CHAPTER I

INTRODUCTION TO POPULATION GEOGRAPHY

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1.1 INTRODUCTION:

'Population Geography' is one of the newly developed branch of Human Geography. Human population is self-resource in nature. Population means set of humans in a given area and it is one of dominant factor which is responsible for the development of any country or region, because man is the utilizer of physical earth and he also the creator of cultural earth. Simply, Population Geography means study of population and its characteristics. Population Geography studies the Population growth, Distribution, Density, Literacy rate, Sex composition and Age structure, Health, Mortality, Morbidity, Migration, Fertility and Reproductive.

Glain T. Trewartha elevates population studies to the status of systematic branch of geography. For defining population Geography Trewartha stressed that it was concerned with understanding the regional differences in the earth covering people (Trewartha, 1969 p.87).

'Population geography' can be defined accurately as the science that deals with the ways in which the geographic character of places is formed by, and in turn reacts upon, a set of population phenomena that vary within through both space and time as they follow their own behavioral laws, interacting one with another and with numerous non-geographic phenomena. (Zelinsky 1966).

'Population geography' or 'Geography of population' the terms have the same meaning, It concern with demonstrating how spatial variation in the distribution, composition, migration and growth of population are related to spatial variations in the nature of places. (Clarke J.I.1977).

The world population growth is rapidly increases from last few decades, its reaches 7,017,846,922 in 2012.On the globe unevenly distribution of population is found, because physiographical, social and economic conditions are affects on population distribution of any region. High, Moderate and mare populated countries are found in the world. Following chart showing population of some populated countries in the world. *China* is the highest populated country in the world with 1,343,239,923 (2012) populations and our country *India* is the second most populated country in the world with 1,205,073,612 (2011) populations. Majority of

the populations are found in china, India and some of the Asian countries, it is above 50% population of the world. United States, Indonesia, Brazil, Pakistan, Nigeria, Bangladesh, Russia and Japan are the other populated countries in the world.

Table- 1.1

Ten Countries with Highest Population (2011)

Sr. No.	Country	Population (millions)	Population (%)
1	China	1,343	19.14
2	**India**	**1,210**	**17.24**
3	United states	313	4.46
4	Indonesia	248	3.53
5	Brazil	193	2.75
6	Pakistan	190	2.71
7	Nigeria	170	2.42
8	Bangladesh	161	2.29
9	Russia	142	2.02
10	Japan	127	1.81
Total		**4,096**	**58.37**
Total World Population		**7,017**	**100**

Source: Based on http://www.internetworldstats.com.

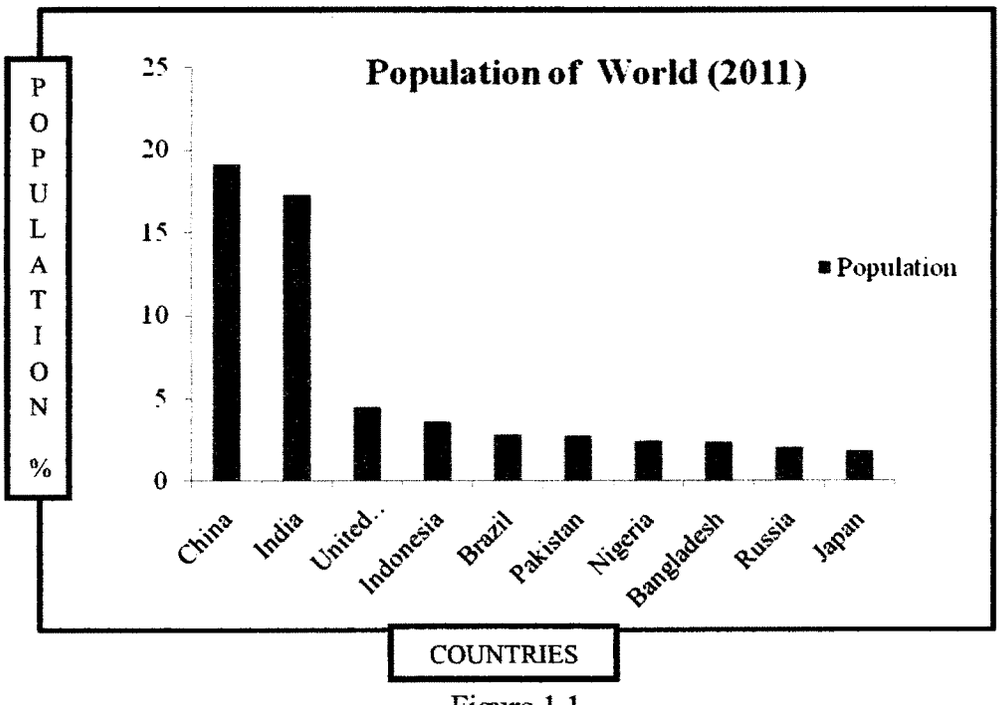

Figure 1.1

India is the second most populated country in the world. In the decade of 2001-2011. Indian population has increased more than 181 million. The population of Indonesia, Brazil, Pakistan, Bangladesh, U.S.A. and Japan is 1214.3 million, as compare to Indian population (1210.2million), it is equal. In 2011, the population of India is 1210193422, but it is unevenly distributed in 28 states and 7 union territories of India. Indian physiography, social and economic conditions are also affected on this population distribution. Some of states and union territories are highly populated and many moderate and rarely populated.

