CHAPTER 1

INTRODUCTION
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Growing Concern With Population Research:

In the recent past population studies became popular, particularly in developing countries due to the growing awareness of the economic aspect of living. After the World War II, there has been a spectacular progress in the field of demographic studies as a result of which some important demographic facts have emerged. A noteworthy feature of this development has been the creation of interest in the study of population in the under-developed countries including India. When the historian traces the evolution, he finds that decade after decade, there has been dramatic growth of population. It is estimated that by the end of the century the Indian population would increase from about 68 crores (1981) to about 100 crores. One may well ask how far this human tide will go and how long will India be able to feed and maintain these millions and millions of people. India has only 2 percent of the world's land area but it has to support about 16 percent of the world's population. As a result, the present Indian population is struggling hard to maintain a reasonable standard of living. The per capita income of the people stands at a very low level in comparison with those of the developed nations of the world. More than half of population is estimated to be living below the poverty line which has been worked out in terms of per capita monthly expenditure of Rs. 63.30 for the rural area and Rs. 74.76 for the urban area for the
Demographers, the sociologists and economists realise the seriousness of the problem that the life system would be extremely difficult to manage, if population is allowed to grow at its present rate which in turn will lead to deprivation, unprecedented suffering and the consequent explosion of violence and dehumanization. India is the second most populated country in the world after China. The country has been passing through an alarming phase of population growth since 1951. This aspect of the population growth needs immediate attention as the greatest and the single obstacle to the economic growth of the country. The rampant population growth, aggravates the food problem, progressively worsens the employment situation, adds to the number of unproductive consumers, pegs down per capita income, lowers the level of living standard and retards capital formation. In all these ways, the large population acts like a drag on economic progress and slows down the pace of economic development.

After independence we have realised the seriousness of this situation and developed interest in curbing the population growth through various schemes under public welfare


2. Krishan, G. and Surya Kant, 'Spurts in India's Population Growth During the Twentieth Century: A Special View' Population Geography Vol 6, p.12
programmes. Not only India but also other neighbouring countries like Pakistan, Philippines, Sri Lanka etc. have adopted similar policies regarding population control.

In the developed countries, developments in the field of population research were rapid after the Second World War. The scope of population research was widened for which two factors were responsible: first, the rapid decline in the mortality rate of the low income countries and, second, the political emancipation of several Afro-Asian countries which till then had been under the colonial rule of some European nations. Some under-developed countries which did not have regular census, undertook demographic sample surveys. The newly independent countries acquired a wealth of new demographic data as a result of researches in the field of demography and on that basis tried to survey their population situation. The facts proved that rapid growing population would adversely affect the economic and social progress and offset the efforts to improve the level of living.\(^3\) India adopted specific population policies and family planning programmes to strike at the root of the problem. The economic planners and the policy makers, including administrators, require more information on various aspects of demographic behaviour for preparing development plans. With a view to supplementing this effort, the present study has been undertaken. It is expected that

it would help the planning process particularly in urban and industrialised sectors on the basis of available human resources.

**Historical Development of Population Studies:**

It was in the middle of the 17th Century that population studies emerged as a separate discipline. England was the first country which took interest in such studies. Most of the early developments took place in England and in some other European nations like France and Germany. Later on, the U.S.A. contributed substantially towards the development of the discipline of population study and some important landmarks in the progress of this discipline were reached.  

**The Founding Fathers:**

The curiosity and concern about the size and characteristics of the population had a long history. Investigations made earlier were sporadic and were usually undertaken in response to some specific problems faced by the society. It was Graunt, who initiated a new field of empirical research in population studies. He attempted a quantitative analysis on mortality and only incidentally of fertility and migration. Some other English contemporaries who

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succeeded him were Sir William Petty (1623-1687), Admand Halley (1665-1742), George King (1748-72) who imparted further research in the field of population studies in other European countries like Germany, Netherlands, Sweden, etc. 6

**Ancient Thinkers**:

The traces of some ideas which have gained prominence in recent theoretical writings on population regarding the effects of excessive population growth on the levels of living, internal peace and productivity per worker etc. may be noted in the writings of some ancient thinkers and philosophers. Confucius, a Chinese thinker, thought of the concept of the optimum population as it related to agricultural land. In this connection he also considered population growth in relation to the availability of resources and the possible checks on its growth. 7 The Greek and Roman thinkers also contributed to the development of population theories and policies. Plato and Aristotle discussed the question of population in the context of the self-sufficient city-state conceived by them which did not extend more than 100 or so square miles. To them, the optimum size of population was in which man's potentialities could be fully developed and his highest good realised. 8 In order to avoid over-popula-

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tion, the Greeks encouraged abortions and the exposures of new born babies leading to infanticide. They were interested in maintaining and improving the quality of the population.\textsuperscript{9} From the studies made earlier, it has become obvious that the Greeks were concerned about the size of the population more from the points of view of defence, security and Government than from that of economic resources.\textsuperscript{10} Plato's views on population were based upon his ideas of the City-State rather than upon a broad view of human society. He wanted economic self sufficiency, military defence and a constitutional Government with considerable contact among citizens and their participation in the affairs of the State.\textsuperscript{11}

