Women are gifted with equal mental capabilities as man. If the women’s work participation is properly regulated women can play a large part in the field of production. In fact women has every right to participate in every activities of mankind. It is an important step in any research to review the related literature on
the subject and such review helps to understand the problems better and serves as a background material.

Hilla Wadia’s paper on “Survey of self employed women with special preference to tutors” examines the analytical model of factors contributing to self-employment women in Mumbai. The nature of female employment has undergone a change in the past few decades, particularly due to the fact that women’s roles and responsibilities in the family cannot be separated from her function as a worker in the economic stream. Self-employment has become a common phenomenon among educated women. Conventional job opportunities for women have been considered under two categories of traditional and non-traditional avenues. The non-traditional opportunities deal with women entrepreneurship, the air force, the police, engineering and so on. The traditional opportunities are confined to teaching, clerical, secretarial, nursing and other jobs. Even a teaching career calls for a specialized B. Ed. course. Thus self-employment with an emphasis on teaching and tutoring becomes a major avenue for such a category of women. Home based business, either by men or women, is a tricky position because it not only needs a spare room and spare time but also the drive and discipline. So, self-employment is a time-consuming effort, which is extremely hard when it has to be performed within one’s own domestic habitat and calls for an extra dose of self-discipline and motivation.¹

The Government constituted the “National Commission on Self-Employed and Woman in the Informal Sector” in 1988. Women contribute half of the human race, but still they are deprived by many opportunities and discriminated against in many ways and counts. They play as important role as their male counterparts in every walk of life. In this country, a large section of women work in the unorganized sector, where they are ruthlessly exploited extremely. But now, they
enter into all fields and almost equal to men and they contribute a lot to the economic development of the country in general and rural development in particular. The field of co-operation is not an exception.

Amitabh Kundu’s paper on “Trends and Structure of Employment” in 1990’s analysis the trend and types of employment for males and females, both in rural and urban areas at the national level. The population census of 1991 records a reasonably high growth in the number of female workers.²

A study by United Nations (1995) indicates that by the year 2015, seven among the 15 target cities of the world, will be Asia’s including Japan. The slowing down of industrial employment areas can partly be attributed to location of large units outside the Municipal limits. The implications of the trends in labour market and other policy changes are significant for future urban growth.


Anjala Gupta’s study examines the Modernizing influence of social structure on the working woman of Meerut City. Obviously the individual modernity on woman would be placed in the center of our attention and then, it will concern itself to explain the variable of individual modernity by the work and structural characteristics of women respondents, Structural characteristics such as nature and type of work, education, contract with mass – media, urban living and family characteristics, will be considered. While designing a study, it is necessary to describe the universe or the population to which the findings of the study have applicability. The universe of this research refers to the women working in urban
occupations and professions in Western Uttar Pradesh. The collected data on the relationship of individual modernity and experiences and socio-economic characteristics of a sample of working women drawn from Meerut town in Western Uttar Pradesh. Women’s participation in and exposure to the developmental institution in the urban industrial and administrative centers in the Western Uttar Pradesh of India promotes modernity in the working women by restructuring their personality and behaviour. Nature and type of work emerge as a strong factor to promote modernity.  

Kumkum Chadhu conducted study entitled “Job Security Eludes Women Workers”. Despite an increasing number of women going out to work in industries mainly plastic, electronic, jewellery and pharmaceuticals, job security still eludes them. Consequently, 70 per cent of them work in units where there are no unions. According to a study conducted by a team of researchers, it was found that only 11 per cent women workers had permanent jobs with written contracts. They had job security in addition to wages above the minimum wage standard.

3 Anjula Gupta “Modernizing working women” (A study in urban setting, 1994) pp.31-32.

The study aimed at identifying organizational strategies for working women and formulating policies to strengthen their bargaining power, was based on a sample survey women workers from five industries, including diamonds and one percent were on laser machines.