Table-1.2

Largest and Smallest Populous States/ Union Territories (2011)

Sr. No.	Top 5 states/ Union Territories		Bottom 5 states/ Union Territories	
1	Uttar Pradesh	199581477	Lakshadweep	64429
2	Maharashtra	112372972	Damn &Diu	242911
3	Bihar	10384637	D.& N. Haveli	342853
4	West Bengal	91347736	A.&N.Islands	379944
5	Andhra Pradesh	84665533	Sikkim	607688

Source: District Census Handbook of Kolhapur, 2001 &2011.

Uttar Pradesh is the most populous State in India. Population of Uttar Pradesh is 200 million (2011), it is more than the population of Brazil. Maharashtra (112372972) is the second most populous state in India. The population of Uttar Pradesh and Maharashtra is 312 million; it is more than population of United States of America. Bihar (103 million), West Bengal (91 million) and Andhra Pradesh (84 million) are also the high populous State in India. Lakshadweep (64429), Daman & Diu (242911), D. & N. Haveli (342853), A.& N. Islands (379944) and Sikkim (607688) are the Bottom 5 states/ Union Territories.

Maharashtra state (112 million) is the second most populous state in India there is proportion of male and females is 58243056 and 54131277 respectively. Maharashtra is divided in to 35 districts, but there is no equal distribution population in these districts.

Thane district is the high populous district with the population 11054131; it is 9.84 % of the total population the state. After that Pune (9426959), Mumbai (9332481) are the biggest districts with population. Sindhudurg District is the smallest district with population 848868. Gadchiroli is also the smallest district and Hingoli, Washim and Bhandara are the small populous Districts in Maharashtra.

Table-1.3

Population of Maharashtra (2001 & 2011)

Sr. No.	Population					
	2001			2011		
	Male	Female	Total	Male	Female	Total
Total	50400596	46478031	96878627	58243056	54131277	112374333
Rural	28458677	27318970	55777647	31539034	30017040	61556074
Urban	21941919	19159061	30017040	26704022	24114237	50818259

Source: Census of Maharashtra, 2001 & 2011.

As compare to rural-urban population, majority of the people of Maharashtra who living in rural areas.

Kolhapur is one of district in the state of Maharashtra. It is divided in to urban and rural areas. Kolhapur district is divided in to twelve tehsils. Viz. Ajara, Bhudargad, Gadhinglaj, Chandgad, Shahuwadi, Panhala, Karveer, Hatkanangale, Shirol, Radhanagari, Kagal and Gaganbavada.

As per the Census 2011, populations of Kolhapur district are 3876001 of which male populations are 1980658 and female populations are 1895343.The population of Kolhapur district is constituted 3.45 % of the total population of Maharashtra state; in the Census of 2001, it was 3.64 % and it decreasing with 0.19%.

Table -1.4

Population of Kolhapur District (2001 & 2011)

Sr. No.	Description	2001			2011		
1.	Total population	1807470	1715692	3523162	1980658	1895343	3876001
2.	Child population	244682	250201	449883	219521	189421	408942

Source: District Census Handbook of Kolhapur 2001 & 2011.

1.1.1 POPULATION OF BHUDARGAD TEHSIL:

Bhudargad is one of the tehsil in Kolhapur district of Maharashtra. As per the 2011 Census there are 117 villages and Gargoti is newly developed town in this tehsil which is 50 km from Kolhapur city. It is totally rural region, but Gargoti is newly developed town in this tehsil. Gargoti is an educational center for the surrounding area. The Mouni Vidhyapith is one of the institute which runs many educational programmes like diplomas in Engineering, Science, Commerce, Arts, graduate-level programs, D. Ed. and B. Ed. courses. Some of private colleges are also runs by private institutions.

Table -1.5

Sr. No.	Population of Bhudargad Tehsil					
	2001			2011		
	Male	Female	Total	Male	Female	Total
Total	72631	72279	**144910**	75824	74544	**150368**
Rural	72631	72279	**144910**	75824	74544	**150368**
Urban	-	-	-	-	-	-
Literacy (%)	86.14	59.89	**72.92**	87.84	67.57	**77.71**

Source: District Census Handbook of Kolhapur, 2001 and 2011.

As per the Census of 2001, the total populations of Bhudargad tehsil are 144910, males are 72,631 and females are 72,279 and in 2011 the total populations of Bhudargad tehsil are 150368, male and female populations are 75,824 and 74,544 respectively. There is absence of urban population; only rural population is present in this tehsil. Total Literacy rate of population in Bhudargad tehsil was 72.92 % in 2001 male literacy 86.14 % and female literacy 59.89 % and literacy rate was increase in 2011 it was 77.71 %. Male and female literacy rates both are increased male literacy was 87.84 % and female literacy 67.57 % respectively.

1.1.2 CONCEPT OF SEX-RATIO:

The term 'Sex-ratio' is related to the 'Population Geography' and population geography is the recently developed branch of Human Geography. Sex composition of the human population is one of the basic demographic characteristics, which is extremely vital for any meaningful demographic analysis. Sex-ratio is an important social indicator which defined the number of females per thousand males. Sex-ratio is the ratio of the males to females in a population.

Sex-ratio means relative numbers of men and women, can affect marriage Prospects, labor force participation, and other social and economic variables. The Primary Sex-ratio is the ratio at the time of conception. Secondary Sex-ratio is the ratio at time of birth and tertiary sex-ratio is the ratio of mature organisms. Primary Sex-ratio - (Ratio of fertilization), Secondary Sex-ratio- (Ratio of the birth), Tertiary Sex-ratio - (Ratio in sexually active organisms), quaternary Sex-ratio-(Ratio in post reproductive organisms), measuring these are a problem. Since these are no clear boundaries between them.

