

A STUDY OF DISTRIBUTION OF POPULATION DENSITY OF BHOGAVATI RIVER BASIN IN KOLHAPUR DISTRICT, MAHARASHTRA

Prashant Laxman Unhale, Dr. Govindrao Uttam Todkari

Research Scholar, Dept of Geography, Walchand College of Arts & Science, Solapur

Associate Professor, Dept of Geography, Walchand College of Arts & Science, Solapur

Article Info	ABSTRACT
Article History: Received: 18th Sep 2025 Accepted: 02nd Oct 2025 Published: 17th Oct 2025 Keywords: Arc GIS, Census of India 2011, Population density etc.	People's dispersion within a geographic area is referred to as population density. The distribution of the people in India is incredibly unequal. In this study, a detailed examination of population density was conducted for each town. According to the study, land use patterns are significantly influenced by population density, with high population density areas exhibiting more intensive land use and higher natural resource strain. The 2011 Census provides secondary data for the study. Data analysis is tabulated appropriately and exhibited using maps. Satarde, Nagadewadi, Isperil, Mhalunge, Dhangarwadi and Gadegoundwadi has a significantly high density. The distribution of the population is a social phenomenon that results from the interaction of several variables. Furthermore, the level of the labor force, the economy's property, the origin of the local natural circumstances, the history of exploitation of that region, and other factors inform how the population is distributed. These often have developed roads, agricultural areas, adequate infrastructure, and a history of population increase. The population density per Km² is low in New Karanje, Phejivade, and Ramanwadi. Additionally, the study exports graphical maps for additional research using ARCGIS and associated programs.

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Introduction:

India has a large population; hence its demographic patterns are important on a worldwide scale. India's economic development, resource allocation, environmental sustainability, and social well-being are all significantly impacted by the country's population size, growth, distribution, density, and composition. It is essential to comprehend these tendencies in order to make good policies. Maharashtra and other states have denser populations than the national average. According to the average population density for the entire country, state populations are lower in regions like the seven sisters of India. Therefore, by elucidating the spatiotemporal contexts of urban and rural areas at the landscape level, this paper advances our knowledge of population change. There is a rare chance for longitudinal study with this large dataset.

Study Area:

The Bhogavati river basin is seen in Figure No. 1 and is situated in Maharashtra's Kolhapur district. Its total catchment area is 1125 km², and its geographic coordinates are 73° 45' 00" to 74° 15' 00" E longitude and 16° 40' 00" to 16° 40' 00" N latitude.