4 R.D. Sharma’s paper on “Women law year upbeat” examines women’s participation in the legal profession. Till, three decades ago men were opting for the legal profession, but with more and more women opting for the legal profession, the numbers across the country have multiplied, crossing 3,000 according to available statistics. According to Pinki Anand, of the Delhi High
Court, a passion for law and economic necessity have attracted women to the legal profession. However, Supreme Court Advocate Indu Malhotra, feels women do it out of interest because the potential is greater in this profession.\textsuperscript{5}

Indira Pillai, in her in-depth study sponsored by a division of the department of Science and Technology, Government of India on the Information Technology, industry in Bangalore, shows that the IT industry is the cutting edge not only in terms of technology but also in terms of way it treating its female employees. Currently female employees constitute around 21 per cent of the total workforce in the industry and according to the study, the industry believes that not only is their performance as good as their male counterparts but they actually play a role in improving the industry work culture. The general conclusion of the study is that the industry is one that genuinely demonstrates, no gender discrimination on any parameter, besides offering high levels of satisfaction and opportunity to its female workforce.\textsuperscript{6}

\textsuperscript{6} Indira Pillai, “Male or Female IT sector couldn’t careless” in Documentation of women, children and Human rights, Jan-Mar.2000, p.50.

Najma Heptualla, in her study of “Role of women in population stabilization” examines the fertility behaviour for women. Women’s education and employment have been found to be the determining factors of the fertility behaviour and the choice of family size in the long run. Women’s education, the creation of job opportunity for them and increasing their wage-income have a definite impact on the family size. The fertility realization is postponed only when they are preceded by proper education and employment opportunities for women. Women’s education along with an increased age at marriage and their work participation has the strong relationship with the adoption of family planning. It has been found that the total fertility rate of literate women is lower than that of the
illiterate women in rural as well as in urban areas. Among the women educated up to matriculation, the reduction in total fertility rate is lower in rural areas and higher in urban areas.\textsuperscript{7}

A study by the Council for Social Development on family planning in the three States of Haryana, Tamil Nadu and Meghalaya is cited for the variations in the dimensions of the status of women which include educational level, proportion employed and participation in community life and their impact on the role in decision-making by women in the adoption of family planning.

The Study, “Gender Discrimination and Entrepreneurship” by Uma Arora examines self-employed women. Self-employment in general requires more initiative and enterprise, more self-reliance and greater urge for independence on the part of the work seekers than salaried employment and female work seekers in predominantly traditional communities are seldom encouraged to develop these traits in ample measure. It is commonly found that tailoring is the most important form of self-employment for females followed by the retail trade. On the other hand certain forms of self-employment are being consistently avoided by women, which included any type of industrial venture, transport, workshop, contract business and repairs of domestic appliances and electronic equipment. In almost all cases the family enterprise has some percentage of shares and company holdings in the names of females of the family some women are “directors” but do not participate actively in the family business. At best if an educated wife, sister, daughter or daughter-in-law is expected to participate, it is by becoming an unofficial secretary. Be it a small enterprise or large, the financial transactions are almost never done by women.\textsuperscript{8}

\textsuperscript{7}Najma Heptulla, “Role of women in population stabilisation Yojana vol.44 No.8, Aug-2000, pp.29-30.

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Kamalini H. Bhansali’s paper on Science and Technology in the service of Women, examined the impact of the various activities in the field of Science and Technology on women’s status. This paper provides information about how the quality of women’s life is improved and documents the effects of development in science and technology on women’s status.\(^9\)

Neera Desai and Maithreyi Krishnaraj’s book “Women and Society in India“ discusses the educational system in relation to women. The development of women’s education is integrally linked with the perception of roles within the Indian society. Education has had minimal impact on the liberation of women from age of prejudices and beliefs. The introduction of formal schools indigenous modes of transmitting knowledge as well as Zenana of home education for girls is continued. With the establishment of the Bethune School in Calcutta Indian initiative in the Sphere of women’s education was formalized.