The sex-ratio is a good expression of the status of women in any society. It is the result of sex-ratio at birth (SRB) and of differential mortality according to sex and migrations. Yet, the juvenile Sex-ratio (JSR, for 0-6 years population) is generally not influenced by migration, which is very moderate in these age groups; it is consequently a valuable indicator of the situation of girls in any region. We shall therefore use the sex-ratio at birth (SRB) as well as the juvenile Sex-ratio (JSR) and the sex-ratio (SR) in the characterization of sex discrimination.

Sex-ratio has great importance in the study of population, because it is closely related to socio-economic condition of an area. Sex-ratio also influences the volume and nature of social need and employment and consumption pattern. Due to the considerable influence on many other demographic elements, the sex-ratios are fundamental for geographical analysis of any region. Sex composition also influences fertility, potential of the population, the labour participation and the types of jobs.

Sex-ratio is the most important population characteristic which highlights social & medical attention provided to women and her position in any region. The sex-ratio affects the social and economic conditions in variety of ways. The marital status and marriage ability, the strength of man power availability and different types of labour force the death rate and vital statistics, the school going population the extent of employment of women outside the home, the status of women in the community and the many other social conditions are more or less directly related to the sex-ratio of population.

Sex-ratio is a significant demographic and cultural index and can be or value to the population geographer in a discussion of regional characteristics. The ratio can reflect the biological, social, economic and emigrational characteristics of population. Social Economics and community life are affected in many by a large imbalance in sex composition. A great imbalance in the sex-ratio originates from various social and demographic factors **(Maya Banerjee 1977)**. Sex-ratio reflects the socio-economic conditions prevailing in an area and is a useful tool for regional analysis **(Franklin, 1956).** Sex-ratios are fundamental to the geographic analysis of an area; they are not only important features of landscape but also influence other demographic elements which, provide additional means and materials for analyzing regional landscape **(Trewartha, 1953)**.

According to the RGI (Registrar General of India) some big countries in the world decline the number of females. The sex-ratio of china in 2001 was 944 and it fell to 926 in 2011. Nigeria's sex-ratio was 1016 in 2001, but it also fell to 926 in 2011. India's sex-ratio in 2001 only 933, but in 2011 it is 940 increases with 7 points. Following table shows the sex-ratio of some selected countries in the world including India.

Table-1.6

Sex-Ratio of Selected Countries in the World (2001)

Sr. No.	Country	Sex-Ratio (No. of females per 1000 Males)
*	**World**	**986**
1	China	944
2	**India**	**933**
3	U.S.A.	1029
4	Indonesia	1004
5	Brazil	1025
6	Pakistan	938
7	Russian Fed.	1140
8	Bangladesh	953
9	Japan	1041
10	Nigeria	1016

Source: Based on World Population Prospects.

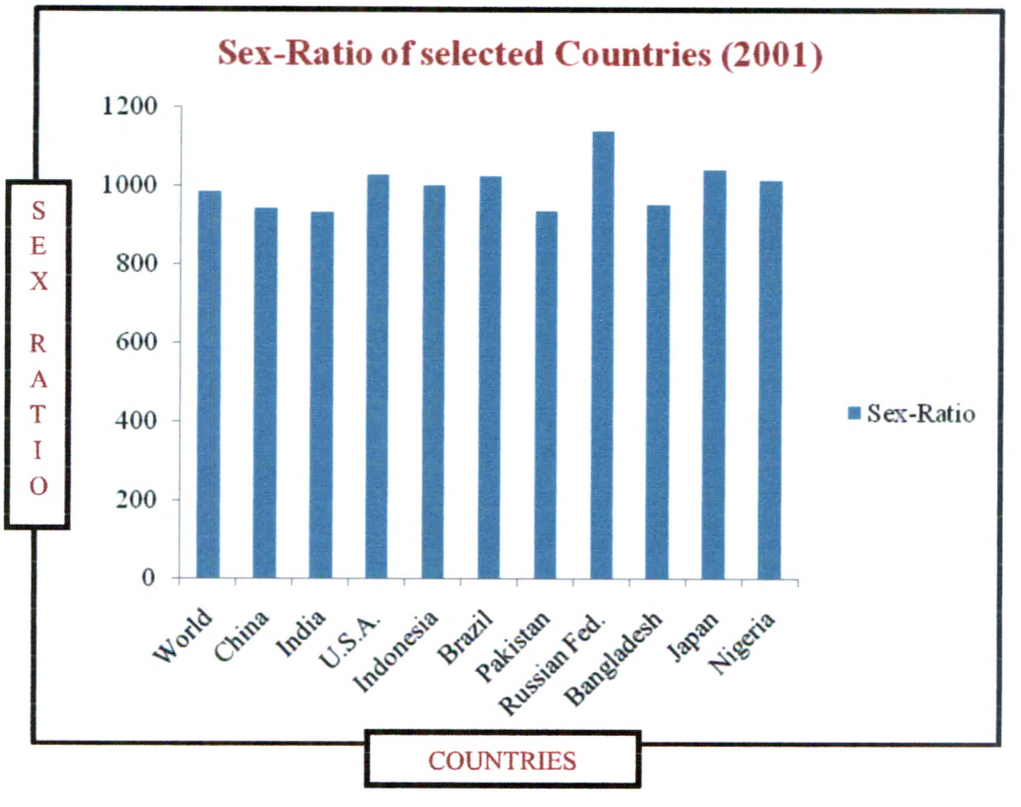

Figure 1.2

Here, mentioned the selective sex-ratio of the countries in the world. The sex-ratio of the overall world is 986 females per 1000 males. U.S.A. (1029), Indonesia (1004), Brazil (1025), Russian Fed. (1140), Japan (1041) and Nigeria (1016) these countries have high sex-ratio; it is above 1000 females per thousand male. In China (944), India (933), Pakisthan (938), Bangladesh (953) there is below 1000 females per 1000 males.