\textit{Aristotle} (348-322 B.C.) was of the opinion that an excessive number of people would give rise to poverty and other social evils which in their turn could increase as rapidly as the size of the population. He proposed a limit on the number of children that each couple should have in order to maintain an appropriate size of population for a City-State. The Greeks also emphasised the quality of the population and their interest was more political rather than economic.\textsuperscript{12}


The Roman thinkers, however, viewed the question of the size of population in the context of their ideal of the state involving issues concerning conquest, power and empire. They, therefore, needed an expanding population and encouraged pro-creation by granting certain privileges to married couples with children and taxing those who did not get married or did not have children. Mercantilists were also of the view that large population was beneficial to the country to give economic, political and military power in the world. They were, however, concerned over-crowding and unemployment for which they suggested shipping off the surplus population to colonies in other parts of the globe to increase the power of the nation. 13

The Middle Ages:

During the middle ages, population issues were affected directly or indirectly by the religious tenets. The most influencing religious were Hinduism, Christianity and Islam. Hindu religion laid stress on marriage and be-getting children. Even today, marriage is universal among the Hindus and is considered one of their duties in life. The four stages of man’s life are Brhamchariya, Grahasthya, Vanaprastha and Sanyas. When he enters the second stage of Grahasthya, he should get married. The aims of Hindu marriage are said to be Dharma, Praja (Progeny) and Rati (Pleasure). In his Grahasthya Ashram man, accepts Dharma as the highest aim of marriage, indicating that it may not be desired so much for

sex or for progeny as for obtaining a partner for the fulfillment of one's religious duties. For the woman, marriage is essential because, a man goes through several sacraments throughout his life, marriage is the only sacrament that she is allowed. Procreation is the second next aim of the Hindu marriage and bringing forth a son is considered necessary because a son can ceremonially kindle the funeral pyre and thus effect the salvation of his father's soul. A son is therefore, called Putra— one who can save his father from Put (hell). Even a daughter is desired because 'Kanyadan' adds to the Punya of the parents. Kautilya in his well known treatise, "Arthashastra", emphasised the desirability of a large population for military and economic power. The sacred books of the Jews which deal with Judaism, emphasize the need for procreation. The oft quoted injunction to Adam and Eve by the Almighty is evidence of this 'Be fruitful and multiply and replenish the earth', Childlessness was considered to be a serious misfortune.

Christianity was mainly a moral and religious force and the early Christian writers of the medieval era considered the question of population purely from the moral and ethical points of view. There was heavy emphasis on celebrate practices, the foundations of which are found in the teachings of it. According to St. Paul and St. Augustin, 'Marriage and reproduction were regarded as necessary evils'. In later years, however, this emphasis underwent a change. Marriage was said to be desirable and reproduction was thought of as being a divinely approved mode of living.
The Muslim religion also takes marriage for achieving the most important objective of procreation of sons and daughters, who renew and extend the lives of their parents. The Islamic tradition says, 'Marry the affectionate prolific woman, for I shall be proud of you among the nations.' Islamic texts are also clear on the point that the primary objective of the establishment of a family is the perpetuation of the human species through the satisfaction of the sexual urge, which is achieved through sexual intercourse between husband and wife.

An important Arab author of the 14th Century, Ibn Khaldoun (1332-1460), pointed out that a densely settled population was conducive to higher standards of living, for it helped to achieve division of labour and a more effective utilisation of resources and also ensured military and political security. Secondly, he maintained that population increased and decreased in obedience to economic fluctuations and that favourable economic conditions and political stability brought about population growth.


Pre Malthusian Thought:

With regard to the development of population theories, this period of pre-Malthusian era can be taken to be starting with the beginning of the 16th century and continuing to the end of the 18th century. This period is known for the rapid change that took place in several aspects of human life. This was the period of Renaissance in which many changes took place. New routes to India were explored, America was discovered, Gun Powder and printing were invented, a new impetus was provided to the development of Arts and Sciences. The old feudal system collapsed making way for capitalism. Due to the development of trade and manufacture, there was emergence of some powerful states as England, France, Spain and Portugal. All such changes had high impact on the thinking of Economic Growth and Population.

From the point of view of the History of Economic Thought, 'Mercantilism' is considered to be a link between the medieval and the modern period. The policy of mercantilism was adopted by almost all trading nations with a view to increasing national wealth and power by encouraging exports of goods in return for gold. Such policies often resulted in rivalry between nations and gave rise to rapid economic growth and fall in utilisation of natural resources. Such a mercantile policy needed a state or war preparedness by keeping down the production cost of goods through a great
deal of exploitation of labour. For effective implementation of the policy of Mercantilists the size of population was an important asset. Heckscher stated that there was frantic desire to increase population in all countries. An explanation for such a desire can be found in the philosophy of the Mercantilist theory, according to which a nation's wealth consists in the quality of precious metals like gold and silver in its possession. If a country did not possess gold and silver mines, it could earn such wealth by achieving a favourable balance of trade. Thus adding gold and silver to its national coffers. A favourable balance of trade required more exports than imports which in turn required the production of more goods for exports. In such a case the importance of industry outweighed that of agriculture. Also the demand for workers was bound to increase and, therefore, a large sized population was considered to be an essential factor in the economic and political power of a country. Here, again the number of workers rather than their quality or skill was the main consideration. Sometimes the principles was stretched to such an extent that in France, even children above the age of six were considered employable.

