

Supplementary document

Appendix I A summary of reach characteristics used for the INCA-P model application.

Reach Boundary		Reach length (m)	Sub-catchment area (km ²)	Land use class percentages					
				Urban (%)	Forest (%)	Grassland (%)	Double/Trip le Crop (%)	Kharif Crop (%)	Rabi Crop (%)
1.	Banas	492744	53238	0.48	3.98	12.20	13.16	58.16	12.04
2.	Betwa	626999	43638	0.51	15.55	10.07	15.05	35.19	23.63
3.	Bagmati	327643	18857	0.54	3.02	1.95	24.59	41.78	28.14
4.	Chambal 01	452140	30824	0.89	7.00	11.50	33.12	22.63	24.86
5.	Chambal 02	67834	3236	0.00	13.55	19.23	16.66	33.56	17.02
6.	Chambal 03	32684	737	0.00	32.73	21.45	6.48	27.09	12.24
7.	Chambal 04	34517	642	0.00	5.96	46.97	1.88	27.95	17.24
8.	Chambal 05	372125	9476	0.00	30.55	31.93	3.77	24.53	9.22
9.	Damodar	531807	29503	0.96	10.50	11.49	19.91	55.62	1.52
10.	Gandak	275200	12418	0.44	2.72	2.60	23.42	41.13	29.70
11.	Ganga 01 (GA01)	184786	19355	0.01	42.25	51.25	3.93	2.56	0.00
12.	Ganga 02 (GA02)	198791	9573	0.81	33.82	15.82	27.76	20.80	0.99
13.	Ganga 03 (GA03)	206437	15198	0.75	1.01	2.68	70.07	15.50	10.00
14.	Ganga 04 (GA04)	161206	9765	0.36	0.28	8.42	41.14	14.74	35.07
15.	Ganga 05 (GA05)	108764	4781	0.23	0.04	11.48	24.15	13.82	50.29
16.	Ganga 06 (GA06)	156377	4025	3.05	0.30	13.93	9.84	27.06	45.81
17.	Ganga 07 (GA07)	79451	1444	0.09	0.06	9.81	28.86	28.04	33.33
18.	Ganga 08 (GA08)	69213	1858	1.77	0.00	9.03	58.04	22.69	8.46
19.	Ganga 09 (GA09)	225959	7180	1.06	3.28	19.23	44.86	28.24	3.33
20.	Ganga 10 (GA10)	110578	18681	0.32	10.46	5.64	63.08	13.29	7.21
21.	Ganga 11 (GA11)	126638	8353	0.55	5.51	4.69	45.02	31.59	12.65
22.	Ganga 12 (GA12)	28998	5192	0.90	8.75	5.28	17.63	64.30	3.14
23.	Ganga 13 (GA13)	111221	17969	1.44	19.61	4.75	15.22	50.70	8.28
24.	Ganga 14 (GA14)	69581	5854	0.50	19.89	6.00	5.94	57.59	10.07
25.	Ganga 15 (GA15)	121998	7999	0.30	7.50	4.52	10.80	70.39	6.49
26.	Ganga 16 (GA16)	37034	2824	0.15	36.58	2.82	12.69	42.22	5.55
27.	Ganga 17 (GA17)	56303	2681	0.04	16.83	5.56	8.32	61.67	7.59
28.	Ganga 18 (GA18)	123816	1932	0.51	0.16	2.05	43.39	41.05	12.85
29.	Ganga 19 (GA19)	181037	4896	0.29	0.12	2.38	68.18	9.12	19.91
30.	Ganga 20 (GA20)	174313	9185	4.71	0.04	2.21	75.45	10.17	7.41
31.	Ganga 21 (GA21)	33917	2746	0.74	13.81	2.36	41.50	37.01	4.57
32.	Ghaghara 01	102350	3237	0.14	16.24	3.44	36.52	24.85	18.81
33.	Ghaghara 02	379851	12688	0.31	0.64	6.53	39.18	27.72	30.63
34.	Ghaghara 03	144598	10359	0.33	0.33	2.71	45.98	13.97	36.68
35.	Gomati	645683	30845	0.40	10.57	26.92	14.23	21.18	26.70
36.	Kali Sindh	371076	26298	0.16	7.98	10.36	31.06	33.24	17.21
37.	Ken	449574	29272	0.20	31.58	10.17	11.08	35.89	11.09
38.	Koel	192170	11320	0.00	42.23	6.41	14.92	35.50	0.93
39.	Kosi 01	89047	5580	0.41	0.00	1.98	43.37	38.31	15.92
40.	Kosi 02	145454	3842	0.20	0.00	0.88	46.93	22.67	29.32
41.	Kasai	282904	10649	0.27	14.36	16.19	25.42	42.61	1.16
42.	Mahananda	195055	16737	0.32	2.97	4.07	41.42	38.36	12.85