The sex-ratio in India is 940 females per thousand male in 2011. The Overall Sex-ratio at the National level has increased by 7 points since Census 2001 (933) to reach 940 at Census 2011, and in India five States or Union Territories have very low sex-ratio and there is also decline in female sex-ratio i.e. Haryana (877), Delhi (866), Chandigarh (818), Dadar and Nagar Haveli (775) and Daman & Diu (618). Kannur district in Kerala State has a sex-ratio of 1133 female per 1000 male. Ladakh district of Jammu and Kashmir State has very low sex-ratio i.e. 583 female per 1000 males only. Mahe district of Puducherry (1,176), Almora District of Uttarakhand (1,142) these two districts have highest sex-ratio and Daman District of Daman & Div (533), Leh (Ladakh) District of Jammu & Kashmir (583) these two districts have very low sex-ratio in the country. Sex-ratio of India was decreased from Census year 1961 (972) to the recent Census year 2011 (940).

Table-1.7

Changing Sex-Ratio in India: 1901-2011

Census Year	Sex-Ratio (No .of female Per 1,000 males)
1901	972
1911	964
1921	655
1931	650
1941	945
1951	946
1961	941
1971	930
1981	934
1991	927
2001	933
2011	940

Source: Census of India 2011.

Table-1.8

India: Sex Composition

Description	2001		2011	
	Population (in million)	Proportion (in %)	Population (in million)	Proportion (in %)
Male	532.2	51.74	623.7	51.54
Female	496.5	48.26	586.4	48.46
Sex-Ratio	933		940	

Source: Based on Census of India 2011.

In India Male populations were 532.2 million (51.74%) and female populations were 496.5 million (48.26%) in the Census year 2001 and in 2011 male population were 623.7 million (51.54%) and female population were 586.4 million (48.46%). Male populations were more than female population in Census year 2001 and 2011.

Increasing trend in the Child Sex-Ratio observed in Punjab, Haryana, Himachal Pradesh, Gujarat, Tamil Nadu, Mizoram and Andaman & Nicobar Islands and in all remaining 27 States or Union Territories. The Child sex-ratio is declining in 2001.

Lahul & Spiti district of Himachal Pradesh (1013) & Tawang District of Arunachal Pradesh (1005) these two districts have highest child sex-ratio. Jhajjar District of Haryana (774) & Mahendragarh District of Haryana (778) these two districts have very low Child sex-ratio.

As per Census of 2011, Mizoram (971) and Meghalaya (970) states have highest Child sex-ratio. Whereas, Haryana (830) & Punjab (846) states have very low Child sex-ratio.

In Maharashtra, there is uneven distribution of sex-ratio. The sex-ratio of Maharashtra is low; it is 925 female per 1000 male as per the 2011 Census. Ratnagiri and Sindhudurg district has high sex-ratio of 1123 and 1037 respectively

Mumbai metropolitan area has lowest sex-ratio i.e. 838 because of immigration of male workers outside an area. The suburban Mumbai (857) and Thane (880), Pune (910), Beed (912), Aurangabad (917), Osmanabad (920) districts showing average sex-ratio.

1.1.3 SEX-RATIO IN KOLHAPUR DISTRICT:

Kolhapur is one of the district of Maharashtra. It is divided in to urban and rural areas, there is found low sex-ratio, it is 953 female per 1000 male, as per the 2011 Census.

Kolhapur district is divided into twelve tehsils Viz. Ajara, Bhudargad, Gadhinglaj, Chandgad, Shahuwadi, Panhala, Karveer, Hatkanangale, Shirol, Radhanagari, Kagal and Gaganbavada.There is highest Sex-ratio found in Ajara tehsil i.e. 1095female per 1000 male and the lowest sex-ratio 915 female per 1000 male found in Panhala tehsil as per the 2011 Census.

High sex-ratio observed in Ajara, Chandagad, Gadhinglaj and Shahuwadi and lowest sex-ratio observed in Panhala, Karveer and Hatkanagale tehsils.

Many of the factors which are affected on sex-ratio like Industrialization, Migration, Marriage, Job availability and Employment etc. Today in all over world there is imbalance in sex-ratio. It is very harmful, because, it disturbs the social environment of society. So today we need to balance the male-female sex-ratio in our population.

Following table shows the tehsil wise sex-ratio of Kolhapur in the Census years 2001 and 2011. In the Census year 2011, the average sex-ratio of Kolhapur district has increase as compare to the sex-ratio in 2001.

Table-1.9

Kolhapur District: Sex-Ratio (2001 & 2011)

Sr. No.	Tehsil	2001	2011
1	Ajara	1082	1095
2	Bhudargad	995	983
3	Chandgad	1033	1019
4	Gadhinglaj	1016	1039
5	Shahuwadi	1049	1020
6	Panhala	921	915
7	Karveer	917	936
8	Hatkanangale	911	932
9	Shirol	941	956
10	Radhanagari	946	935
11	Kagal	949	948
12	Gaganbavada	969	937
Kolhapur District		**949**	**956**

Source: District Census Handbook of Kolhapur, 2001& 2011.