The general opinion at that time was that birthrate should be increased for purpose of economic and political gains by the adoption of such measures as (a) placing various

19. Ibid., p.165.
disabilities on celibates, (b) encouraging marriages directly, (c) encouraging fertility, (d) making punishment for illegitimate births less severe or abolishing such punishment entirely and (e) encouraging immigration and preventing emigration.²⁰

Some mercantilists, however, had a different view. Niccolo Macchiavelli (1469-1527) was perhaps the first to view the population from the modern angle by observing that excessive population would diminish through war and disease. He saw the relationship between population growth and resources and may be considered to be one of the precursors of Malthus, as his work contained the basic thoughts of the Malthusian doctrines. He expounded that a population, after increasing for some time, cannot continue to increase at the same rate; it may grow slowly or may even start declining. In his opinion, the limitation of the means of subsistence was the primary check to population growth, while the secondary checks were sterility of the soil, bad climate, disease and epidemics.²¹

As a reaction to the Mercantilist Philosophy, another school of Economic thought was born in France in the middle of the 18th Century which is called Physiocratic School of Thought. The Physiocrats had no enthusiasm for


²¹ Ibid., pp. 92-93.
the acquisition of gold and silver through trade in manufactured goods. Their basic assumption was that land was the source of all wealth. Hence they emphasised the importance of agriculture and did not favour population increase at the cost of standards of living. However, they approved of population increase, if it was possible to expand agricultural production. Quesney (1694-1774), the founding father of the Physiocratic School, maintained that large population was desirable only if it could be made comfortable. Mirabeau (1715-1789), another French economic thinker was of the opinion that a large population would be desirable for the state, but agriculture must be encouraged because this population would have to be fed.\(^{22}\)

During the 18th Century, French political philosophers advocated that increase in the number of people in a country does not always benefit the society. Cantillon, a mercantilist in many respects, also shared some of the views of the physiocrats. He viewed land or soil as the chief factor in production and believed that the size of agricultural production would determine the size of population.\(^ {23}\) Cantillon partially anticipated Malthus' view on population. His two primary conclusions were that population increases to as large a size as can be sustained by the prevailing economic system.


and that as the standard of living improves, the population grows at a decelerating rate. Similar views were expressed by another French thinker, Mercier De La Rivera, though he maintained that in a well administered state population could not increase faster than the means of subsistence.

Giovanni Bortero (1540-1617) was an Italian who studied population phenomenon in a broad scientific manner and maintained that food for subsistence is necessary for any population though he regarded a large population as a source of strength for a country.

Robert Walloce also expressed his views against over population. He opposed the Poor Laws, as financial assistance to the poor would encourage them to have more children and also make it easier for the children to reach adulthood. It would lead to over population and in turn wreck schemes for human betterment. For similar reasons he opposed the good governments also, because under a perfect government the inconveniences of having a family would be so entirely removed and children would be so well taken care of and everything would become so favourable to populousness that the earth would at last be overstocked and become unable to support its numerous inhabitants. He, therefore, suggested sterilisation, infanticide, curbing marriages, killing the aged,


etc. to avoid the dreadful disasters. But as mankind would never agree to such regulations, force and arms must at last decide their quarrels and the deaths of such as fall in the battle leave sufficient provisions for the survivors and make room for others to be born. 26

However, Condorcet, a French philosopher and great optimist, wrote in 1793 that all inequalities of wealth, of education, of opportunity, of sex would soon disappear. The problem of sufficient production to satisfy people's needs, would not have to be faced for ages to come, by which time man would have acquired new dimensions of knowledge. 27

Like Condorcet, Godwin, the first Anarachist, also believed in the perfectibility of the society. In his famous book, 'Enquiry Concerning Political Justice' (1793), he argued that man would one day establish a perfect society in which half an hour's work a day would amply supply the wants of all. In such a society, there would be no war, no crime, no administration of justice and no government. There would be neither disease nor anguish, nor melancholy nor resentment. Every man would seek the good of all. 28


The Beginning of The Malthusian Theory:

From the middle of the 18th Century, almost all writings on population contained some reference to the point that population increases more rapidly than food supply—a point which was elaborated by Malthus and which came to be known as the Malthusian Theory of Population. This shift, in the attitude to population size, is worth noting. The earlier, optimistic view, which regarded a large and growing population as a source of strength and wealth was gradually replaced by the view that it was undesirable to have a population that was too large in relation to the means of subsistence. The pessimistic view was based on such considerations as the potential of the reproductive power of human beings, limited land and limited means of subsistence, the tendency of population to grow so rapidly as to create the problem of over-population and the harmful effects of over-population in relation to the means of subsistence. A logical result of such a line of thinking was belief in the benevolent role of the various checks on population growth. The earlier belief that prolific fertility was a patriotic duty gave way to the idea of responsible parenthood for the wellbeing of the progeny. Intellectuals started thinking in terms of checks on child-bearing, mainly because of the excessive fertility of the poor and the resulting burden imposed on society by the Poor Laws.
Several writers anticipated the doctrines propounded by Malthus. Botero has already been referred to as his first important fore runner. Writing in 1677, Mathew Hale referred to the capacity of mankind to increase in geometrical proportion, doubling in numbers in the course of thirty four years or even less. He also referred to corrective checks for controlling human population. Others, writing in the same strain, were, Wallace (1687-1771), Bruckner (1726-1804), Steurt (1712-1740) and Jowmsend (1739-1816). 29

Malthus:

Malthus reacted sharply against Condorcet and Godwin's optimistic views relating to the growth of population and means to sustain it. The Malthusian theory of population consists mainly of the following proposition: 30

Population is necessarily limited by the means of subsistence. By the laws of nature man cannot live without food. Whatever may be the rate at which population would increase if unchecked, it can never exceed in any country beyond the food necessary to support it. Any excessive population must die of hunger.

