*
4. **Kind of Survey** : Priority Delineation Survey  
*सर्वेक्षण का प्रकार* प्राथमिकता निर्धारण सर्वेक्षण
5. **Base Material** : Satellite Imagery of IRS-1D and  
*आधारभूत मानचित्र* Survey of India Topographical Maps on 1: 50,000 Scale  
IRS-1D उपग्रह से प्राप्त छवि और SOI के नक्शे
6. **Period of Survey** : November'2011 to January' 2012  
*सर्वेक्षण की अवधि* नवम्बर, २०११ से जनवरी, २०१२
7. **Agro-climatic Region** : East coast plains & hills region (Zone no. XI)  
*आद्रता जलवायु क्षेत्र* and Eastern plateau and hills region (Zone No. VII)  
पूर्वी तटके मैदानों & हिल्स क्षेत्र (ज़ोन XI) और पूर्वी पठार और हिल्स क्षेत्र (ज़ोन VIII)

**8. District wise distribution of area (ha.) under different Runoff Potential Mapping Units (RPMU)**

विभिन्न 'रन ऑफ संभावित मानचित्रण इकाइयों' के तहत क्षेत्र ( हेक्टेयर) का जिला वार वितरण

Sr. No.	RPMU	RP Value	Districts					Total Area (ha)	% Area
			Gajapati	Ganjam	Kandhamal	Khordha	Nayagarh		
1	AL01	58	-	225642	-	-	-	225642	28.48
2	AL02	59	21	27145	-	-	-	27166	3.43
3	GG01	72	560	94154	28680	1482	9613	134489	16.97
4	GG02	79	371	4222	2309	-	133	7035	0.89
5	GG03	89	-	7640	749	-	349	8738	1.10
6	GG04	78	2	3856	-	-	-	3858	0.49
7	GG05	64	1123	448	294	-	-	1865	0.24
8	GG06	73	108	10456	1055	12	1705	13336	1.68
9	GG07	64	181	13638	24718	-	-	38537	4.86
10	GG08	70	481	513	489	-	-	1483	0.19
11	GG09	61	33658	77387	5043	-	550	116638	14.72
12	GG10	57	-	90	7	-	-	97	0.01
13	GG11	70	67	102	395	-	-	564	0.07
14	GG12	69	160	4756	340	-	-	5256	0.66
15	GG13	56	1076	59164	1858	778	4094	66970	8.45
16	GG14	59	-	338	634	-	-	972	0.12
17	GG15	63	161	5192	3375	-	-	8728	1.10
18	GG16	60	2077	19066	7346	3	4877	33369	4.21
19	GG17	59	67	2547	83	-	-	2697	0.34
20	GG18	57	410	47842	630	-	2500	51382	6.48
21	GG19	56	19	16602	1008	-	42	17671	2.23
22	GG20	58	-	2837	40	-	-	2877	0.36
23	GG21	66	43	9571	3757	-	1266	14637	1.85
24	GG22	69	-	2477	-	-	-	2477	0.31
25	GG23	80	-	1297	-	-	-	1297	0.16
26	Hab	0	-	795	-	-	-	795	0.10
27	ROC	0	-	57	-	-	-	57	0.01
28	Tank	0	-	3714	-	-	22	3736	0.47
	<b>Total</b>	<b>-</b>	<b>40585</b>	<b>641548</b>	<b>82810</b>	<b>2275</b>	<b>25151</b>	<b>7,92,369</b>	<b>100</b>

## 9. District wise Priority categorisation जिला वार प्राथमिकता वर्गीकरण

Priority Category		Area under districts					Total Area (ha)	% Area
		Gajapati	Ganjam	Kandhamal	Khordha	Nayagarh		
Very High (above 70)	Area(ha)	0	18871	9280	0	2051	30202	3.81
High (66-70)	Area(ha)	0	65440	33990	1638	13577	114645	14.47
Medium (61-65)	Area(ha)	37201	277397	38969	135	2298	356000	44.93
Low (56-60)	Area(ha)	3384	279840	571	502	7225	291522	36.79
<b>Total</b>	Area(ha)	<b>40585</b>	<b>641548</b>	<b>82810</b>	<b>2275</b>	<b>25151</b>	<b>792369</b>	<b>100</b>

## 10. Salient Features मुख्यविशेषताएं:-

- Out of total 620 microwatersheds surveyed, 24 microwatersheds covering an area 30202 ha (3.81%) comes under very high priority category.

कुल सर्वेक्षित 620 सूक्ष्मजलग्रहणक्षेत्रों में से 24 सूक्ष्मजलग्रहणक्षेत्र बहुत उच्च प्राथमिकता श्रेणी के अंतर्गत आते हैं। जिनका क्षेत्रफल 30,202 (3.81%) हेक्टेयर है।

- About 95 microwatersheds with spatial extent of 1, 14,645ha (14.47%) falls under high priority.