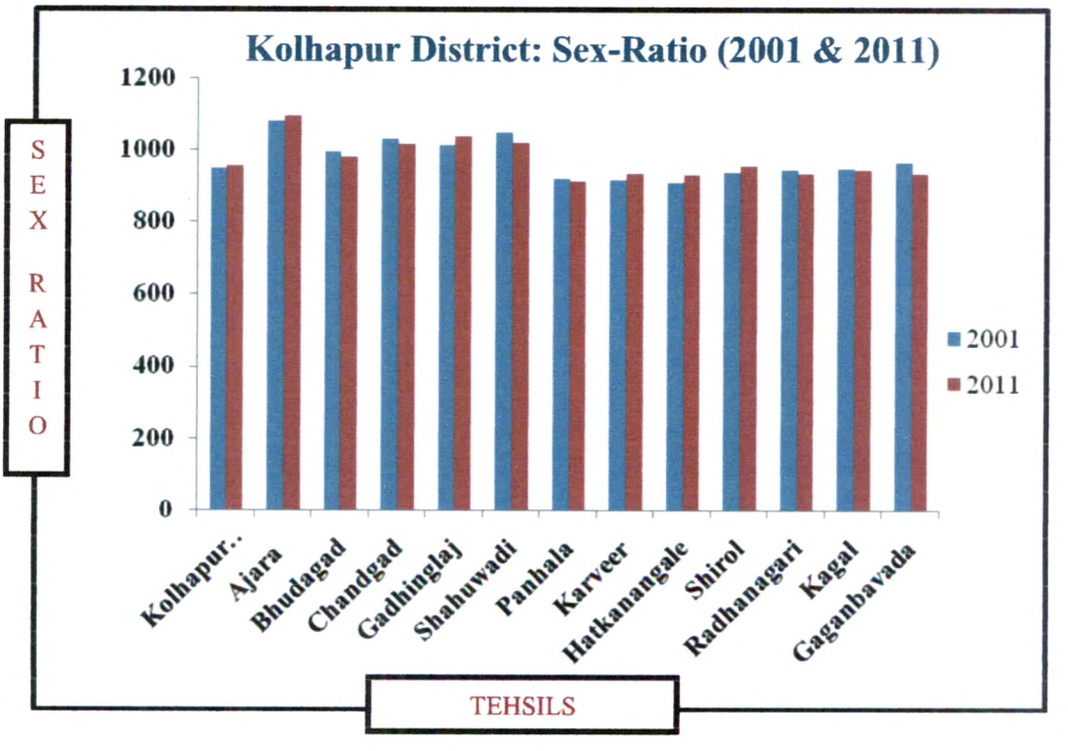

Figure 1.3

1.1.4 MIGRATION AND SEX-RATIO:

Migration is one of major factor which is mostly affects on male female sex-ratio in any region. Migration broadly considers it as a permanent or semi-permanent change of residence with no restrictions on the distance involved in the movement. (Lee 1966.p.49).Similarly, selectivity among migrants may also occur by sex. In certain situations more males may move than females, while in others, females may move more than the males. For example, in India, all marital migrations involve the movement of females from the place of their parental residence to the place of residence of their spouses at the time of marriage. (Chandna R.C., 1994 p.151).

People migrate to one region to another for lot of causes like Employment, Education, Marriage, Trade and Commerce etc. So Migration increases or decreases the population and sex-ratio of any region. Immigration and emigration is responsible for that change in population aspects. Majorly young male migration is dominant and it affects on sex composition of the regions. Physiography of the region, climatic conditions, agriculture, industrialization, urbanization and education facilities are affecting on migration of people.

1.2 RESEARCH PROBLEM:

Sex-ratio has the great importance in the study of population. In Many countries of the world the difference is found between male and female sex-ratio. Today India also facing the same problem, because of many physiographic, social, cultural, medical and economic factors are responsible for that. The sex-ratio of the Indian population, as well as the JSR (Juvenile sex-ratio for 0-6 years population), has been decline almost regularly since 1901 to 2011, particularly in some regions of the India, because of specific discriminatory socio-cultural practices rooted in the context of the Indian patriarchy. To the infanticide of newborn girls was added, thirty years ago, the sex selective abortion of female embryos. Since the time India adopted new technologies to determine the sex of the foetus, nothing has really been done to arrest their progression, except the law of 1994 and its amendments. In many states or Union Territories of India there found very low male and female sex-ratio

i.e. Haryana (877), Delhi (866), Chandigarh (818), Dadar and Nagar Haveli (775) and Daman and Diu (618).

The sex-ratio of Indian population has always been of topical interest for the demographers, Geographers, Social scientists, women's groups, research scholars and various planners and policy makers. Why is it that India has such uneven composition of population as compared to most of the developed countries in the world? Several reasons are adduced to explain the consistently low levels of sex-ratio and their further decline in India. Some of the important reasons commonly put forward are neglect of the girl child, High maternal mortality, Sex selective female abortions, female infanticide and Change in Sex-ratio at birth of child.

The total populations of Maharashtra state are 112374333 males are 58243056 and females are 54131277 in 2011.The sex-ratio of Maharashtra is 929 females per 1000 males in 2011, it is low, but increases as compares to sex-ratio in 2001(922). In Maharashtra there is also problem of imbalance of sex-ratio. Many districts of Maharashtra i.e. Mumbai City (838), Mumbai Suburban (857), Thane (880), Pune (910), Beed (912), Aurangabad (917), Osmanabad (920) there is also very low male female sex-ratio. However, the same for rural-urban comparison reveals that there is decline in rural sex-ratio from 960 to 952 (by 8 points) whereas, the urban Sex-ratio has increased from 873 to 903 it by increased 30 points and the overall sex-ratio is also increased from 922 to 929 with 7 points.