Population, if unchecked, increases much faster than the means of subsistence. In fact it increases in


geometrical progression such as to double itself every 25 years. But by the laws of nature in respect of the powers of limited territory, the additions which can be made in equal periods to the food which it produces must, after a short time, either be progressively decreasing, or, at the most, remain stationary so as to increase the means of subsistence only in arithmetical progression. The human species would increase as the number


In two centuries the population would be to the means of subsistence as 256:9; in three centuries as 4,096:13 and in two thousands years the difference would be almost incalculable. The comparison of the two progressions, however, is intended to prove that population has a tendency to increase beyond the means of subsistence.

With the increase in population to an extent, which would consume the optimum limits of the food, all the positive and the preventive checks would naturally operate with increased force till the population is sunk below the level of food. Positive checks such as in sufficient food and clothing famine, wars, infanticide, common diseases and epidemic etc. shorten the duration of human life and tend to an increase in the death rate. On the other hand, preventive checks such as abstinence from marriage and postponement of marriage and strict abstinence during the period tend to decrease the birth rate.
Malthus advocates the postponement of marriage until the man intending to marry is in a position to take upon himself the responsibilities of bringing up a family. If his earnings are insufficient to bring up a family throughout his life, he forewarns him not to marry at all. He called these steps as moral restraints. However, he was opposed to free exercise of sexual intercourse both within and without marriage and through artificial methods. He pleaded that chastity is absolutely necessary to avoid the evils which would otherwise result from the general laws of nature.

However, Malthus, was very doubtful of the efficacy of moral restraint advocated by him. He felt that celibacy might not only prove ineffective but might actually provoke the vices it was intended to check. He, therefore, had to condone those practices which satisfy the sexual instinct without involving maternity. He, however, considers unnatural modes of gratifying passion as vices which render some of the women unprolific and develop in them corrupt morals with regard to sex. However, in the absence of any alternative he had to condone these practices. 31 Malthus's soft corner for these practices has given birth to a new league called 'New Malthusianism'. The supporters of the movement recommend the use of artificial methods of birth control to prevent pregnancy without putting any restraint upon sexual gratification.

His essay contains both fundamental truth and gross error. It is true that in a fertile span population can increase without limit. The death rate must rise, if the birth rate does not fall, to keep the population within limits of the means of subsistence. Moreover, in any given period of time, man's living conditions are heavily influenced by the relation of basic resources of his number. Unquestionably, the size and the rate of growth of the population today are, as Malthus foresaw, major obstacles to the improvement of living conditions for more than half of the world's population.

On the other hand, there are major errors. He neither foresaw nor could he have been expected to foresee, the tremendous burst of productivity that the following century brought forth. Moreover, his reasoning relating to the growth of population and the means of subsistence is self contradictory. Except for a temporary period, the former cannot exceed the latter for any length of time. The very fact that the numbers are increasing, indicates that the means to support them is increasing too, otherwise mortality would have never gone to the present size. To think of the world's population on turning its normal food supply, is like thinking of the hind feet of a horse outrunning the front feet.32

Malthus was no ivory towered scholar. He was a political pamphleteer. He began the whole exercise as an

attack on the Poor Laws. The poverty and suffering of the masses could not be aided public relief. That would only stimulate population growth and make the situation worse. Constantly, throughout the nineteenth century, the Malthusian argument was used to demonstrate the futility of every major reform in the socio-economic field. Malthusianism became an anathema to the reformers.

Malthus was wrong, so far as his social doctrine was concerned, in a basic assumption. At the heart of his doctrine is the view that only suffering could be relied upon to induced restraint in the masses. Yet, there is now clear evidence that abysmal poverty induces more of the same, and not prudence. The poorest must live just for the day to survive. Only when the margins of income are above the minimum, can foresight come into play.

Malthus was also wrong in his estimate of the possibility of reducing fertility by preventing measures, he envisioned. He does not mention contraceptive practice explicitly, but if he knew about it he almost certainly would not have approved of it. He did not foresee the fact that Europe would reduce its birth rates drastically through the

33. Malthus showed himself an uncompromising opponent of the English Poor Law as it then existed. His views concerning charity are directly connected with his theory of population. He demanded the gradual abolition of the Poor Laws and of every kind of systematic assistance which they can always reckon on. Though he failed to remove the Poor Laws, the effect of his teaching is clearly seen in the Poor Law Amendment Act of 1834.
Spread of birth-control practices.

