



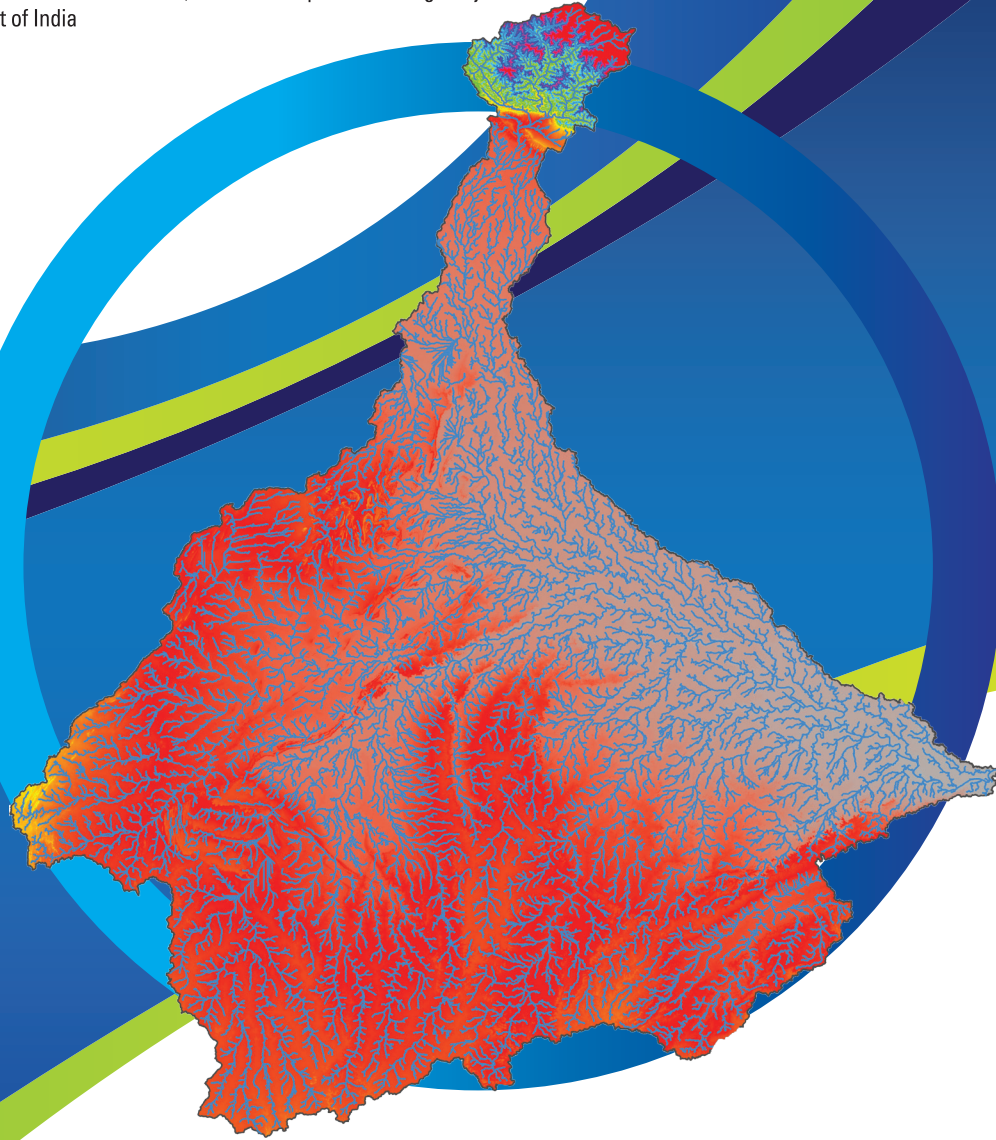
सत्यमेव जयते
Government of India

National Mission for Clean Ganga

Ministry of Jal Shakti

Department of Water Resources, River Development & Ganga Rejuvenation

Government of India



YAMUNA RIVER BASIN ATLAS

December 2021



cGanga

Centre for Ganga River Basin Management and Studies

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National Mission for Clean Ganga (NMCG)

NMCG is the implementation wing of National Ganga Council which was setup in October 2016 under the River Ganga Authority order 2016. Initially NMCG was registered as a society on 12th August 2011 under the Societies Registration Act 1860. It acted as implementation arm of National Ganga River Basin Authority (NGRBA) which was constituted under the provisions of the Environment (Protection) Act (EPA) 1986. NGRBA has since been dissolved with effect from the 7th October 2016, consequent to constitution of National Council for Rejuvenation, Protection and Management of River Ganga (referred to as National Ganga Council).

www.nmcg.in

Centre for Ganga River Basin Management and Studies (cGanga)

cGanga is a think tank formed under the aegis of NMCG, and one of its stated objectives is to make India a world leader in river and water science. The Centre is headquartered at IIT Kanpur and has representation from most leading science and technological institutes of the country. cGanga's mandate is to serve as think-tank in implementation and dynamic evolution of Ganga River Basin Management Plan (GRBMP) prepared by the Consortium of 7 IITs. In addition to this it is also responsible for introducing new technologies, innovations and solutions into India.

www.cganga.org

Acknowledgment

This river atlas document is a collective effort of a number of experts, institutions and organisations, some who had been associated with preparing the Ganga River Basin Management Plan (GRBMP) submitted to the Government of India in 2015, and others who joined later with their own independent expertise and enthusiasm. Contributions to the photographs and images for this document by individuals are gratefully acknowledged.

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PREFACE

The Centre for Ganga River Basin Management and Studies (“cGanga”) was established in the year 2016 as a comprehensive think-tank for river restoration and to assist the National Mission for Clean Ganga (NMCG), Jal Shakti Ministry, GoI, for “continual scientific support in the implementation and dynamic evolution of the Ganga River Basin Management Plan” for conservation of National River Ganga. In keeping with this goal, cGanga has been actively developing detailed knowledge capsules, tools and procedures to enable comprehensive and early rejuvenation of the Ganga River network across the whole basin. While a river basin approach is essential for analyzing and comprehending the Ganga river’s status and needs to regain her wholesomeness, the implementation strategies of the required interventions must keep in mind the role and individuality of each State. Thus, it is necessary to focus on state-level sub-strategies of natural resource management for holistic revival of River Ganga.

The present document attempts to provide a comprehensive picture of the Yamuna River network that is spread over seven states of India. This Atlas was created entirely by cGanga, with original mapping of all identifiable rivers, and with selective additional information culled from different sources for completeness. Many of the rivers and maps given here are not readily available elsewhere, and we expect them to prove useful to the many Central, State and other organisations engaged in river, water or natural resource management in the Yamuna basin.

In preparing this document dedicated members of cGanga spent a lot of time in diligently studying, analysing, acquiring and compiling diverse information from diverse sources. Many people and organisations outside cGanga also helped in its preparation, which aided in its comprehensiveness. We are grateful to one and all of them.

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ACRONYMS AND ABBREVIATIONS

BCM	: Billion Cubic Meter
cGanga	: Centre for Ganga River Basin Management and Studies
Cumec	: Cubic meter per second
CWC	: Central Water Commission
DEM	: Digital Elevation Model
GIS	: Geographic Information System
GRBMP	: Ganga River Basin Management Plan
HE	: Hydroelectric
JPVL	: Jaiprakash Power Ventures Ltd
Km	: Kilometer
L & T	: Larsen and Toubro
LULC	: Land Use/ Land Cover
M	: Meter
MCM	: Million Cubic Meter
MM	: Millimeter
MW	: Mega Watt
NHPC	: National Hydroelectric Power Corporation
SoI	: Survey of India
Sq. Km	: Square Kilometer
SWAT	: Soil & Water Assessment Tool
THDC	: Tehri Hydro Development Corporation
UJVNL	: Uttarakhand Jal Vidyut Nigam Ltd
UPJVN	: Uttar Pradesh Jal Vidyut Nigam Limited
HPSEBL	: Himachal Pradesh State Electric Board Limited
MPSEB	: Madhya Pradesh State Electric Board
RRVNL	: Rajasthan Rajya Vidyut Prasaran Nigam Limited
RRVUNL	: Rajasthan Rajya Vidyut Utpadan Nigam Limited
HPPCL	: Himachal Pradesh Power Corporation Limited
MPPGCL	: Madhya Pradesh Power Generating Company Limited
HPGCL	: Haryana Power Generation Corporation Limited

INTRODUCTION

Yamuna is the fifth-longest river of India and the longest tributary of the River Ganga. It originates from Champasar (Yamunotri) Glacier near Banderpoonch peaks in the Har-Ki-Dun mountain range of Uttarkashi district in Uttarakhand. The river traverses through upper hilly terrain and enters into the plains from Saharanpur district of Uttar Pradesh and flows down up to its confluence with river Ganga at Prayagraj. It is a large basin that covers parts of the states of Uttarakhand, Uttar Pradesh, Himachal Pradesh, Haryana, Rajasthan, Madhya Pradesh, and the entire NCT Delhi. The catchment area of Yamuna contributes 40% to the Ganga basin area and supports 15.27% of the population of Ganga basin.

The present volume is a first attempt to map the rich river network of Yamuna in as fine a detail as possible. Much of the information contained in this River Atlas is not available in any other document and was created in original from available earth images with appropriate data and image processing tools and software on GIS platform. Naturally, there may be shortcomings in some of the maps herein, including missing small streams, which can be expected to be duly refined and included in later versions. Also, a river atlas is often useful in conjunction with other natural resource and anthropogenic information such as the distribution of rainfall and other climatic data, other water bodies, forest cover, elevations, soil types, other physiographic information, land use, tourist and pilgrimage centres, and infrastructure including roads and highways. Such other relevant information is also expected to be processed, assembled, and included later in a fuller version of this Atlas. In the meanwhile, it is hoped that this Atlas will provide a useful window to Yamuna River resources.

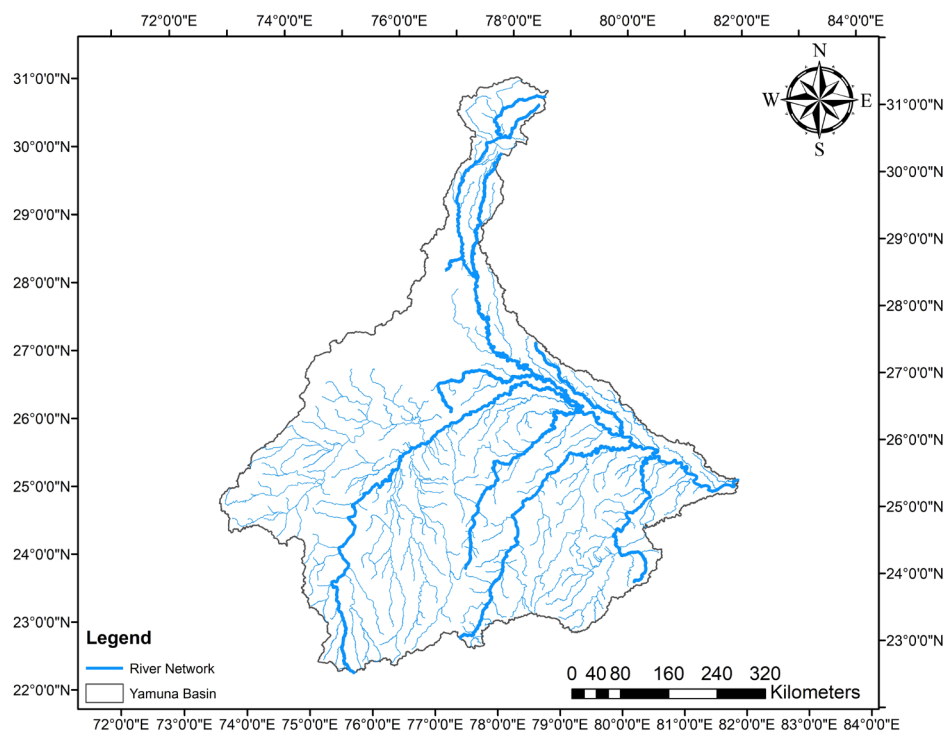


Figure: Yamuna River Network





YAMUNA BASIN: SALIENT FEATURES

S No	Particulars	Details
1	Basin Extent	Latitude: 22° 27' & 31° 28' N and Longitude: 73° 20' & 82° 00' E
2	Total Geographical Area (sq. km.)	341,628.31
3	States and their % area contribution in the basin:	Himanchal Pradesh: 1.7%, Uttarakhand: 1.1%, Haryana: 6.2%, Delhi: 0.4%, Rajasthan: 29.7%, Madhya Pradesh: 40.5%, Uttar Pradesh: 20.4%
4	Population	341,628.31
5	Himanchal Pradesh: 1.7%	40
6	Uttarakhand: 1.1 %	101
7	Haryana: 6.2 %	(Class I: 84; Class II: 69; Class III: 229)
8	Delhi: 0.4 %	54,497,411
9	Rajasthan: 29.7%	15.27
11	Madhya Pradesh: 40.5 %	50,774
12	Uttar Pradesh: 20.4%	Himalayan Portion: 1200 - 1600, Plains: 734.84
13	Average Temperature Range (oC)	2.0 - 45
14	Major Rivers	Yamuna, Chambal, Banas, Sindh, Betwa, Ken, Hindon, Kali Sindh, Tons
15	Number of Major Sub-basins	09
16	Number of Water Resources Structures	(Dams: 63, Barrages: 11, Weir: 04, Anicuts, Lifts, Power houses)
17	Highest Dam	Kishau Dam - 236 m
18	Longest Dam	Raj Ghat Dam - 10,790 m
19	Highest Barrage	Assan Barrage - 395.95 m
20	Longest Barrage	Gokul Barrage - 555 m
21	Total Storage Capacity of Projects (MCM/BCM) (Completed and under construction projects)	--
22	Number of HE projects (> 25 MW)	33
23	Number of Ground Water Observation wells	36,567
24	Number of CWC Sites	111
25	Water tourism and Sport sites	Tajewala Barrage, Kota Barrage, Rajasamand Lake, Nainbagh, Sangam (Prayagraj) etc.





RIVERS OF YAMUNA BASIN IN VARIOUS DISTRICTS

S.NO	State	District	Area (sq. km.)	Population (Census 2011)	Growth Rate (%)	Population Density	River
1	Himanchal Pradesh	Shimla	5,131	814,010	12.67	159	Giri, Tons, Shalon Gad, Pabbar
2		Sirmaur	2,825	529,855	15.54	188	Tons, Yamuna, Giri, Bata, Boli
3		Solan	1,936	580,320	15.93	300	Giri
4	Uttarakhand	Dehradun	3,088	1,696,694	32.33	549	Yamuna, Amlawa, Assan, Maskara, Nawagaon, Tons, Shalon Gad
5		Tehri Garhwal	3,642	618,931	2.35	170	Yamuna, Algar
6		Uttarkashi	8,016	330,086	11.89	41	Yamuna, Tons, Pabbar
7	Haryana	Faridabad	741	1,809,733	32.54	2,442	Bhuriya Drain/Tilpat Drain
8		Gurgaon	1,258	1,514,432	73.96	1,204	Govardhan Drain, Najafgarh Drain
9		Karnal	2,520	1,505,324	18.14	597	Yamuna, Munak Drain
10		Mewat	1,507	1,089,263	37.93	723	Govardhan Drain
11		Palwal	1,359	1,042,708	25.76	767	Yamuna, Bata Escape Aqueduct, Govardhan Drain
12		Panipat	1,268	1,205,437	24.6	951	Yamuna, Munak Drain
13		Sonipat	2,122	1,450,001	13.35	683	Yamuna
14		YamunaNagar	1,768	1,214,205	16.57	687	Yamuna, Budhi Yamuna, Boli
15	Delhi	East	63	1,709,346	16.79	27,132	Yamuna, Sahadara Drain
16		New Delhi	35	142,004	-20.72	4,057	Yamuna
17		North East	62	2,241,624	26.78	36,155	Yamuna, Sahadara Drain
18		North	61	887,978	13.62	14,557	Yamuna, Najafgarh Drain
19		North West	443	3,656,539	27.81	8,254	Yamuna, Najafgarh Drain
20		South	247	2,731,929	20.51	11,060	Yamuna,
21		South West	421	2,292,958	30.65	5,446	Najafgarh Drain
22		West	130	2,543,243	19.46	19,563	Najafgarh Drain
23	Rajasthan	Ajmer	8,481	2,583,052	18.4	305	Banas, Masi, Khari
24		Baran	6,992	1,222,755	19.68	175	Yamuna, Chambal, Kali Sindh, Khari, Parvan, Bhupsi Nala, Parbati, Andheri, Lhasi, Barni, Bagdi, Barbati, BamniDai, Sukhni, Barni, Kuno, Renpi, Karai
25		Bharatpur	5,066	2,548,462	21.29	503	Govardhan Drain
26		Bhilwara	10,455	2,408,523	19.6	230	Chambal, Mez, Kural, Banas, Kothari, Khari, Berach, Maansi, kothari, Berach, Melani
27		Bundi	5,776	1,110,906	15.4	192	Chambal, Mez, Kural, Bijyan, Machhli, Talera, Mangali, Chakan





S.NO	State	District	Area (sq. km.)	Population (Census 2011)	Growth Rate (%)	Population Density	River
28		Chhitaurgarh	7,822	1,544,338	16.08	197	Chambal, Brahmini, Gunjali, Banas, Berach, Gambhiri
29		Dausa	3,432	1,634,409	24.09	476	Chambal, Banas, Morel
30		Dhaulpur	3,033	1,206,516	22.71	398	Chambal, Utangan
31		Jaipur	11,143	6,626,178	26.19	595	Chambal, Banas, Morel, Dravyavati, Masii
32		Jaisalmer	38,401	669,919	31.81	17	Parbati, Bagdi
33		Jhalawar	6,219	1,411,129	19.55	227	Yamuna, Chambal, Kali Sindh, Chanwali, Ahu, Kanthari, Sangod, Parvan, Newaj, Chappi, Ghar Ganga, Kali Sindh 2, Kshipra
34		Karauli	5,524	1,458,248	20.55	264	Chambal, Banas, Morel, Utangan, Chaudao
35		Kota	5,217	1,951,014	24.39	374	Yamuna, Chambal, Kali Sindh, Parvan, Aru, Sukhni, Sangod, Ahu, Amajar, Parbati, Chakan, Kharab ka Khal, Chanderlohi, Toran Drain, Kherewa Khal
36		Pratapgarh	4,449	867,848	22.78	195	Chambal, Shivana, Retam, Banas, Berach, Gambhiri
37		Rajsamand	4,655	1,156,597	17.18	248	Chambal, Banas, kothari, khari
38		Sawai Madhopur	4,498	1,335,551	19.56	297	Chambal, Banas, Morel, Dhatoj, Param, Khandoli, Kharar, Chakan, Nanh, Seep
39		Tonk	7,194	1,421,326	17.3	198	Chambal, Mez, Bijyan, Banas, khari, Masii, Chakan
40		Udaipur	11,724	3,068,420	23.69	262	Chambal, Banas, Berach
41		Agar					Yamuna, Chambal, Kali Sindh, Kanthali
42		Ashok Nagar	4,674	845,071	22.66	181	Betwa, Aur/Orr, Lilat, Kethan, Sindh, Khera
43		Bhopal	2,772	2,371,061	28.62	855	Parbati, Paru, Betwa, Ajnar, Baen, Halali, Kaliasoot
44		Bhind	4,459	1,703,005	19.21	382	Yamuna, Chambal, Kalisindh, Parvan, Chappi, Ghar ganga, Sindh, Vaisali/Besli, Morar, Saon, Pahuj
45		Chhatarpur	8,687	1,762,375	19.51	203	Betwa, Dhasan, Kathan, Panyari Drain Kathan, Sukku, Ken, Kail, Khudar, kutni, Urmil, Kusiar Nalam, Banne, Shyamari, Barana, Chandrawal, Shyam Nala, Sonar, Baik
46	Madhya Pradesh	Damoh	7,306	1,264,219	16.63	173	Ken, Sonar, Bakrai Nala, Kevra, Amghat, Bearma, Bamner, Karaundi, Sun, Gauraiya Nala, Bhadar Nala
47		Datiya	2,902	786,754	18.46	271	Sindh, Pahuj, Milga, Mahuar
48		Dewas	7,020	1,563,715	19.53	223	Yamuna, Chambal, Kali Sindh, Lodri, Lakunder, Kali Sindh 2
49		Dhar	8,153	2,185,793	25.6	268	Chambal, Chamla, Khuni Khal, Baweri
50		Guna	6,390	1,241,519	26.97	194	Yamuna, Chambal, Kalisindh, Parvan, Kuno, Sindh, Senduwa, Kanera, Niwari, Burh, Parbati, Andheri, barni, Tem, Gaumukh
51		Gwalior	4,560	2,032,036	24.5	446	Sindh, Parbati, Mauwar, Nonr, Chhachhundar, Vaisali/Besli, Morar, Saon, Pahuj
52		Hoshangabad	6,703	1,241,350	14.49	185	Betwa, Bina

S.NO	State	District	Area (sq. km.)	Population (Census 2011)	Growth Rate (%)	Population Density	River
53		Indore	3,898	3,276,697	32.88	841	Chambal, Baweri, Shipra, Gambhira, Khan, Saraswati
54		Katni	4,950	1,292,042	21.41	261	Ken, Patane
55		Mandsaur	5,535	1,340,411	13.24	242	Yamuna, Chambal, Kali Sindh, Ahu, Kanthari, Amajar, Retam, Bhorkhedi, Shivana, Kali Sindh 2, Somli
56		Morena	4,989	1,965,970	23.44	394	Chambal, Sindh, Kuwari, Asan, Sankh
57		Neemuch	4,256	826,067	13.77	194	Chambal, Gunjali, Retam, Bhorkhedi
58		Panna	7,135	1,016,520	18.67	142	Baghain, Ranj, Ken, Mirhasan, Kilkila, Gurne, Patane, Sonar, Bearma
59		Raisen	8,466	1,331,597	18.35	157	Betwa, Gerwa, Basni, Kuhu, Newan, Kaliasoot, Halali, Dhasan, Bina, Dudhi, Semri
60		Shajapur	6,195	1,512,681	17.2	244	Yamuna, Chambal, Kali Sindh, Parvan, Newaj, Baleti, Jamdhar, Kanthali, Ahu, Lakunder
61		Sagar	10,252	2,378,458	17.63	232	Betwa, Bina, Dudhi, Jamini, Dhasan, Narayani, Ken, Sonar, Kopra, Bearma, Bamner, Bewas, Kuri, Sajali, Chambel
62		Rajgarh	6,153	1,545,814	23.26	251	Yamuna, Chambal, Kalisindh, Parvan, Chappi, Newaj, Dudhi
63		Ratlam	4,861	1,455,069	19.72	299	Chambal, Bhagedi, Shivana, Maleni, Maleni, Pingla, Shipra
64		Satna	7,502	2,228,935	19.19	297	Baghain, Ranj, Paisuni/Mandakani, Ken, Gurne
65		Sehore	6,578	1,311,332	21.54	199	Parbati, Paru, Betwa, Ainar, Baen, Halali, Kaliasoot
66		Seoni	8,758	1,379,131	18.22	157	Betwa, Aur/Orr, Baen, Bina, Motichur, Ken, Sonar, Bearma
67		Sheopur	6,606	687,861	22.94	104	Parbati, Barbati, Bamnidai, Aheli, Chambal, Doni Drain, Param, Kuno, Dhatoi, Seep, Sarari, Sindh, Kunwari, Asan
68		Shivpuri	10,066	1,726,050	22.76	171	Betwa, Aur/Orr, Gurari, Parbati, Aheli, Chambal, Kuno, Renpi, Karai, Sindh, Chhoch, Khirai Nala, Aerma, Barahi, Barua, Karobha, Mahuar
69		Tikamgarh	5,048	1,445,166	20.13	286	Betwa, Bardal Drain, Dungalai, Dhasan, Lakheri, Sukhnai, Urr, Jamini, Jamrar, Gurari, Halali, Newan
70		Ujjain	6,091	1,986,864	16.12	326	Shipra, Gambhira, Khan, Chambal, Kali Sindh 2, Chamla, Bhagedi, Maleni, Kurel
71		Vidhisha	7,371	1,458,875	20.09	198	Parbati, Tem, Gaumukh, Sindh, Burh, Betwa, Halali, Kethan, Newan, Baen, Sagar, Naren, Bindai, Kewtan, Bina
72		Utter Pradesh	Agra	4,041	4,418,797	22.05	1093
73	Aligarh		3,650	3,673,889	22.78	1,007	Yamuna, Kanwan/Jharna Drain, Bata Escape Aqueduct, Jamon Drain
74	Allahabad		5,482	5,954,391	20.63	1,086	Yamuna, Kilnahi





S.NO	State	District	Area (sq. km.)	Population (Census 2011)	Growth Rate (%)	Population Density	River
75		Auriya	2,016	1,379,545	16.91	684	Yamuna, Rind, Chhoha Drain, Senger
76		Baghpat	1,321	1,303,048	11.95	986	Yamuna, Hindon, Krishna
77		Bahraich	5,237	3,487,731	46.48	666	Senger, Kasolar Drain
78		Banda	4,408	1,799,410	17.05	408	Yamuna, Garhara Drain, Usra Drain, Rewai, Baghain, Ranj, Ken, Chandrawal
79		Bijnor	4,561	3,682,713	17.6	807	Hindon, Dhamola
80		Bulandshahr	4,512	3,499,171	20.12	776	Kanwan/Jharna Drain, Jamon Drain
81		Chitrakoot	3,216	991,730	29.43	308	Yamuna, Baghain, Ganta, Paisuni/MandakaniPaisuni, Ohan
82		Etah	2,431	1,774,480	13.62	730	Sirsa
83		Etawah	2,311	1,581,810	18.15	684	Chambal, Sindh, Kuwari, Senger, Kumhawar Drain, Sirsa, Yamuna, Rind
84		Fatehpur	4,152	2,632,733	14.05	634	Yamuna, Rind, Kilnahi, Sasurkhaderi, Non
85		Firozabad	2,407	2,498,156	21.69	1,038	Yamuna, Kasaundi Drain, Senger, Kanhoa Drain
86		Ghaziabad	1,179	4,681,646	42.27	3,971	Yamuna, Sharda Drain
87		Gautam Budhha Nagar	1,282	1,648,115	37.11	1,286	Yamuna, Sharda Drain, Kanwan/Jharna Drain, Jamon Drain
88		Hamirpur	4,021	1,104,285	5.8	275	Yamuna, Betwa, Parwar, Dhasan, Virma, Arjun, Ken, Chandrawal, Karoran Nala
89		Jalaun	4,565	1,689,974	16.19	370	Yamuna, Non, Manmaheshwari Drain, Konchmalanga Drain, Betwa, Sindh, Pahuj, Milga
90		Jhansi	5,024	1,998,603	14.54	398	Non, Manmaheshwari Drain, Betwa, Barwasagar, Sasor Drain, Dungrai, Dhasan, Urr, Sukhnai, Lakheri, Patrahi, Sindh, Pahuj
91		Kanpur Dehat	3,021	1,796,184	14.89	595	Yamuna, Rind, Chhoha Drain, Non, Senger, Karundia Drain, Kasolar Drain
92		Kanpur Nagar	3,155	4,581,268	9.92	1,452	Yamuna, Rind, Non
93		Kaushambi	1,779	1,599,596	23.7	899	Yamuna, Kilnahi, Sasurkhaderi
94		Lalitpur	5,039	1,221,592	24.94	242	Betwa, Aur/Orr, Narayani, Dhasan, Jamni, Sajnam, Jamrar
95		Mahamaya Nagar	1,840	1,564,708	17.12	850	Yamuna, Kanwan/Jharna Drain, Jamon Drain
96		Mahoba	3,144	875,958	23.64	279	Betwa, Jamini, Dhasan, Karawan, Bina, Dudhi, Virma, Arjun, ken, kail, Chandrawal, Sihu Nala
97		Mainpuri	2,760	1,868,529	17.02	677	Rind, Senger, Kosma Drain, Jawapur Drain, Kumhawar Drain
98		Mathura	3,340	2,547,184	22.78	763	Yamuna, Govardhan Drain, Bal Drain, Utangan
99		Noida					Hindon
100		Muzaffarnagar	4,008	4,143,512	16.94	1,034	Yamuna, Hindon, Kali
101		Saharanpur	3,689	3,466,382	19.66	940	Yamuna, Maskara, Budhi Yamuna, Hindon, Nagdeo Nala, Kali, Krishna