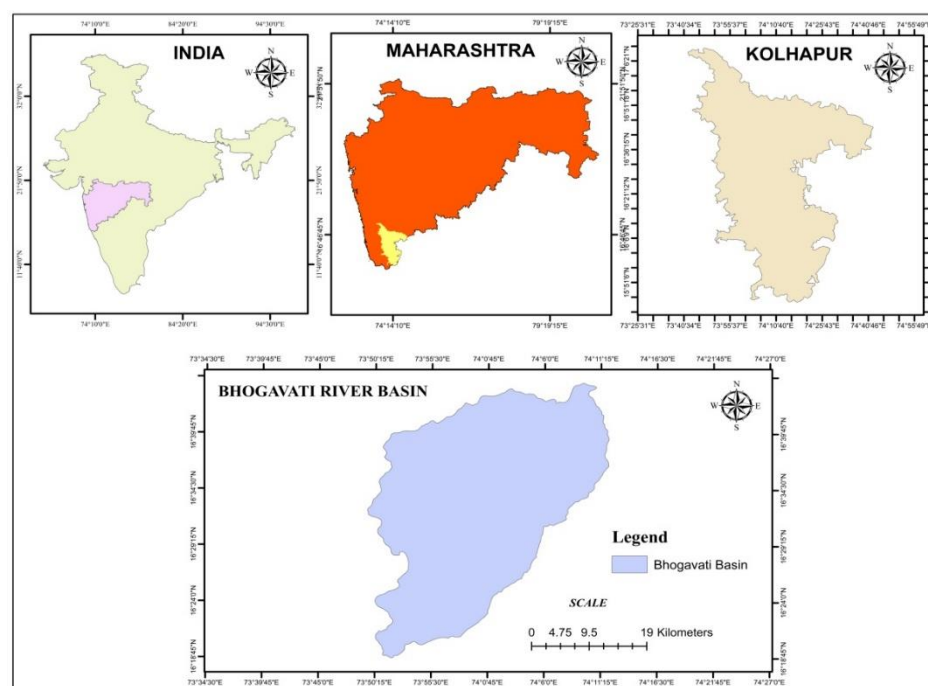


Fig. 1

Objective of the research:

The primary goal of this article is to understand the population density in the villages located inside the Bhogavati River Basin.

Research methods and data sources:

The main and most trustworthy source of data for this study is the 2011 Census.

Findings and Conversation:

Population distribution in space based on geography, infrastructure, amenities, and local

climate

The way individuals are dispersed within a geographic area is referred to as population dispersion. The population distribution pattern in the research area is incredibly asymmetrical. A thorough summary of the demographic features of the research area is given in Table 02 above.

Density of Population:

The average number of people residing in a given area is known as the population density. The population density of different villages is depicted in table. 1.

Village Name	Total Population	Area km2	Density
Keloshi Bk.	3394	21.39	158.64
Keloshi kh.	1113	8.96	124.26
Kote	1412	4.34	325.29
Konoli Tarf Asandoli	1605	10.71	149.89
Manewadi	690	1.16	593.65
Khamkarwadi	958	2.88	332.73
Chande	1429	7.63	187.28
Rashiwade Bk.	9221	1.71	5401.7
Rashiwade kh.	1054	1.71	617.43
Dhamod	4261	10.19	418.08
Ladwadi	582	1.87	310.68
Waghawade	702	1.16	602.8
Kodawade	869	2.49	348.61
Yelvade	2700	3.18	848.05
Mohade	1104	2.83	390.75
Burambali	717	7.59	94.49
Kandalgaon	768	7.38	104.02
Ghotawade	2868	2.6	1101.19
Chafodi T.tarale	1035	2.59	399.77
Kaulav	4042	1.76	2302.26
Rai	451	5.3	85.05
Baragewadi	827	4	206.68
Pal. Bk.	462	1.98	233.53
Pal. Kh.	292	2.85	102.6
Gotewadi	664	1.45	457.48
Mhasurli	2383	17.13	139.12
Khindi Wharawade	1744	3.07	568.64
Sawatwadi	1850	1.29	1429.52
Gavashi	1201	8.19	146.59
Shirgaon	3685	4.48	822.21
Aptal	940	6.4	146.96
Manbet	879	35.59	24.7
Thikpurli	5055	2.03	2485.86
Shirse	2141	1.03	2088.4
Bhoplewadi (n. v.)	463	2.89	160.43
Talgaon	2205	8.6	256.45
Musalwadi	490	2.2	222.45
Padsali	1145	12.9	88.77
Kambalwadi	987	1.8	549.74
Pimplwadi	632	2.17	290.83
Amjaiwharwade	2055	3.53	581.33