Malthus is important today as the father of the most progressive social doctrine of our time, and as an expositor of the fundamental principles of population. His truth lives, but under the cloud of his errors.\textsuperscript{34}

**Socialistic View:**

Modern socialism owes its origin to Karl Marx and his views of the good society were expressed in the Communist Manifesto. His friend Engles, even with the origin of family, emphasised the need for emancipation of women from household drudgery. It was, however, not very exclusive whether women should also be emancipated from excessive child-bearing. In his letter to Kautsky, Engles wrote about the abstract possibility that the number of persons in a communist society might have to be limited by conscious control. Another German socialist Augustus Bebets, whose analysis was mainly confined to the status of women under capitalist and socialist societies was of the opinion that the population of a socialist society would increase more slowly than in a bourgeois society because of the superior status of women under socialism. Marxists are of the view that in a socialist society reproductive behaviour would develop a complete harmony between the individual and the society. They are, however, opposed to birth control as an independent means to fight the socio-

economic cause of poverty. Later socialists, however, support
responsible parenthood and hold the view that birth-control
contributes to the emancipation of women by combining happy
maternity and creative birth. They even permit abortion
which socialist countries and Europe have adopted.35

With the growing concern about human welfare,
the study of population emerged as a separate discipline
which was concerned with the questions of changes in the size
of population, changes in the distribution of population
between the countries and areas and kind of people found in
any given population growth.36

Subject Matter of Population Studies:

Population study is concerned with the size,
structure, characteristics and distribution of population
and changes taking place in it over a period of time. The
subject matter of population, therefore, includes the study
of fertility, mortality, migration and allied topics.

Its study covers the components of population
changes which is a function of three variables - births,
deaths and migration which are identified as fertility,

35. Mehlan, K.H. 'The Socialist Countries of Europe' In
Bernard Berelson (Ed.) Family Planning and Population
Programmes. The University of Chicago Press, Chicago

36. Thompson, W.S., Population Problems, McGraw Hill,
mortality and migration respectively and are known as demographic variables because the size, growth, structure and distribution of any population are determined by it. Population structure implies the sex and age structure of the population and the population characteristics include such characteristics as marital status, literacy and educational status, labour force, etc.

The scope of the demographic studies have become quite wide. Its study includes, on the one hand the quantitative aspects of the size, structure, characteristic and territorial distribution of human population changes occurring in them, and on the other, it is concerned with the study of the underlying causes of population phenomena which take place in a social setting and cannot be studied in isolation.

The study of population is multi-disciplinary in nature, involving the Biology, Genetics, Mathematics, Statistics, Economics, Sociology, Cultural Anthropology, Psychology, Politics, Geography, Medicines, Public Health, Ecology, etc.

The discipline of the study of human population is known by the two terms - (1) Population Studies and (2) Demography. These two terms are often used interchangeably. However, some scholars have tried to distinguish between demographic analysis and population studies. Population study is concerned with population whereas demography is the science
of population. "Demographic analysis is confined to the study of components, variation and change, whereas population studies are concerned not only with population variables but also with the relationship between population changes and other variables - socio, economic, political, biological, genetic, geographical and the like." The data and skills of the demographers lie at the core of the field of population studies. Demography is centered to the field of population study, therefore an attempt is made to indicate the scope of population study with the beginning of a definition of Demography.

Demography is the empirical, statistical and mathematical study of human population. The study of demography not only includes the study of the size, composition and distribution of the population in space but also changes in these aspects in the course of time. Moreover, it is concerned with the description of current status and changes over time and scientific explanations of those events. It is a discipline that aims at ascertaining the numbers, and distribution of people in a given area, the changes in their number and distribution and the mathematical inter-relation among them. Demography is necessarily a quantitative discipline for its data are quantities and are used for investigation purposes. Changes in the size of population results,

changes in the number of deaths, births and migrants which are known as components of population change are handled by the demographers. Since births and deaths are taking place continuously and since people frequently change the places of residence, the demographer is interested in these common experiences as growing processes which he calls fertility, mortality and migration. These are the three basic demographic processes.

Population Studies and the Social and Behavioural Sciences:

It is, however, to be noted that the variables and the theories that explain demographic phenomena originate in social sciences like Economics, Sociology, Political Science, Psychology, Anthropology, etc. The changes in the size of population can not be explained as an independent phenomenon but these explanations are to be found in the changing economic, social, cultural, psychological and political situations in which they occur. The levels and trends in birth and mortality rates are related to socio-economic factors. Recently, another dimension has been added to the study of population relating to some important demographic questions (such as those related to fertility regulation) which are examined with reference to humanistic issues, such as human rights and the status of women.

There is inter-relationship between population studies and the social and behavioural sciences. Davis has
referred the areas of study which require a combination of demographic and sociological skills: "(1) Fertility in connection with attitude and social institutions, (2) Population changes in relation to social and economic change, (3) The labour force in respect to population structure and social organisation and, (4) The Family with regard to demographic behaviour." 38

Sociology and Demography are combined in two other areas of international migration and inter-migration. Even in the study of mortality, age and sex differentials, though biologically determined, have sociological bases, and therefore, need to be recognised as such.

Population is an important element in sociological analysis and the discussion of topics like family, city, minorities, industrial sociology and political sociology, and criminal behaviour are parts of it also. Along with social organisation culture is concerned with socialisation, primary groups, social stratification, associations, collective behaviour and ecology. 39

Social psychology is an important determinant to influence the reproductive behaviour of individuals. The movement from rural to urban areas can be studied only by under-

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standing the motivation behind such migrations. Similarly, the economic development and developmental planning can better be undertaken after establishing a relationship between population trend and economic growth. Topics like population and development, man-power studies, economics of fertility, comprehensive economic demographic model, etc. have emerged to occupy an important place both in economic and population studies. The number and the quality of population that can exist on earth is determined by economic opportunities and the growth of population cannot be discussed rationally except in the context of economic growth and change. The size and distribution of population and its movement in an area forms part of the study of geography.