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The Government of India started finding tutors for these rapidly expanding home-oriented schemes of education. In 1882, the education commission stressed the importance Zenana education in a culture where women’s exclusion was still prevalent. In the Bengal Presidency, by 1907 the number of girls being instructed through this system had gone up to 1431 recorded cases, as against 1200 at the end of the earlier quinquennium. This method allowed for learning over a number of years which could often be continued or even started after marriage.\(^{10}\)
In the ‘Status and Employment of Women in India’ by O.Lalita Devi, has attempted to find out the contribution of employment to the social status of women employees in Trivandrum. She considered white-collar employment, as they are traditional. Her study reveals firstly on improvement in the status of women within the family members in terms of the extent of power in decision making in family with regard to money centered matters and children centered matters, extent of freedom in spending the family income, which are indicative of the subordinate status of women. She found that in white collar jobs promotion went with seniority and higher educated persons had more decision-making powers. She had examined the extent of changes in these positions of women within the family brought about by her new role employment outside home. The pattern emerged from her study showed that definite changes are taking place in the interpersonal relationship among the family of men and women. Employment was also found to be positively associated with the freedom in spending the family income. She examined the status of women in offices from three angles, respect from subordinates, colleagues and superiors. The women received ample co-operation from male members in office, recognition and appreciation of good work from


them and did not have problems of neglect and over work or other indications of hostility contempt or even indifference or avoidance towards them. 11

Sanjay Ketan Jena in “Working Women and Modernization” has examined that modernizations has brought about series of changes in beliefs, attitudes, values and customs of people in general and educated workingwomen in particular. On the basis of findings the following conclusions were made. The women were more
conscious of individuality and freedom than any other difficulties. Thus the expected emergence of individualistic value orientation under the influence of modernization is true. They had modern outlook in the matters of decision-making process in family. The forces of modernization have affected the attitude of the respondents towards the education of women.

Higher education for women in all branches of knowledge is acceptable to majority of the respondents. The main reasons for getting higher education was to seek employment and self defence. The respondents preferred graduation as the minimum level of education for women. They wanted jobs mainly to have economic independence and to raise family income.12

A study entitled “Women’s Career Development ” edited by Barbara A. Gukek, and Laurie Larwood made enquiries into the goals, preferences and aspirations of college students with respectable kinds of jobs they hoped, expected or intended to get after graduation. Women represented an anomaly in the model since they were assumed to select marriage and motherhood as their career. In a little over a decade, this probably says model has become completely outdated.


The study presents a rich profile of women’s careers across a broad survey of profession. Well-executed and original research focuses on what motivates successful women to achieve, how they feel about their jobs, and why their career paths often differ from men’s. It lays an excellent inroad for a theory of career development that can encompass women’s life experiences.13
Dr. (Mrs) Usha Kundu paper on “Employment position of educated women” attempted to prove through reliable statistics that with the passage of years the percentage of female work participation is on the decline. She has given several convincing reasons for this including the introduction of night shift in our industrial units. The author maintains that there is a discrimination against women in all walks of life despite the Constitutional guarantees. While the position in organized industrial sectors is not bad the unorganized sector does not present a very happy picture where women are subjected not even to improve the existing situation, the author tells that there is need for change of attitude on the part of male member of our society towards the females.14

Kamal Nath has made a study on female work participation and economic development. She examines the geographical differences in work participation ratio among women in different States and districts. It is found in industry-wise analysis of female/male ratio that women are represented in household sector of each industry and their numbers are small in modern organized sectors. Moreover, it is found that work participation of urban women is lower than that of rural women and that of literate women significantly lower than that of the illiterate.


The author concludes by saying that in the case of very small enterprises where the unit of labour is men and with the effect of the spread of social norm of non-participation of women will lead to lower production. Falling female work-participation ratio will accelerate the dependency ratio, which is already high and
is rising because of the higher birth rate. This in-turn has the tendency to depress the per capita income.\textsuperscript{15}

Krishna Iyer has made an analytical study regarding the percentage of women working in different regions of our country. He found that, of 16.5 million, women constitute 1.82 million that is 11 percent of the total. Kerala leads the rest of the States in India in the participation–ratio of women workers. Out of 7.36 lakh workers, 2.24 lakh are women workers. At the end of June 1969, out of a total work force of 4.31 lakh workers constituted women labour in Maharashtra.\textsuperscript{16}