MAJOR RIVER BASINS OF INDIA AS LISTED BY CWC

Basin Code	Basin Name
1	Indus (Up to Indian Border)
2a	Ganga
2b	Brahmaputra
2c	Barak and others
3	Godavari
4	Krishna
5	Cauvery
6	Subernarekha
7	Brahmani and Baitarni
8	Mahanadi
9	Pennar
10	Mahi
11	Sabarmati
12	Narmada
13	Tapi
14	West flowing rivers from Tapi to Tadri
15	West flowing rivers from Tadri to Kanyakumari
16	East flowing rivers between Mahanadi and Pennar
17	East flowing rivers between Pennar and Kanyakumari
18	West flowing rivers of Kutch and Saurashtra including Luni
19	Area of inland drainage in Rajasthan
20	Minor rivers draining into Myanmar (Burma and Bangladesh)

Source: River Basin Atlas of India, Ministry of Water Resources, Gol (October 2012)





Source: River Basin Atlas of India, Ministry of Water Resources, GoI (October 2012)

MAJOR DAMS ON RIVER YAMUNA AND HER TRIBUTARIES

S. No.	State	District of Dam	Name	Latitude	Longitude	River	Status	Type	Length (m)	Max ht. abv foundation	Yr start	Yr comp	Total vol (cumec)	Design flood (cumec)	Purpose
1	Uttarakhand	Uttanchal	Lakhwar			Yamuna	UC	Gravity/Masonry	481.5	204			700	8850	Irr./Hydroelectricity
2	Uttarakhand	Dehradun	Vyasi			Yamuna	UC	Gravity/Masonry	207.2	86			325	8850	Hydroelectricity
3	Madhya Pradesh	Mandasur	Gandhi Sagar Dam	24.70	75.55	Chambel	Completed	Gravity/Masonry	514	62.17		1960	680000	21238	Irr./Hydroelectricity
4	Rajasthan	Kota	Rana Pratap Sagar Dam	24.92	75.58	Chambel	Completed	Gravity/Masonry	1143	53.95		1970	1570	18400	Irr./Hydroelectricity/Water Supply
5	Rajasthan	Kota	Kota barrage	25.18	75.83	Chambel	Completed	Gravity/Masonry, Earth	551.68	37.35		1960	112060	21225	Irr./Hydroelectricity/Water Supply
6	Rajasthan	Kota	Jawaharsagar	25.04	75.68	Chambel	Completed	Gravity/Masonry	393	36		1973	67070	21240	Hydroelectricity
7	Rajasthan	Sawai Madhopur	Mansarovar	25.94	76.44	Chambel	Completed	Earth	930	24.82		1955	NA	921.42	Irrigation
8	Uttar Pradesh	Jhansi	Paricha Dam	25.52	78.78	Betwa	Completed	Gravity/Masonry	1174.59	16.77		1886	78760	21547	Irrigation
9	Uttar Pradesh	Jhansi	Pahari	25.23	79.28	Dhasan	Completed	Gravity/Masonry	580.95	10		1912	47800	12776	Irrigation
10	Madhya Pradesh	Chhatarpur	Gangau	24.62	79.86	Ken	Completed	Gravity/Masonry	326	16.15		1915	58472	13723	Irrigation
11	Madhya Pradesh	Shivpuri	Lakhwar Dam	25.76	77.92	Parwati	Completed	Earth	2138	29.28		1917	192670	4757.85	Irrigation
12	Madhya Pradesh	Gwalior	Masani barrage	25.90	77.70	Parwati	Completed	Gravity/Masonry	1047	37.64		1934	80510	1811	Irrigation/Feeder
13	Madhya Pradesh	Indore	Yashwant Nagar	22.82	75.69	Gambhira	Completed	Earth	820	10.7		1933	900	171	Irrigation
14	Rajasthan	Dausa	Morel Dam	26.45	76.33	Morel	Completed	Earth	5342	24.08		1952	15670	1958	Irrigation
15	Rajasthan	Udaipur	Bagaolia	24.71	74.09	Berach	Completed	Earth	3079	12.7		1956	19400	827	Irrigation

Source: <http://india-wris.nrsc.gov.in>



S. No.	State	District of Dam	Name	Latitude	Longitude	River	Status	Type	Length (m)	Max ht abv foundation	Yr start	Yr comp	Total vol (cumec)	Design flood (cumec)	Purpose
16	Rajasthan	Karauli	Kalisil	26.27	76.79	Kalisil Banas	Completed	Earth	1163	24.29		1956	41700	889	Irrigation
17	Rajasthan	Chittorgarh	Gambhiri Reservoir	24.70	74.73	Gambhiri	Completed	Earth	3800	23.34		1957	76400	2290	Irrigation
18	Rajasthan	Rajsamand	Nandsamand Dam	24.93	73.78	Banas	Completed	Earth	1733.89	23		1958	21200	3240	Irrigation
19	Rajasthan	Bundi	Gudha	25.50	75.46	Mej	Completed	Earth	2760	25		1958	95650	5883	Irrigation
20	Rajasthan	Udaipur	Madar Bada Dam	24.68	73.61	Berach	Completed	Gravity/Masonry	320	22		Old Tank	2377	373	Irrigation
21	Rajasthan	Udaipur	Udai Sagar	24.58	73.82	Berach	Completed	Earth, Gravity/Masonry	315	24.4		1585	31130	125	Irrigation
22	Rajasthan	Sawai Madhopur	Dheel Dam	26.22	76.12	Morel	Completed	Earth	1585	17.52		1911	27750	1864	Irrigation
23	Rajasthan	Jahlore	Bithan			Banas	Completed	Earth	706	14		1963	6390	354	Irrigation
24	Rajasthan	Dholpur	Parbati			Parbati	Completed	Earth, Gravity/Masonry	2318	27.94		1963	115200	6173	Irrigation
25	Uttar Pradesh	Jhansi	Matatila	25.11	78.36	Betwa	Completed	Earth	6315.15	45.72		1964	1132580	15350	Irr./ Hydroelectricity
26	Rajasthan	Udaipur	Berach / Vallabhagar	24.66	73.99	Berach	Completed	Earth	5822	22.2		1967	30470	2775	Irrigation
27	Uttarakhand	Dehradun	Ichari	30.61	77.79	Tons	Completed	Gravity/Masonry	155	59.25		1972	8930	13500	Hydroelectricity
28	Rajasthan	Karauli	Panchana	26.56	77.01	Utangan	Completed	Earth	163	34.08		1980	59450	5728	Irrigation
29	Madhya Pradesh	Ujjain	Bhaisakhedi			Kali Sindh	Completed	Earth	1275	17.72		1979	7560	200	Irrigation
30	Madhya Pradesh	Bhopal	Kaliasote	23.20	77.40	Kaliasot	Completed	Earth	1080	67.08		1988	35887	1355	Irrigation
31	Rajasthan	Udaipur	Fateh Sagar	24.60	73.67	Berach	Completed	Earth	855	21		1889	12080	135	Irrigation/ water supply

Source: <http://india-wris.nrsc.gov.in>

S. No.	State	District of Dam	Name	Latitude	Longitude	River	Status	Type	Length (m)	Max ht abv foundation	Yr start	Yr comp	Total vol (cumec)	Design flood (cumec)	Purpose
32	Uttar Pradesh	Jhansi	Sajnam Dam	24.53	78.59	Sajnam	Completed	Earth	5147	22.34		1990	83500	2000	Irrigation
33	Rajasthan	Chittorgarh	Matrikundia	25.04	74.31	Banas	Completed	Earth, Gravity/Masonry	9808	22		1991	50660	8240	Irrigation
34	Uttarakhand	Dehradun	Kishau	30.61	77.79	Tons	In complete	Gravity/Masonry	680	236		2023 (Estd)	NA	23019	Irr./ Hydroelectricity
35	Uttar Pradesh	lalitpur	RajGhat	24.76	78.23	Betwa	In complete	Earth, Gravity/Masonry	10790	43.8		Under Construction	NA	33893	Irr./ Hydroelectricity
36	Madhya Pradesh	Sheopur	Aoda Dam	25.51	76.78	Seep	Completed	Earth	1158	16.7		1934	55700	1246	Irrigation
37	Rajasthan	Bhilwara	Anwar Dam	25.74	74.95	Khari tri.	Completed	Earth, Gravity/Masonry	1112.6	18.28		1957	47910	2761	Irrigation
38	Rajasthan	Ajmer	Basundni Dam	25.72	75.11	Khari tri.	Completed	Earth	427	20		1981	7780	1241	Irrigation
39	Rajasthan	Chittorgarh	Bhopal Sagar Dam	24.85	74.20	Berach Tri.	Completed	Earth	2387	28		1936	18540	645	Irrigation
40	Rajasthan	Tonk	Bisalpur Dam	25.92	75.46	Banas	Completed	Gravity/Masonry	574	39.5		1999	1095840	29046	Irrigation/ water supply
41	Rajasthan	Bundi	Bundika Gothra Dam	25.69	75.65	Mej Tri.	Completed	Gravity/Masonry	2613.94	20.14		1957	28400	857	Irrigation
42	Rajasthan	Jaipur	Chaparwara Dam	26.62	75.25	Tri. of Banas	Completed	Earth	200	13		1894	35000	800	Irrigation
43	Uttar Pradesh	Jhansi	Dongri Dam	25.39	78.46	Pahuj	Completed	Earth	2670	13.75		1986	9920	618	Irrigation
44	Rajasthan	Jhalawar	Gagrin Dam	24.13	75.90	Ahu	Completed	Earth	2535	20.75		2016	52600	4447	Irrigation
45	Rajasthan	Sawai Madhopur	Galai Sagar Dam			Banas	Completed	Earth							Irrigation
46	Madhya Pradesh	Ujjain	Gambhir (PHE) Dam			Gambhir	Completed	Earth, Gravity/Masonry	1230	32		1991	637200	6950	Water Supply
47	Rajasthan	Chittorgarh	Gambhiri Dam	23.21	75.63	Gambhir	Completed	Earth	3840	21		1958			Irrigation

Source: <http://india-wris.nrsc.gov.in>

S. No.	State	District of Dam	Name	Latitude	Longitude	River	Status	Type	Length (m)	Max ht abv foundation	Yr start	Yr comp	Total vol (cumec)	Design flood (cumec)	Purpose
48	Rajasthan	Chittorgarh	Gosunda Dam	24.83	74.52	Banas	Completed	Earth, Gravity/Masonry	639.5	23		State Time	75470	20643	Irrigation
49	Uttar Pradesh	Chitrakoot	Gunta Dam	25.22	81.15	Gunta Drain	Completed	Earth	5700	28.5		2003	28800	1064	Irrigation
50	Madhya Pradesh	Dewas	Guradia Surdas Dam	23.17	76.31	Kali Sindh Tri.	Completed	Earth	425	16.58		1997	3180	110	Irrigation
51	Madhya Pradesh	Shivpuri	Harsi Dam	25.76	77.92	Parwati	Completed	Earth	2138	29.28		1917	192670	4757.85	Irrigation
52	Rajasthan	Jaipur	Hingonia Dam	26.79	75.46	Bandi/Banas	Completed	Earth	2000	15.5		1862	7523	132	Irrigation
53	Rajasthan	Rajsamand	Kala Bhata Dam			Khari	Completed	Earth	979	14.06		1958	4240	351	Irrigation
54	Rajasthan	Bhilwara	Khari Dam	25.71	74.28	Khari	Completed	Earth, Gravity/Masonry	2391	17.67		1957	38940	1911	Irrigation
55	Rajasthan	Bhilwara	Kothari Stage I Dam			Kothari	Completed	Earth, Gravity/Masonry	4326	25.4		1989	26000	6005	Irrigation
56	Rajasthan	Bhilwara	Ladki/Larki Dam	25.41	74.08	Kothari	Completed	Earth	581	12.28		1966	3790	768	Irrigation
57	Madhya Pradesh	Shivpuri	Madikheda Dam	25.52	77.87										
58	Rajasthan	Bhilwara	Meja Dam	25.39	74.54	Kothari	Completed	Earth, Gravity/Masonry	9000	19.2		1957	84050	3625	Irrigation
59	Rajasthan	Jhalawar	Mundiya Kheri Dam	24.53	76.16	Kali Sindh Tri.	Completed	Earth	1890	12.5		State Time	4420	395.28	Irrigation
60	Madhya Pradesh	Dewas	Nagda (MP) Dam	22.91	76.06	Shipra Tri.	Completed	Earth	1590	17.68		1977	2586	30	Irrigation
61	Uttar Pradesh	Jhansi	Pahuj Dam	25.50	78.54	Pahuj	Completed	Gravity/Masonry	2040	10.67		1909	18250	1528	Irrigation
62	Rajasthan	Bundi	Paibala Pura Dam	25.70	75.88	Mej	Completed	Earth	3644.52	14.63		1957	10200	632	Irrigation
63	Rajasthan	Bhilwara	Patiyal Dam	25.24	75.21	Banas Tri.	Completed	Earth	765	13.9		1991	1708	5.3	Irrigation

Source: <http://india-wris.nrsc.gov.in>

MAJOR BARRAGES AND WEIRS ON RIVER YAMUNA AND HER TRIBUTARIES

S. No.	State	District of Dam	Name	Latitude	Longitude	River	Status	Type	Length (m)	Max ht. abv foundation	Yr start	Yr comp	Total vol (cumec)	Design flood (cumec)	Purpose
1	Uttar Pradesh	Mathura	Gokul barrage	27.44	77.72	Yamuna	2003		Barrage	555					Irr./ Hydroelectricity
2	Uttarakhand	Dehradun	Asan Barrage	30.44	77.67	Asan	1976	Completed	Barrage	281.25	395.95				Hydroelectricity
3	madhya Pradesh	Panna	Barriarpur Weir			Ken	1906	Completed	Weir	712					Irr./ Hydroelectricity
4	Haryana	Yamuna nagar	Dadupur Barrage			Yamuna Tri.	1890	Completed	Barrage	167.6					Irr./ Hydroelectricity/ Water Supply
5	Uttarakhand	Dehradun	Dakpatthar Barrage			Yamuna	1965	Completed	Barrage	516.92	18.38				Irr./ Hydroelectricity/ Water Supply
6	Uttar Pradesh	Lalitpur	Dhukwan Weir			Betwa	1905	Completed	Weir	1171.9	18.67				Hydroelectricity
7	madhya Pradesh	Chattarpur	Gangau Weir			Ken	1915	Completed	Weir		16.15				Irrigation
8	Uttarakhand	Dehradun	Katha Patthar Barrage			Yamuna		Proposed	Barrage	196	8				Irrigation
9	Rajasthan	Kota	Kota Barrage	25.18	75.82	Chambel	1960	Completed	Barrage	551.69					Irrigation
10	Uttar Pradesh	Gautam Buddh nagar	New Okhla Barrage			Yamuna	1987	Completed	Barrage	550					Irrigation
11	Rajasthan	Baran	Panwan Weir			Chambel		Completed	Weir						Irrigation
12	Delhi	North Delhi	Wazirabad Barrage	28.71	77.23	Yamuna		Completed	Barrage						Irrigation/ Feeder
13	Delhi	South Delhi	Yamuna Barrage/ ITO Barrage	28.63	77.26	Yamuna		Completed	Barrage						Irrigation
14	Delhi	New Delhi	Okhla Barrage	28.55	77.31	Yamuna		Completed	Barrage						Irrigation
15	Haryana	Rewari	Masani Barrage			Yamuna (Sahibi river)		Closed	Barrage						

Source: <http://india-wris.nrsc.gov.in>



MAJOR HYDROELECTRIC PROJECTS ON RIVER YAMUNA AND HER TRIBUTARIES

S.no.	Project Name	Yr. of Comm	State	Districts	River	Basin	Hydroelectric Region	Total Installed Capacity (MW)	Type of Project	Hydroelectric Project Status	Purpose	Owner	Owner name
1	Yamuna Hydroelectric Project	1965	Himachal Pradesh, Uttarakhand	Dehradun	Yamuna	Yamuna	Northern HE Region	474.75	Major (> 25 MW)	Completed	Hydroelectric	State	UJVNL
2	Galogi Hydroelectric Project		Uttarakhand	Dehradun	Yamuna	Yamuna	Northern HE Region	3	Small (3-25 MW)	Completed	Hydroelectric	State	NHPC
3	Matatila Hydroelectric Project	1965	Uttar Pradesh	Lalitpur	Betwa	Yamuna		30.6	Major (> 25 MW)	Completed	Hydroelectric	State	UPJVNL
4	Andhra Hydroelectric Project	1988	Himanchal Pradesh	Shimla	Andhra Khad	Yamuna	Northern HE Region	16.5	Small (3-25 MW)	Completed	Hydroelectric	State	HPSEBL
5	Chirbo Hydroelectric Project	1975	Uttarakhand	Dehradun	Tons	Yamuna	Northern HE Region	240	Major (> 25 MW)	Completed	Hydroelectric	State	UK irrigation Department
6	Dhakrani Hydroelectric Project	1965	Uttarakhand	Dehradun	Yamuna, Tons	Yamuna	Northern HE Region	33.75	Major (> 25 MW)	Completed	Hydroelectric	State	UK irrigation Department
7	Dhalipur Hydroelectric Project	1965	Uttarakhand	Dehradun	Yamuna, Tons	Yamuna	Northern HE Region	51	Major (> 25 MW)	Completed	Hydroelectric	State	UK irrigation Department
8	Gandhi Sagar Hydroelectric Project	1966	Madhya Pradesh	Mandsaur	Chambel	Yamuna	Northern HE Region	115	Major (> 25 MW)	Completed	Hydroelectric	State	MPSEB
9	Giri Bata Hydroelectric Power Plant	1978	Himanchal Pradesh	Sirmaur	Giti	Yamuna	Northern HE Region	60	Major (> 25 MW)	Completed	Hydroelectric	State	HPSEBL
10	Jawahar Sagar Hydroelectric Project	1973	Rajasthan	Kota	Chambel	Yamuna		99	Major (> 25 MW)	Completed	Hydroelectric	State	RRVNL

Source: <http://india-wris.nrsc.gov.in>

S.no.	Project Name	Yr. of Comm	State	Districts	River	Basin	Hydroelectric Region	Total Installed Capacity (MW)	Type of Project	Hydroelectric Project Status	Purpose	Owner	Owner name
11	Khara Hydroelectric Power Plant	1992	Uttar Pradesh	Saharanpur	Asan	Yamuna	Northern HE Region	72	Major (> 25 MW)	Completed	Hydroelectric	State	UPJVNL
12	Khodri Hydroelectric Project	1984	Uttarakhand	Dehradun	Tons	Yamuna	Northern HE Region	120	Major (> 25 MW)	Completed	Hydroelectric	State	UK irrigation Department
13	Arakot tuini Hydroelectric Project	54 months from the date of start	Uttarakhand	Uttarkashi	Pabbar	Yamuna	Northern HE Region	81	Major (> 25 MW)	Proposed	Hydroelectric	State	UJVNL
14	Barkot Kuwa Hydroelectric Project		Uttarakhand	Uttarkashi	Yamuna	Yamuna		42	Major (> 25 MW)	Proposed			
15	Chirgaon Majgaon Hydel Power Project		Himanchal Pradesh	Shimla	Pabbar	Yamuna		46	Major (> 25 MW)	Proposed	Hydroelectric	State	HPPCL
16	Damta Naimgaon Hydroelectric Project		Uttarakhand	Uttarkashi	Yamuna	Yamuna	Northern HE Region	20	Small (3-25 MW)	Proposed			
17	Dhamwari sunda Hydroelectric Project		Himanchal Pradesh	Shimla		Yamuna		70	Major (> 25 MW)	Proposed			
18	Hanol tuini Hydroelectric Project		Uttarakhand	Dehradun	Tons	Yamuna	Northern HE Region	60	Major (> 25 MW)	Proposed	Hydroelectric	State	UJVNL
19	Hanuman Chatti Hydroelectric Project		Uttarakhand	Uttarkashi	Yamuna	Yamuna	Northern HE Region	33	Major (> 25 MW)	Proposed			
20	Jakhol Sankri HydroElectric Project		Uttarakhand	Uttarkashi	Supin	Yamuna	Northern HE Region	44	Major (> 25 MW)	Proposed			

Source: <http://india-wris.npsc.gov.in>



S.no.	Project Name	Yr. of Comm	State	Districts	River	Basin	Hydroelectric Region	Total Installed Capacity (MW)	Type of Project	Hydroelectric Project Status	Purpose	Owner	Owner name
21	Kishau HydroElectric Project		Uttarakhand	Dehradun	Tons	Yamuna	Northern HE Region	660	Major (> 25 MW)	Proposed			UJVNL
22	Lakhwar HydroElectric Project	to be commissioned in 69 months from the date of commencement.	Uttarakhand	Dehradun	Yamuna	Yamuna	Northern HE Region	300	Major (> 25 MW)	Under Construction			
23	Mori Hanol HydroElectric Project		Uttarakhand	Dehradun	Tons	Yamuna	Northern HE Region	64	Major (> 25 MW)				
24	Naitwar Mori HydroElectric Project		Himachal Pradesh, Uttarakhand	Uttarkashi	Tons	Yamuna	Northern HE Region	60	Major (> 25 MW)	Under Construction			
25	Paudital Iassa Hydroelectric Project		Himanchal Pradesh	Shimla	Pabbar	Yamuna		24	Small (3-25 MW)	Proposed			
26	Renuka Hydroelectric Project		Himanchal Pradesh	Sirmaur	Giri	Yamuna		40	Major (> 25 MW)	Proposed	Hydroelectric		
27	Rupin Hydroelectric Project		Himanchal Pradesh	Shimla	Rupin & Nargani	Yamuna		45	Major (> 25 MW)	Proposed			
28	Lakhwar	1987	Uttarakhand	Dehradun	Yamuna	Yamuna		300	Major (> 25 MW)	Under Construction	Power	State	UJVNL
29	RMC Mangrol	1992	Rajasthan		Canal	Yamuna		6	Small (3-25 MW)				
30	W. Y. Canal-A	1989	Haryana	Yamuna Nagar	Yamuna	Yamuna	Northern HE Region	94.4	Major (> 25 MW)			State	HPGCL
31	Rana Pratap Sagar Hydro Electric Project	1970	Rajasthan	Rawatbhata	Yamuna	Yamuna	Northern HE Region	172	Major (> 25 MW)	Completed	Hydroelectric	State	RRVUNL

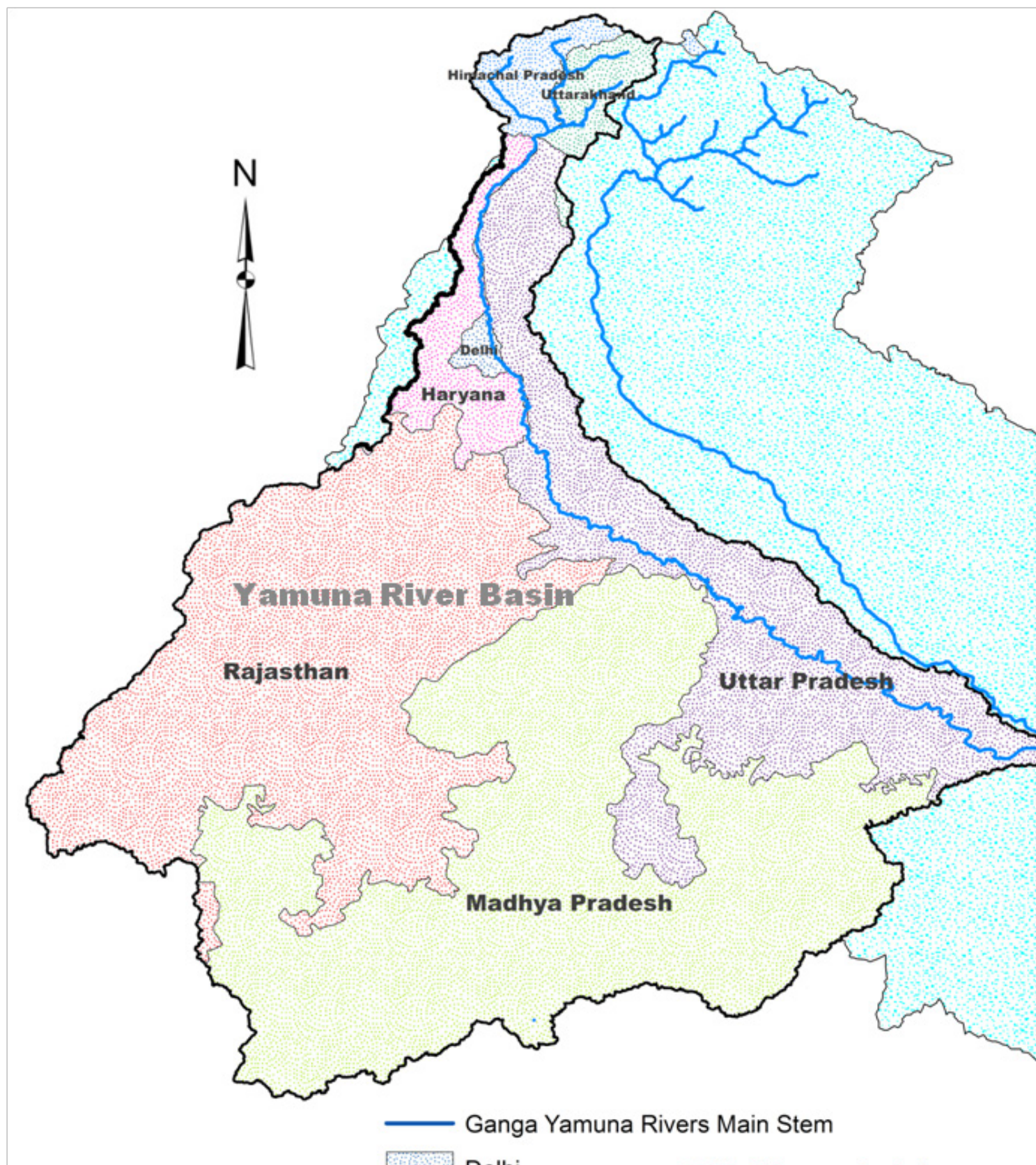
Source: <http://india-wris.nrsc.gov.in>

S.no.	Project Name	Yr. of Comm	State	Districts	River	Basin	Hydroelectric Region	Total Installed Capacity (MW)	Type of Project	Hydroelectric Project Status	Purpose	Owner	Owner name
32	Raighat Hydroelectric Project	1975	Madhya Pradesh	Ashok Nagar	Betwa	Yamuna	Northern Hydroelectric Region	45	Major (>25 MW)	Completed	Hydroelectric	State	MPPGCL
33	Madikhedda Dam Power Plant	2008	Madhya Pradesh	Shivpuri	Sindh	Yamuna	Western Hydroelectric Region	60	Major (>25 MW)	Completed	Hydroelectric	State	MPPGCL
34	Khulal							30	Major (>25 MW)				
35	Sawra-Kuddu Hydroelectric Project	2019		Shimla	Pabbar	Yamuna		111	Major (>25 MW)	Under Construction			
36	Vyasi	2016	Uttarakhand	Dehradun	Yamuna	Yamuna		120	Major (>25 MW)	Under Construction	Power		
37	Tiuni Plasu Hydroelectric Project		Uttarakhand	Dehradun	Tons	Yamuna		72	Major (>25 MW)				
38	Tangnu Romani Hydroelectric Project	Stage I in 2014	Himanchal Pradesh	Shimla	Pabbar	Yamuna	Northern Hydroelectric Region	44	Major (>25 MW)	Stage II, Under Construction		Tangnu Romani Power, Private	