In the solution of the problem of over population laws of any country can also help to a great extent. They may be called population laws which relate directly or indirectly to the three basic demographic variables of fertility, mortality and migration. They relate to public health and sanitation, food preparation, the sale of drugs and medicines, clinics, hospitals and medical personnel migration, marriage, fertility, child care and all aspects of education, and the role and status of women.

Pregnancy Act (1971) has induced abortion and made it fairly easy. It is one of the latest illustrations of how the law of the land can affect an important variable that is, fertility.\textsuperscript{44}

**Brief Historical Development of Population Studies in India:**

In the Ancient History of India few references are found to the collection of the population data. In 'Arthashastra' a treatise written by Kautilya (323-300 B.C.), a detailed description is found how to conduct a population, economic and agricultural census.\textsuperscript{45} The Ain-i-Akbari compiled by Abul Fedi during the reign of Akbar, contains comprehensive data on population, industry, wealth and characteristics of the population. Such attempts to collect data were, however, few and are today purely to historical interest.

The availability of population data on a regular basis in India became possible after the establishment of the system of decennial census in 1872. This can be taken as the beginning and the starting point of population studies in our country. The earlier census reports written by British Administrators were concerned with informations which can help in understanding the unknown strange land they had colonised and their unknown people whose culture was totally


different from their own. These foreign administrators and scholars made a tremendous contribution to the development of population studies in our country. They prepared life tables and studied the Indian age data which were based on census data. On the basis of the census reports from 1872 to 1941, Kingsley Davis, the well-known demographer, produced his monumental work, 'The Population of India and Pakistan', which is valued even today for its contribution to the progress of population studies in India. 46

The publication of Imperial Gazetteers which appeared in nine volumes in 1881 at the initiative of W.W. Hunter also contributed to the development of the population studies in India. Its first volume contained information on Public Health and Vital Statistics, nutrition, early marriages, birth rates, the relationship between marriage customs and birth rates, rural-urban birth rates and death rates, differential in mortality by sex religion, rural-urban residence infant mortality, causes of death, health conditions in the European and the native army, etc. 47

It is interesting to note, as one looks back, that these are precisely the topics which are today included in population studies.

Census reports prepared by British Administrators were for their own use and the Indian Intelligensia did not


show any interest in population study till 1930s. One of the reasons for this lack of interest was that the rate of population growth was not very high at that time and did not cause any serious concern. The other possible reason may be the nations pre-occupations with the struggle for independence.

It was Shri P.K. Wattal who tried to focus the attention of Indian leaders and thinkers on the population problem in India when he wrote about it in 1916. He may be considered the pioneer in focussing Indian attention on the problem of population; but his please went unheaded as the Indian leaders were more concerned with the political, social and educational problems than with the population problem.48 Shri Wattal brought out a new edition to his work, 'Population Problem in India' incorporating the results of 1931 census.

In the late 1930s some interest in the study of Indian population was generated and the First Indian Population Conference was held in 1936 under the auspices of University of Lucknow, which discussed the future growth of India's population and discussed the need for birth control.49 The second All-India Conference was held in Bombay in 1938. It was organised jointly by the organisers of the Population Conference and the First Family Hygiene Conference. It discu-

ssed and studied social and medical aspects of birth control, human sexuality, differential fertility, maternity, child welfare, infant mortality, housing and health, nutrition, morbidity, vital statistics and logistic law of the growth of the Indian population. The economic problems associated with population growth, such as unemployment and poverty and forecasts of population growth, were also discussed in relation to sociological analysis and the optimum theory of population.  

This was an indication of the growing interest among Indian scholars in the study of the various aspects of population. Those highlights were multidisciplinary approach of the study of population. Prior to Independence, however, the outstanding students of population were the economists and discussions on Indian Population centered mainly around the question of whether or not India was over populated. Moreover, authors during this period largely concentrated on relating India's population to the nation's economic condition.

With the publication, 'Twilight of Parenthood' (1936) by Enid Charles, an interesting controversy was generated whether the rate of population growth in India would be higher or lower in 1931-41 in comparison to the previous decade. Dr. K.C.K.E. Raja, a public health worker, agreed with Charles that the rate of population growth in India would be higher, while Professor Adarker, an economist, pointed out that the rate would decline leading to decline in the

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population of India.\textsuperscript{51}

The estimate that the Indian population would reach the 400 million mark in 1941 prompted Dr. Radha Kamal Mukherjee to write on \textit{food planning for 400 million} (1938).\textsuperscript{52} His publication was followed by another publication, \textit{India's Teeming Millions} (1939) by Gyan Chand\textsuperscript{53} in which the population problem was viewed from the economic point of view.