Savitri has made a detailed study on the structural changes in the female employment in the non-agricultural sector in South India. The analysis shows that the activity rate of women in the non-agricultural sector in South India has shown a faster growth than the rate of increase in the female population and the female work force during 1911-61 of the different groups of occupations and services. In the non-agricultural sector, the female labour - force has tended to lift towards the service division. It is also found that within the manufacturing group of industries, more than 80 per cent of women are engaged in the traditional household industry and within the service group occupations, about 84 per cent of women are in domestic and personal services.\textsuperscript{17}

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K. V. Iyer conducted a study on women’s employment. Two pilot surveys on the attitudes of women to part-time employment in Delhi and the Tata Institute of Social Sciences in Bombay. The survey financed by the Ministry of Education, Government of India during 1963-64, seems to indicate that women, by and large,
prefer full time jobs and that the scope for part-time work are not fully spelt out. The survey seems to establish that there is no antagonism in the middle or upper class families towards women’s employment. It reveals that women do not prefer part-time jobs since they carry low-income.  

Nilima Acharji has stressed the social responsibility that an employer should have, when women are employed. The author feels that the employer should treat women differently from other factors of production. The ultimate result will be social enrichment. The obligations, no doubt, have to be executed keeping in mind the claims of the consumer and the shareholder. There are two indicators to measure the discharge of social responsibility of the employer. One is the wage paid for employment, the other paid to the unorganised sector, where most of the women are working. Expenditure on training should not be thought of as a welfare measure. It is development expenditure in a very real sense.  

Mies has made an analytical study of feudalism, capitalism and the women struggle. She says that the Frenchwomen had brought forward demands of equal rights for women for the first time during the Revolutionary periods. Large masses of women from the impoverished sections in Paris participated actively in the battle against feudalism. The growth of capitalism was based on the exploitation of human labour, particularly of women and children. Therefore it was found that the claims of women went further in 1848 than in 1789. They demanded full economic and political emancipation for working class women also.

The oppression of women, however, was so closely interwoven with the misery of the working class struggle. Karl Marx and Engels and later August Bobal could not ignore the existence of the women’s question. Undernourished women starved day and night in coalmines and textile industries since their wages were too low to buy their daily bread.20

Durgabai Deshmukh’s opinion is that the people think of girls as prospective homemakers, housewives and mothers. The author feels that time has come when both as an individual and as member of the society women have also thought of as equal to men and a full partner in life both in the home and outside. She further adds that per capita income of our country is very low and women therefore, cannot remain silent spectators without making contribution to supplement the family income. She suggests that the effective co-ordination between education and training on the one hand and the employment facilities on the other should be achieved.21

In 1975, at Mexico the World Women’s Conference declared 1975-85 as the U.N. Decade for Women. Nilima Acharji feels that it is a sad commentary on the world society that at the end of the first half of the decade, the Copenhagen Conference in 1980 had to admit that the long march to achieve the target is still to go a long way.


The International Labour Organization founded immediately after the First World War 1919, has been trying to further the cause of women workers through conventions and recommendations on social security, occupational safety, health, hours of work, vocational training, employment of women with family responsibility, equal remuneration and so on. India, ratifying some of the
conventions, has enacted many protective laws for working women. In the late seventies, the Equal Remuneration Act came into force and reinforced the Constitutional guarantee of equality of all citizens in job life. The Directive Principles offer equal opportunity and right to work to all without discrimination. But statistics reveals altogether a different story. The Census of 1971 showed that 31.3 million women were employed. This was 11.92 per cent of female population in India. Out of this, 80.19 per cent were in agricultural sector and 19.81 per cent were in the secondary and tertiary sectors. 42.50 per cent of the total women population was below 14 years old.

Purnima N. Mane feels that though the Articles 14, 15 and 16 of our Constitutions clearly assert that all citizens are equal before the law and there will be no discrimination against any citizen on grounds of sex, but realities of the situation of women can by no means be said to be equal to men in India. She chooses just two but important indicators namely, education and employment. It is found as per the Census of 1981, only 14.41 per cent of women in the country are in gainful employment. It is suggested that concrete support and services are needed on the part of family, the community, employees, voluntary organizations including women’s organizations and the Government, ranging from crèches, flexible time arrangement at work, correspondence course and part-time jobs to sharing in housework and changes in the stereotyped notion about women’s capacity so that women can equip themselves to fulfil their duties along with exercising their rights on par with men.²²

The neo-classical approach explains the reasons for women going to work as due to the effect of income and prices. A cross section study shows that women’s labour force participation is inversely related while a time series study showed the opposite. The contradiction is supposed to have been resolved by showing that
when income of the family increased women prefer more leisure, that is the positive substitution effect is greater than the negative income effect.