Source: <http://india-wris.nrsc.gov.in>







	Ganga Yamuna Rivers Main Stem	
	Delhi	0.4% of Yamuna Basin Area
	Rajasthan	29.7% of Yamuna Basin Area
	Himachal Pradesh	1.7% of Yamuna Basin Area
	Uttar Pradesh	20.4% of Yamuna Basin Area



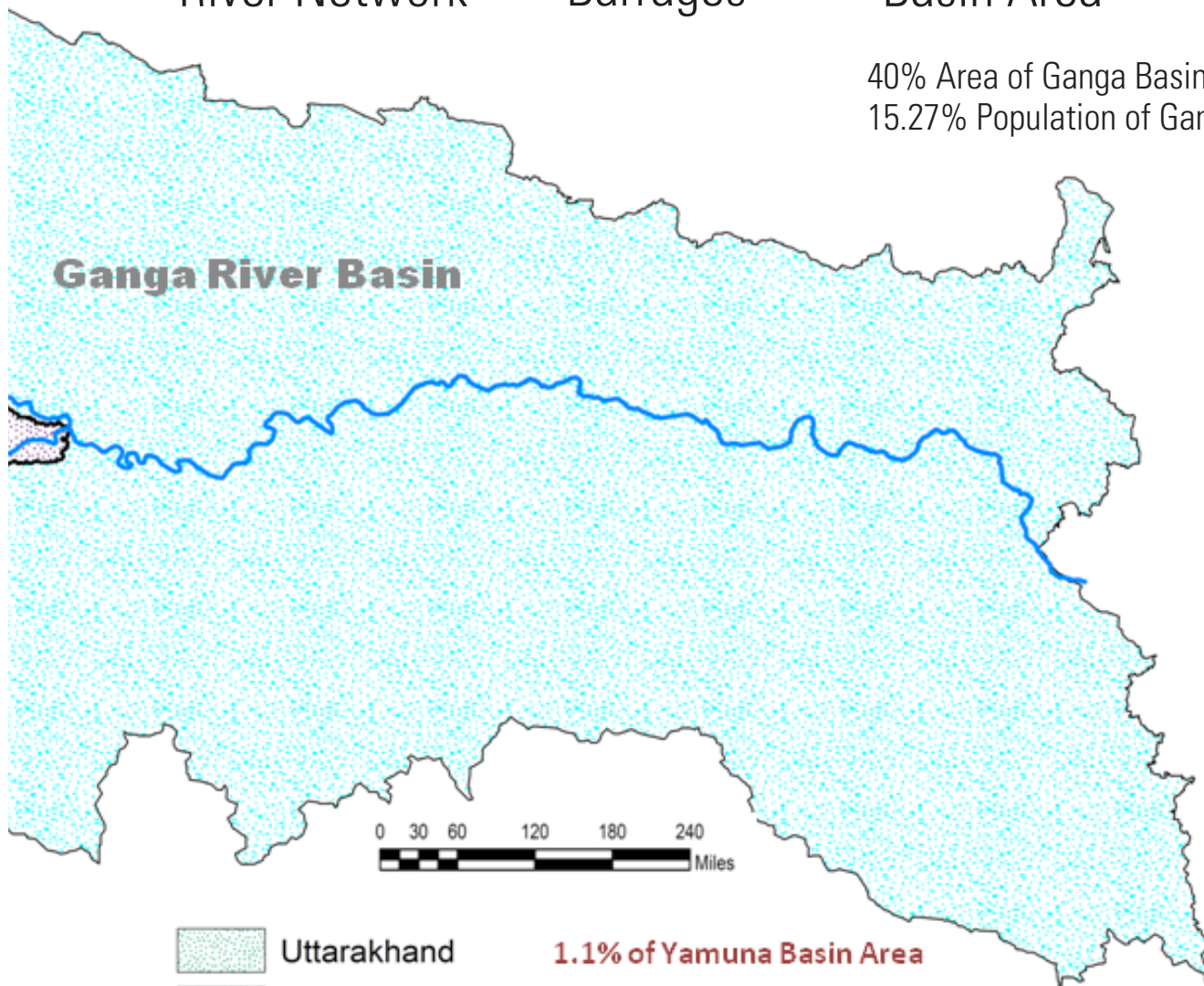







YAMUNA BASIN: AN OVERVIEW

7 States **101** Districts **50,774** Villages **314** Rivers **63** Dams

25,950 km. River Network **11** Barrages **341,628.31** sq.km. Basin Area

40% Area of Ganga Basin, Support
15.27% Population of Ganga Basin



	Uttarakhand	1.1% of Yamuna Basin Area
	Madhya Pradesh	40.5% of Yamuna Basin Area
	Yamuna Boundary	
	Ganga Basin	
	Haryana	6.2% of Yamuna Basin Area

Methodology: The method adopted, in brief, to obtain the river network are stepwise as follows:

Step 1 : Tracing of river streams using Google Earth (.kmz file)

Step 2 : Vetting of the stream maps with 30 m resolution DEM generated streams using SWAT. DEM is downloaded from USGS.

Step 3 : Streams' verification from Survey of India (Sol) toposheets.

Step 4 : Post-processing and cleaning of data for preparation of stream network maps.

Step 5 : Preparation of stream network map on GIS platform using ArcMAP 10.5.

Disclaimer: The accuracies of the maps generated by the above method are subject to the limitations of the data processing tools and software used for the particular geographical regions as represented in Google Earth images, and are subject to future refinement.

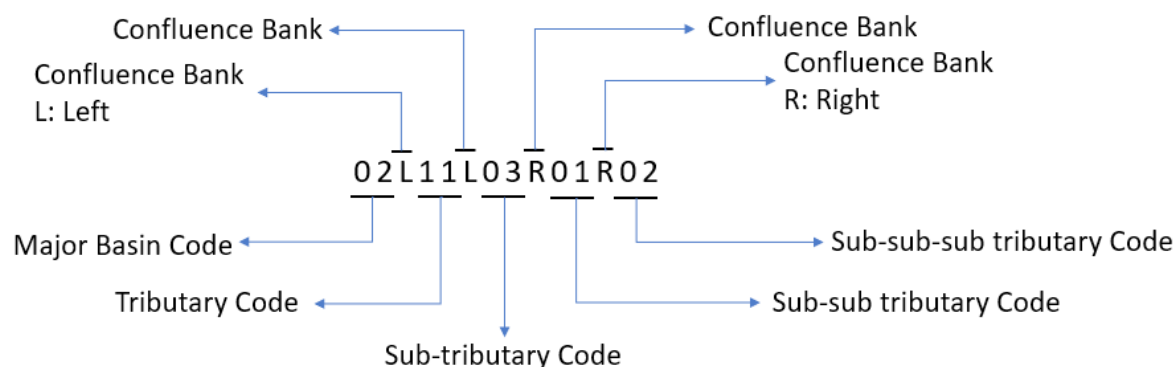
RIVER CODIFICATION SYSTEM

In the present Atlas alphanumeric characters are used for coding the river systems within natural and administrative boundaries. Each sub step in codification system is assigned a digit which reflects the length of the code up to that sub step. The coding has been done for the two different types of compartmentalizing river basins as stated below.

- a) Codification system based on natural delineation
- b) Codification system based on administrative delineation

The natural delineation approach is better suited to study and understand the basin area as a natural ecological unit while administrative delineation is good for determining specific interventions and fixing responsibilities in the implementation of any project relevant to rivers. Both approaches are important for their own reasons and, therefore, it was decided to develop the codification system for both natural as well as administrative delineations.

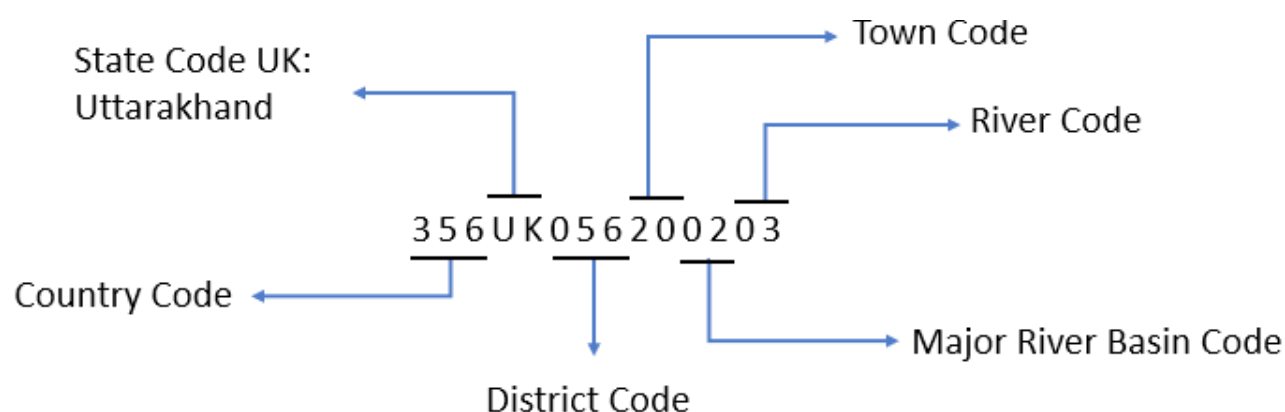
a) Codification system based on natural delineation: In the natural delineation approach, major basin codes given by CWC in River Basin Atlas of India, jointly published by CWC and NRSC, ISRO in October 2012, have been adopted here. These codes are accepted at regional level. In the second step, tributary code is given based on their confluence bank and their sequential number from the origin of the major river. R and L represents Right Bank and Left Bank, respectively, for the confluence bank in this code. For example, L11 in the code represents the 11th tributary (from the head of the major river) joining the major river at the left bank. In steps 3, 4, 5, etc. the same coding procedure as in step 2 is followed for sub-tributaries joining the tributaries and so on. Thus, the code can be extended without any alteration until it reaches down to the lowest order river.



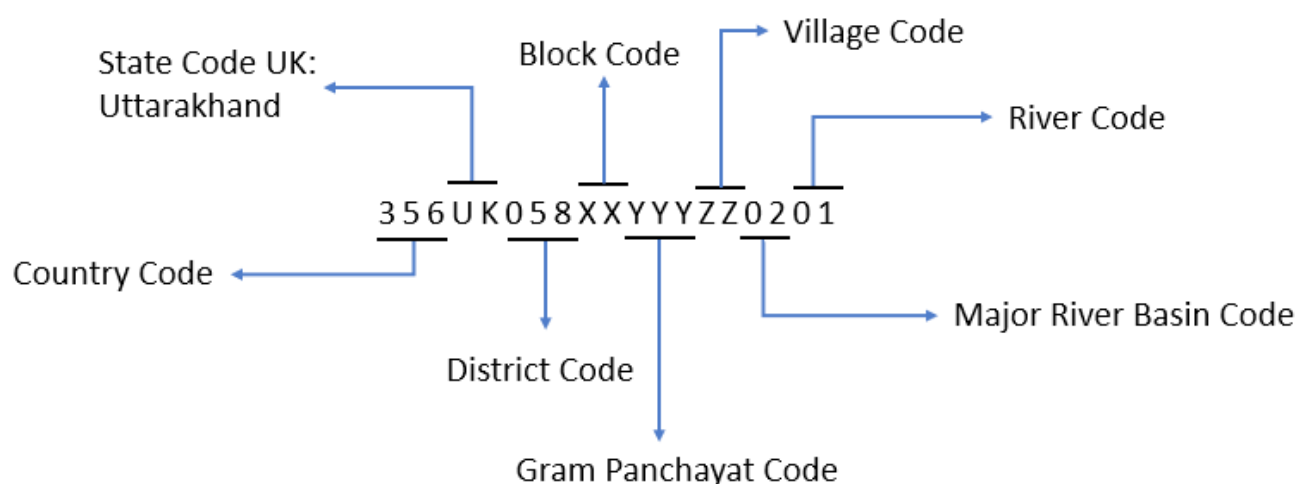


b) Codification system based on administrative delineation: In administrative delineation codes are generated separately for areas coming under urban and rural jurisdictions as further described.

Codification system based on administrative delineation–Urban: In administrative delineation-urban the first 3 digits of the code represent the country code adopted from ISO 3166-1. The next 5 digits give the state code and district code. State code is taken from transportation department and district code is adopted from census codes. The next 2 digits represent the town, which adopted from the census town codes. In the next step, 2 digits are assigned for major river basins and the codes are adopted from River Basin Atlas of India given by CWC. The last 2 digits of the code represent the river based on higher to lower river order approach, and if there are more than one river of the same order then code is allotted in alphabetical order.



Codification system based on administrative delineation-Rural: In administrative delineation-rural the first 3 digits of the code represent the country code adopted from ISO 3166-1. The next 5 digits give the state code and district code. State code is taken from transportation department and district code is adopted from census codes. Block, Gram Panchayat and Village codes are further generated based on district codes. In the next step, 2 digits are assigned for major river basin as per the River Basin Atlas of India given by CWC. The last 2 digits of the code represent the river code based on higher to lower river order approach, and if there be more than one river of same order then the code is allotted in alphabetical order.



YAMUNA RIVER NETWORK

Yamuna River UID Code: 02R38

Basin area: 341,628.31 sq. km.

Major rivers: Chambal, Sindh, Betwa, Ken, Utangan, Hindon, Senger, Tons

Number of rivers- 314

Total length of rivers- 25,950 km.

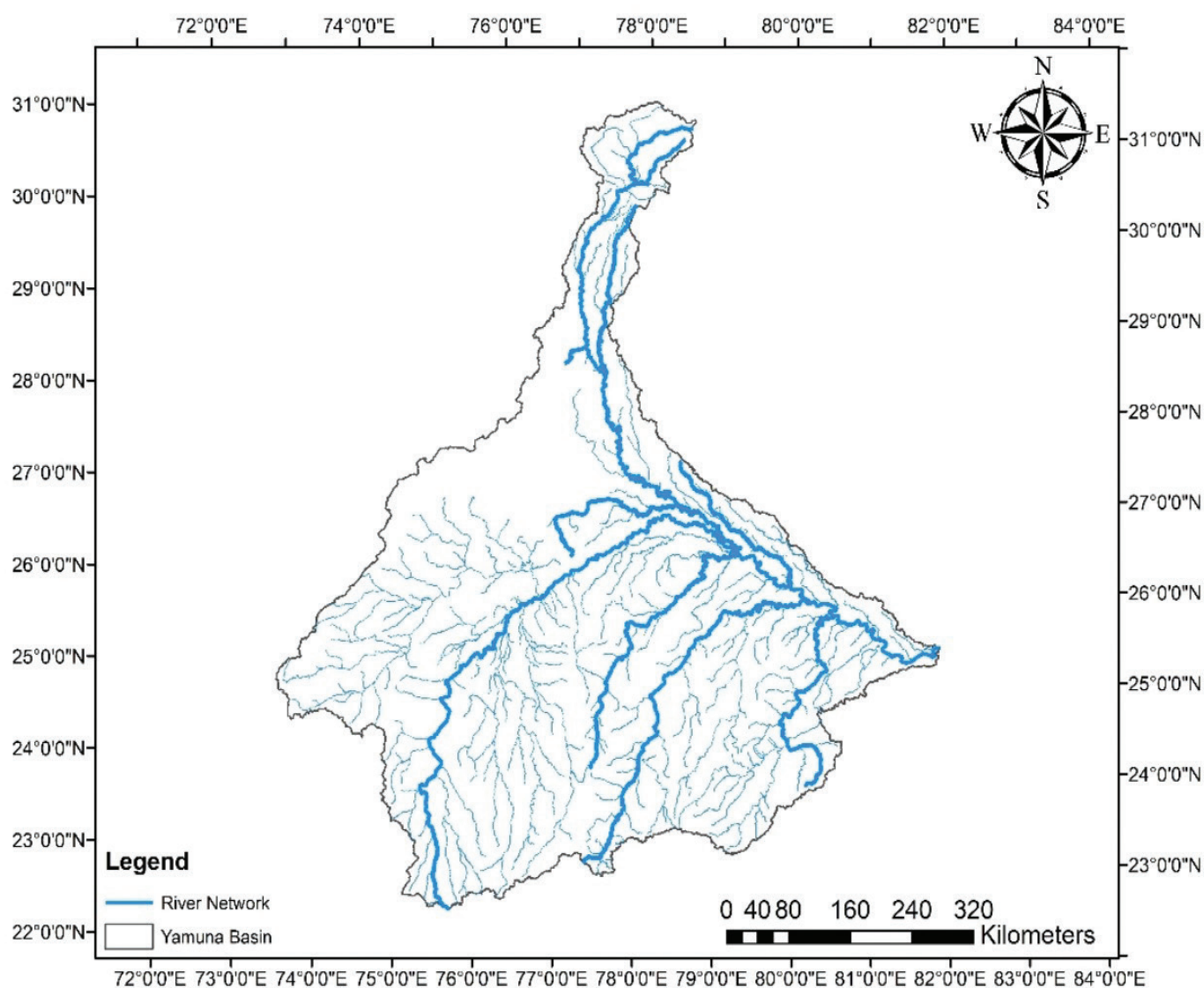
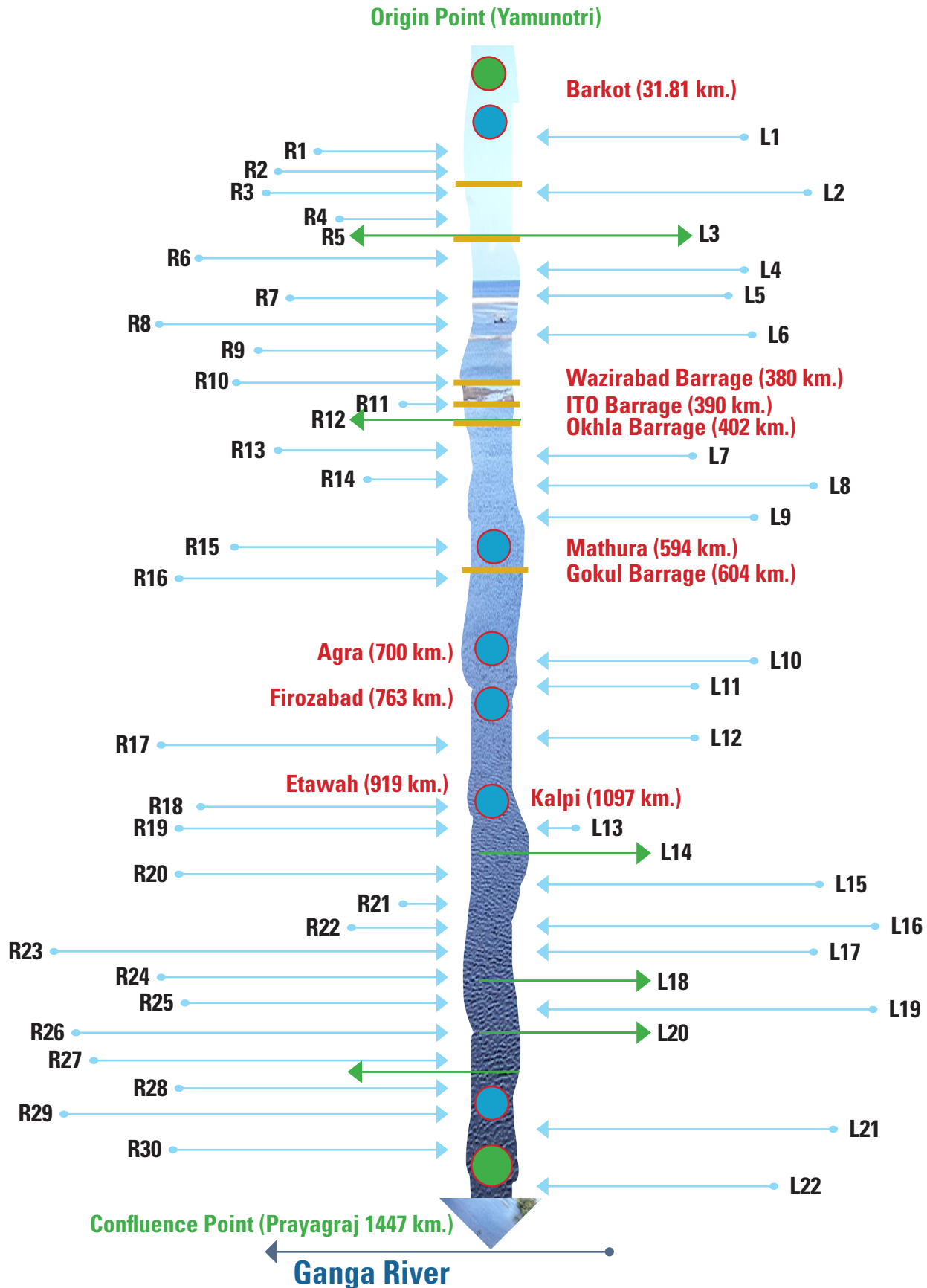


Figure: Yamuna River Network





FLOW DIAGRAM: YAMUNA RIVER AND HER TRIBUTARIES



Yamuna River and Her Tributaries					
S No	Confluence Bank	Length (km.)	Confluence Co-ordinates		Distance from origin (km.)
			Latitude	Longitude	
1	R 1	4.24	30.99	78.45	4
2	L 1	33.7	30.51	77.99	64
3	R 2	30.6	30.51	77.85	93
4	R 3	172	30.51	77.82	117
5	R 4	157	30.46	77.68	134
6	L 2	54.5	30.43	77.67	137
7	R 5	26.9	30.43	77.58	143
8	R 6		30.31	77.58	156
9	L 3	206	30.31	77.59	156
10	R 7	53	30.14	77.4	184
11	L 4	76	30.07	77.36	194
12	R 8	38	29.74	77.13	247
13	R 9	61.4	29.5	77.09	277
14	L 5	87.3	29.39	77.16	293
15	R 10	93	29.28	77.12	305
16	R 11	48.2	28.71	77.23	380
17	R 12	5	28.59	77.28	396
18	R 13		28.54	77.31	402
19	L 6	28.7	28.54	77.32	403
20	L 7	371	28.41	77.49	435
21	R 14	23.1	28.38	77.49	439
22	R 15	7.46	28.03	77.5	486
23	L 8	39	27.8	77.7	544
24	R 16	35.6	27.51	77.68	594
25	R 17	177	27.31	77.8	632
26	L 9	91.1	27.2	78.08	706





27	L 10	18.1	27.11	78.24	742
28	R 18	329	26.98	78.45	800
29	L 11	29.2	26.91	78.63	851
30	R 19	1002	26.5	79.25	993
31	R 20	516	26.44	79.21	1004
32	L 12	6.81	26.43	79.42	1029
33	L 13		26.36	79.56	
34	R 21	108	26.19	79.7	1084
35	R 22	7.39	26.11	79.78	1100
36	R 23	29.7	26.08	79.9	1114
37	L 14	390.2	26.16	79.94	1123
38	R 24	657.2	25.92	80.21	1174
39	L 15	118	25.91	80.36	1192
40	L 16	427	25.88	80.55	1211
41	R 25	405	25.77	80.52	1233
42	R 26	96.5	25.68	80.71	1259
43	L 17		25.72	80.82	1272
44	R 27	52.2	25.62	80.95	1296
45	R 28	184	25.54	81.02	1318
46	R 29				1321
47	L 18	132	25.51	81.13	1329
48	L 19		25.45	81.19	1340
49	R 30	146	25.42	81.15	1346
50	R 31	31.3	25.34	81.25	1361
51	L 20	52.2	25.29	81.53	1399
52	L 21	171	25.41	81.81	1439

YAMUNA: MAJOR SUB-BASINS

Major sub-basins of Yamuna River are as follows:

- Chambal basin
- Sindh basin
- Betwa basin
- Ken basin
- Utangan basin
- Senger basin
- Najafgarh basin
- Hindon basin
- Tons basin

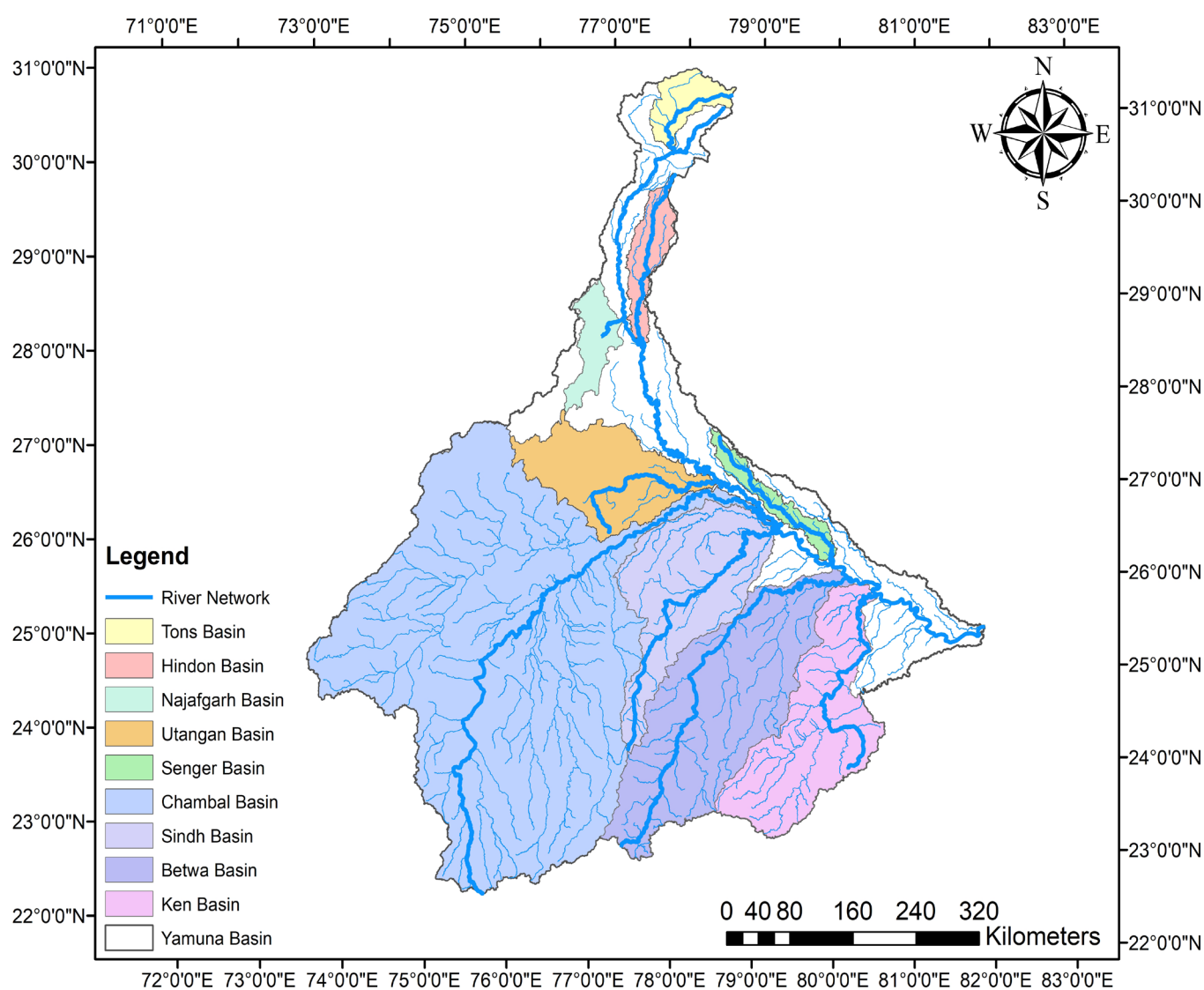


Figure: Yamuna River Network





CHAMBAL BASIN

Chambal River UID Code: 02R38R14
 Basin area: 142,809.03 sq. km.
 Major rivers: Banas, Parbati, Mez,
 Kali Sindh, Kshipra, Parvan, Berach,
 Khari, Masii, Morel
 Number of rivers- 118
 Total length of river- 9,894.44 km.