A significant development in the population study took place in 1938, when the Indian National Congress set up a sub-committee under the Chairmanship of the Late Pt. Jawahar Lal Nehru to study the problem of population from the point of view of food supply, nutrition, social reform, unemployment and social welfare. The Government of India also showed interest and set up a Population Data Committee (1944) under the Chairmanship of W.M. Yeats with Sir Theodore Gregory, Prof. P.C. Mahalanobis, Prof. K.B. Madhav and Dr. K.C.K.E. Raja as its members. This committee paid special attention to the statistical problems arising out of the population of the 1941 census data and recommended the use of sampling methods for the estimation of vital statistics.

Another committee, known as Health Survey & Development


\textsuperscript{53} Chand, G., \textit{India's Teeming Millions}, George Allen and Unwin, London. 1939.
Committee, was appointed by the Government of India in 1946 to study the activity in the field of population. This committee recommended the appointment of a Registrar General of Population Studies and that the population problem should be the subject of continuous study.\textsuperscript{54}

The Pre-Independence Period is characterised by the growing interest in population studies and conducting field enquiries about demographic data. Prof. P.C. Mahalanobis and the Indian Statistical Institute undertook some population research as early as in 1937 and collected data on fertility, and allied matters. Dr. Chandrashekharan of the All India Institute of Hygiene and Public Health, Calcutta, initiated a field study for studying the reproductive pattern of 3,000 women in Calcutta and the surrounding rural areas. This study attempted to analyse the fact of socio-economic conditions on reproductive pattern. The Gokhale Institute of Politics and Economics, Pune, was another Institute which took interest in population studies. In 1942, Prof. N.V. Sovani of this institute published his study entitled \textit{The Population Problem in India: A Regional Approach}.\textsuperscript{55}

\textbf{Post Independence Era}

After the Independence much interest in population studies was created and each decade showed more interest.


than the previous one. The first post-Independence census took place in 1951, and collected comprehensive data which brought the population question into focus. The political leaders, the planners and the policy makers were alarmed by the high rate of population growth. The First Five Year Plan considered the threat posed by population growth and its economic consequences. In 1952, Family Planning Programme was launched and with the launching of this programme India became the first country in the world with National Family Planning and this gave fresh impetus to study the various aspects of population.

In addition to this, a study made by two American demographers, A.J. Coale and E.M. Hoover,56 regarding the implications of population growth in India in the economic sphere was a noteworthy contribution to a systematic, authoritative study in respect of the study of growth of Indian population.

With the formulation of more five year plans the dearth of data on various social, economic, and population aspect was keenly felt, which led to the establishment of National Sample Survey (N.S.S.) from 1949 to procure more data for the evaluation of development plans. The N.S.S. started collecting data on birth and death rates and on the

rates of population growth from its fourteenth round taken in 1956-59. It also collected data on differential fertility, family planning, knowledge, attitude, and practice for rural and urban areas, internal migration, employment, etc.

Certain regional Field Surveys were also conducted like the 'Mysore Population Study (1952-53)' 'Study of Population in Nasik, Satara and Kolaba districts' which contributed better understanding about fertility behaviour in India. In 1956 the Central Family Planning Board, set up a sub-committee on demographic studies under the Chairmanship of Dr. V.K.R.V. Rao. This sub-committee recommended the establishment of four Demographic Research Centres in different parts of the country, where studies might be conducted. As a result of this the International Institute of Population Studies was established in Bombay in 1956. The demographic research centres in Calcutta, Delhi and Trivendrum were established in 1957 and in Dharwar in 1960. Among these, the premier institute today for training and research in population studies in India is the International Institute of Population Studies which was formerly known as Demographic Training and Research Centre. This institute has four functions, namely, Teaching, Research, Consultative Services and Documentation. It has carried out studies particularly

in every aspect of population and its contribution to the
development of population studies is impressive. Its library
perhaps is the best in the world with a stock of more than
28,000 books and about 6,000 reprints and periodicals on
population and associated field.

The Ministry of Health of the Government of
India set up the Demographic Advisory Committee in 1959 to
coordinate research on population. The Action Research
Committee of the Family Planning Communication was also set
up in 1960 to promote research, the term of which expired
in November, 1971. This committee was reconstituted in
December, 1972 as the Committee on Socio-Economic Studies in
Family Planning to cover the economic, sociological,
educational, psychological, communication and demographic
aspects of population growth and family planning.

The 1961 census of India provided a wealth of
data and a large number of reports which enabled the
researchers on demography a further probe into the explored
regions of the study of population.

India hosted the first Asian Population Conference
in New Delhi in 1963, which may be considered as an important
event in the history of Demographic Research in India. The
sample registration scheme initiated by the Registrar-General
of India in 1964-65 was a notable step for obtaining the
reliable estimates of birth and death rates and rates of
natural population growth.
Another important contribution in the field of Indian Population Studies was in improving the methodology and techniques of Population Analysis. A new formula was developed by Chandra Shekhar and Deming to estimate the missing events of birth from vital registration. New techniques for evaluating and adjusting Indian age data was developed by Jain, Zachriah contribution to the techniques of analysing migration data collected through a census is well recognised. Rele's method of estimating birth and death rates and rates of natural increase from the census data has wide applicability.

On the whole, demographic research in India has covered a wide range of relevant topics. Still there is much scope to conduct further research in the field of population studies so that the rapid growth of Indian Population may be curbed.