95 सूक्ष्मजलग्रहणक्षेत्र जिसका क्षेत्रफल 1,14,645 हेक्टेयर (14.47%) है, उच्च प्राथमिकता श्रेणी के अंतर्गत आता है।

- About 12,512ha (1.58 %) area suffers from severe water erosion and 46,169ha (5.83%) area from moderate to severe water erosion. Maximum area 3, 35,430 ha (42.33%) comes under Moderate erosion.

लगभग 12,512 हेक्टेयर (1.58%) क्षेत्र गंभीर पानी के कटाव और 46,169 हेक्टेयर (5.83%) क्षेत्र मध्यम से गंभीर पानी के कटाव से ग्रस्त है। अधिकतम क्षेत्र 3,35,430 हेक्टेयर (42.33%) मध्यम कटाव के अंतर्गत आता है।

अधिकतम क्षेत्र 3,35,430 हेक्टेयर (42.33%) मध्यम कटाव के अंतर्गत आता है।

- Land with Steep to very steep slopes occupies maximum extent of 1,50,262ha (18.96%) whereas, moderately steep to steep sloping land covers about 3858 ha (0.49%) and a strong to steep slope covers about 16,498ha (2.08%). Second maximum area comes under Very gentle to Gentle slope which is 1,94,161ha (24.5%).

लगभग १,५०,२६२ हेक्टेयर (१८.९६%) क्षेत्र खड़ी ढलान से बहुत खड़ी ढलान भूमी, तथा ३,८५८ हेक्टेयर (०.४९%) क्षेत्र कम से मध्यम ढलान के अंतर्गत आता है। अधिकतम क्षेत्र १,९४,१६१ हेक्टेयर (२४.५%) बहुत समतल से कम ढलान के अंतर्गत आता है।

- Shallow to moderately deep soils covers most of the area 3,31,789 ha (41.87%) followed by deep to very deep soils (19.99%), While very deep soils cover about (36.3)% of the area.

लगभग ३,३१,७८९ हे. (४१.८७%) क्षेत्र उथली से मध्यम गहरी मिट्टी तथा (१९.९९%) क्षेत्र गहरी मिट्टी से बहुत गहरी मिट्टी एवं बाकी ३६.३% गहरी मिट्टी अंतर्गत आता है।

- About 25.51% of the total area is poorly to moderately managed which is followed by well managed area (37.19%), and moderately managed area is (19.64%).

कुल क्षेत्र का लगभग २५.५१% खराब से मध्यम प्रबंधित क्षेत्र है, ३७.१९% अच्छी तरह से प्रबंधित क्षेत्र है और शेष १९.६४% मध्यम तरह से प्रबंधित क्षेत्र है।

## HOW TO USE THE REPORT

The report on the Rapid Reconnaissance Survey aims to identify the priority micro-watersheds in the catchment areas and furnishes information such as location and extent, physiography, relief, drainage, geology, climate, land use agriculture vegetation and soils.

This report embodies the result of priority delineation survey of pertaining to an area of 7, 92,369 ha for identification and delineation of priority micro-watershed in the 4F2D and 4F2E Sub-Catchment of 4F2 Catchment of Gajapati, Ganjam, Kandhamal, Khordha and Nayagarh Districts of Odisha State. The report explores the valuable information about catchment characteristic as well as soil characteristic of the watersheds. The main outcome of this survey is the priority grading of micro-watershed delineated in Odisha state, on the basis of runoff potential index. Higher values of runoff potential index suggest higher priority and vice-versa. Maps showing (soft copy), the demarcation of priority micro-watershed in 4F2D and 4F2E Sub-Catchment in the scale of 1:50000 are appended with the report.

In the maps each micro-watersheds is marked by a symbol like “4F2D1a” which denote abbreviation of micro-watershed code. First numeral ‘4’ indicate water resources region, ‘F’ indicates Basin, ‘2’ for catchment, ‘D’ for sub catchment, ‘1’ for watershed ‘a’ for sub watershed and for micro-watershed 1-9 numbers are used. The Run-off Potential Mapping Unit (RPMU) is symbolised by capital English alphabets based on geological origin of the level e.g. ‘GG’ stands for granite gneiss and ‘AL’ denotes alluvium etc. and their further subdivision are made on the basis of land and soil characteristic. The mapping units are defined on the basis of

landscape, physiography, slope, land use, soil characteristics, surface features, erosion hazards and existing managements practice. Mapping units are assigned with runoff potential weightage values and different micro-watersheds have been categorized as very high, high, medium and low priority areas according to RPI value.

The mapping legend is furnished in table 5 and differentiating characteristics of each mapping units are represented in table 6. The details of computation of runoff potential index are given in annexure-I which lists the micro-watersheds in a systematic order of codification. The priority and grading of micro-watersheds are given in annexure II and corresponding state and district-wise information of priority micro-watershed can be used for soil and water conservation programme.

For any clarification and comments following officers may be contacted.

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