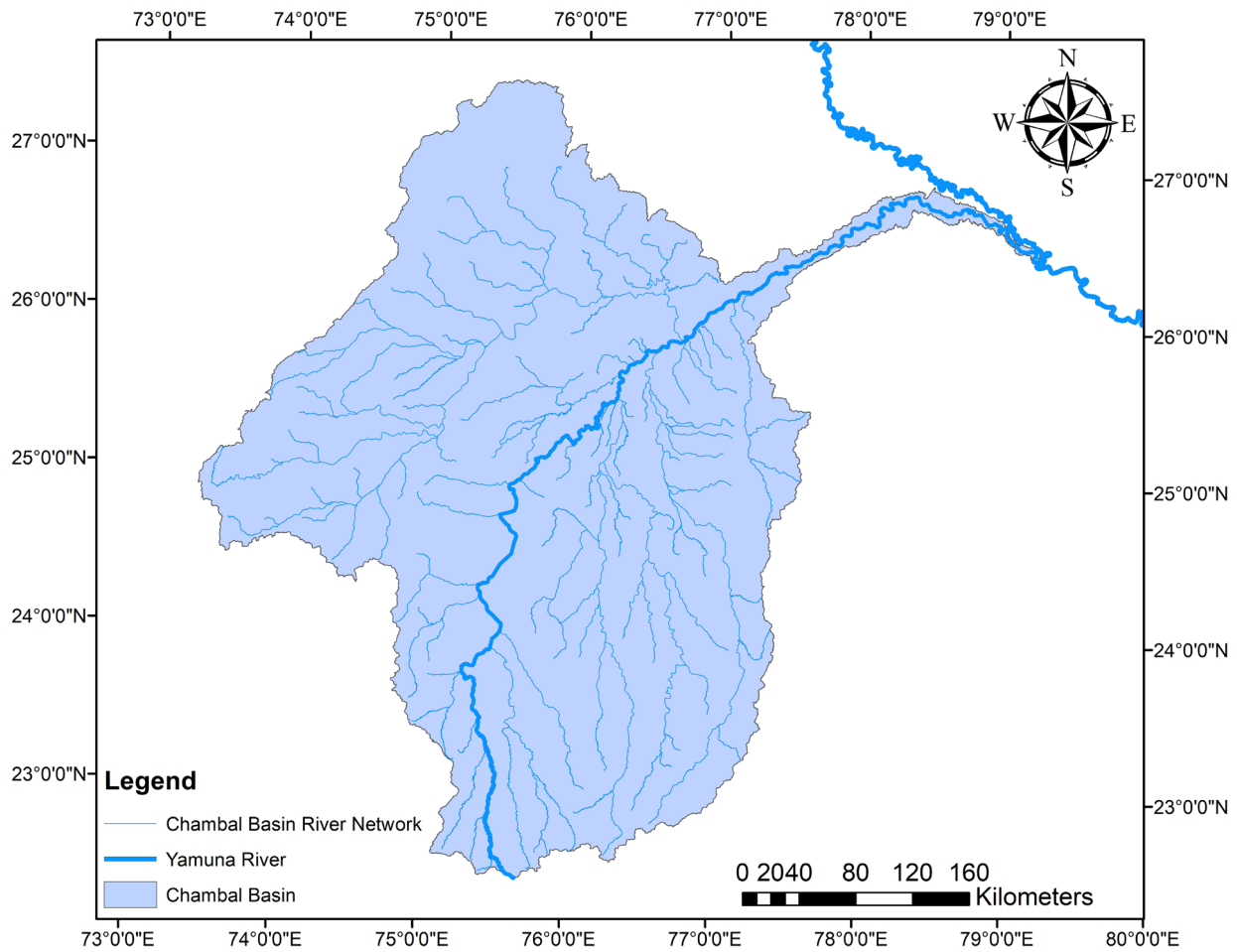
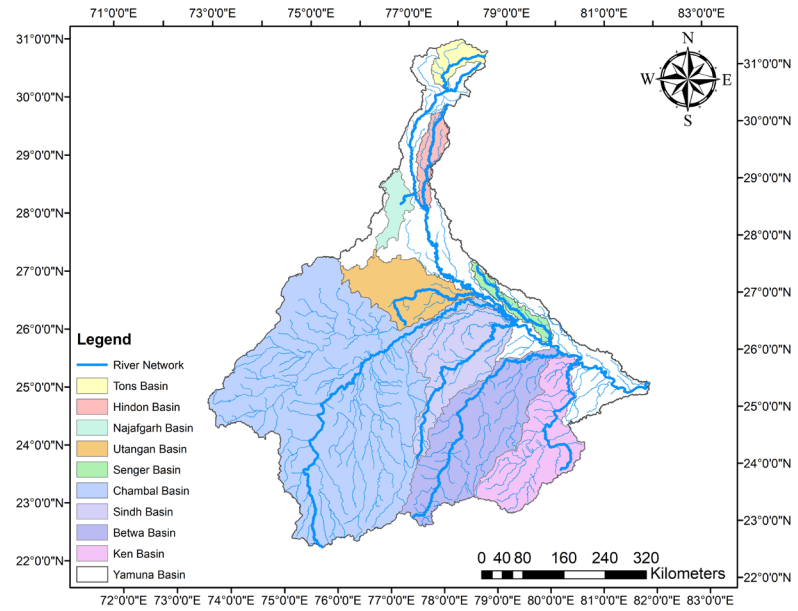
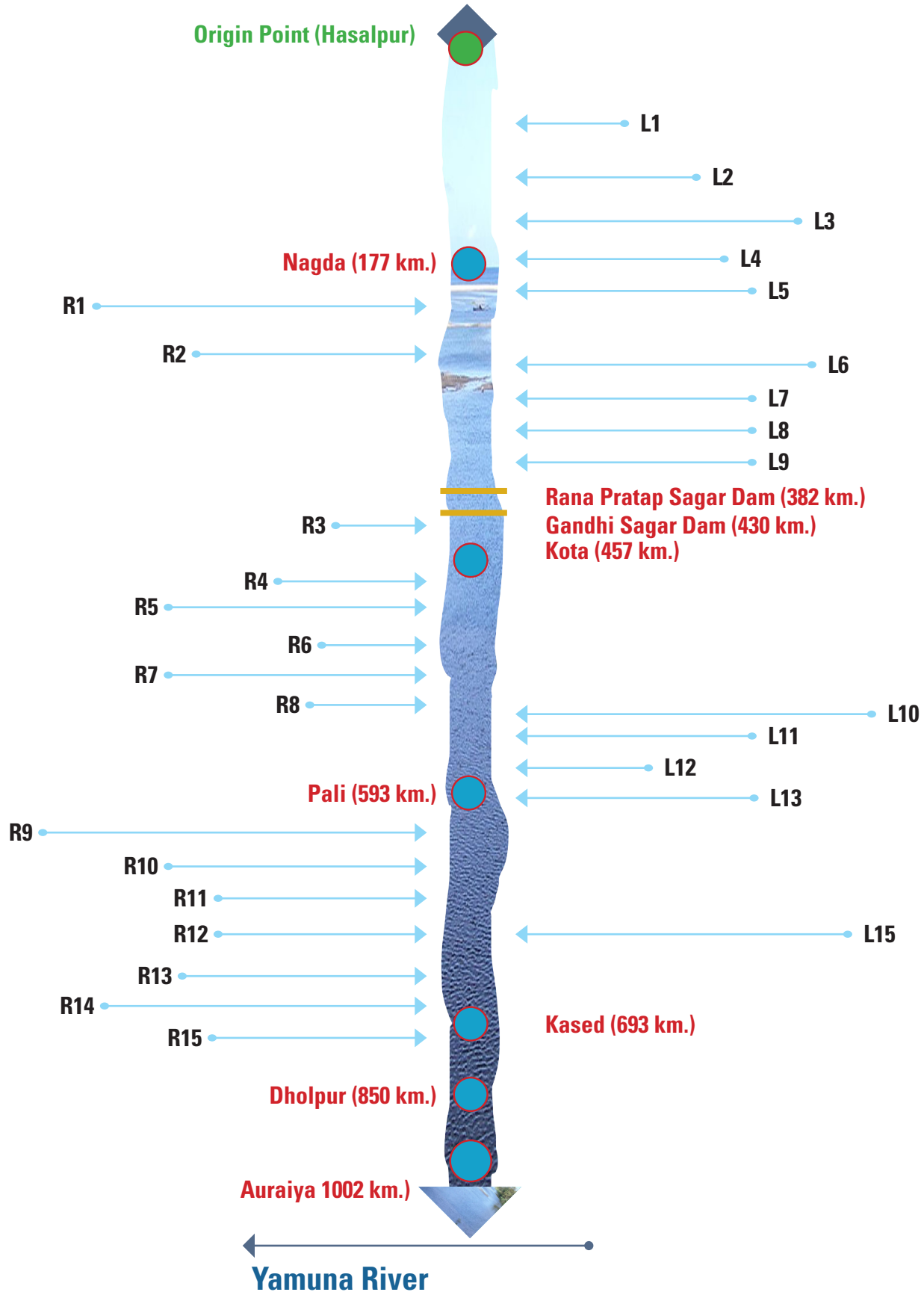


Figure: Chambal River network in Yamuna basin

FLOW DIAGRAM: CHAMBAL RIVER AND HER TRIBUTARIES





Chambal River and Her Tributaries					
S No	Confluence Bank	Length (km.)	Confluence Co-ordinates		Distance from origin (km.)
			Latitude	Longitude	
1	L1	24.5	22.59	75.52	44
2	L2	56.4	22.85	75.47	88
3	L3	141	23.36	75.42	164
4	L4	40.8	23.45	75.39	177
5	L5	75.7	23.76	75.27	224
6	R1	238	23.92	75.46	256
7	R2	164	24.02	75.52	270
8	L6	122	24.25	75.37	301
9	L7	89.5	24.32	75.36	310
10	L8	75.5	24.78	75.52	377
11	L9	76.3	24.96	75.55	407
12	R3	27.7	24.99	75.62	415
13	R4	232	25.23	75.99	476
14	R5	41.6	25.36	76.16	508
15	R6	17.2	25.49	76.21	534
16	R7	52.7	25.51	76.26	540
17	R8	405	25.53	76.28	544
18	L10	186	25.68	76.29	563
19	L11	45.9	25.75	76.36	576
20	L12	9.76	25.76	76.40	580
21	L13	27.8	25.83	76.47	593
22	L14	141	25.85	76.48	595
23	R9	440	25.85	76.57	604
24	L15	555	25.91	76.74	626
25	R10	56.1	25.91	76.74	626
26	R11	25	25.92	76.77	628
27	R12	37.5	25.99	76.82	642
28	R13	43.1	26.03	76.86	647
29	R14	204	26.18	77.09	678
30	R15	34.2	26.23	77.20	693

SINDH BASIN

Sindh River UID Code: 02R38R15
 Basin area: 27,726.12 sq. km.
 Major rivers: Kunwari, Vaisali, Pahuj
 Number of rivers- 29
 Total length of rivers- 2,633.5 km.

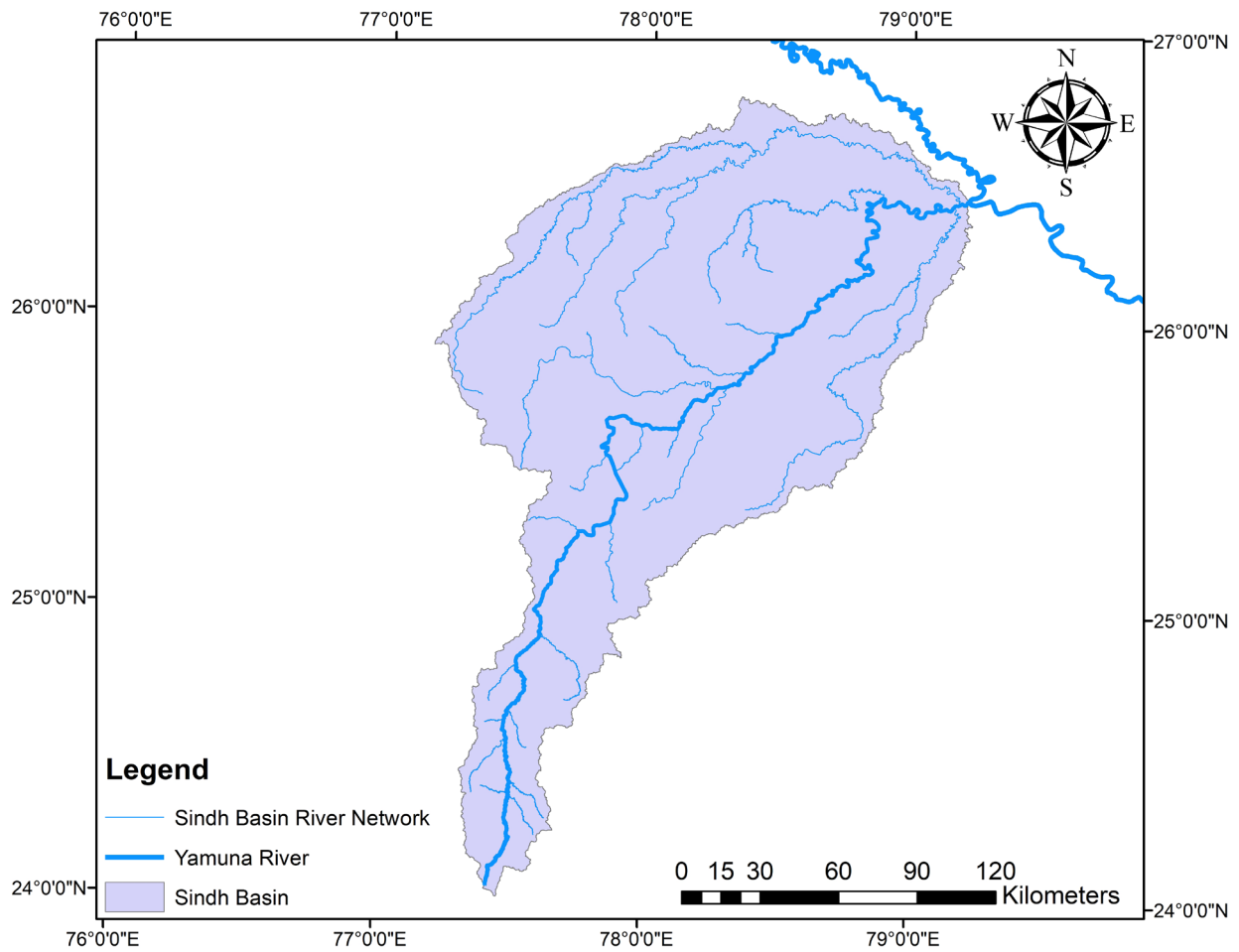
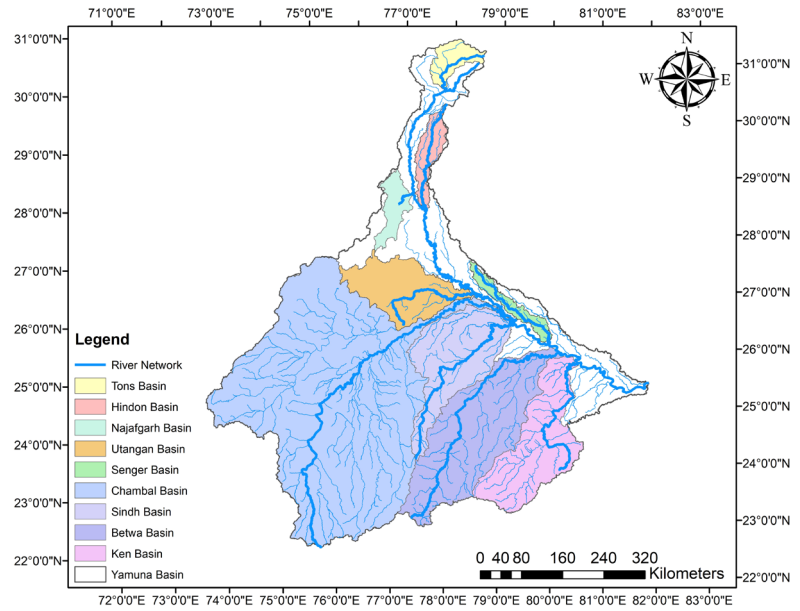
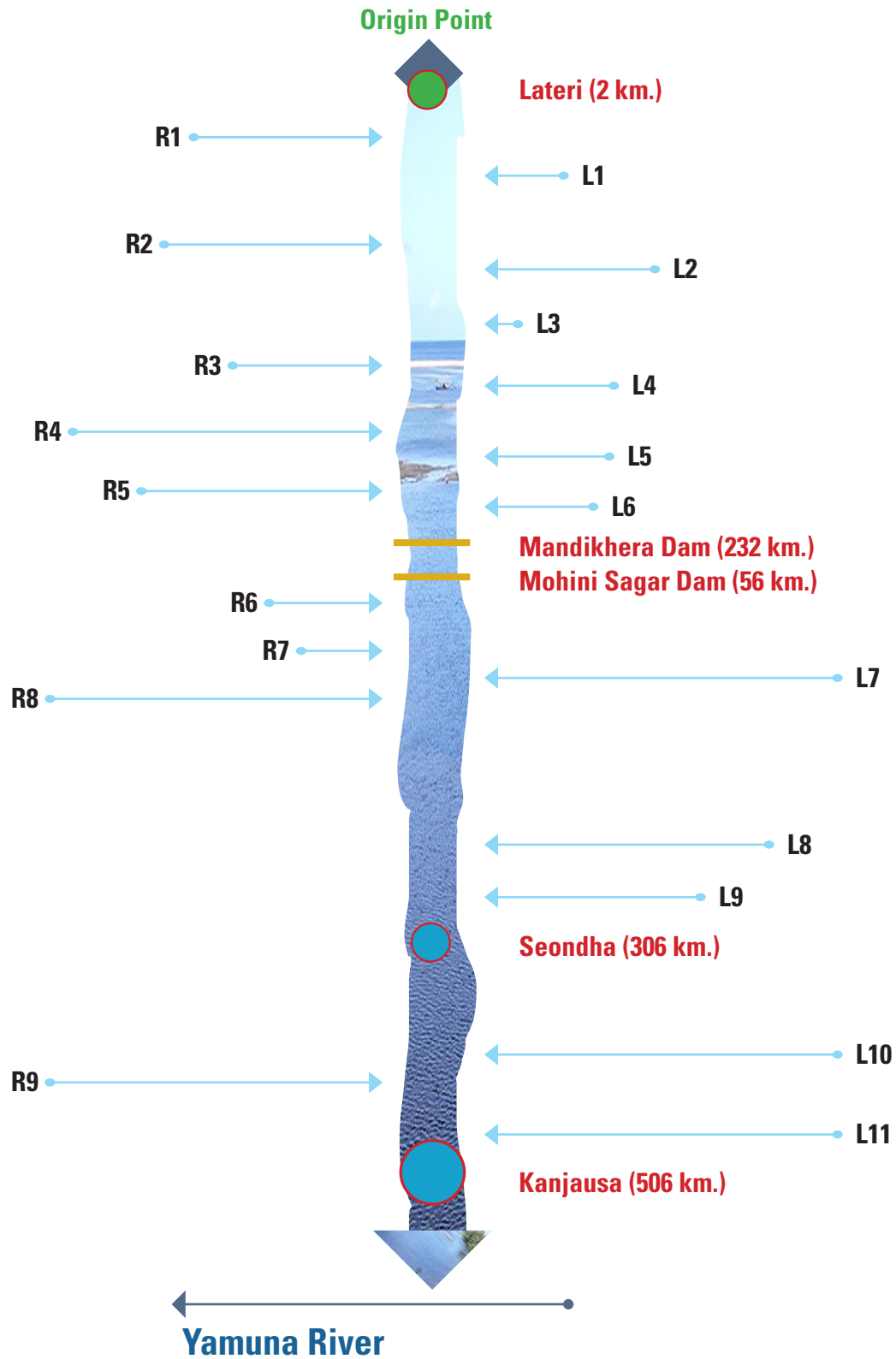


Figure: Sindh River network in Yamuna basin



FLOW DIAGRAM: SINDH RIVER AND HER TRIBUTARIES



Sindh River and Her Tributaries					
S No	Confluence Bank	Length (km.)	Confluence Co-ordinates		Distance from origin (km.)
			Latitude	Longitude	
1	R1	30.4	24.37	77.50	56.7
2	L1	19.3	24.38	77.50	58.6
3	R2	34.9	24.41	77.51	62.2
4	L2	41	24.57	77.48	85.8
5	L3	10.3	24.63	77.48	92.8
6	R3	25.3	24.65	77.50	97.1
7	L4	25.4	24.82	77.52	123
8	R4	56	24.93	77.61	139
9	L5	24.9	25.28	77.75	186
10	R5	41	25.31	77.87	202
12	L6	27.1	25.53	77.84	235
13	R6	23.9	25.64	77.98	268
14	R7	16.7	25.64	78.12	284
15	L7	159	25.78	78.26	308
16	R8	72.8	25.78	78.30	313
17	L8	59.9	25.83	78.36	323
18	L9	29.9	25.97	78.51	349
19	L10	187	26.44	78.89	462
20	R9	259	26.42	79.16	507





BETWA BASIN

Betwa River UID Code: 02R38R19
 Basin area: 43,815.72 sq. km.
 Major rivers: Dhasan, Jamini, Bina, Godar, Virma, Aur
 Number of rivers - 43
 Total length of river- 3,346.79 km.

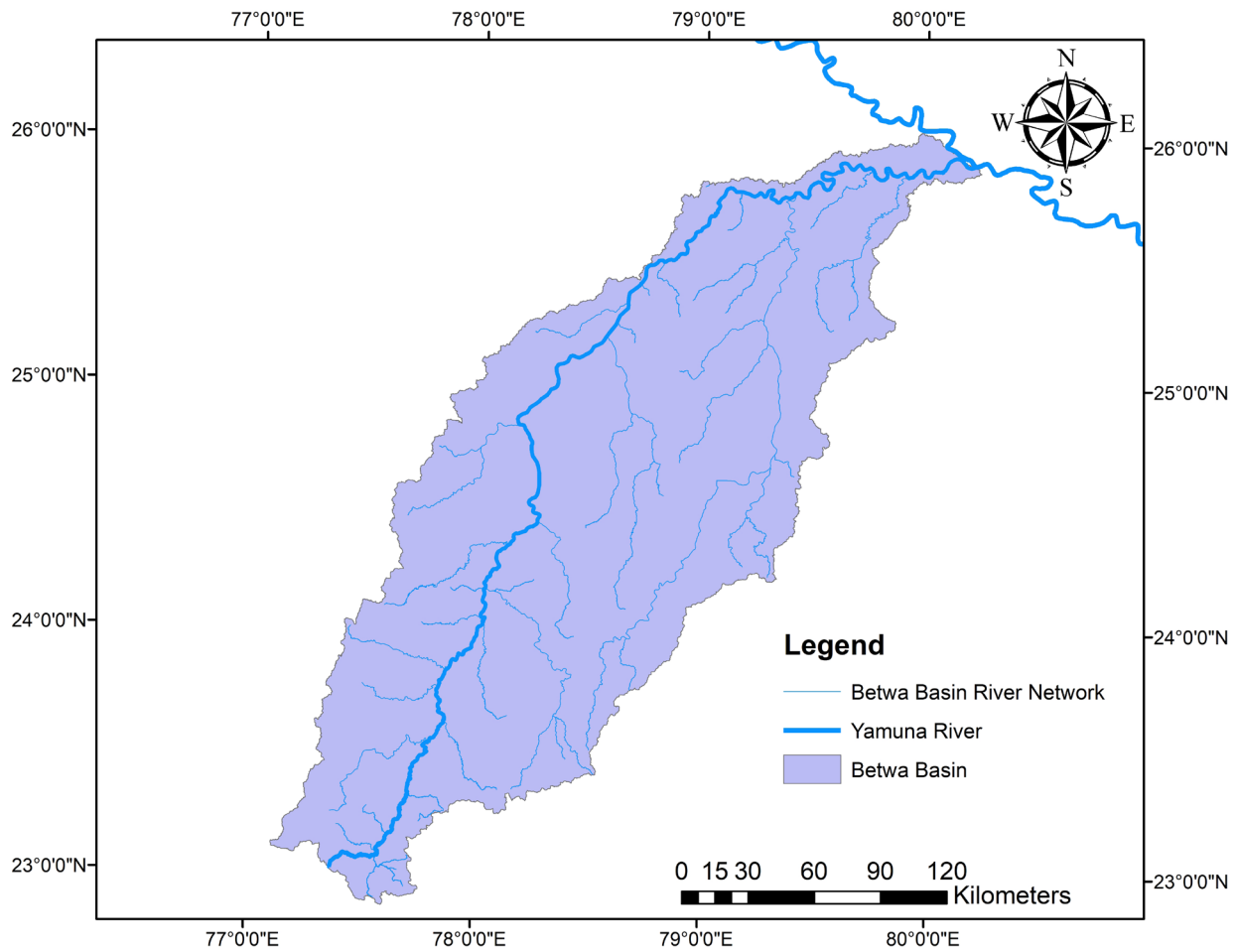
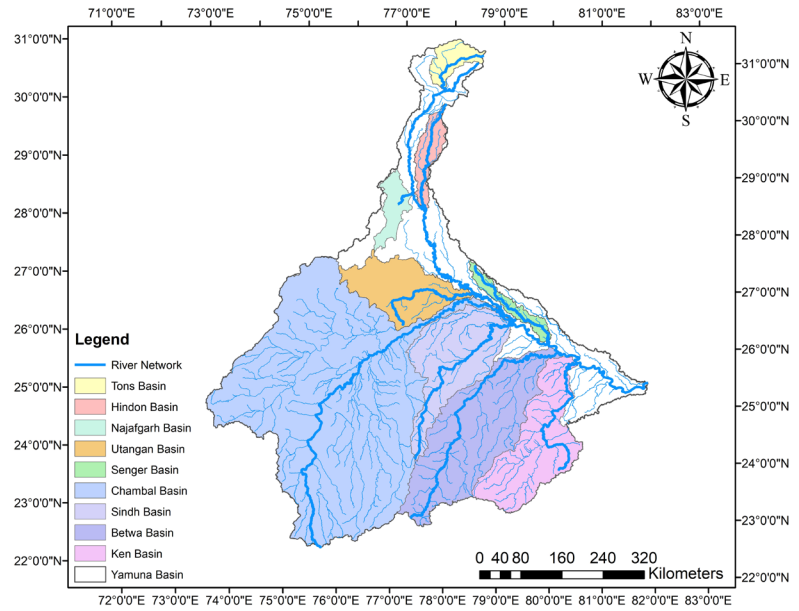
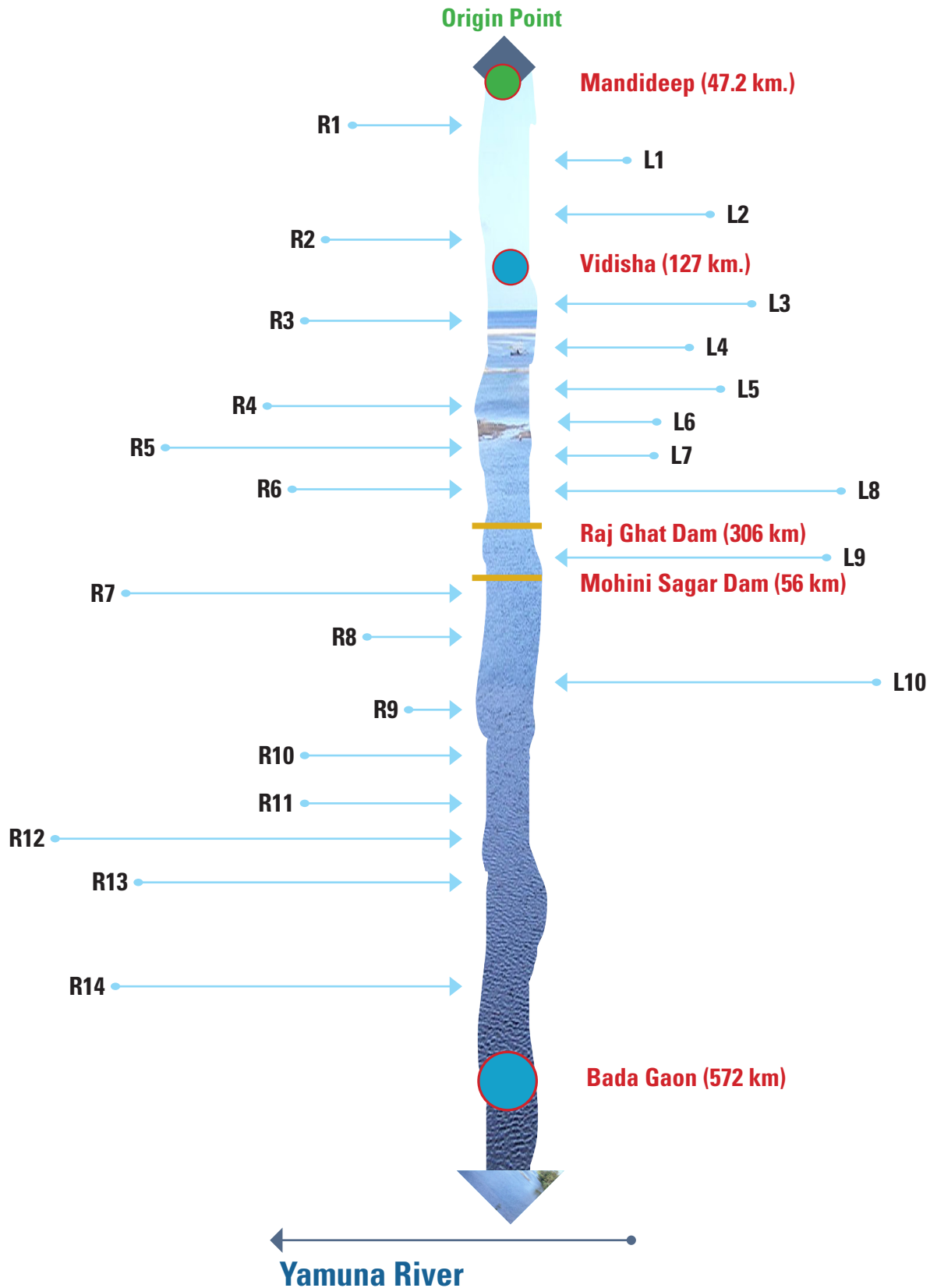