The establishment of Indian Association for the Study of Population (IASP) in 1972 is a landmark in the history of the development of Population Studies in India. The association regularly publishes a Journal, *Demography India*. The post-Independence Period was witnessed tremendous progress in the field of demographic research as a result of which demography is being studied as a separate discipline in schools and colleges in India.
A brief perusal of the population study in India reveals that there is a dearth of intensive demographic analysis of various socio-economic group in the country. In order to fill up this gap, the present study 'Trends in Demographic Behaviour of Low-Income-Group in Kanpur' has been selected.

**Classification of Population on the Basis of Economic Status:**

**Low-Income-Group Defined:**

For the purpose of writing this thesis the population of the Kanpur City according to economic status has been classified into four groups; persons living in High-Income-Group Families, Middle-Income-Group Families and Low-Income-Group Families and those belonging to families below the poverty line. Monetary income per family of five persons has been taken as the base for determining the Economic Status of the families of the Low-Income-Group. According to an article published in 'Yojana' in the first fortnight of March, 1983, the families under the assumption of five persons per family whose income is below Rs. 350/- per month have been taken as families below the poverty line and those having an income from Rs. 351 to 600/- per month come under Low-Income-Group families and those having an income from Rs. 601 to 1,500/- per month have been grouped under

59. Yojana is a Government of India Publication and the article has been written by M.K. Mukherjee, Secretary of the Ministry of Housing.
Middle-Income-Group Families and the families having above Rs. 1,500/- per month as their income have been considered to be as High-Income-Group Families. The income of a household unit means any income derived from economically productive work either by physical and practical activity. As for the work, it involves not only actual work but also effective supervision and direction of work.

The present thesis is the study of the Demographic Trends of the Low-Income-Group only. Therefore, the investigation has been done by collecting information of the Low-Income-Group people. According to my own survey undertaken for the purpose of writing this thesis in October, 1985, five hundred Low-Income-Group households have been surveyed. There has been found great divergence in the number of persons living in the families of Low-Income-Group and the range has varied from two to ten persons but the average family consisted of only 5.12 persons which practically comes to five persons.

Recently there has been increase in the cost of living, for which inflationary trends, resulting in increase in the general price level, are greatly responsible. During the year 1983, the rate of inflation was Rs. 16 to 17 per cent. The start of the year 1984 did not bring any hope for the arrest of this inflationary trend and the prices of goods are still on the rise. Hence the income base
for determining the economic status of the families is constantly disturbed. However, it will be in the fitness of things to consider Low-Income-Group households living above the poverty line as households of Low-Income-Group. Taking into consideration the Caloric Value of consumption per head, it will be appropriate to take the range of income between ₹ 70 to 120/- per month as the base for determining the Low-Income-Group people. If the assumption of five persons per family is taken for a household, the family income comes to between the range of ₹ 350 to 600/-. This is in line with the Government view which, on the basis of 1977-78 prices, considered the poverty line below the income of ₹ 70/- per head per month for the urban area. It can now be concluded safely that the range of income between ₹ 351 and 600/- per month per household is economically judged under the present circumstances.

The survey under taken revealed that the Low-Income-Group households are mostly of workers who are engaged in various activities. A majority of them are employed in various Mills and Factories of Kanpur Urban Agglomeration. More than three-fourth of them have migrated to the Industrial Sectors from rural areas in search of livelihood. Thus the majority of Low-Income-Group people is the influx of rural people whose income is not sufficient enough to have a comfortable living. As a result of this,
they are mostly living in slum areas where conditions are not fit for human habitation.

Table 1.01. **Classification of Households According to Family Size of 82 Slums in Kanpur**

<table>
<thead>
<tr>
<th>Number of Members</th>
<th>Number of Households</th>
<th>Percentage to total</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>1,829</td>
<td>8.98</td>
</tr>
<tr>
<td>Two</td>
<td>2,458</td>
<td>12.07</td>
</tr>
<tr>
<td>Three</td>
<td>2,553</td>
<td>12.54</td>
</tr>
<tr>
<td>Four</td>
<td>3,057</td>
<td>15.01</td>
</tr>
<tr>
<td>Five</td>
<td>3,170</td>
<td>15.57</td>
</tr>
<tr>
<td>Six</td>
<td>2,796</td>
<td>13.73</td>
</tr>
<tr>
<td>Seven</td>
<td>1,471</td>
<td>7.22</td>
</tr>
<tr>
<td>Eight</td>
<td>1,065</td>
<td>5.23</td>
</tr>
<tr>
<td>Nine</td>
<td>652</td>
<td>3.20</td>
</tr>
<tr>
<td>Ten</td>
<td>385</td>
<td>1.89</td>
</tr>
<tr>
<td>Above Ten</td>
<td>350</td>
<td>1.74</td>
</tr>
<tr>
<td>Not known</td>
<td>574</td>
<td>2.82</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20,360</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

Source: Town & Country Planning Department, Kanpur Development Authority.

A study undertaken by the Kanpur Development Authority in 1980 relating to the investigation of 89 slums in Kanpur, revealed that there were 20,360 households of Low-Income-Group who were living in these slums. According
to the same survey it was found that the number of persons in such households varied from 1 to 10+ even more persons and therefore no uniform pattern could be found.

The subsequent Chapter, "The Population, Growth, Structure and Distribution in Kanpur Town" in general and in Low-Income-Group in particular, has been analysed on the basis of the census data as well as on the basis of the field survey.