Tarasambale	1300	3.06	424.2
Tarale kh	2273	4.39	517.32
Ghudewadi	1018	1.55	655.11
Durgmanwadi	1621	6.95	233.19
Avali Bk.	3104	4.84	641.12
Baradwadi	2275	0.22	10534.55
Kumbharwadi	1069	2.04	525.05
Avali Kh.	1501	2.12	708.07
Chakreshwarwadi	1290	1.48	868.69
Kalankwadi	280	0.25	1124.07
Kanthewadi	923	2.76	334.56
Kukudwadi	470	4.28	109.75
Anaje	1791	3.05	588.08
Gudal	2960	3.55	832.69
Padali	1884	12.9	146.07
Piral	2690	11.89	226.3
Phejiwade	4123	99.57	41.4
Tarle Kasaba	4461	0.85	5230.54
Gudalwadi (n.v.)	565	1.8	314.41
Olavan	864	22.01	39.24
Karanjphen	1236	3.1	398.74
Savardhan	195	3.05	64.02
Shiroli	2141	4.55	470.41
Kudutri	1399	2.42	578.91
Radhanagari	6197	9.87	627.74
Mallewadi	620	0.06	9634.06
Banachiwadi	1566	5.9	265.3
New Karanje	665	8.57	77.57
Ramanwadi	331	9.39	35.25
Patpanhala	671	8.68	77.34
Bavada			
Asandoli	1496	10.49	142.65
Sangashi	364	5.27	69.1
Kherivade	703	3.07	228.97
Lakhamapur	445	6.78	65.6
Margewadi	310	2.86	108.54
Khokurle	1172	6.23	188.01
Salwan	197	4.06	48.54
Mandur	1205	5.87	205.28
Palsambe	469	7.69	60.95
Andur	1119	12.45	89.86
Mandukali	1210	10.08	120.02
Mhalunge	232	1.87	124.35
Kirave	1167	2.24	521.78
Kode Kh.	679	6.52	104.11
Sakhari	1130	2.57	439.65
Katali	544	3.05	178.38
Khadule	516	2.64	195.21
Taliye Bk.	644	8.25	78.04
Nivade	1228	4.1	299.16
Asalaj	1619	12.98	124.71
Sheloshi	686	4.88	140.7
Borbet	645	17.04	37.84

Tisangi	2048	2.74	746.46
Vesarde	659	3.43	192.02
Jargi	932	11.41	81.68
Kadave	605	2.79	216.65
GaganBavda	1588	6.91	229.85
Baveli	1045	10.55	99.07
Shenavade	626	4.49	139.54
Dhundavade	1306	14.01	93.24
Saitavade.	1072	14.46	74.11
Vesaraf	525	9.27	56.62
Garivade	783	8.65	90.51
Longhe	834	1.73	481.65
Kode Bk	983	21.15	46.46
Mutakeshwar	760	1.1	687.94
KARVIR			
Bhatanwadi	1193	2.08	572.61
Padali Kh.	5408	7.99	677.09
Upawade	1034	1.19	865.80
Mandare	1361	2.31	589.72
Sonali	1404	2.56	547.88
Shelakewadi	379	2.65	143.28
Ganeshwadi	2080	1.46	1421.21
Mahe	3179	3.64	874.43
Mhalasvade	2589	3.16	819.57
Bele	2800	4.39	637.93
Hirawade Dumala	1209	1.52	794.06
Kanchanwadi	1882	2.91	647.75
Ispurli	2482	0.56	4395.72
Bhamate	2190	2.86	764.65
Haladi	3395	4.59	740.08
Padali Bk.	2420	2.26	1072.85
Koparde	5311	4.62	1148.36
Balinge	5158	2.65	1949.95
Bololi	2563	6.21	413.02
Are	1329	1.7	781.93
Khupire	6892	7.8	884.07
Bahireshwar.	3534	3.71	952.87
Kekatwadi	571	1.59	358.62
Gadegoundwadi	1227	0.97	1270.72
Dhangarwadi	1495	0.91	1636.79
Ghungurwadi	462	3.48	132.70
Nandwal	1744	2.88	606.02
Mhalunge	3878	1.26	3077.01
KalambeTarf Kale	1327	1.37	969.88
Koge	4920	6.17	796.87
Amashi	2943	5.35	550.26
Kandgaon	3644	6.13	594.40
Parite	5418	7.55	717.86
Nigave Khalsa	5451	0.33	16694.94
Shinganapur	7570	0.36	21059.71
Hirawade Khalasa	2056	2.81	730.79
Kothali	3322	4.61	720.78
Adur	1668	2.99	557.96