Figure: Betwa River network in Yamuna basin

FLOW DIAGRAM: BETWA RIVER AND HER TRIBUTARIES





Betwa River and Her Tributaries					
S No	Confluence Bank	Length (km.)	Confluence Co-ordinates		Distance from origin (km.)
			Latitude	Longitude	
1	R1	46.7	23.07	77.57	47.2
2	L1	35.1	23.09	77.58	52.5
3	L2	43	23.16	77.62	64.2
4	R2	60.6	23.32	77.71	92.6
5	L3	91.8	23.55	77.80	127
6	R3	69.6	23.64	77.87	141
7	L4	55	23.77	77.84	159
8	L5	68.5	23.84	77.87	168
9	R4	75	24.04	78.04	201
10	L6	39.3	24.06	78.02	204
11	L7	23.3	24.17	78.03	218
12	R5	149	24.17	78.04	218
13	L8	113	24.36	78.14	146
14	R6	85.6	24.45	78.27	264
15	L9	91	24.84	78.17	318
16	R7	166	25.21	78.57	382
17	R8	17.6	25.26	78.61	390
18	L10	56.4	25.35	78.65	400
19	R9	8.39	25.43	78.72	412
20	R10	41.4	25.52	78.81	428
21	R11	35.4	25.80	79.16	487
22	R12	373	25.79	79.40	520
23	R13	66.7	25.90	79.75	588
24	R14	149.3	25.88	79.90	612

KEN BASIN

Ken River UID Code: 02R38R20
 Basin area: 28,614.07 sq. km.
 Major rivers: Sonar, Bearma,
 Shyamari, Chandrawal, Bewas
 Number of rivers- 35
 Total length of rivers- 2,640.2 km.

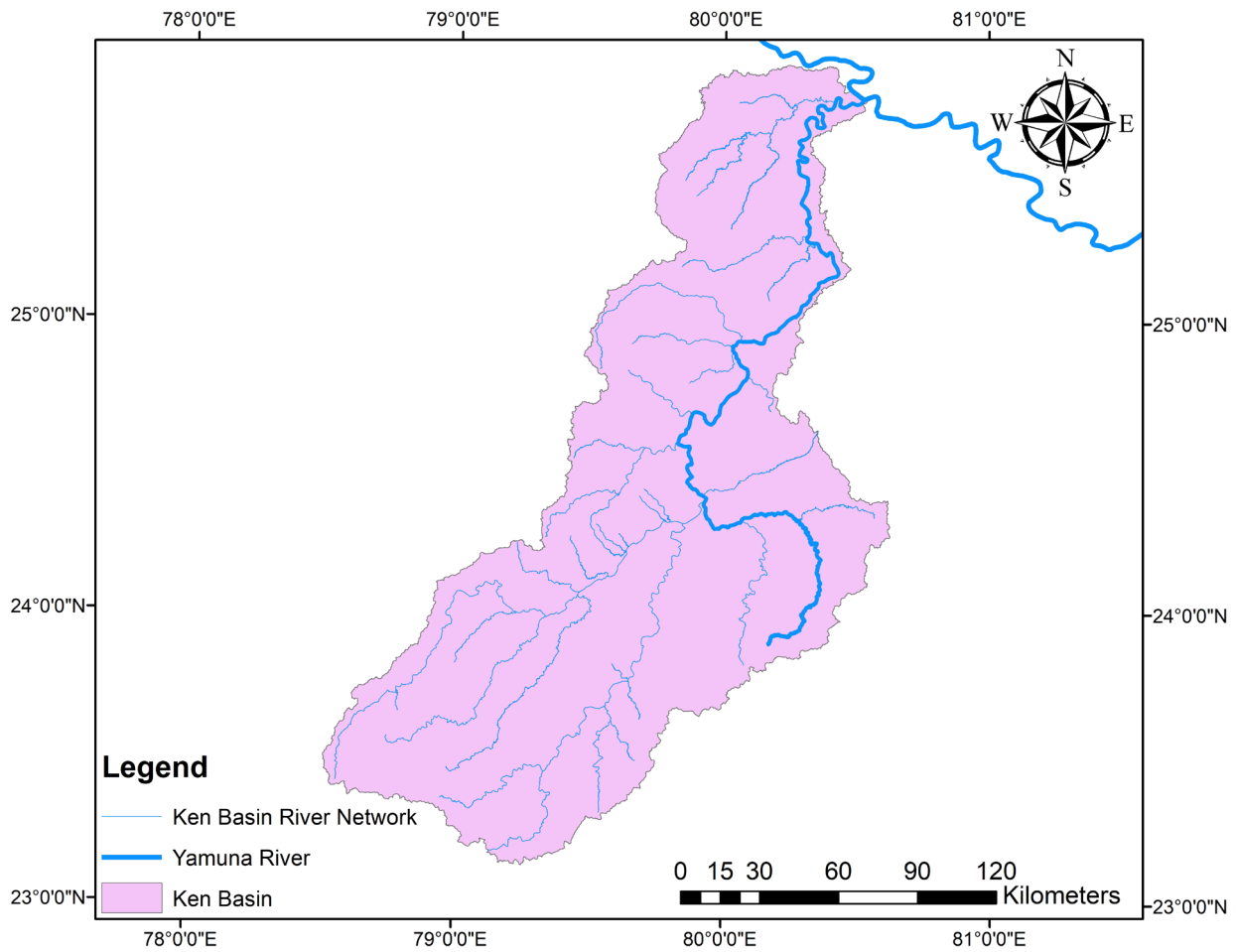
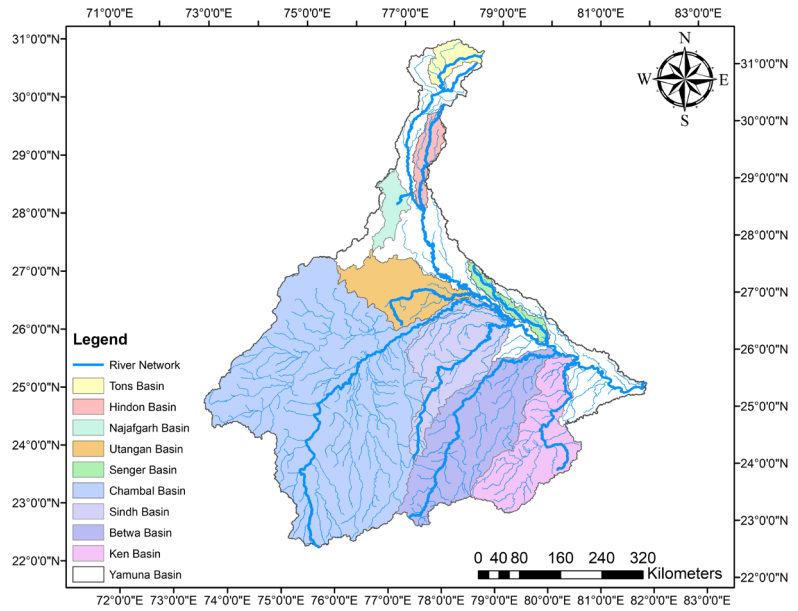
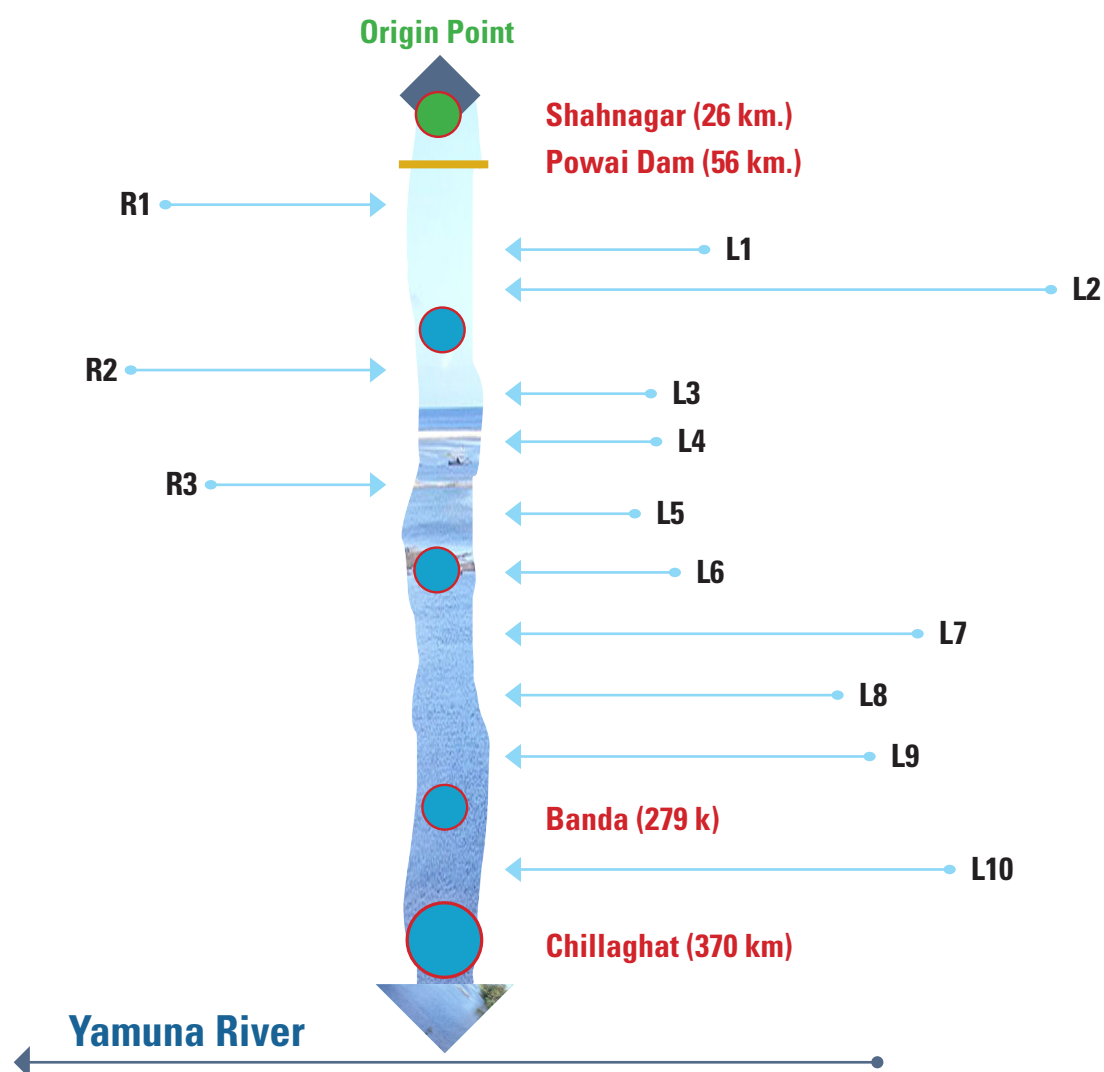


Figure: Ken River network in Yamuna basin



FLOW DIAGRAM: KEN RIVER AND HER TRIBUTARIES



Ken River and Her Tributaries					
S No	Confluence Bank	Length (km.)	Confluence Co-ordinates		Distance from origin (km.)
			Latitude	Longitude	
1	R1	52.7	24.33	80.27	81
2	L1	92.7	24.32	80.06	106
3	L2	205	24.39	79.93	129
4	R2	78.6	24.41	79.92	132
5	L3	61.6	24.59	79.83	163
6	L4	39	24.69	79.89	176
7	R3	23.6	24.82	80.09	209
8	L5	29	24.92	80.03	221
9	L6	47.3	24.92	80.03	223
10	L7	102	24.94	80.07	227
11	L8	55.2	25.28	80.34	296
12	L9	77.7	25.30	80.31	301
13	L10	127	25.77	80.42	387

UTANGAN BASIN

Utangan River UID Code: 02R38R13
 Basin area: 19,273.20 sq. km.
 Major rivers: Khari, Parbati, Kawar
 Number of rivers- 07
 Total length of rivers- 723.9 km.

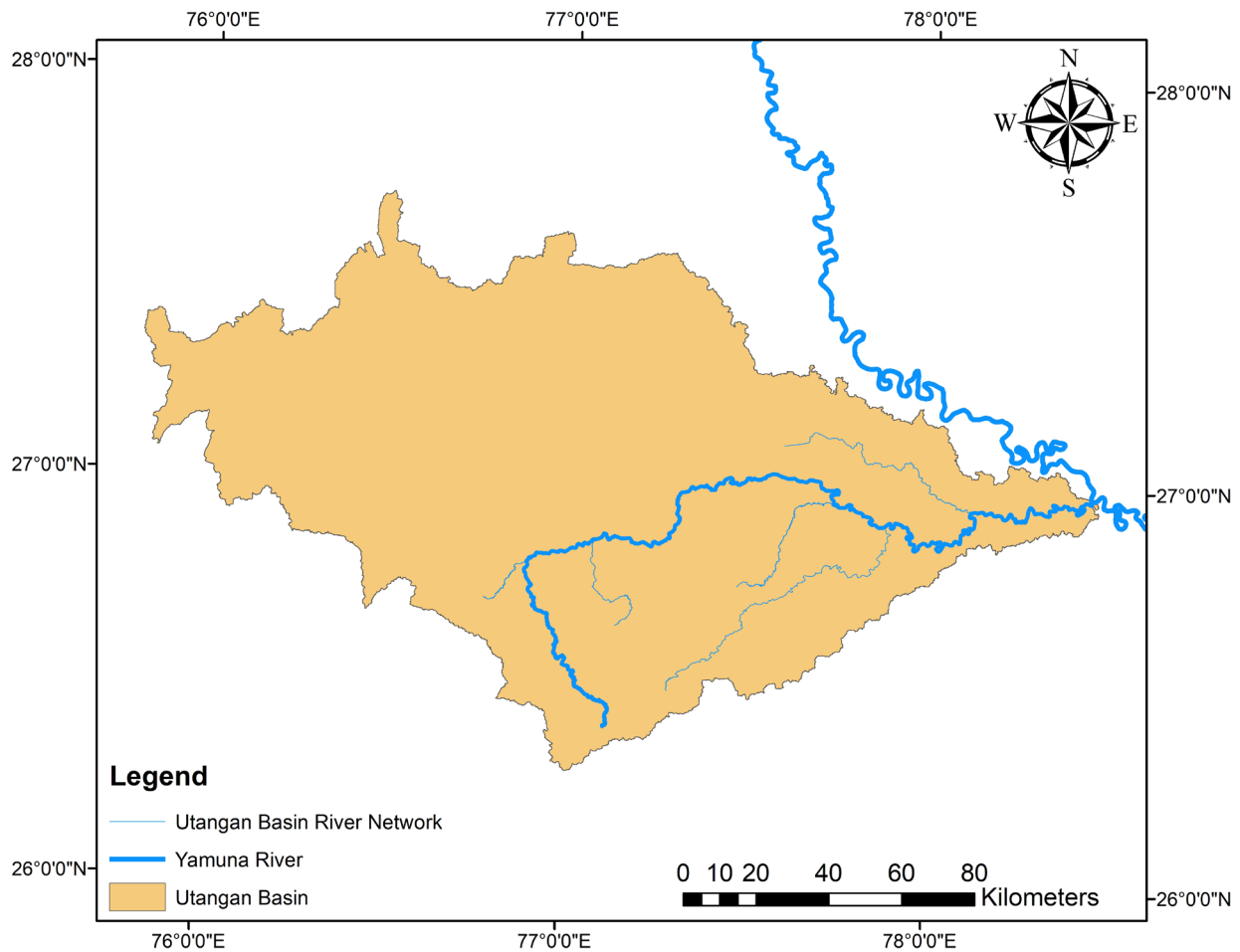
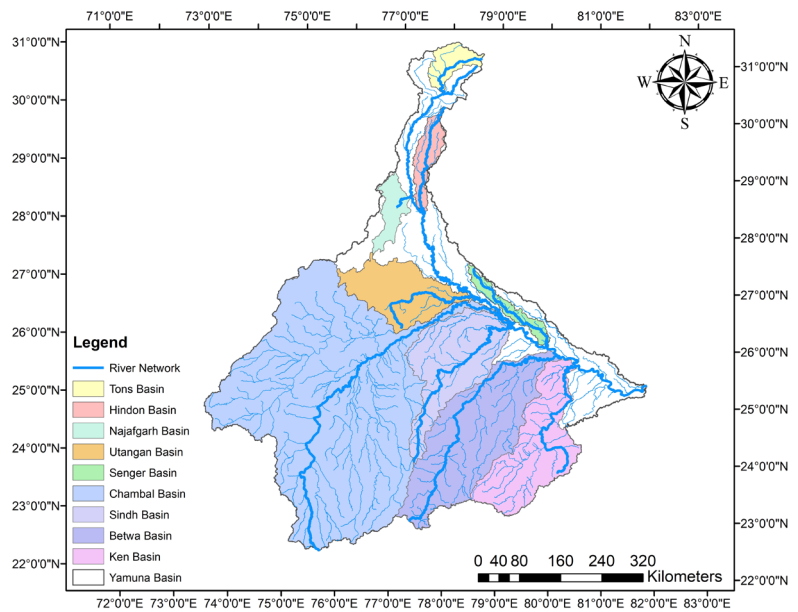
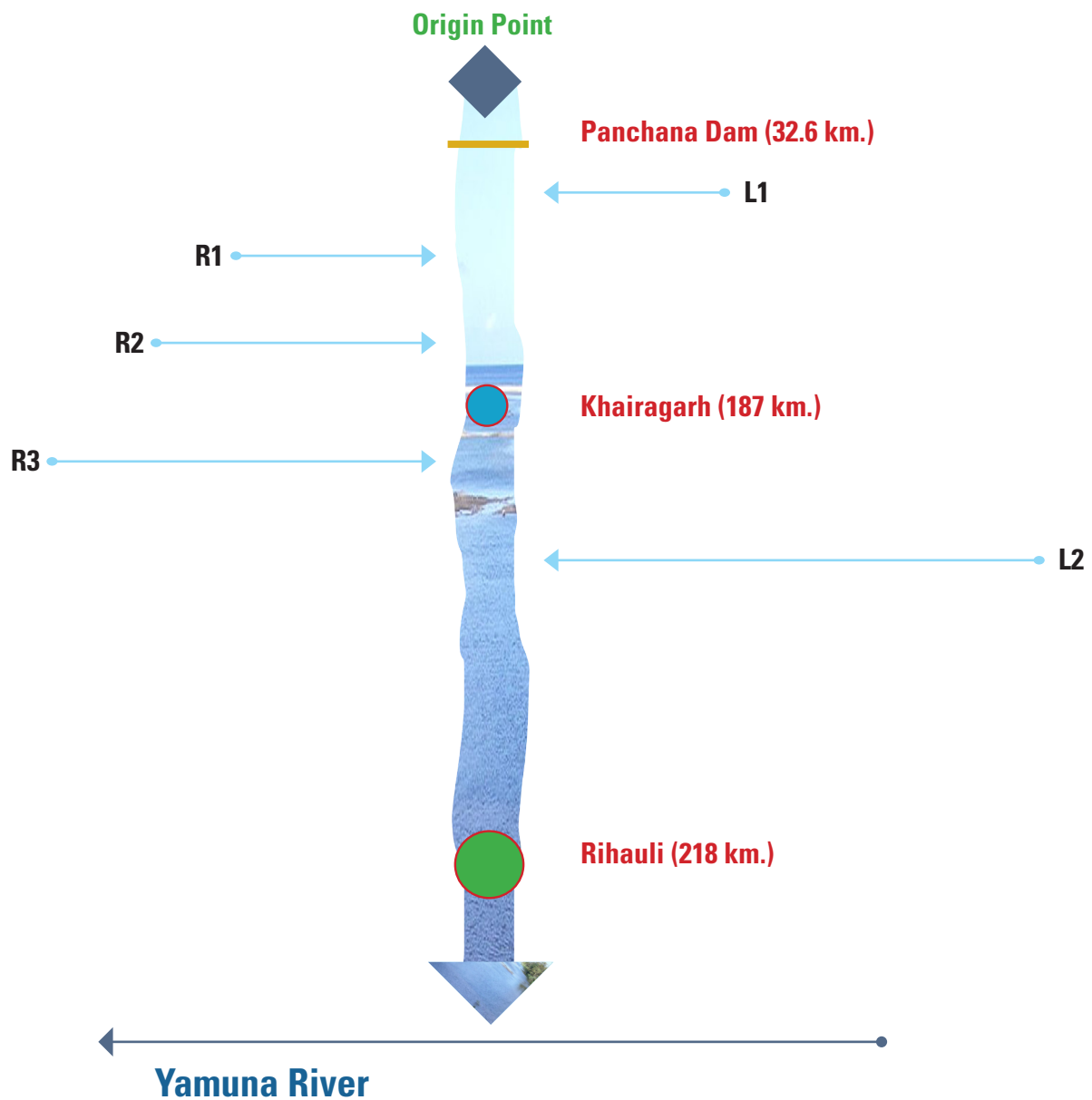


Figure: Utangan River network in Yamuna basin



FLOW DIAGRAM: UTANGAN RIVER AND HER TRIBUTARIES



Utangan River and Her Tributaries					
S No	Confluence Bank	Length (km.)	Confluence Co-ordinates		Distance from origin (km.)
			Latitude	Longitude	
1	L1	28.6	26.80	76.89	71.5
2	R1	43.8	26.86	77.08	95.2
3	R2	70.3	26.96	77.74	197
4	R3	119	26.91	77.87	215
5	L2	81.3	26.95	78.12	272

SENGER BASIN

Senger River UID Code: 02R38L13
 Basin area: 4,573.73 sq. km.
 Major rivers: Sirsa, Karundi
 Number of rivers- 28
 Total length of rivers- 874.95 km.