The institutional school opines that higher entry of women in the market is associated with growing availability of women’s work. The Marxist approach, from the very beginning, has been historical and women’s labour force participation is seen by them in a historical perspective. Women’s work participation was very much related to the family’s budget requirement. Yet, they place greater emphasis on the nature of the family.

P.D. Saikia has made a study of role and status of rural women in Assam. The objectives aimed to study the traditional role and status of women and also to study the part played by women in decision-making and management of family with 300 women, 100 from each villages, tribal and non-tribal women and among women in different castes living in the same setting and also the factors contributing to such differences in undergoing changes. The husbands usually consult their wives in important matters of the family. It was realized that many of the respondents are of the opinion that women today considered themselves equal to men. The study reveals that more than 90 per cent of the women of the non-tribal villages and 80 per cent in the tribal villages feel that the social conditions are improving in their villages.23

Durairaj has made a study of the changes in the role and status of women that have been taking place as societies evolved from traditional economies to various degrees of industrialization. Today, it has become increasingly important that women have something substantial to contribute to the community as a whole.

He adds that women must play a major role in ensuring the stability, which is essential in periods of rapid social and economic change.

He cites the great Manu’s description of the three stages of a woman as a daughter depending on her father, as a wife depending on her husband and as a mother depending on her son. This implies that at no stage a woman can be independent. This dependency of woman from cradle to grave seems to be sanctified by the Hindu law. The author feels that women cannot remain as silent spectators without making any contribution to supplement the family income in order to raise their standard of living and to meet the growing needs of the family.24

According to R. Sahai, women are 50 per cent of the world’s population do the two thirds of the world work hours, receive 10 per cent of world’s income and own less than one per cent of world property. Women constitute about half of the world population. But their representations in gainful employment are comparatively low. In India also the same condition exists. But, women constitute 56 per cent of the total employment. Our women had been confined to the four walls of home-children, household affairs, family rituals and customs.25


In developing countries, the Female Work Participation Rates (FWPR) is very low, particularly in Latin America and South Asia. Apart from ambiguity and inadequacy of concepts and definitions used in measuring women’s employment, the real causes for their low employment are to be found in the religious tradition, cultural, values, the colonial ideology and the evolution of social institutions that restrain women’s entry into the labour market.26
Jan Sinclair paper on “Women and Technology” problem of Technological unemployment of ‘Desk-killing’ brought out that Technological change and advancement are popularly regarded as progressive, positive and inevitable. The significant threat of technological unemployment is often down played. It is true that transition to wage labour has granted economic independence and autonomy to women in developing economics. Yet, further mechanization and technical innovation is going to make them increasingly vulnerable to desk-killing and job loss, especially so in financial and service sectors. This work draws upon a range of studies conducted over the past two decades, which actually explore the experience of women in workplace in which technological innovation has been introduced. It is in this sector of industry, in the developed countries where microelectronics use in the organization of work has had a disproportionate effect upon women. Gender segmentation in these countries is such that women are greatly over-represented in the service and finance sectors. Particularly in the lower occupational status of these sectors where new technology has had its most devastating impact. These are the women mostly affected by desk-killing or joblessness as a result of innovation.