Table-1.10

Maharashtra: Sex-Ratio (2001 & 2011)

Residence	Year		Change
	2001	2011	
Total	922	929	+7
Urban	960	952	**-8**
Rural	873	903	**+30**

Source: Based on Census of Maharashtra 2011.

Table -1.11

Maharashtra: Child Sex-Ratio (2001 & 2011)

Residence	2001	2011	Change
Total	913	894	**-19**
Urban	916	890	**-26**
Rural	908	899	**-9**

Source: Based on Census of Maharashtra 2011.

The Child sex-ratio reveals that, change in attitude in our society towards the girl child, it is an indicator of future sex-ratio in the population.

The sex-ratio in urban areas are rapidly declining from 916 to 890 (By-26 points), rural sex-ratio is also decline from 908 to 899 (By-9 points) but this rate is low as compare to urban area. Total sex-ratio is decreased from 913 to 894 (By-19 points).

Kolhapur district is divided in to twelve tehsils Viz. Ajara, Bhudargad, Gadhinglaj, Chandgad, Shahuwadi, Panhala, Karveer, Hatkanangale, Shirol, Radhanagari, Kagal and Gaganbavada etc. Some of the tehsils included urban and rural areas, some tehsils are totally rural and situated in hilly regions. i.e. Shahuwadi, Gaganbawada, Radhanagari, Bhudargad, Ajara, Chandagad and Panhala etc. Karveer, Hatkanagale, Shirol, Kagal tehsil these are urbanized and industrialized as compared to Shahuwadi, Gaganbawada, Radhanagari, Bhudargad, Ajara, Chandagad, Panhala tehsils.

The total populations of Kolhapur district as per 2011 Census are 3876001, rural populations are 2645992 (68.27%) and urban populations are 123009 (31.73%) included in it. The difference found in male female sex-ratio between urban and rural areas. The rural areas are less developed; there is no industrialization and lack of good and advance medical facilities. Majority of rural populations are involved in primary sector like agriculture, animal husbandry, hunting, Bee honey etc.

The research area Bhudargad tehsil is a rural and hilly region in Sahyadri ranges of Maharashtra. It is less developed region because the Bhudargad tehsil is rural and hilly in nature, most part of the tehsil is situated in western Ghat region and the area is undulating and under developed. There is only one sugar factory located at Tambale village.

Most of the population of study area is agrarian and some of them are migrated in search of job to urban areas. The western hilly part of the tehsil experiences lack of infrastructure in last few decades. Most of the male younger populations have been migrated to Pune, Mumbai, Nasik, and Aurangabad for livelihood. Because of unavailability of infrastructural facilities. In last few decades the male populations were migrated to Mumbai, Pune, Nasik, Aurangabad and big cities in India.

Migration is one of major factor which is mostly affects on male female sex-ratio in this region. In Bhudargad tehsil there is migration of male population which directly affect on sex-ratio. The Bhudargad tehsil is divided in to five revenue circles i.e. Koor, Gargoti, Karadwadi and Kadgaon and Pimpalgaon.

The physiography, social and economic condition, awareness of people, availability of medical facilities in these circles is different from each other, so these factors are also affects on male-female sex-ratio in Bhudargad tehsil. The total availability of medical facilities for people, medical facilities for females, medically carefulness about girl child and her mother and status of women that are another factors which are also responsible for male female sex-ratio.

As per the statistical reports, the sex-ratio is declining day by day, and it is not good for our country in this modern age. Now- a-days we are facing many of the problems because of that and it creates lot of social problems in future. Government applies many of policies, plans for increase the sex-ratio. Due to these problems, there needs of immediate attention to the declining male female sex-ratio and its problems.

1.3 HYPOTHESIS:

In order to fulfill above objectives the following hypothesis have been formulated,

1. Migration affects Sex-ratio in the study area.

1.4 OBJECTIVES:

The major objectives of the present study are as follows.

1. To analyze the impact of Migration on Sex-ratio.
2. To study the temporal distribution of Sex-ratio of Bhudargad Tehsil.
3. To study the impact of Geographical factors on Sex-ratio.
4. To conclude the research and to make appropriate suggestions.

1.5 METHODOLOGY:

The present study is based on Secondary source of data. The secondary data has retrieved from Socio-economic reviews, Census report, Gazetteers of Kolhapur district, Magazines, Newspapers and for the analysis of proposed study various appropriate Statistical and Cartographical methods are used. Such as fertilization ratio, birth ratios etc. for those appropriate statistical methods are used. Some primary data also used wherever necessary such as interviews of officials & with questionnaire.

Following Methodology are uses for present research for data analysis.

- **Sex-Ratio = Total female population / Total male population *1000**
- **Child (0-6 Age) Sex-Ratio = Total female population (0-6 Age) / Total male Population (0-6 Age) *1000**

- **Rural Sex Ratio = Total rural female population / Total rural male population *1000**

- **Decadal growth rate = $S_2 - S_1 / S_1 * 100$**

Where,

S_1, is the sex-ratio of initial period of time

S_2, is the sex-ratio of later period of time

1.6 SIGANIFICANCE OF WORK:

Sex-ratio is an important social indicator which defined the number of females per thousand male. Sex-ratio has great importance in the study of population because it is closely related to socio-economic condition of area. Sex-ratio also influences the volume and nature of social need and employment and consumption pattern.