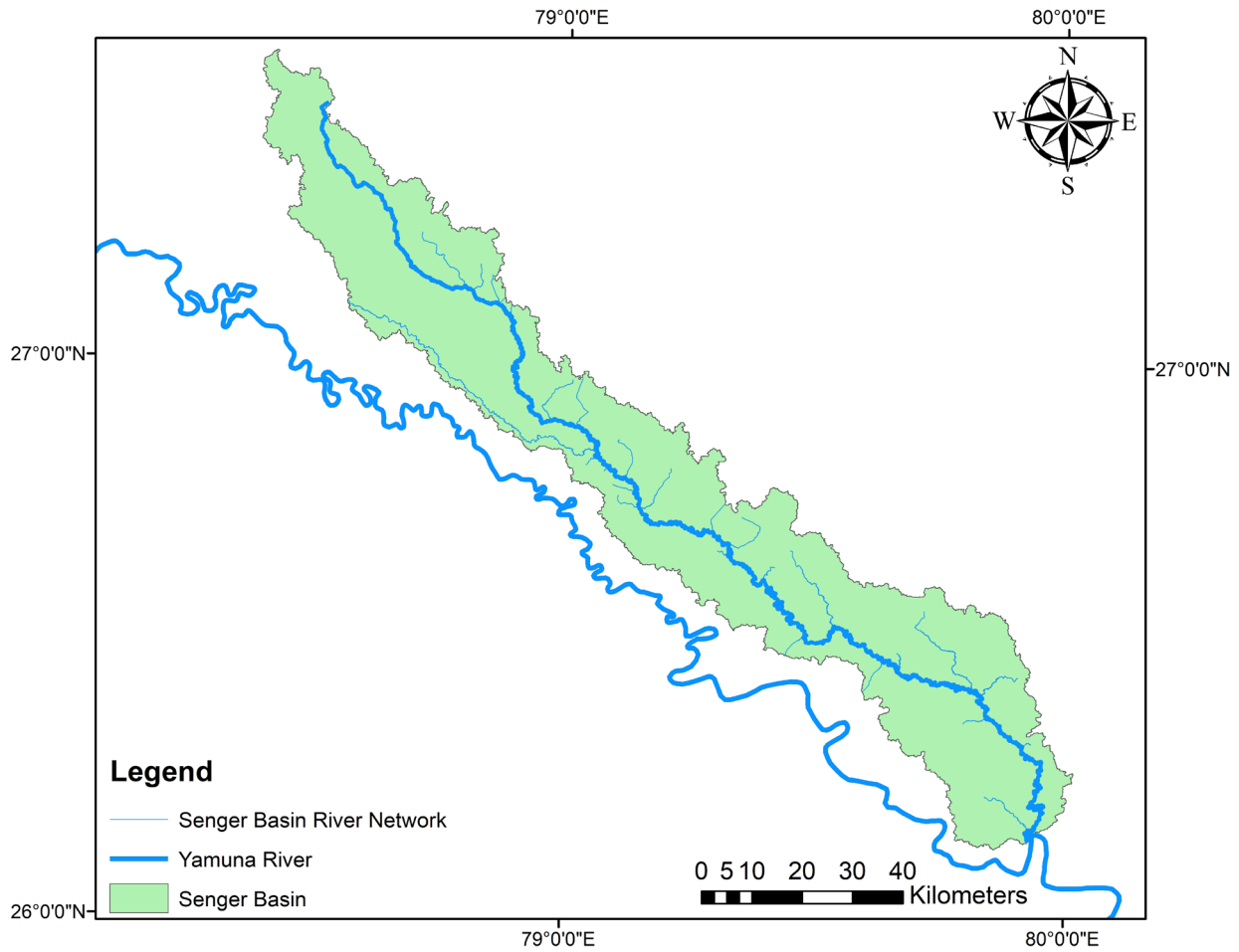
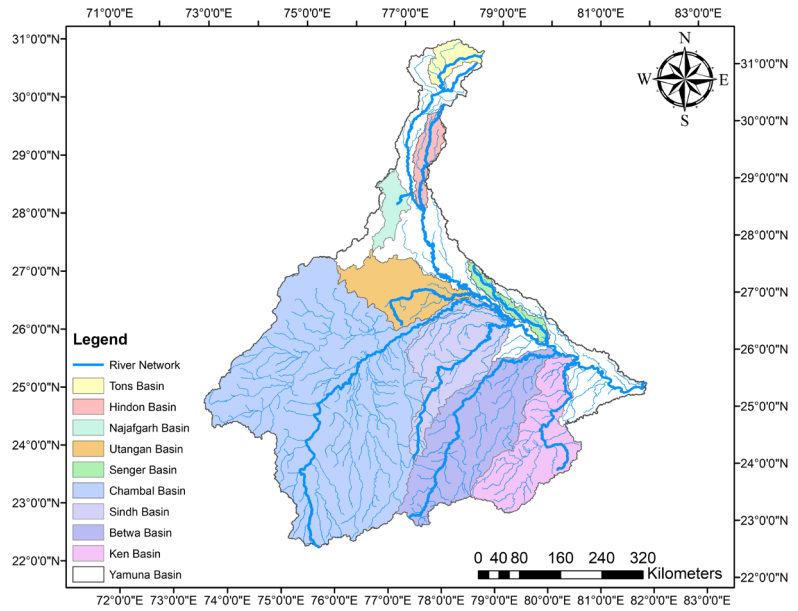
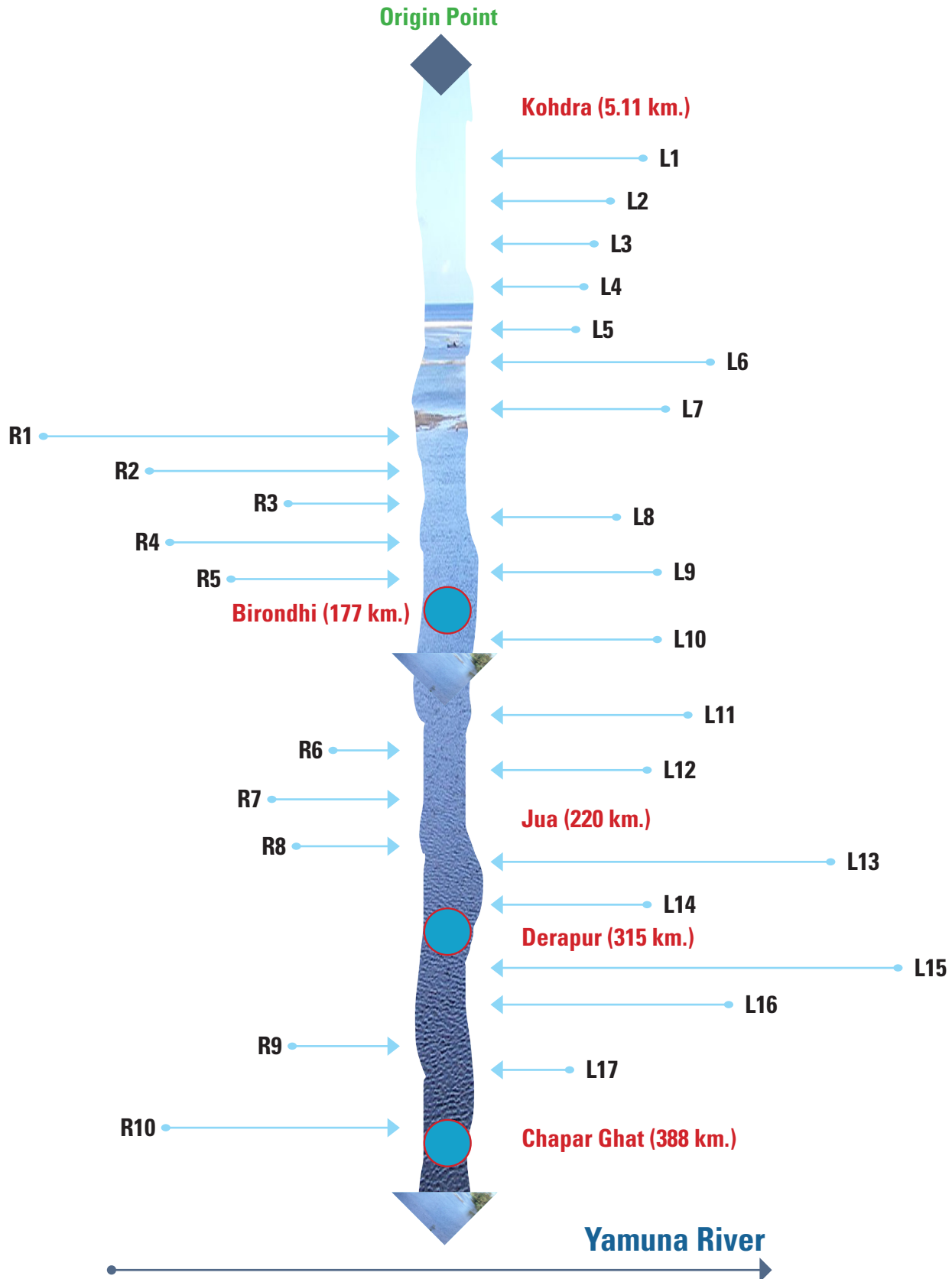


Figure: Senger River network in Yamuna basin



FLOW DIAGRAM: SENGER RIVER AND HER TRIBUTARIES



Senger River and Her Tributaries					
S No	Confluence Bank	Length (km.)	Confluence Co-ordinates		Distance from origin (km.)
			Latitude	Longitude	
1	L1	18.7	27.13	78.79	66.5
2	L2	8.35	27.12	78.81	69.4
3	L3	7.31	27.11	78.86	76.5
4	L4	6.89	27.10	78.86	76.9
5	L5	3.5	27.09	78.88	81.5
6	L6	16.2	26.90	78.97	125
7	L7	12.9	26.89	79.02	132
8	R1	202	26.84	79.06	144
9	R2	3.22	26.83	79.06	146
10	R3	1.47	26.81	79.08	150
11	L8	10.3	26.80	79.12	157
12	R4	5.56	26.77	79.14	163
13	R5	6.42	26.74	79.15	168
14	L9	14.1	26.74	79.15	169
15	L10	7.1	26.70	79.30	195
16	L11	13.8	26.68	79.33	202
17	R6	3.55	26.66	79.33	206
18	L12	6.5	26.62	79.40	221
19	R7	5.75	26.51	79.48	259
20	L13	30.9	26.53	79.54	263
21	R8	8.1	26.47	79.64	283
22	L14	7.45	26.46	79.67	290
23	L15	40.1	26.42	79.81	319
24	L16	17.3	26.41	79.84	324
25	R9	7.62	26.37	79.85	332
26	L17	3.47	26.32	79.92	345
27	R10	16.6	26.17	79.93	382





NAJAFGARH BASIN

Najafgarh Drain UID Code: 02R38R08
 Basin area: 5,285.45 sq. km.
 Number of rivers/streams- 36
 Total length of rivers/streams- 318.55 km.

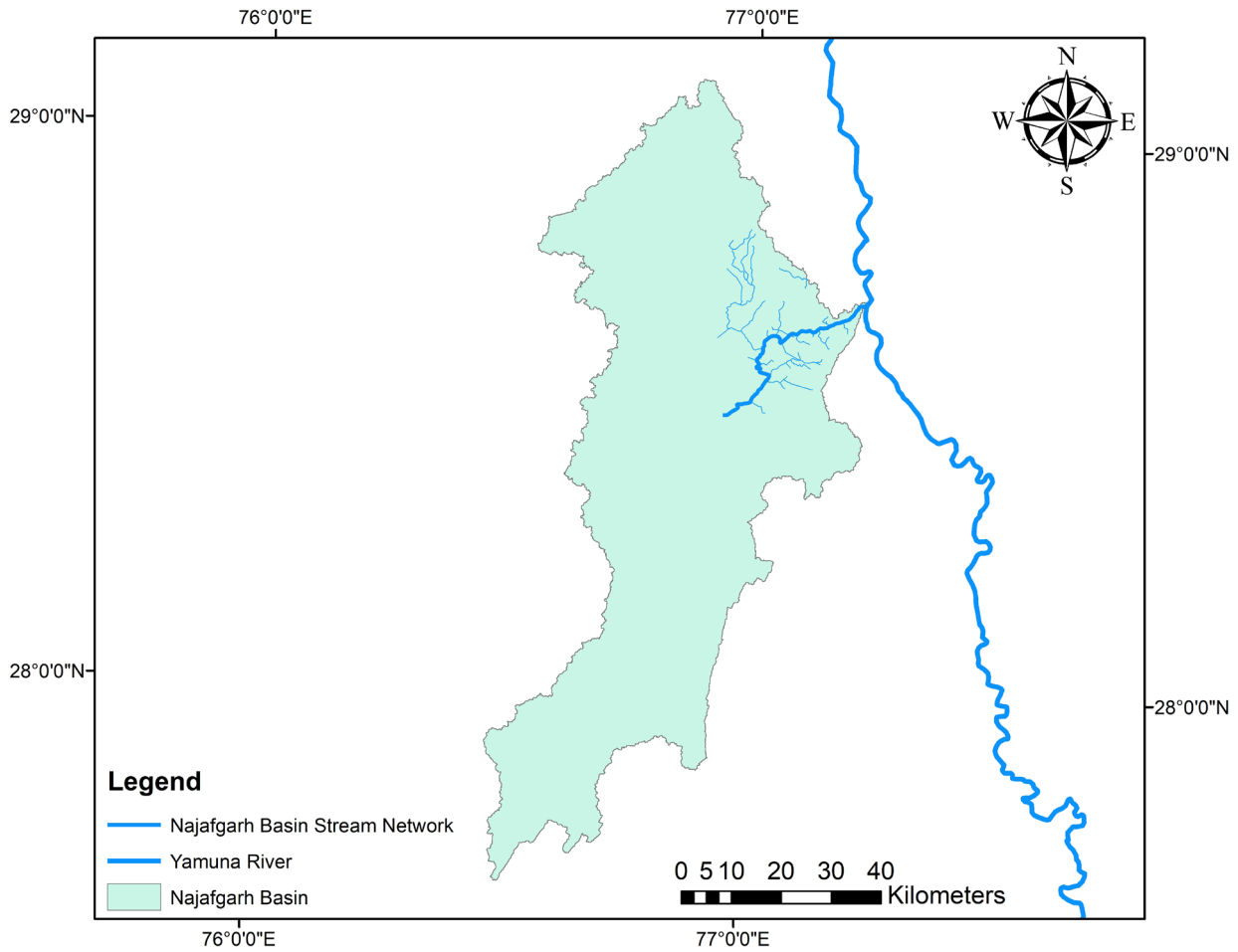
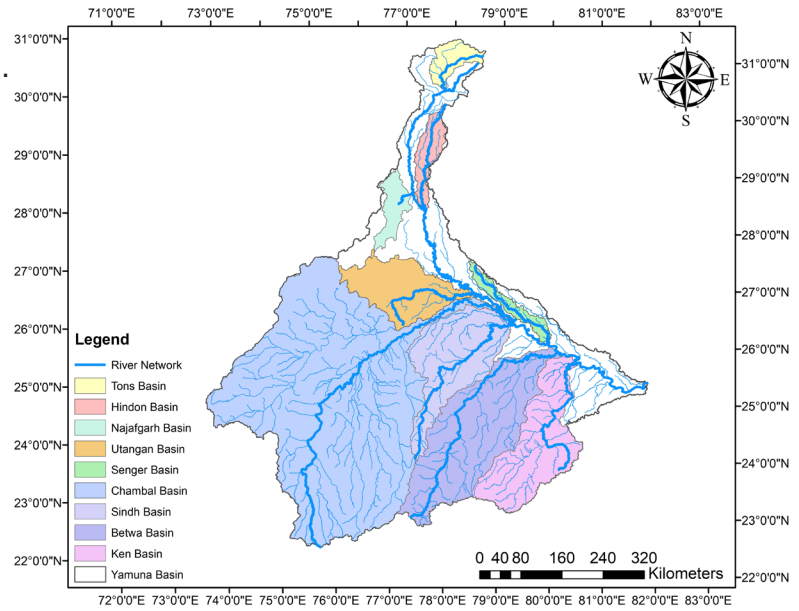
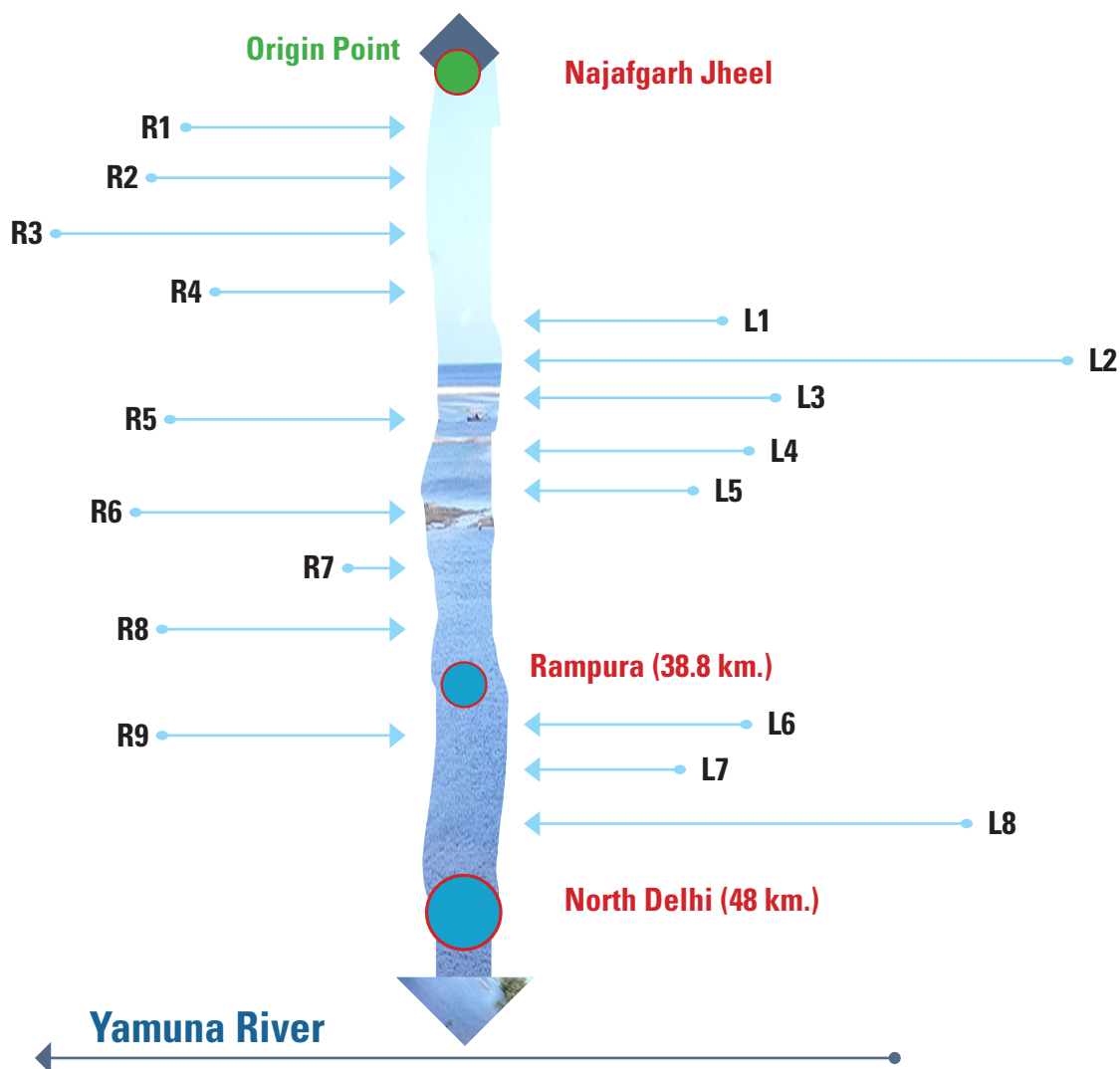


Figure: Najafgarh network in Yamuna basin

FLOW DIAGRAM: NAJAFGARH DRAIN AND ITS TRIBUTARIES



Najafgarh Drain and Their Tributaries					
S No	Confluence Bank	Length (km.)	Confluence Co-ordinates		Distance from origin (km.)
			Latitude	Longitude	
1	R1	5.1	28.53	77.00	7.0
2	R2	5.26	28.57	77.03	12.2
3	R3	12.2	28.58	77.04	13.5
6	R4	3.9	28.60	77.02	18.1
7	L1	2	28.61	77.01	19.1
8	L2	40.5	28.63	77.02	21.7
9	L3	8.19	28.65	77.05	25.8
10	R5	7.1	28.64	77.06	28.2
11	L4	8	28.64	77.06	28.3
12	L5	5.23	28.65	77.07	30.3
13	R6	4.25	28.65	77.09	31.9
14	R7	0.96	28.66	77.12	35.6
15	R8	5.28	28.67	77.14	36.9
16	L6	3.62	28.67	77.16	39.5
17	R9	3.21	28.68	77.18	42.2





HINDON BASIN

Hindon River UID Code: 02R38L07
 Basin area: 5,965.07 sq. km.
 Major rivers: Kali West, Krishna, Dhamola
 Number of rivers- 05
 Total length of rivers- 744.3 km.

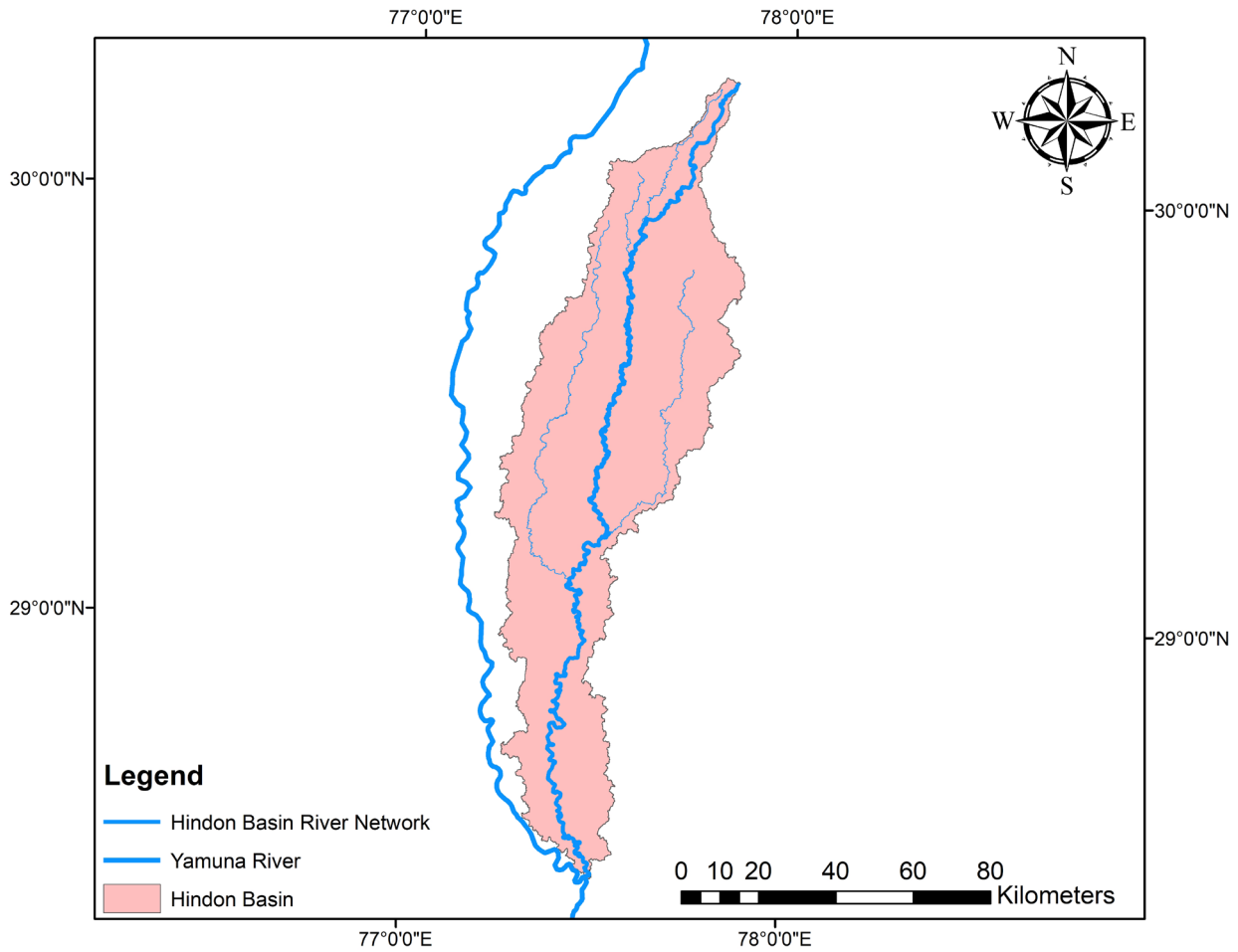
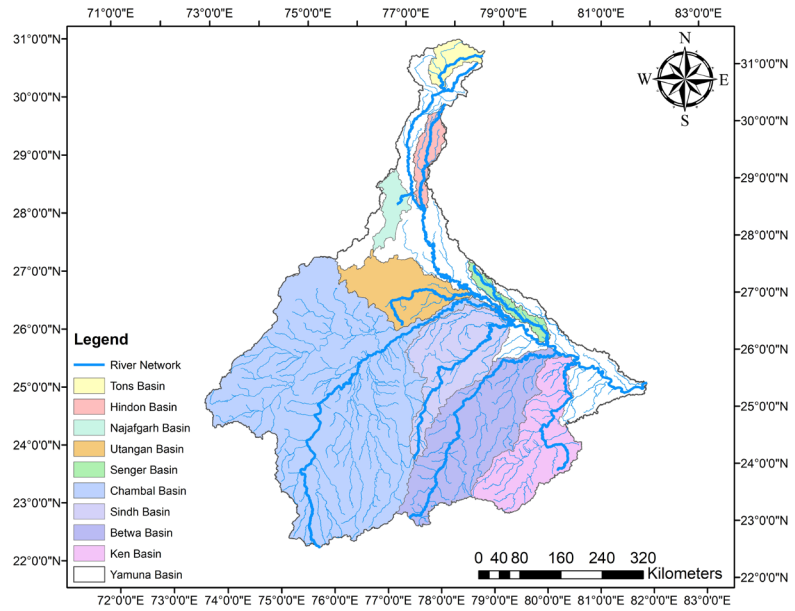
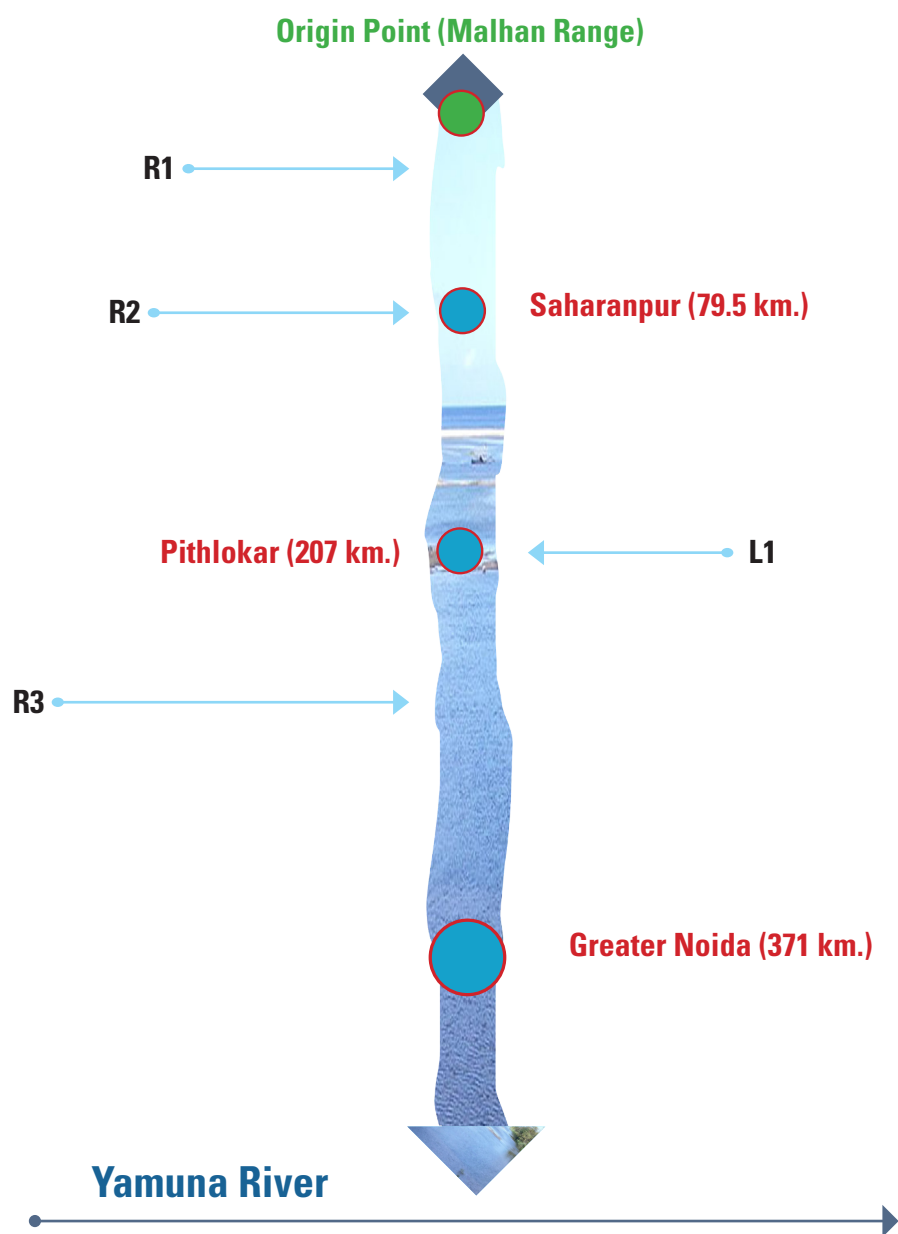


Figure: Hindon River network in Yamuna basin

FLOW DIAGRAM: HINDON RIVER AND HER TRIBUTARIES



Hindon River and Her Tributaries					
S No	Confluence Bank	Length (km.)	Confluence Co-ordinates		Distance from origin (km.)
			Latitude	Longitude	
1	R1	61.3	29.94	77.60	62
2	R2	35	29.86	77.57	79.5
3	L1	117	29.21	77.53	207
6	R3	160	29.10	77.43	234





TONS BASIN

Tons River UID Code: 02R38R02
 Basin area: 5,119.14 sq. km.
 Major rivers: Pabbar, Shalon Gad
 Number of rivers- 04
 Total length of rivers- 332.9 km.