In Australia from 1973 to 1993 the finance, property and business services sector represented an increase in proportion of employment from 6.9 per cent to 11.2 percent in the same period, the part-time proportion of all employment in this sector rose from 12.8 per cent to 22.4 per cent. The lower levels of female representation in this sector in developing countries is nevertheless, still witness to disproportionately negative effects upon the women workers. In other words, when
jobs are replaced or lost it is, and seems likely to continue to be, women who will lose out disproportionately.\(^{27}\)

Ela R. Bhatt report of “The National Commission on Self-Employed Women and Women in the Informal Sector” examines the labourer women in the self-employed and informal sector. Despite the existence of various constitutional legal provisions safeguarding women’s employment, a large number of women workers particularly in the unorganized sector suffer from various disadvantages relating to their working lives as well as in their homes. The coverage of labour laws has not benefited these women workers in many crucial areas especially health, maternity and social security. With the changing social and economic condition, women’s productive roles have assumed new significance but without back-up support and services a healthy combination of women’s productive and reproductive roles cannot be sustained.\(^{28}\)

Ester Boserup points out that the female’s displacement through mechanization and industrialization means not only a loss of income but a loss of social status. Industrialization introduces the “Polarization and Hierarchisation of men’s and women’s work roles”. Economic progress benefits men as wage earners in the modern sector, while the position of women is left unchanged, and even deteriorates when competition from the a growing modern sectors eliminates the traditional enterprises carried on by women. Thus, hand in hand with the clearance in productivity and in attitudes, an income gap is likely to emerge between men with rising wages in the modern sector and women with unchanged or declining incomes in the shrinking traditional sectors.

The hierarchy of industrial earnings in two multi-racial groups, Europeans, Asians and Africa, in addition to these three there is a Mexico group, the ‘colored’. In every case, belonging to a superior group earned more on an average than men of the group below in the racial hierarchy. Similarly, women of a superior group earned more than women of the group below and men in every case earned more than women of their own group, excepts for the Africans where the difference was negligible. But on one case, women of the superior group, earned more than men of the group below it, and the earnings of all non-African men.29

A study entitled, “Working Women and Families” edited by Karen Wolk Feinstein, speaks of problems revolving around women employment problems which are due to inability or unwillingness of major social institutions to respond to the changes in women work roles. Providing information for women’s studies at college level, the study presents a vivid account of the nature of discriminatory practices in employment structure at the national level.30


Education is a powerful instrument that can effectively change, shape and mould society in a positive direction. It offers new dimensions in the lifestyle of individuals and prepare them as self-reliant and responsible members of society. It acts as a liberating factor which helps man to come out of the clutches of materialism and to attain intellectual and spiritual consciousness. 31

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All people right from Sri Aurobindo—the prominent philosopher-down to Atal Bihari Vajpayee, attribute much importance to education. Sri Aurobindo remarked, “The past is our foundation, the present our material, the future our aim and Summit. Each must have its due and natural place in a national system of education.” Former Prime-Minister Atal Bihari Vajpayee stated “a knowledge based society will enable us to leap frog in finding new and innovative ways to meet the challenges of building a just and equitable social order and seeking urgent solutions.”

Education is considered as an important social infrastructure which helps in the development of human resource. It is labelled as the Panacea for social mobility and equality and as the only hope for the downtrodden. Realizing the importance of education, the Constitution of India made provision for free and compulsory education to children up to age of 14 years. During 1951-52 the percentage of India’s educational expenditure to the Gross Domestic Product was 0.64 per cent. It became 4.11 per cent of the GDP during 2000-01.

While the impact of gender inequality in education on economic growth has been studied extensively, there are few studies that explore the relationship between women’s labour force participation and economic growth. Moreover, the results from these studies do not always present a uniform picture which is partly attributed to data constraints and econometric issues surrounding reverse causality,
wherein growth and women’s economic activity do not share a one-way relationship.

Considering the impact of labour market inequality on growth, a recent study by Klasen and Lamanna (2009) used two measures of labour force participation – female share of total labour force and the ratio of female to male economic activity rates for 93 countries, covering 1960 to 2000. The study results broadly suggest a negative impact of gender discrimination in the labour market on growth with the actual findings sensitive to the sub sample of countries, time period of the study, and the inclusion of a gender gap in education as a control variable. Baliamoune-lutz (2007) results reinforce the need to carefully consider the impact of the country or regional context while interpreting the results. They investigate this relationship for Sub-Saharan African (SSA) and Arab countries and find that female share of labour force to be negatively associated with economic growth. This is largely an outcome of historic economic activity rates by women (low in Arab countries and high in SSA though in low productive sectors) and the structure of the regional economies. The only study in the Indian context was undertaken by Esteve-Volart (2009). Using panel data from sixteen Indian States over 1961-1991, she finds that gender discrimination in the labour market, as measured by female to male ratio in managerial roles and non-agricultural workers has a substantial negative impact on per capita income. The study also controls for endogeneity in gender gaps in employment at the state level.