43.	Mayurakshi	171683	17883	0.72	4.56	4.88	29.10	56.09	4.65
44.	Parbati	413686	16955	0.20	17.11	16.82	23.61	26.34	15.93
45.	Ramganga	544759	28722	0.34	22.55	8.61	41.12	17.92	9.42
46.	Rapti	461389	17803	0.46	7.09	1.74	43.24	11.45	36.02
47.	Rihand	266002	19902	0.12	50.60	6.19	7.90	34.81	0.37
48.	Rind	223426	3107	0.11	0.08	18.73	18.08	20.26	42.75
49.	Sarda	416493	25098	1.1	45.8	22.2	14.5	7.7	8.7
50.	Sind	471197	27794	0.40	10.57	26.92	14.23	21.18	26.70
51.	Sone 01	354374	31753	0.03	42.27	10.34	7.19	37.01	3.16
52.	Sone 02	54422	1220	0.02	39.79	41.12	7.11	11.10	0.85
53.	Sone 03	81955	1618	0.11	36.82	6.29	25.56	29.43	1.78
54.	Sone 04	171256	1003	0.68	5.07	12.21	19.55	49.40	13.08
55.	Tons	243966	17528	0.29	17.14	17.40	18.41	28.57	18.19
56.	Yamuna 01 (YAM01)	114733	11342	0.03	44.56	43.32	7.48	4.47	0.14
57.	Yamuna 02 (YAM02)	234090	13841	3.32	3.52	5.57	68.10	17.32	2.17
58.	Yamuna 03 (YAM03)	64636	15019	7.78	5.86	9.67	50.77	12.00	13.93
59.	Yamuna 04 (YAM04)	126007	18331	2.15	9.76	8.04	33.88	19.00	27.17
60.	Yamuna 05 (YAM05)	277438	16984	0.69	5.33	11.34	13.80	17.63	51.21
61.	Yamuna 06 (YAM06)	199866	8609	0.38	3.40	9.68	39.31	8.67	38.56
62.	Yamuna 07 (YAM07)	83957	4633	0.34	2.02	12.86	16.95	25.78	42.04
63.	Yamuna08 (YAM08)	96466	1717	0.25	2.69	20.84	1.59	38.62	36.01
64.	Yamuna 09 (YAM09)	55532	638	0.03	0.00	30.42	12.14	31.65	25.77
65.	Yamuna 10 (YAM10)	222246	11510	0.33	10.57	13.27	8.52	45.37	21.94
66.	Saptakoshi	516914	40459	2.08	37.81	17.58	23.82	1.7	17.01
67.	Upper Bagmati	140582	3586	13.04	52.17	6.52	15.23	2.17	10.87
68.	Karnali	537010	47496	0.47	45.53	28.41	20.41	3.61	1.57
69.	Upper Gandaki	446961	35558	1.74	41.74	27.17	21.52	2.83	5
70.	Upper Rapti	152334	11560	2	55.3	1.3	26.7	2	12.7