Due to the considerable influence on many other demographic elements, the sex-ratios are fundamental to geographical analysis of any region. Sex composition also influences fertility potential of the population, the labour participation and the types of jobs. The variations in sex-ratio are to a large extent determined by three factors such as, sex-ratio at birth, differentials in mortality rate in two sexes and sex selectivity among migrants.

In the present study an attempt is made to look into the spatial variation in sex-ratio of study region. Another purpose of this research work is to find out the reasons of declining sex-ratio and to suggest some complementary suggestion for the increase in sex-ratio.

1.7 THE STUDY AREA:

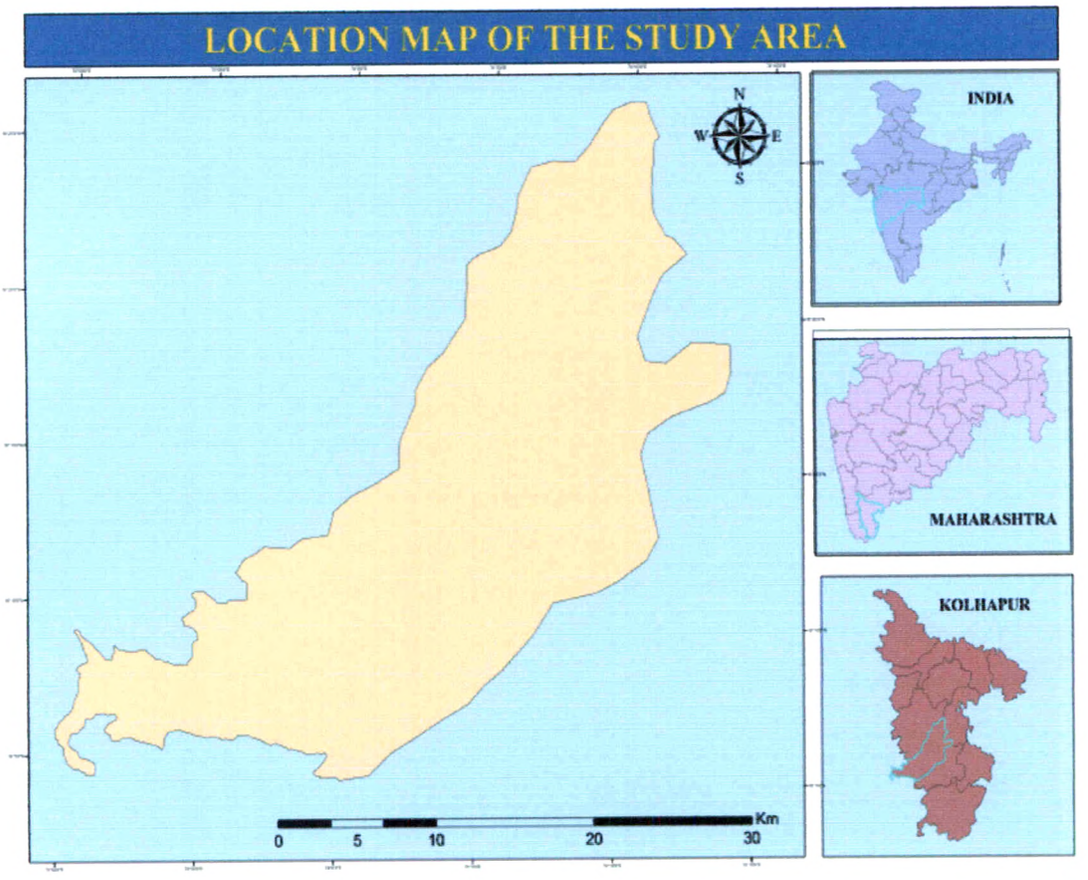

Figure 1.4

Bhudargad is one of the Tehsil of Kolhapur District in the Indian State of Maharashtra. The total numbers of villages in Bhudargad Tehsil are 117. The Tehsil Bhudargad lies between 16° 4'to16°26' North Latitude & 73° 50' to74° 16'East Longitude. It has an area of 644.40 sq.kms and the total populations of Bhudargad tehsil as per the 2011 Census are 150368 of this, 293 are scheduled Tribes (S.T.s) and 14677 are scheduled castes (S.C.s). And the Sex-ratio of Bhudargad is 983 female per 1000 males. The literacy rate is 77.71 percent, 87.84% for males and 67.57 % for females in 2011. Gargoti is newly developed town in this tehsil, it is main administrative place, and oldest is an education center for surrounding rural areas. The Mouni Vidhyapith is one of the institute which runs many education programs like diplomas in Engineering, Science, Commerce, Arts, graduate-level programs, D.Ed. and B. Ed. courses.

The Vedganga is the main river of Bhudargad tehsil, which is originated at Tambyachiwadi. The Patgaon dam constructed on the river, it has natural beauty and forests around it. Medical plants are available in the Patgaon area which is helpful for medical science to research and make medicines. Average rainfall is more than 1500 mm. Bhudargad is one of the historical fort and best hill stations in the Bhudargad tehsil. Rangana fort 55 km from Gargoti, on the border of Sindhudurg district one of the best constructed fort by Chhtrapati Shivaji maharaj. It has natural beauty and hill forest around it, and amazing wildlife.

Bhudargad tehsil is hilly region and there is also lack of industrialization therefore, male population migrated to another region for education and employment. But the first female sugar factory on co-operative basis in the country run by women is situated at Tambale village and Hutatma Swami Warke Cotton mill at Mudal.