This paper is interested in examining the impact of growth on female labour force participation. Economic development and women’s economic activity have shown a U-shaped relationship in several studies (Goldin 1994; Tansel 2002; Fatima and Sultana 2009; Kottis 1990). Female labour force participation has been hypothesized to decline initially with economic development, then plateau before
rising again giving it the U shape. This is argued as being reflective of the structural shifts in the economy, changing influence of income and substitution effects, and an increase in education levels of women in the population (Goldin 1994). In a low-income, agriculture dominated economy women are active participants in the labour force through their roles as contributing family workers on family farms or enterprises. There is no monetary remuneration for this work, but is recognized as being part of the labour force. This phase of economic development also coincides with relatively high fertility rates and low educational levels for women. Economic growth is usually accompanied by a changing sector composition; there is a greater focus on industrialization while agriculture starts losing its primacy which has the effect of lowering women’s participation in the labour market. Agriculture related activities are easier to combine with other household duties that women are responsible for. Further, the jobs available during the early stages of industrialisation are not attractive to women largely because of the social norms against their participation in blue-collar activities. Household incomes increase with economic growth and women tend to drop out of the labour force as they are not needed to contribute monetarily to the household. As the economy grows, several changes take place that once again encourage women’s labour force participation. Their educational levels improve leading to more and improved employment opportunities, fertility rate drops reducing the burden of child-rearing on women and new socially acceptable service sector jobs open up for women. With increasing wage levels, the substitution effect dominates the income effect.

Over a period of time, several studies have affirmed the existence of the U shaped phenomena in empirical work. The first generation articles used cross sectional data across countries to test this relationship (Goldin 1994; Mammen and
Paxson (2008). Tansel (2002) studied this relationship. This refers to Kuznets’ famous inverted U relationship between inequality and economic growth. This was initially based on country level cross-sectional data that did not hold up with panel estimation methods (Bruno, Ravallion, and Squire 1998). Within Provinces in Turkey across three time periods whose results support the U shaped hypothesis. Using cross sectional data to support this hypothesis can lead to the ‘Kuznets fallacy’ wherein the relationship is an artefacel of the data and is not validated using time series data (Tam 2011). This concern was addressed by the use of panel methods in two separate studies which once again found evidence supporting the U shaped pattern of women’s LFPR within a country (Tam 2011; Luci 2009).

In a recent comprehensive review of the literature, Gaddis and Klasen (2012) note several shortcomings with the panel data applications as well as the empirical specifications used to test this relationship. They argue that rather than aggregate GDP, sector specific shifts in GDP should be investigated for its impact on women’s labour supply. Another concern is that the panel studies do not account for the potential endogeneity of GDP with female labour force participation. They estimate the relationship between female labour force and economic development using the 4th, 5th and 6th edition of the International Labour Organisation’s Estimates and Projections of the Economically Active Population. They find that evidence of a U shaped relationship is feeble and is very sensitive to underlying data, especially the GDP estimates. Using a dynamic GMM estimator, the U-shaped relationship vanishes in several cases. They also unpack the components of structural change to consider the impact of sectoral growth on women’s economic activity.
Overall, there is no clear relationship between economic growth and an enlargement of the economic opportunities space for women. This relationship is mediated by both the cultural context and the actual process of growth. This complex interplay is reinforced by Kabeer and Natali (2013) who survey this literature and find that the impact of growth also varies across different constructs of gender inequality.

In the literature on labour-force participation, standard sources begin with the supply of labour (Ellis, 1993; Mathur, 1994). In this view, 34 percent of adult Indians participated in the labour market in 1991, and this figure comprised 16 percent among women and 51 percent among men (Mathur, 1994).