Garjan	1229	2.01	611.42
Kurdu	2060	4.75	433.78
Shiroli Dumala	5285	5.68	930.14
Savarde Dumala	2165	2.83	765.07
Kurukali	3765	3.23	1165.72
Vakare	5858	6.47	905.34
Beed	4011	4.99	803.87
Sabalewadi	1744	2.02	861.70
Pasarde	1602	6.44	248.71
Chafodi	1720	1.69	1019.87
Sadoli Dumala	2106	3.07	684.94
Mharul	2343	3.04	770.44
Shipekarwadi	543	2.17	250.25
Ghanawade	2556	4.72	541.03
Ardewadi	757	6.98	108.40
Dewale	2377	3.37	705.59
Yevati	2376	0.96	2484.71
Khatangale	2179	4.06	536.66
Washi	5244	8.7	602.82
ChinchawadeTarf Kale	1877	3.24	580.08
Kuditre	4382	5.83	751.99
Savarwadi	2354	2.26	1041.42
Hanmantwadi	3498	1.02	3412.89
Sangrul	8414	9.1	924.32
Durgulwadi	552	2.08	265.34
Bachani	3338	5.66	589.47
Nagadewadi	4981	0.49	10176.12
Arale	2022	4.39	460.19
Sadoli Khalsa	4464	3.03	1474.39
Waghobawadi	509	2.46	206.92
Teraswadi	1292	4.67	276.63
Shindewadi	1227	2.71	452.45
Donwadi	166	1.59	104.43
Hasur	4045	5.03	804.67
Patekarwadi	667	0.79	844.32
Dhondewadi	681	3.11	219.26
Karbharwadi	404	2.28	177.42
Manjarwadi	525	2.19	239.46
Panhala			
Pohalwadi	1297	0.55	2342.17
Talewadi	233	0.04	5233.25
Yevaluj	6119	0.5	12234.57
Kaljawade	1409	0.99	1421.52
Satarde	2746	0.14	19098.75
Kolik	1053	0.08	12776.33
Kale	6403	5.02	1274.77
Pombre	825	0.63	1300.51
Parakhandale	1305	2.47	528.64
Marali	1935	2.58	750.48
Atkirwadi	842	2.34	360.51
Kherivade	392	1.7	231.06
Malharpeth	1288	1.08	1192.04
Gogave	473	1.57	300.91

Asagaon	843	1.06	793.46
Gothane	138	1.02	135.95
Menganewadi	249	0.95	261.57
Gharapan	1874	1.95	963.11
SawardeT. Asandoli	1567	5.71	274.21
Gothe	802	1.87	429.18
Navalvwadi	251	1.54	163.48
Morewadi	590	0.89	661.75
Tandulwadi	1324	5.25	252.17
Waghurde	1489	3.23	460.73
Akurde	1353	2.15	630.70
Sule	1424	2.42	588.66
Kodavade	928	2.32	400.06
Panutre	1834	5.39	340.09

Key Findings:

- Highly Populated Large villeges: Satarde, Nagadewadi, Isperil, Mhalunge, Dhangarwadi and Gadegoundwadi people per sq km.
- Moderate Densities: The population density of many villeges, spanning from the 800s to the 300s, shows a more steady decline. These villeges include Khamkarwadi, Rashiwade bk., Waghawade, Gotewadi, Chafodi T. tarale etc.
- Low Densities: The population densities of the mountainous villeges (such as Keloshi kh., Konoli Tarf Asandoli, Kandalgaon, Olavan and Gavashi).

Conclusion:

Study area has a large population; hence its demographic patterns are important on a worldwide scale. It economic development, resource allocation, environmental sustainability, and social well-being are all significantly impacted by the country's population size, growth, distribution, density, and composition. It is essential to comprehend these tendencies in order to make good policies.

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