

# Report on Prioritisation of Micro-watersheds in 3A3 Sub-catchment of Kameng Catchment (3A3A1 watersheds) of Brahmaputra Basin (FPR), East and West Kameng districts, Arunachal Pradesh and Sonitpur district, Assam

## Abstract

1. Survey area : 3A3A Sub - catchment of Kameng catchment of Brahmaputra basin in districts East and West Kameng of Arunachal Pradesh & Sonitpur district of Assam
2. Total area Surveyed and mapped : 3,12,882 ha
3. Geographical Location : 26<sup>o</sup> 35' to 27<sup>o</sup> 30' N Latitude  
92<sup>o</sup> 25' to 93<sup>o</sup> 20' E Longitude
4. Kind of Survey : Rapid Reconnaissance Survey for priority delineation
5. Base material used : Topographical maps of Survey of India in the scale of 1: 50,000
6. Period of Survey : December, 2004 to February, 2005
7. Agroclimatic Region : Eastern Himalayan Region (II) as per Planning Commission (1989)

## 8. Area under different Runoff Potential Mapping Units

Sl.No.	RPMU	Runoff Potential	Area in ha.	Area(%)
1	A01	61	339	0.11
2	A02	56	9898	3.16
3	A04	53	1019	0.33
4	A05	53	8053	2.57
5	A06	57	13011	4.16
6	A07	60	2677	0.86
7	A08	60	9166	2.93
8	A09	57	18560	5.93
9	A10	54	14999	4.79
10	A11	52	3158	1.01
11	A12	60	2585	0.83
12	AC01	64	1579	0.50
13	AC02	62	1733	0.55
14	AC03	71	266	0.09
15	AC04	59	416	0.13
16	C01	68	9939	3.18
17	C02	70	80	0.03
18	C05	88	6001	1.92
19	C07	82	132489	42.34
20	C08	85	306	0.10
21	C09	96	6122	1.96
22	C10	81	238	0.08
23	C12	78	48417	15.47
24	C13	77	362	0.12
25	C14	86	2398	0.77
26	C16	69	8451	2.70
27	C18	70	215	0.07
28	Air Port		276	0.09
29	RI(River)		9311	2.98
30	W(Water body)		818	0.26
<b>Grand Total</b>			<b>312882</b>	<b>100.00</b>

## 9. Watershedwise distribution of area under different Runoff Potential Mapping Units

Sl. No.	RPMU	Name of the Watersheds						Total Area (ha.)	Area (%)
		3A3A1	3A3A2	3A3A3	3A3A4	3A3A5	3A3A6		
1	A01	140		45		154		339	0.11
2	A02	5621	3921	170		186		9898	3.16
3	A04	122		166	673	58		1019	0.33
4	A05	5541	1408	107		997		8053	2.57
5	A06	9775	2364	523		349		13011	4.16
6	A07	412	242	678	872	473		2677	0.86
7	A08	1918	84	1635		5529		9166	2.93
8	A09	199		4952	11425	1984		18560	5.93
9	A10	11887	1658	1169		285		14999	4.79
10	A11	2952	80			126		3158	1.01
11	A12	766	868	334	197	420		2585	0.83
12	AC01			235	1152	192		1579	0.50
13	AC02						1733	1733	0.55
14	AC03	120		92		54		266	0.09
15	AC04			416				416	0.13
16	C01	540		2370	4504	1664	861	9939	3.18
17	C02			12	20		48	80	0.03
18	C05					6001		6001	1.92
19	C07	305		32254	34003	26752	39175	132489	42.34
20	C08					306		306	0.10
21	C09			302	27	409	5384	6122	1.96
22	C10			154		84		238	0.08
23	C12	2016		18215	15003	5435	7748	48417	15.47
24	C13			362				362	0.12
25	C14			551		361	1486	2398	0.77
26	C16	881		844	5664	992	70	8451	2.70
27	C18			29	97	50	39	215	0.07
28	Air Port	276						276	0.09
29	RI(River)	1943	2047	1510	2531	1280		9311	2.98
30	W (Water body)	818						818	0.26
		<b>46232</b>	<b>12672</b>	<b>67125</b>	<b>76168</b>	<b>54141</b>	<b>56544</b>	<b>312882</b>	<b>100.00</b>