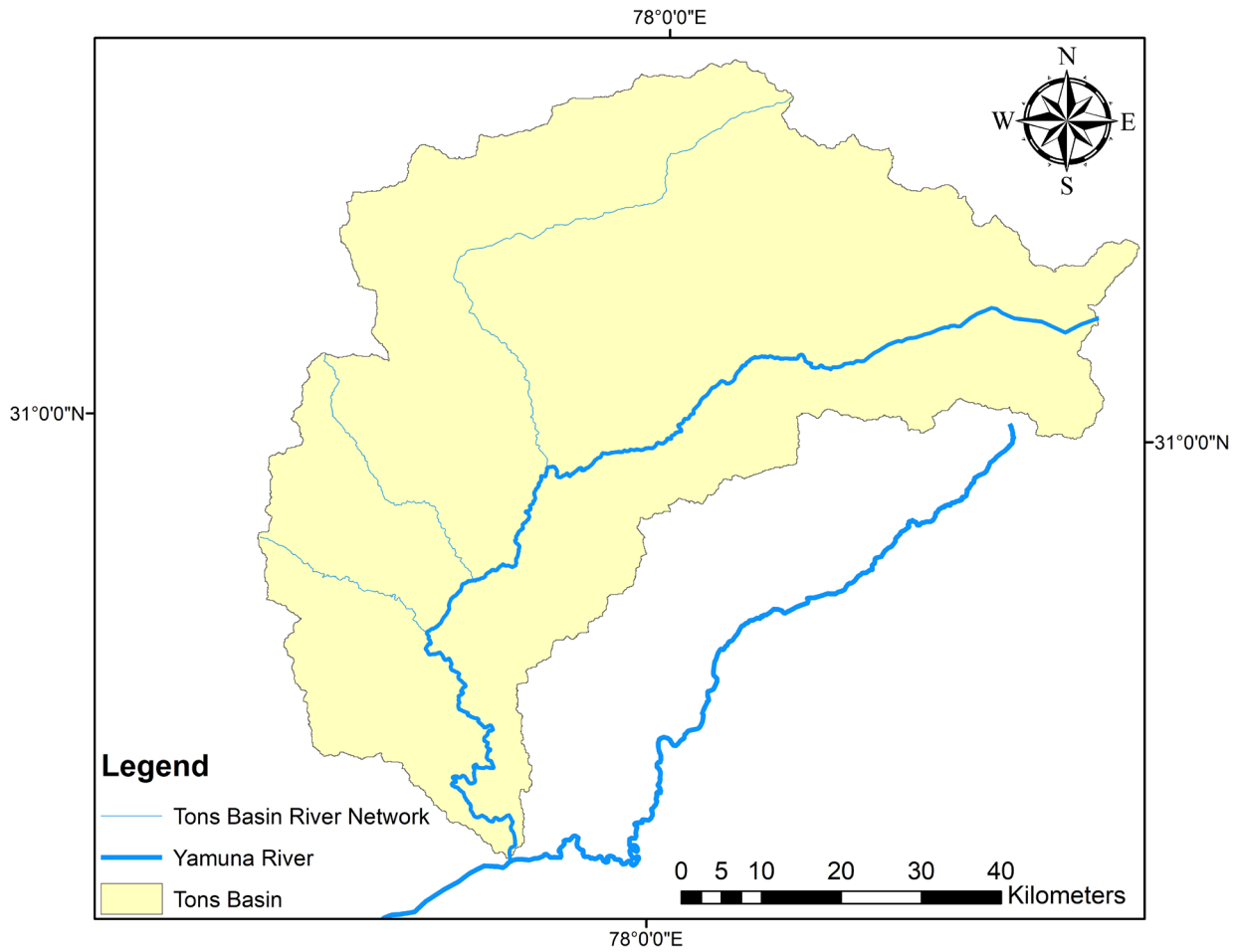
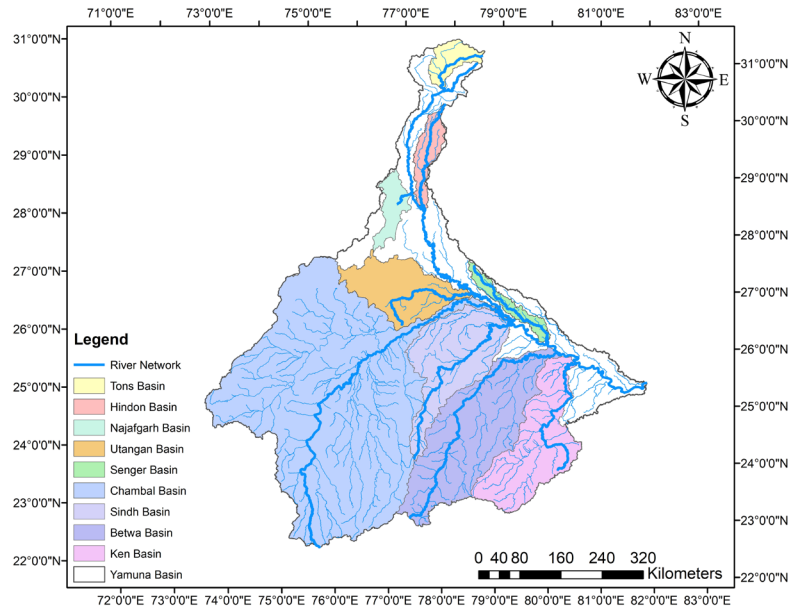
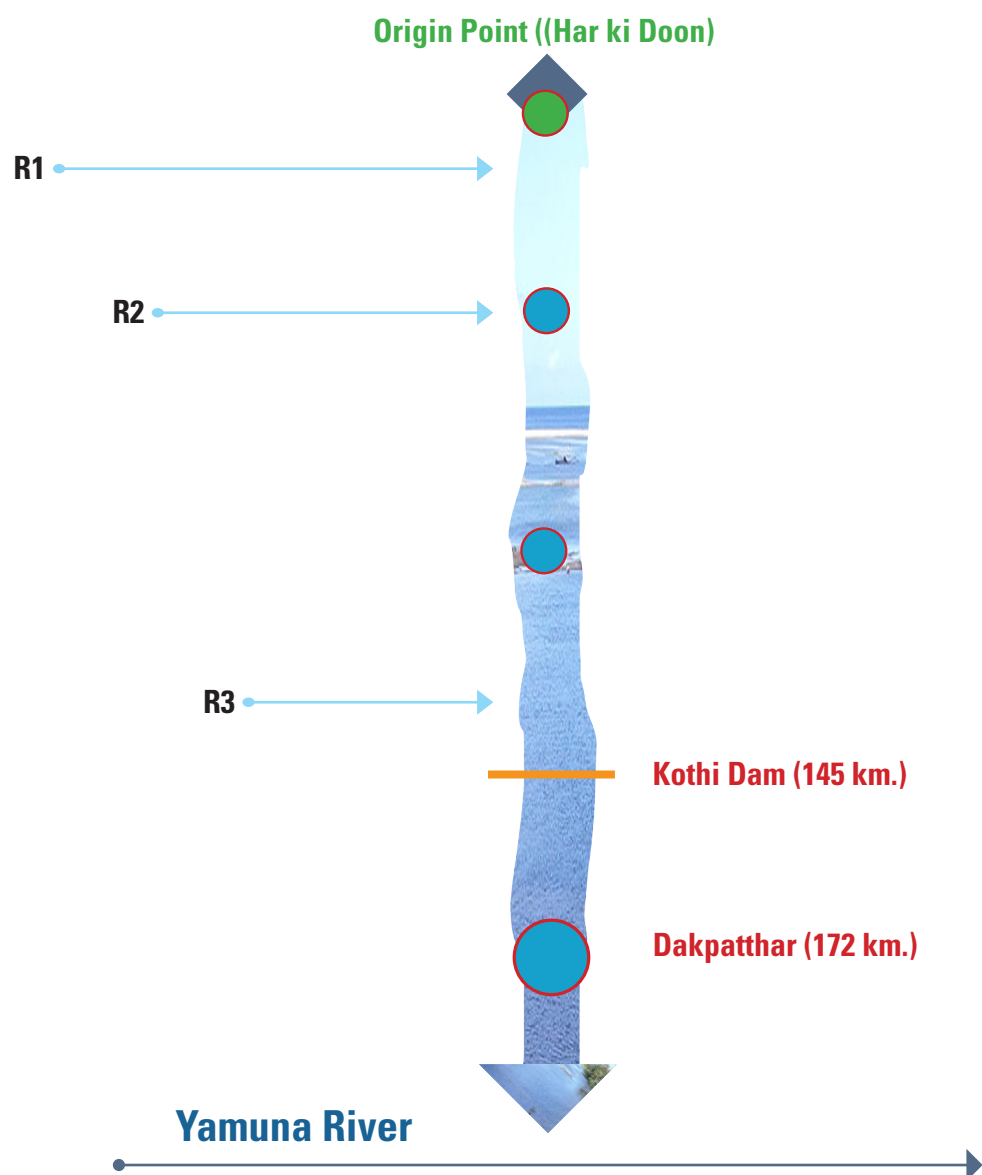


Figure: Tons River network in Yamuna basin

FLOW DIAGRAM: TONS RIVER AND HER TRIBUTARIES



Tons River and Her Tributaries					
S No	Confluence Bank	Length (km.)	Confluence Co-ordinates		Distance from origin (km.)
			Latitude	Longitude	
1	R1	86.5	30.95	77.85	86.4
2	R2	43	30.83	77.76	108
3	R3	31.4	30.76	77.70	117



A wide river reflects a city skyline at dusk. In the foreground, a potted plant with green leaves and red flowers is visible. The text is overlaid on the lower half of the image.

APPENDIX I

RIVER UNIQUE IDENTITY CODE BASED ON NATURAL DELINEATION

RIVER UNIQUE IDENTITY CODE BASED ON NATURAL DELINEATION

S.No	River Code	Origin Data			Confluence Data				Length Of the river (km.)
	Unique Identification Number	Co-ordinate		Ele (m)	Co-ordinate		Ele (m)	Confluence with	
		Lat	Long		Lat	Long			
1	02-R-38-L-01	30.52	78.21	1989	30.51	77.99	681	Yamuna	33.7
2	02-R-38-R-01	30.72	77.85	1857	30.51	77.85	489	Yamuna	30.6
3	02-R-38-R-02-R-01	31.38	78.16	4492	30.95	77.85	940	Tons	86.5
4	02-R-38-R-02-R-02	31.07	77.56	2680	30.83	77.76	780	Tons	43
5	02-R-38-R-02-R-03	30.87	77.48	3329	30.76	77.70	735	Tons	31.4
6	02-R-38-R-02	31.14	78.59	4909	30.51	77.82	460	Yamuna	172
7	02-R-38-R-03	31.08	77.64	2860	30.45	77.67	403	Yamuna	157
8	02-R-38-L-02	30.43	78.07	1236	30.44	77.66	411	Yamuna	54.5
9	02-R-38-R-04	30.54	77.42	701	30.42	77.58	372	Yamuna	26.9
10	02-R-38-R-05	30.45	77.50	579	30.15	77.41	271	Yamuna	53
11	02-R-38-L-03	30.27	77.58	315	30.10	77.40	273	Yamuna	36.5
12	02-R-38-L-04-R-01	30.40	77.77	474	30.11	77.51	279	Maskara	51.4
13	02-R-38-L-04	30.31	77.77	751	30.07	77.36	274	Yamuna	76
14	02-R-38-R-06	29.99	77.12	261	29.73	77.13	249	Yamuna	38
15	02-R-38-R-07	29.88	77.05	264	29.50	77.12	238	Yamuna	61.4
16	02-R-38-L-05	29.83	77.39	266	29.39	77.16	231	Yamuna	87.3
17	02-R-38-R-08	28.50	76.94	210	28.71	77.23	202	Yamuna	48.2
18	02-R-38-R-09	28.51	77.22	230	28.59	77.28	201	Yamuna	12.6
19	02-R-38-L-06	28.75	77.28	208	28.54	77.32	194	Yamuna	28.7
20	02-R-38-L-07-R-01	30.26	77.80	561	29.94	77.60	272	Hindon	61.3
21	02-R-38-L-07-L-01	29.84	77.74	263	29.21	77.53	221	Hindon	117
22	02-R-38-L-07-R-02	30.06	77.58	285	29.86	77.57	262	Hindon	35
23	02-R-38-L-07-R-03	29.95	77.51	276	29.10	77.43	213	Hindon	160
24	02-R-38-L-07	30.28	77.84	259	28.41	77.49	190	Yamuna	371
25	02-R-38-R-10	28.44	77.33	197	28.38	77.49	190	Yamuna	23.1
26	02-R-38-L-08	28.05	77.73	194	27.80	77.70	174	Yamuna	39
27	02-R-38-R-11	27.69	77.50	185	27.51	77.68	171	Yamuna	35.6
28	02-R-38-R-12	28.24	77.17	197	27.31	77.80	163	Yamuna	177
29	02-R-38-L-09	28.58	77.66	211	27.20	78.08	151	Yamuna	91.1
30	02-R-38-L-09-R-01	27.73	77.80	181	27.55	77.95	160	Stream 13	160



S.No	River Code	Origin Data			Confluence Data				Length Of the river (km.)
	Unique Identification Number	Co-ordinate		Ele (m)	Co-ordinate		Ele (m)	Confluence with	
		Lat	Long		Lat	Long			
31	02-R-38-L-10	27.23	78.24	166	27.11	78.24	147	Yamuna	18.1
32	02-R-38-R-13-L-01	26.71	76.77	235	26.80	76.89	214	Utangan	28.6
33	02-R-38-R-13-R-01	26.65	77.14	284	26.86	77.08	206	Utangan	43.7
34	02-R-38-R-13-R-02	26.75	77.47	202	26.96	77.75	164	Utangan	70.2
35	02-R-38-R-13-R-03	26.49	77.29	251	26.91	77.87	160	Utangan	119
36	02-R-38-R-13-L-02-L-01	27.26	77.66	175	27.07	77.94	158	Stream 1	52.1
37	02-R-38-R-13-L-02	27.10	77.61	174	26.95	78.12	146	Utangan	81.3
38	02-R-38-R-13	26.39	77.12	303	26.98	78.45	139	Yamuna	329
39	02-R-38-L-11	27.08	78.57	164	26.91	78.63	135	Yamuna	29.2
40	02-R-38-R-14-L-01	22.50	75.43	561	22.59	75.52	529	Chambal	24.5
41	02-R-38-R-14-L-02	22.57	75.39	554	22.85	75.47	499	Chambal	56.4
42	02-R-38-R-14-L-03	22.63	75.18	547	23.36	75.42	467	Chambal	141
43	02-R-38-R-14-L-04	23.26	75.27	526	23.45	75.39	460	Chambal	41
44	02-R-38-R-14-L-05-R-01	23.20	75.23	528	23.53	75.19	449	Maleni	67.5
45	02-R-38-R-14-L-05-L-01	23.74	75.03	494	23.76	75.26	425	Maleni	29.7
46	02-R-38-R-14-L-05	23.43	74.94	523	23.76	75.27	426	Chambal	75.7
47	02-R-38-R-14-R-01-L-01	22.63	75.82	588	22.72	75.86	546	Shipra	15.7
48	02-R-38-R-14-R-01-L-02	22.62	75.90	592	23.13	75.79	479	Shipra	85.6
49	02-R-38-R-14-R-01-L-03	22.53	75.76	591	23.43	75.61	454	Shipra	149
50	02-R-38-R-14-R-01	22.64	75.99	583	23.92	75.46	403	Chambal	236
51	02-R-38-R-14-R-02	23.04	76.13	539	24.02	75.52	394	Chambal	164
52	02-R-38-R-14-L-06-L-01	24.16	74.96	491	24.05	75.06	428	Shivana	24
53	02-R-38-R-14-L-06-R-01	23.82	75.04	505	24.10	75.12	418	Shivana	42.7
54	02-R-38-R-14-L-06	23.58	74.91	527	24.25	75.37	390	Chambal	122
55	02-R-38-R-14-L-07-L-01	24.50	74.92	468	24.37	75.02	427	Stream 13	24.4
56	02-R-38-R-14-L-07	24.06	74.80	499	24.32	75.36	387	Chambal	89.6
57	02-R-38-R-14-L-08	24.89	74.92	507	24.78	75.52	348	Chambal	75.5
58	02-R-38-R-14-L-09	24.94	74.96	445	24.96	75.55	307	Chambal	76.4
59	02-R-38-R-14-R-03	24.89	75.80	366	24.99	75.62	302	Chambal	27.7
60	02-R-38-R-14-R-04	25.00	75.88	354	25.23	75.99	237	Chambal	43.5
61	02-R-38-R-14-R-05	25.16	76.11	264	25.36	76.16	209	Chambal	41.6
62	02-R-38-R-14-R-06	25.39	76.17	235	25.49	76.21	199	Chambal	17.3
63	02-R-38-R-14-R-07	25.23	76.21	245	25.51	76.26	202	Chambal	52.8

S.No	River Code	Origin Data			Confluence Data				Length Of the river (km.)
	Unique Identification Number	Co-ordinate		Ele (m)	Co-ordinate		Ele (m)	Confluence with	
		Lat	Long		Lat	Long			
64	02-R-38-R-14-R-08-L-01	22.89	76.07	608	23.04	76.34	455	Kali Sindh	52
65	02-R-38-R-14-R-08-L-02	23.16	76.28	527	23.98	76.25	351	Kali Sindh	113
66	02-R-38-R-14-R-08-L-03	23.88	76.08	443	24.22	76.20	329	Kali Sindh	47.5
67	02-R-38-R-14-R-08-L-04	24.10	75.94	406	24.33	76.18	321	Kali Sindh	46.2
68	02-R-38-R-14-R-08-L-05-L-01	24.00	75.77	485	24.24	75.88	360	Ahu	48.8
69	02-R-38-R-14-R-08-L-05-L-02	24.58	75.79	386	24.69	76.10	303	Ahu	88.8
70	02-R-38-R-14-R-08-L-05	23.87	75.90	490	24.62	76.19	293	Kali Sindh	135
71	02-R-38-R-14-R-08-L-06	24.83	76.08	308	25.06	76.17	247	Kali Sindh	42.6
72	02-R-38-R-14-R-08-R-01-R-01	24.77	76.41	285	24.84	76.31	268	Sangod	17.1
73	02-R-38-R-14-R-08-R-01	24.53	76.33	313	25.07	76.18	246	Kali Sindh	88.9
74	02-R-38-R-14-R-08-R-02-L-01-R-01	23.200204	76.741112	471	23.294945	76.665913	442	Newaj	24.8
75	02-R-38-R-14-R-08-R-02-L-01-R-02	3.305483	76.797503	465	23.405726	76.688775	434	Newaj	24.4
76	02-R-38-R-14-R-08-R-02-L-01-R-03	23.538141	76.974750	473	23.837739	76.832979	386	Newaj	52.5
77	02-R-38-R-14-R-08-R-02-L-01	23.388863	76.858611	476	24.413825	76.644552	307	Parvan	248.1
78	02-R-38-R-14-R-08-R-02-L-02-R-01	23.857925	76.587396	434	24.376317	76.501008	310	Chappi	72
79	02-R-38-R-14-R-08-R-02-L-02	23.888708	76.470712	443	24.513796	76.532060	289	Parvan	97.8
80	02-R-38-R-14-R-08-R-02-R-01	24.721982	76.660910	337	24.808441	76.584099	268	Parvan	33.3
81	02-R-38-R-14-R-08-R-02	23.96	77.11	448	25.123862	76.198310	228	Kali Sindh	212
82	02-R-38-R-14-R-08-R-03	25.04	76.31	266	25.38	76.33	207	Kali Sindh	68.2
83	02-R-38-R-14-R-08-R-04	25.42	76.40	243	25.52	76.32	199	Kali Sindh	24.6
84	02-R-38-R-14-R-08	22.62	76.26	589	25.53	76.28	189	Chambel	405
85	02-R-38-R-14-L-10-L-01	25.78	75.56	339	25.59	75.79	242	Mez	36.5
86	02-R-38-R-14-L-10-L-02	25.69	76.04	262	25.62	75.92	238	Mez	23.1
87	02-R-38-R-14-L-10-R-01-R-01	25.10	75.65	421	25.36	75.75	230	Stream 1	39





S.No	River Code	Origin Data			Confluence Data				Length Of the river (km.)
	Unique Identification Number	Co-ordinate		Ele (m)	Co-ordinate		Ele (m)	Confluence with	
		Lat	Long		Lat	Long			
88	02-R-38-R-14-L-10-R-01-L-01	25.21	75.48	386	25.41	75.78	228	Stream 1	52.9
89	02-R-38-R-14-L-10-R-01	25.13	75.42	482	25.48	75.97	220	Mez	115
90	02-R-38-R-14-L-10	25.78	75.98	298	25.68	76.29	195	Chambal	186
91	02-R-38-R-14-L-11	25.68	76.15	450	25.75	76.36	199	Chambal	46
92	02-R-38-R-14-L-12	25.80	76.35	228	25.76	76.40	194	Chambal	9.84
93	02-R-38-R-14-L-13	25.89	76.34	267	25.83	76.47	194	Chambal	28
94	02-R-38-R-14-L-14	25.93	76.43	235	25.85	76.48	196	Chambal	14.1
95	02-R-38-R-14-R-09-R-01	23.26	77.21	517	23.48	77.06	445	Parbati	41
96	02-R-38-R-14-R-09-R-02	24.09	77.39	522	24.02	77.18	409	Parbati	61.4
97	02-R-38-R-14-R-09-R-03	24.29	77.33	531	24.29	77.12	396	Parbati	36
98	02-R-38-R-14-R-09-L-01-L-01	24.56	76.75	365	24.74	76.76	312	Stream 6	38.8
99	02-R-38-R-14-R-09-L-01	24.41	76.93	426	24.95	76.67	277	Parbati	89.8
100	02-R-38-R-14-R-09-R-04	24.96	76.77	297	24.96	76.67	261	Parbati	14.1
101	02-R-38-R-14-R-09-R-05	25.00	77.10	453	25.00	76.65	261	Parbati	55.6
102	02-R-38-R-14-R-09-R-06	25.15	76.74	286	25.20	76.63	239	Parbati	17.6
103	02-R-38-R-14-R-09-R-07-R-01	25.37	76.82	206	25.37	76.66	224	Stream1	20.1
104	02-R-38-R-14-R-09-R-07-R-02	25.30	77.10	215	25.38	76.63	467	Parbati	61.8
105	02-R-38-R-14-R-09-R-07	25.20	77.03	419	25.39	76.60	211	Parbati	62.7
106	02-R-38-R-14-R-09-R-08	25.39	77.11	476	25.59	76.51	203	Parbati	93.4
107	02-R-38-R-14-R-09-L-02	25.39	76.48	239	25.65	76.49	199	Parbati	41.5
108	02-R-38-R-14-R-09	22.83	76.59	526	25.85	76.57	177	Chambal	440
109	02-R-38-R-14-L-15-L-01	25.05	73.88	537	25.03	73.96	516	Banas	10.7
110	02-R-38-R-14-L-15-L-02	25.24	73.99	551	25.05	74.23	471	Banas	40.9
111	02-R-38-R-14-L-15-R-01-L-01	24.67	73.86	521	24.64	73.94	499	Berach	11.7
112	02-R-38-R-14-L-15-R-01-L-02	24.89	74.17	457	24.80	74.33	428	Berach	25.3

S.No	River Code	Origin Data			Confluence Data			Length Of the river (km.)	
	Unique Identification Number	Co-ordinate		Ele (m)	Co-ordinate		Ele (m)		Confluence with
		Lat	Long		Lat	Long			
113	02-R-38-R-14-L-15-R-01-R-01	24.69	74.12	465	24.79	74.42	420	Berach	42.9
114	02-R-38-R-14-L-15-R-01-R-01	24.43	74.34	467	24.79	74.50	410	Berach	52.3
115	02-R-38-R-14-L-15-R-01-L-03	25.02	74.46	448	24.84	74.53	402	Berach	29.8
116	02-R-38-R-14-L-15-R-01-R-01	24.45	74.66	481	24.92	74.65	391	Berach	64.8
117	02-R-38-R-14-L-15-R-01-R-01	24.84	74.77	471	25.10	74.78	375	Berach	35.3
118	02-R-38-R-14-L-15-R-01-R-01	25.09	75.17	500	25.24	75.03	345	Berach	29.5
119	02-R-38-R-14-L-15-R-01	24.68	73.61	636	25.24	75.03	344	Banas	199
120	02-R-38-R-14-L-15-L-03-R-01	25.36	74.06	560	25.34	74.33	471	Kothari	32.6
121	02-R-38-R-14-L-15-L-03	25.52	74.03	580	25.33	75.06	341	Banas	135
122	02-R-38-R-14-L-15-L-04	25.430479	74.786524	358	25.443759	75.044098	334	Banas	33.6
123	02-R-38-R-14-L-15-L-05-L-01	25.73	74.03	630	25.77	74.36	458	Khari	41.6
124	02-R-38-R-14-L-15-L-05-L-02	26.07	74.42	503	25.92	74.70	393	Khari	49.3
125	02-R-38-R-14-L-15-L-05-R-01	25.37	74.46	448	25.82	74.98	352	Khari	113
126	02-R-38-R-14-L-15-L-05-R-02-L-01	25.60	74.71	402	25.74	75.15	334	Stream 1	65.6
127	02-R-38-R-14-L-15-L-05-R-02	25.47	74.71	416	25.76	75.18	331	Khari	84.5
128	02-R-38-R-14-L-15-L-05-L-03	25.89	75.04	355	25.87	75.30	314	Khari	42
129	02-R-38-R-14-L-15-L-05	25.43	73.86	749	25.83	75.35	308	Banas	199
130	02-R-38-R-14-L-15-L-06-L-01	26.18	74.66	410	26.08	75.08	338	Stream 1	52.1
131	02-R-38-R-14-L-15-L-06	26.41	74.88	406	25.93	75.46	309	Banas	101
132	02-R-38-R-14-L-15-L-07	26.10	75.53	299	26.12	75.65	274	Banas	17
133	02-R-38-R-14-L-15-L-08-L-01	26.74	75.03	387	26.56	75.31	324	Masii	47.2
134	02-R-38-R-14-L-15-L-08-L-02	26.98	75.45	378	26.44	75.75	280	Masii	99.9
135	02-R-38-R-14-L-15-L-08-R-01	26.38	75.57	295	26.27	75.73	266	Masii	31.7





S.No	River Code	Origin Data			Confluence Data				Length Of the river (km.)
	Unique Identification Number	Co-ordinate		Ele (m)	Co-ordinate		Ele (m)	Confluence with	
		Lat	Long		Lat	Long			
136	02-R-38-R-14-L-15-L-08-R-02	26.20	75.42	307	26.24	75.73	266	Masii	41.1
137	02-R-38-R-14-L-15-L-08	26.55	74.97	392	26.21	75.76	263	Banas	133
138	02-R-38-R-14-L-15-L-09	26.47	75.99	305	26.18	76.18	237	Banas	65.6
139	02-R-38-R-14-L-15-R-02	25.93	75.94	283	26.18	76.23	233	Banas	62.4
140	02-R-38-R-14-L-15-L-10-L-01	26.99	75.83	486	26.75	75.95	321	Morel	49.3
141	02-R-38-R-14-L-15-L-10-L-02	26.78	76.30	310	26.52	76.15	273	Morel	38.3
142	02-R-38-R-14-L-15-L-10-R-01	26.32	76.29	251	26.29	76.48	229	Morel	42.5
143	02-R-38-R-14-L-15-L-10-R-02-L-01	26.56	76.73	247	26.43	76.60	231	Stream 2	32.4
144	02-R-38-R-14-L-15-L-10-R-02	26.58	76.47	220	26.31	76.58	433	Morel	61
145	02-R-38-R-14-L-15-L-10-R-03	26.29	76.96	358	26.25	76.60	214	Morel	70.3
146	02-R-38-R-14-L-15-L-10	26.91	75.93	355	26.21	76.59	208	Banas	193
147	02-R-38-R-14-L-15	25.11	73.54	1007	25.91	76.74	183	Chambal	555
148	02-R-38-R-14-R-10-R-01	25.59	77.12	470	25.87	76.73	200	Seep	61.4
149	02-R-38-R-14-R-10	25.51	76.79	265	25.91	76.74	186	Chambal	56.1
150	02-R-38-R-14-R-11	25.76	76.87	300	25.92	76.77	192	Chambal	25
151	02-R-38-R-14-R-12	25.75	76.94	359	25.99	76.82	175	Chambal	37.5
152	02-R-38-R-14-R-13	25.80	77.07	426	26.03	76.86	177	Chambal	43.1
153	02-R-38-R-14-R-14-R-01	25.05	77.58	440	25.17	77.23	306	Kuno	48.9
154	02-R-38-R-14-R-14-R-02	25.47	77.60	472	25.33	77.21	288	Kuno	60.6
155	02-R-38-R-14-R-14	24.74	77.35	493	26.18	77.09	156	Chambal	204
156	02-R-38-R-14-R-15	26.06	77.22	368	26.23	77.20	149	Chambal	34.2
157	02-R-38-R-14	22.46	75.67	629	26.49	79.24	105	Yamuna	1002
158	02-R-38-R-15-R-01	24.23	77.60	519	24.37	77.50	482	Sindh	30.4
159	02-R-38-R-15-L-01	24.39	77.40	520	24.38	77.50	481	Sindh	19.3
160	02-R-38-R-15-R-02	24.29	77.64	530	24.41	77.51	478	Sindh	34.9
161	02-R-38-R-15-L-02	24.37	77.36	530	24.57	77.49	468	Sindh	41
162	02-R-38-R-15-L-03	24.61	77.41	482	24.63	77.48	461	Sindh	10.3