Bhudargad tehsil is surrounded by the boundaries on the north Radhanagari Tehsil, on the South Ajara Tehsil, on the East Kagal Tehsil and on the West Sindhudurg District.

1.8 REVIEW OF LITERATURE:

For the present research work, the references are used from various books and journals which are concerned with present research. The following references have cited in the work.

Gaikwad Dilip D. (1988) A Thesis submitted to Shivaji University for the award of Degree of Doctor of Philosophy in Geography. He has selected some aspects of the population in sangali district for detailed analysis an interpretation like population change, variations in spatial distribution and sex imbalance etc.

Kore Nirmala (1989) A M.Phil. Dissertation submitted to Shivaji University. In this thesis researcher studied the population characteristics and its distribution, correlation of the population characteristics such as growth of population, Density, Sex-Ratio, Literacy with different aspects of agriculture pattern.

Karande H.Y. (1990) A M.Phil. Dissertation submitted to Shivaji University. He studied the Growth rate and Distribution of population of Khanapur Taluka in Sangli District.

Paradesi P.B. (1993) A Thesis submitted to Shivaji University for the award of Degree of Doctor of Philosophy in Geography. The fifth chapter of this thesis is concern with sex-ratio of the Population, Temporal changes in sex-ratio, sex-ratio differentiation in rural and urban areas, regional patterns of sex-ratio, spatial distribution of the sex-ratio.

Jare Yashwant M. (1994) A M.Phil. Dissertation submitted to Shivaji University. In this thesis researcher analyses the spatial patterns of distribution of total and rural population. He identifies the changes in distributional pattern of population. Researcher describes spatial patterns of distribution of Sex-Ratio, changes in distribution of sex-ratio, the different components of sex-ratio.

Kale Balkrishna J. (1996) A M.Phil. Dissertation submitted to Shivaji University In this thesis he discuss the dynamic character of the distribution of population in satara district and he analyze patterns of different densities of population the growth of total and rural population in terms of time & space. He also studies the growth of urban population.

Patil Pramodkumar P. (1998) In this M.Phil. Thesis researcher studied village wise population Growth, Distribution and Density of the Kagal Taluka in Kolhapur District.

Garakare Rajesh Bhimrao (2010) A Thesis submitted to Shivaji University for the award of Degree of Doctor of Philosophy in Geography. In this thesis researcher studied the growth and distribution of population, patterns of urbanization, migration and birth rate of specific study region.

Barakade A.J. (2012) In this paper he briefly discusses the Spatio-Temporal Variation of Sex-Ratio in Maharashtra, reasons of declining sex-ratio in Maharashtra State. The arithmetic sex-ratio of population and find out the changing pattern of population sex-ratio during 1991-2011.

Dr. D.G.Gatade, Dr.R.R.Gharge (2012) In this research paper they have highlighted on male and female sex-ratio in Kolhapur district, distribution of rural and urban male-female sex-ratio. They classify general sex-ratio in to the three categories. And they also mentioned Spatio-temporal patterns of general sex-ratio in Kolhapur district.

Josh Angrist (2002) In this journal he explained what is the sex-ratio? Effects of sex- ratio on marriage and labor markets.

Salunkhe R.R. (May 2003) He studies the regional distribution of population concentration of population and he analyzes the correlation between population distribution and the selected factors.

Stéphanie Vella and Sébastien Oliveau (2005) In this research researcher studied sex-ratio and its types such as SR, JSR, SRB.They also examined Sex-ratio differentials in South India, Juvenile sex-ratio (girls per 1000 boys below 7) in South India and India, 1961-2001, Sex-ratio (women per 1000 men) in South India and India, 1961-2001, Sex-ratio variations in Tamil Nadu, Child sex-ratio estimated using Census age distribution, Salem, Dharmapuri and Tamil Nadu 1950-2000, Spatial analysis of the evolution of sex-ratios between 1961 and 1991 in Salem and Dharmapuri districts.

Todkari U.G., Barakade A.J. (2012) The present paper deals with trend in sex-ratio as well as sex differential in decadal viz. 1901 to 2001 in Solapur District (MS). This paper tries to analyze the spatio-temporal sex-ratio variation in Solapur District of Maharashtra State.

1.9 SCHEME OF CHAPTERS:

The present research work has organized into six chapters. These are as follows.

Chapter 1: Introduction

Chapter first has contains Introduction, concept of Population & Sex-ratio, significance of the study, objectives, study area, Data base and methodology and review of literature.

Chapter 2: Study Region

Bhudargad is a Tehsil of Kolhapur District in the Indian State of Maharashtra. The Tehsil Bhudargad lies between 16° 4'to16°26' North Latitude & 73° 50' to74° 16' East Longitude. Bhudargad Tehsil is a hilly region and there is also lack of industrialization. It is surrounded by the boundaries on the north Radhanagari Tehsil, on the South Ajara Tehsil, on the East Kagal Tehsil and on the West Sindhudurg district.

Chapter 3: Spatio-Temporal distribution of Sex-ratio

Chapter three has analyses the spatio-temporal distribution of sex-ratio in Bhudargad tehsil.

Chapter 4: Impact of Geographical Factor on Sex-ratio

Chapter has highlights the physical, socio-economic, demographic, agricultural conditions of the study region. It has impact on sex-ratio etc.

Chapter 5: Changing Nature of Sex-ratio

Chapter five has includes study & analysis of decadal changing nature of Sex-ratio in Bhudargad Tehsil.

Chapter 6: Conclusion

Chapter six belongs to Findings and recommendations for Spatio-temporal variations of Sex-ratio in Bhudargad Tehsil.

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