10. Statewise and Districtwise distribution of area under different Runoff Potential Mapping Units

Sl. No.	RPMU	Arunachal Pradesh			Assam	Grand Total	Area (%)
		East Kameng	West Kameng	Total	Sonitpur district		
		Area (ha)	Area (ha)	Area (ha)	Area (ha)	Area (ha)	
1	A01	45	-	45	294	339	0.11
2	A02	38	-	38	9860	9898	3.16
3	A04	152	-	152	867	1019	0.33
4	A05	-	-	-	8053	8053	2.57
5	A06	-	52	52	12959	13011	4.16
6	A07	40	-	40	2637	2677	0.86
7	A08	91	174	265	8901	9166	2.93
8	A09	608	8	616	17944	18560	5.93
9	A10	-	-	-	14999	14999	4.79
10	A11	-	-	-	3158	3158	1.01
11	A12	334	-	334	2251	2585	0.83
12	AC01	235	127	362	1217	1579	0.50
13	AC02	1733	-	1733	0	1733	0.55
14	AC03	92	54	146	120	266	0.09
15	AC04	416	-	416	0	416	0.13
16	C01	3235	1518	4753	5186	9939	3.18
17	C02	60	-	60	20	80	0.03
18	C05	-	6001	6001	0	6001	1.92
19	C07	71575	26737	98312	34177	132489	42.34
20	C08	-	306	306	0	306	0.10
21	C09	5686	397	6083	39	6122	1.96
22	C10	154	84	238	0	238	0.08
23	C12	26397	4140	30537	17880	48417	15.48
24	C13	362	-	362	0	362	0.12
25	C14	2037	346	2383	15	2398	0.77
26	C16	731	669	1400	7051	8451	2.70
27	C18	68	50	118	97	215	0.07
28	Air Port				276	276	0.09
29	RI(River)	448	227	675	8636	9311	2.98
30	W(Water body)				818	818	0.26
<b>Grand Total</b>		<b>114537</b>	<b>40890</b>	<b>155427</b>	<b>157455</b>	<b>312882</b>	<b>100.00</b>

## 11. Priority Categorization

Sl.No.	Priority Category	No.of Micro-w/s	Area(ha.)	Percentage
1	Very High (above 75)	244	192271	61.45
2	High (71 - 75)	24	16965	5.42
3	Medium (66 - 70)	15	10821	3.46
4	Low (61 - 65)	22	17336	5.54
5	Very Low (Below 65)	86	75489	24.13
	<b>Grand Total</b>	<b>391</b>	<b>312882</b>	<b>100.00</b>

## 12. Watershed wise distribution of area under different Priority Categories

Priority Category & Range	3A3A1		3A3A2		3A3A3		3A3A4		3A3A5		3A3A6		Grand Total
	No. of M/W	Area (ha)	No. of M/W	Area (ha)	No. of M/W	Area (ha)	No. of M/W	Area (ha)	No. of M/W	Area (ha)	No. of M/W	Area (ha)	
Very High (above 75)	-	-	-	-	60	53392	48	44033	54	39264	82	55582	192271
High (71 - 75)	1	780	-	-	2	1504	17	12838	3	1368	1	475	16965
Medium (66 - 70)	1	808	-	-	3	2466	7	4835	3	2225	1	487	10821
Low (61 - 65)	7	5276	-	-	2	809	9	7668	4	3583	-	-	17336
Very Low (Below 65)	45	39368	12	12672	11	8954	8	6794	10	7701	-	-	75489
<b>Grand Total</b>	<b>54</b>	<b>46232</b>	<b>12</b>	<b>12672</b>	<b>78</b>	<b>67125</b>	<b>89</b>	<b>76168</b>	<b>74</b>	<b>54141</b>	<b>84</b>	<b>56544</b>	<b>312882</b>

se distribution of area under different Priority Categories in different states

Arunachal Pradesh						Total Arunachal Pradesh			Assam (Sonitpur)			Grand Total	%
East Kameng			West Kameng			No. of M/W		Area (ha)	No of M/W		Area (ha)		
No. of M/W		Area (ha)	No. of M/W		Area (ha)	F	P		F	P			
F	P		F	P									
142	-	108974	54	-	39264	196	-	148238	48	-	44033	192271	61.45
3	1	2346	2	-	1010	5	1	3356	18	1	13609	16965	5.42
2	2	2225	-	1	568	2	3	2793	10	3	8028	10821	3.46
1	4	839	-	1	48	1	5	887	16	5	16449	17336	5.54
-	5	153	-	-	-	-	5	153	81	5	75336	75489	24.13
48	12	114537	56	2	40890	204	14	155427	173	14	157455	312882	100.00

#### 14. Salient features

- ❖ Total area of the Kameng Sub-catchment (3A3A) is 3,12,882 ha comprising 391 micro-watersheds.
- ❖ An area of 192271 ha (61.45%) is under very high priority and is distributed over 244 micro-watersheds.
- ❖ An area of 16965 ha (5.42%) is under high priority and is distributed over 24 micro-watersheds.
- ❖ 268 micro-watersheds are under very high & high priority, constituting 209236 ha (66.87%) which needs immediate attention for suitable soil and water conservation practices under integrated watershed development programme.
- ❖ 3A3A6 Watershed has much more very high priority area (55582 ha) followed by 3A3A3 watershed (53392 ha), 3A3A4 watershed (44033 ha) and 3A3A5 (39264 ha) watershed which need immediate attention to suitable Soil Water Conservation practices.
- ❖ East Kameng district has more priority area (35.6% of the total) followed by West Kameng (12.9% of the total) district of Arunachal Pradesh.
- ❖ Sonitpur district of Assam has 18.4% of the total comes under very high & high priority area.
- ❖ About 223872 ha (71.55%) area is under forest land.
- ❖ Very shallow to shallow and shallow to moderately deep soil spread over 1.99 per cent of the survey area.
- ❖ Steep to very steep and very steep slopes together cover nearly 57.34 per cent of the survey area.
- ❖ Severely eroded land occupies 9265 ha (2.96%), severe to very severely eroded land occupies 6122 ha (1.96%) and very severely eroded land occupies 215 ha (0.07%) which needs proper Soil-water conservation practices.
- ❖ 17354 ha (5.5%) area is without any kind of management practices where as 9166 ha (2.93%) area of the sub-catchment is poorly managed.