S.No	River Code	Origin Data			Confluence Data			Length Of the river (km.)	
	Unique Identification Number	Co-ordinate		Ele (m)	Co-ordinate		Ele (m)		Confluence with
		Lat	Long		Lat	Long			
163	02-R-38-R-15-R-03	24.53	77.57	506	24.66	77.49	461	Sindh	25.3
164	02-R-38-R-15-L-04	24.69	77.42	497	24.82	77.52	446	Sindh	25.4
165	02-R-38-R-15-R-04	24.70	77.70	491	24.93	77.61	438	Sindh	56
166	02-R-38-R-15-L-05	25.31	77.56	478	25.28	77.75	389	Sindh	24.9
167	02-R-38-R-15-R-05	25.03	77.90	448	25.31	77.86	365	Sindh	41
168	02-R-38-R-15-L-06	25.43	77.71	421	25.53	77.84	315	Sindh	27.1
169	02-R-38-R-15-R-06	25.50	77.90	347	25.64	77.98	246	Sindh	24
170	02-R-38-R-15-R-07	25.54	78.08	260	25.64	78.12	224	Sindh	16.7
171	02-R-38-R-15-L-01	25.96	77.76	321	25.88	77.78	307	Stream 5	11.4
172	02-R-38-R-15-L-07	25.49	77.52	474	25.78	78.26	196	Sindh	159
173	02-R-38-R-15-R-08	25.35	77.99	309	25.78	78.30	185	Sindh	72.9
174	02-R-38-R-15-L-08	25.99	78.00	258	25.83	78.36	180	Sindh	59.9
175	02-R-38-R-15-L-09	26.00	78.29	221	25.97	78.51	177	Sindh	29.2
176	02-R-38-R-15-L-10-L-01	26.24	78.35	182	26.29	78.37	166	Stream 1	11.7
177	02-R-38-R-15-L-10-L-02	26.07	78.26	291	26.40	78.36	160	Stream 1	57.8
178	02-R-38-R-15-L-10-R-01	26.10	78.56	282	26.41	78.79	130	Stream 1	76.6
179	02-R-38-R-15-L-10	26.19	78.46	203	26.44	78.89	121	Sindh	187
180	02-R-38-R-15-R-09-L-01	25.82	78.50	191	26.17	79.02	129	Pahuj	62.2
181	02-R-38-R-15-R-09	25.36	78.38	288	26.42	79.16	108	Kunwari	259
182	02-R-38-R-15-L-11-R-01	26.19	77.72	247	26.45	77.76	165	Kunwari	51.2
183	02-R-38-R-15-L-11-R-02	25.95	77.91	379	26.50	78.16	151	Stream 1	95.3
184	02-R-38-R-15-L-11-R-03	25.99	77.58	380	26.60	78.39	139	Kunwari	179
185	02-R-38-R-15-L-11	25.74	77.37	390	26.43	79.19	111	Sindh	429
186	02-R-38-R-15	24.05	77.43	536	26.44	79.21	106	Yamuna	516
187	02-R-38-L-12	26.45	79.41	130	26.43	79.43	109	Yamuna	6.81
188	02-R-38-R-16-L-01	25.79	78.97	171	26.04	79.53	121	Stream 9	89.8
189	02-R-38-R-16-L-02	26.05	79.11	152	26.15	79.62	109	Stream 9	80.6
190	02-R-38-R-16	25.90	79.34	488	26.19	79.70	106	Yamuna	108
191	02-R-38-R-17	26.09	79.80	118	26.11	79.78	102	Yamuna	7.39
192	02-R-38-R-18	26.03	79.77	131	26.09	79.90	106	Yamuna	29.7
193	02-R-38-L-13-L-01	27.23	78.71	160	27.13	78.79	156	Senger	18.7
194	02-R-38-L-13-L-02	27.17	78.82	158	27.12	78.81	156	Senger	8.35
195	02-R-38-L-13-L-03	27.16	78.85	157	27.11	78.86	153	Senger	7.3





S.No	River Code	Origin Data			Confluence Data				Length Of the river (km.)
	Unique Identification Number	Co-ordinate		Ele (m)	Co-ordinate		Ele (m)	Confluence with	
		Lat	Long		Lat	Long			
196	02-R-38-L-13-L-04	27.15	78.88	159	27.10	78.86	153	Senger	6.87
197	02-R-38-L-13-L-05	27.11	78.89	156	27.09	78.88	153	Senger	3.5
198	02-R-38-L-13-L-06	26.97	79.01	151	26.90	78.97	148	Senger	16.2
199	02-R-38-L-13-L-07	26.97	79.03	153	26.89	79.02	146	Senger	12.9
200	02-R-38-L-13-R-01	27.56	78.37	174	26.84	79.06	145	Senger	202
201	02-R-38-L-13-R-02	26.82	79.04	151	26.83	79.06	143	Senger	3.21
202	02-R-38-L-13-R-03	26.81	79.08	148	26.81	79.08	144	Senger	1.45
203	02-R-38-L-13-L-08	26.86	79.11	151	26.80	79.12	142	Senger	10.3
204	02-R-38-L-13-R-04	26.78	79.10	148	26.77	79.14	144	Senger	5.55
205	02-R-38-L-13-R-05	26.76	79.11	146	26.74	79.15	144	Senger	6.4
206	02-R-38-L-13-L-09	26.81	79.21	146	26.74	79.15	143	Senger	14.1
207	02-R-38-L-13-L-10	26.75	79.32	144	26.70	79.30	137	Senger	7
208	02-R-38-L-13-L-11	26.73	79.35	147	26.68	79.33	137	Senger	13.8
209	02-R-38-L-13-R-06	26.67	79.31	145	26.66	79.33	138	Senger	3.53
210	02-R-38-L-13-L-12	26.64	79.42	142	26.62	79.40	137	Senger	6.48
211	02-R-38-L-13-R-07	26.48	79.44	145	26.51	79.48	131	Senger	5.71
212	02-R-38-L-13-L-13	26.67	79.45	141	26.53	79.54	129	Senger	30.9
213	02-R-38-L-13-R-08	26.42	79.60	138	26.47	79.64	125	Senger	8.1
214	02-R-38-L-13-L-14	26.49	79.67	126	26.46	79.67	122	Senger	7.45
215	02-R-38-L-13-L-15	26.56	79.72	136	26.42	79.81	114	Senger	40.1
216	02-R-38-L-13-L-16	26.44	79.91	133	26.41	79.84	112	Senger	17.3
217	02-R-38-L-13-R-09	26.36	79.80	134	26.37	79.85	111	Senger	7.6
218	02-R-38-L-13-L-17	26.32	79.934939	118	26.32	79.92	108	Senger	3.45
219	02-R-38-L-13-R-10	26.23	79.84	132	26.17	79.93	97	Senger	16.5
220	02-R-38-L-13	27.46	78.51	170	26.16	79.94	95	Yamuna	390.2
221	02-R-38-R-19-R-01-R-01	23.02	77.67	455	23.02	77.64	445	Betwa	4.5
222	02-R-38-R-19-R-01-R-02	23.08	77.71	457	23.03	77.60	440	Betwa	23.4
223	02-R-38-R-19-R-01-L-01	22.90	77.57	475	23.03	77.58	438	Betwa	31.7
224	02-R-38-R-19-R-01	22.96	77.70	462	23.07	77.57	437	Betwa	46.7
225	02-R-38-R-19-L-01	23.196073	77.39	503	23.092564	77.58	436	Betwa	35.1
226	02-R-38-R-19-L-02	23.28	77.53	463	23.16	77.63	433	Betwa	28.3

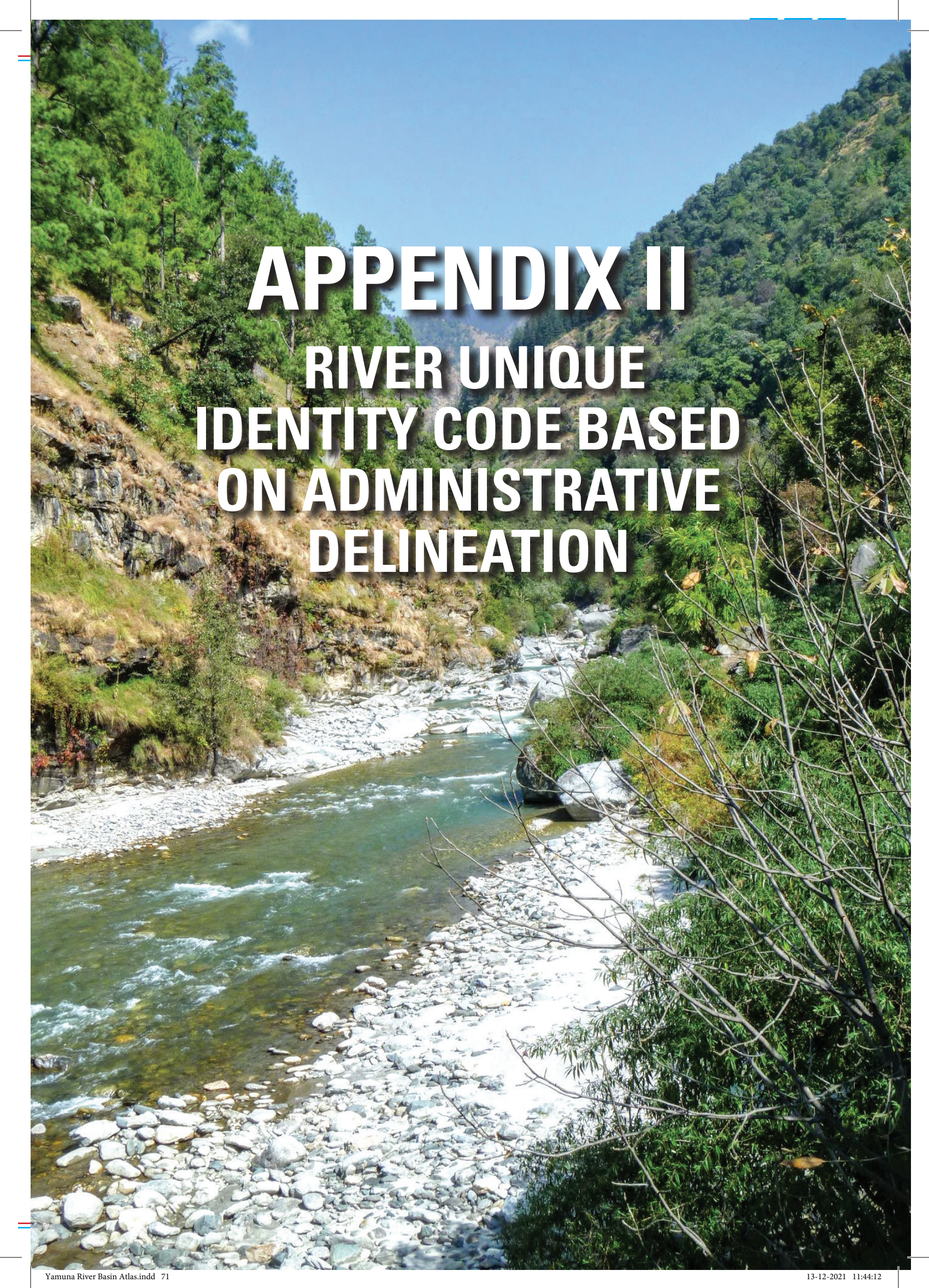
S.No	River Code	Origin Data			Confluence Data			Length Of the river (km.)	
	Unique Identification Number	Co-ordinate		Ele (m)	Co-ordinate		Confluence with		
		Lat	Long		Lat	Long			
227	02-R-38-R-19-R-02	23.21	77.76	452	23.32	77.71	423	Betwa	60.6
228	02-R-38-R-19-L-03	23.25	77.37	498	23.55	77.80	417	Betwa	91.8
229	02-R-38-R-19-R-03	23.35	78.11	467	23.64	77.87	406	Betwa	69.6
230	02-R-38-R-19-L-04	23.78	77.50	434	23.77	77.84	403	Betwa	55
231	02-R-38-R-19-L-05	24.01	77.44	512	23.84	77.88	394	Betwa	68.5
232	02-R-38-R-19-R-04	23.66	78.14	522	24.04	78.04	388	Betwa	75
233	02-R-38-R-19-L-06	24.03	77.76	441	24.06	78.02	390	Betwa	39.3
234	02-R-38-R-19-L-07	24.17	77.88	432	24.17	78.03	387	Betwa	23.6
235	02-R-38-R-19-R-05-R-01-L-01	23.48	78.41	519	23.65	78.36	497	Stream1	23.6
236	02-R-38-R-19-R-05-R-01	23.42	78.53	607	23.66	78.35	495	Bina	43.7
237	02-R-38-R-19-R-05-R-02	24.21	78.25	424	24.16	78.08	390	Bina	26.4
238	02-R-38-R-19-R-05	23.35	78.17	545	24.17	78.04	381	Betwa	149
239	02-R-38-R-19-L-08	24.10	77.59	386	24.36	78.15	381	Betwa	113
240	02-R-38-R-19-R-06	23.98	78.44	454	24.45	78.27	373	Betwa	85.4
241	02-R-38-R-19-L-09-L-01	24.75	77.82	460	24.75	78.00	383	Aur	25.9
242	02-R-38-R-19-L-09	24.46	77.69	477	24.85	78.17	334	Betwa	91.1
243	02-R-38-R-19-R-07-R-01	24.56	78.83	364	24.70	78.78	338	Jamini	24.2
244	02-R-38-R-19-R-07-L-01	24.43	78.48	407	24.90	78.68	300	Jamini	76.6
245	02-R-38-R-19-R-07	24.10	78.66	490	25.21	78.56	254	Betwa	166
246	02-R-38-R-19-R-08	25.19	78.68	285	25.26	78.61	246	Betwa	18
247	02-R-38-R-19-L-10	25.22	78.24	347	25.35	78.65	211	Betwa	56.4
248	02-R-38-R-19-R-09	25.38	78.75	215	25.43	78.72	201	Betwa	8.39
249	02-R-38-R-19-R-10	25.29	78.89	246	25.52	78.81	178	Betwa	41.4
250	02-R-38-R-19-R-11	25.65	79.10	181	25.81	79.17	141	Betwa	35.4
251	02-R-38-R-19-R-12-R-01	23.77	78.69	593	23.98	78.67	465	Dhasan	34.4
252	02-R-38-R-19-R-12-R-02-R-01	24.23	79.29	487	24.48	79.20	326	Stream 5	54.9
253	02-R-38-R-19-R-12-R-02	24.28	79.18	407	24.68	79.30	275	Dhasan	65
254	02-R-38-R-19-R-12-R-03	24.65	79.41	311	24.73	79.32	265	Dhasan	18.7
255	02-R-38-R-19-R-12-L-01	24.70	78.90	341	25.19	79.28	195	Dhasan	84.9





S.No	River Code	Origin Data			Confluence Data				Length Of the river (km.)
	Unique Identification Number	Co-ordinate		Ele (m)	Co-ordinate		Ele (m)	Confluence with	
		Lat	Long		Lat	Long			
256	02-R-38-R-19-R-12-L-02	25.07	78.89	314	25.28	79.26	182	Dhasan	62.1
257	02-R-38-R-19-R-12-L-03-R-01	25.31	79.09	203	25.51	79.22	158	Stream1	37
258	02-R-38-R-19-R-12-L-03	25.36	78.94	231	25.62	79.37	131	Dhasan	73.5
259	02-R-38-R-19-R-12	23.52	78.51	573	25.80	79.40	116	Betwa	373
260	02-R-38-R-19-R-13	25.66	79.47	158	25.90	79.75	108	Betwa	66.7
261	02-R-38-R-19-R-14-R-01	25.29	79.65	209	25.54	79.66	145	Virma	42.5
262	02-R-38-R-19-R-14	25.14	79.59	245	25.88	79.90	104	Betwa	139.3
263	02-R-38-R-19	23.02	77.37	504	25.91	80.19	90	Yamuna	657.2
264	02-R-38-L-14	26.36	79.99	128	25.91	80.36	88	Yamuna	118
265	02-R-38-L-15-L-01	26.76	79.71	139	26.60	79.82	133	Rind	37.3
266	02-R-38-L-15	27.06	79.09	155	25.88	80.55	94	Yamuna	427
267	02-R-38-R-20	23.90	80.18	475	25.77	80.53	87	Yamuna	405
268	02-R-38-R-20-R-01	24.33	80.57	480	24.33	80.27	319	Ken	52.7
269	02-R-38-R-20-L-01	23.83	80.08	566	24.32	80.06	306	Ken	92.7
270	02-R-38-R-20-L-02	23.57	78.75	507	24.39	79.93	295	Ken	205
271	02-R-38-R-20-L-02-L-01	23.42	78.56	589	23.99	79.34	346	Sonar	166
272	02-R-38-R-20-L-02-L-01-R-01	23.66	78.79	545	23.73	78.79	503	Bewas	10.8
273	02-R-38-R-20-L-02-L-01-R-02	23.83	79.00	470	24.00	79.23	350	Bewas	43.7
274	02-R-38-R-20-L-02-R-01	23.47	78.97	510	24.06	79.46	323	Sonar	143
275	02-R-38-R-20-L-02-L-02	24.24	79.23	484	24.08	79.46	323	Sonar	44.9
276	02-R-38-R-20-L-02-L-03	24.27	79.43	486	24.13	79.57	315	Sonar	43.3
277	02-R-38-R-20-L-02-L-04	24.41	79.60	321	24.21	79.64	312	Sonar	52.9
278	02-R-38-R-20-L-02-L-05	24.31	79.53	491	24.22	79.64	312	Sonar	20
279	02-R-38-R-20-L-02-L-06	24.28	79.61	385	24.23	79.65	311	Sonar	11.5
280	02-R-38-R-20-L-02-L-07	24.41	79.69	508	24.32	79.79	306	Sonar	18.2
281	02-R-38-R-20-L-02-L-08	24.43	79.70	507	24.32	79.80	301	Sonar	22.1
282	02-R-38-R-20-L-02-R-02	23.18	79.13	546	24.31	79.85	303	Sonar	216
283	02-R-38-R-20-L-02-R-02-L-01	23.36	78.95	445	23.46	79.34	357	Bearma	66
284	02-R-38-R-20-L-02-R-02-R-01	23.32	79.54	539	23.68	79.56	330	Bearma	60.8

S.No	River Code Unique Identification Number	Origin Data			Confluence Data				Length Of the river (km.)
		Co-ordinate		Ele (m)	Co-ordinate		Ele (m)	Confluence with	
		Lat	Long		Lat	Long			
285	02-R-38-R-20-L-02-R-02-R-01-R-01	23.50	79.68	378	23.63	79.59	334	Gauraiya Nala	26.2
286	02-R-38-R-20-L-02-R-02-R-02	23.64	79.69	358	23.77	79.65	325	Bearma	23.8
287	02-R-38-R-20-L-02-R-02-L-02	23.83	79.59	338	23.78	79.65	328	Bearma	13.7
288	02-R-38-R-20-R-02	24.64	80.35	358	24.41	79.92	297	Ken	78.6
289	02-R-38-R-20-L-02	24.53	79.44	419	24.59	79.82	236	Ken	61.6
290	02-R-38-R-20-L-02-L-01	24.26	79.34	484	24.57	79.71	270	Shyamari Nadi	69.4
291	02-R-38-R-20-L-03	24.84	79.64	287	24.70	79.89	219	Ken	39
292	02-R-38-R-20-R-03	24.70	80.18	397	24.82	80.09	185	Ken	23.6
293	02-R-38-R-20-L-04	24.80	79.87	224	24.90	80.04	149	Ken	29
294	02-R-38-R-20-L-05	24.93	79.65	281	24.92	80.03	139	Ken	47.3
295	02-R-38-R-20-L-06	24.84	79.53	306	24.94	80.07	132	Ken	102
296	02-R-38-R-20-L-07	25.08	80.17	174	25.28	80.34	114	Ken	55.2
297	02-R-38-R-20-L-08	25.20	79.84	215	25.30	80.31	101	Ken	77.7
298	02-R-38-R-20-L-09	25.44	79.90	145	25.76	80.42	88	Ken	130
299	02-R-38-R-20-L-09-L-01	25.76	80.05	124	25.75	80.26	102	Chandrawal	40.2
300	02-R-38-R-20-L-09-R-01	25.33	80.03	167	25.65	80.17	103	Chandrawal	88.1
301	02-R-38-R-20-L-09-L-02	25.49	79.85	144	25.65	80.08	108	Chandrawal	60.2
302	02-R-38-R-21-L-01	25.40	80.37	133	25.67	80.70	93	Stream 5	82.5
303	02-R-38-R-21	25.23	80.47	142	25.68	80.71	94	Yamuna	96.5
304	02-R-38-R-22	25.46	80.74	122	25.62	80.95	93	Yamuna	52.2
305	02-R-38-R-23-R-01	24.80	80.40	354	25.14	80.47	126	Baghain	76.5
306	02-R-38-R-23	24.73	80.36	438	25.54	81.02	87	Yamuna	178.5
307	02-R-38-L-16	25.94	80.67	113	25.51	81.13	91	Yamuna	132
308	02-R-38-R-24-R-01	25.18	80.92	144	25.40	81.07	95	Paisuni / Mandakini	43.9
309	02-R-38-R-24	24.92	80.66	373	25.42	81.15	85	Yamuna	146
310	02-R-38-R-25	25.22	81.14	117	25.34	81.25	89	Yamuna	31.3
311	02-R-38-L-17	25.56	81.25	108	25.29	81.53	91	Yamuna	71.5
312	02-R-38-L-18	25.82	81.12	116	25.41	81.81	76	Yamuna	171
313	02-R-38	31.03	78.45	3813	25.42	81.88	71	Ganga	1448



APPENDIX II

RIVER UNIQUE IDENTITY CODE BASED ON ADMINISTRATIVE DELINEATION

RIVER UNIQUE IDENTITY CODE BASED ON ADMINISTRATIVE DELINEATION:YAMUNA BASIN

S No	River Code		ENTRY				EXIT				Origin			Confluence			Length Travelled (km.)	
	Administrative Code (village)	Administrative Code (Townns)	Latitude	Longitude	Elevation (m)	Latitude	Longitude	Elevation (m)	Latitude	Longitude	Elevation (m)	Latitude	Longitude	Elevation (m)	Latitude	Longitude		Elevation (m)
1	356-UK-10-XX-YYY-ZZ-02-01					30.99	78.46	2911	30.99	78.46	2911	31.01	78.45	3783				3
2	356-UK-10-XX-YYY-ZZ-02-01		30.99	78.46	2911	30.96	78.43	2391	30.96	78.43	2391							4.22
3	356-UK-10-XX-YYY-ZZ-02-01		30.96	78.43	2391	30.95	78.41	2223	30.95	78.41	2223							2
4	356-UK-10-XX-YYY-ZZ-02-01		30.95	78.41	2223	30.94	78.40	2170	30.94	78.40	2170							2
5	356-UK-10-XX-YYY-ZZ-02-01		30.94	78.40	2170	30.94	78.40	2120	30.94	78.40	2120							0.42
6	356-UK-10-XX-YYY-ZZ-02-01		30.94	78.40	2120	30.93	78.40	2051	30.93	78.40	2051							0.87
7	356-UK-10-XX-YYY-ZZ-02-01		30.93	78.40	2051	30.92	78.38	1959	30.92	78.38	1959							1.62
8	356-UK-10-XX-YYY-ZZ-02-01		30.92	78.38	1959	30.92	78.38	1952	30.92	78.38	1952							0.56
9	356-UK-10-XX-YYY-ZZ-02-01		30.92	78.38	1952	30.92	78.37	1879	30.92	78.37	1879							1.66
10	356-UK-10-XX-YYY-ZZ-02-01		30.92	78.37	1879	30.91	78.36	1826	30.91	78.36	1826							0.92
11	356-UK-10-XX-YYY-ZZ-02-01		30.91	78.36	1815	30.90	78.36	1799	30.90	78.36	1799							0.42
12	356-UK-10-XX-YYY-ZZ-02-01		30.90	78.36	1799	30.90	78.33	1608	30.90	78.33	1608							3.96
13	356-UK-10-XX-YYY-ZZ-02-01		30.90	78.33	1608	30.89	78.32	1602	30.89	78.32	1602							0.91



S No	River Code		ENTRY				EXIT				Origin				Confluence			Length Travelled (km.)
	Administrative Code (village)	Administrative Code (Town)	Latitude	Longitude	Elevation (m)	Latitude	Longitude	Elevation (m)	Latitude	Longitude	Elevation (m)	Latitude	Longitude	Elevation (m)	Latitude	Longitude	Elevation (m)	
14	356-UK-10-XX-YYY-ZZ-02-01		30.89	78.32	1602	30.88	78.31	1489										1.47
15	356-UK-10-XX-YYY-ZZ-02-01		30.88	78.31	1489	30.88	78.31	1454										1
16	356-UK-10-XX-YYY-ZZ-02-01		30.88	78.31	1454	30.87	78.30	1441										0.83
17	356-UK-10-XX-YYY-ZZ-02-01		30.87	78.30	1441	30.86	78.29	1417										1.62
18	356-UK-10-XX-YYY-ZZ-02-01		30.86	78.29	1417	30.86	78.29	1366										0.77
19	356-UK-10-XX-YYY-ZZ-02-01		30.86	78.29	1366	30.85	78.28	1361										0.42
20	356-UK-10-XX-YYY-ZZ-02-01		30.85	78.28	1361	30.84	78.27	1294										2.24
21	356-UK-10-XX-YYY-ZZ-02-01		30.84	78.27	1294	30.83	78.25	1240										2.56
22	356-UK-10-XX-YYY-ZZ-02-01		30.83	78.25	1240	30.82	78.22	1185										3.21
23	356-UK-10-XX-YYY-ZZ-02-01		30.82	78.22	1185	30.81	78.20	1158										2.2
24	356-UK-10-XX-YYY-ZZ-02-01		30.81	78.20	1158	30.81	78.20	1145										0.92
25	356-UK-10-XX-YYY-ZZ-02-01		30.81	78.20	1145	30.80	78.18	1129										1.29
26	356-UK-10-XX-YYY-ZZ-02-01		30.80	78.18	1129	30.80	78.17	1129										1.16
27	356-UK-10-XX-YYY-ZZ-02-01		30.80	78.17	1129	30.80	78.16	1109										2.13
28	356-UK-10-XX-YYY-ZZ-02-01		30.80	78.16	1109	30.79	78.14	1091										1.62







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