A number of studies shows a small decline in both women’s and men’s labour force participation from 1993-94 and 1999 (Jacob, 2001, Srivastava, 2003) using National Sample Survey data. Deshpande and Deshpande (1993) analysis shows that urban female working in service industries earn as much or more than men of the same educational level if that level is secondary school, and that the gender pay gap falls as education rises.

Da Corta and Venkateswarlu (1999) argue that the feminisation of the rural agricultural labour force is not necessarily good for women but it is a strong trend.

Agarwal (1997) has theorized a bargaining approach to the evolution of the gender pay gap. A number of studies have been conducted to find out the reason behind disparity in the women works participation in India using econometric analysis. Using employment data from quinquennial rounds of the National Sample Survey (NSS), a number of papers/reports have examined the employment situation in India in the post-reform period in comparison with that in the pre-
reform period (see, for instance Chadha and Sahu, 2002; Sundaram and Tendulkar, 2002; Dev, 2002; Chadha, 2003; and Bhattacharya and Sakthivel, 2005).

Women In Contemporary India And South Asia is a book edited by Alfred De Souza. This book offers a fresh perspective on women and social change in India and south Asia. It also focuses on the methodological issues that are of crucial importance in understanding the status of women also in the sex segregated societies of south Asia. It also mentions the factors affecting the self-understanding of women. It also concerns for the theoretical and policy implications of empirical data on women those who are in the agricultural and the urban informal sectors.

Indian Women (Socio – Cultural Survey) is a book written by Prithvi Nath Tikoo (B.R. Publishing Corporation, Delhi). It is an interesting sociological and psychological observation of Buwa’s and Lifly’s biography. It is aimed at all who are concerned with the position and uplift of woman. The growth of feminism is recorded and updated.

Woman In Hindu Literature, R.P. Sharma, (Gyan publishing house, New Delhi), presents a comprehensive and polemical study of the Hindu view of woman. By adapting himself to what is now known as cross gender reading, the author is able to demonstrate the Hindu texts, the loudmouthed masculinity propaganda about the so called glorification of feminity.

Struggles Of Women At Work edited by Sujata Gothoskar, (Vikas publishing house Pvt. ltd), focuses that women cannot address any issues they face individually. The book exposes Challenging discrimination against women because of hours of work and association with male officers, the requirement for husband’s consent for a woman’s employment, discrimination in pay for doing work of similar nature, sexual harassment and, struggle for equal rights.
It also makes visible women’s work and struggles in:

- Garment export industry
- Jute industry, factory life, pharmaceutical industry, Air-hostesses, teachers, trade unions.

Women Of The World: Illusion And Reality, edited by Urnil A Phadnis, Indira Malani, (Vikas Publishing House Pvt. Ltd) covers countries from continents. A complex and fascinating Africa, America, Europe, Asia pattern of evolution energies does not necessarily correspond to the official position of women maintained to salaries, wage benefits and retirement how much are women’s rights still abused.

Women And Equality, William H Chafe, (Oxford University press) presents women’s history, problem of definition and approach, Sex and race the analogy, Social control and Social change.

The Position Of Women In Indian Life, Her Highness The Maharani Of Baroda S.M. Mitra, (Neeraj publishing house). The essence of this book is: Written for Indian women by a women. Discovers the inferior status of women in India in all walks of life, and how women exercise their freedom. It emphasizes that women must assimilate western ways. They must revolt against men-folk to gain their freedom.

Gandhi And Status Of Women, S.R. Bakshi, (Criterion Publications). It describes woman as companion of users. There is no justification for men to deprive women or deny to them equal rights on the ground of their illiteracy. Education is essential for women to uphold natural rights, to improve them, to spread them.
Empowering women for sustainable development, Leelamma Devasia and V.V. Devasia, (Ashish Publishing House) deals with the examples of success stories, narratives in which law case, illiterate, powerless slum women and their struggle.

Women And Indian Nationalism, Edited By Leela Kasturi and Vina Mazumdar, (Vikas Publications House Pvt Ltd., New Delhi) contains research papers on the sub-theme ‘Women and Indian Nationalism’, presented at the third National Conference on Women’s right at Chandigarh in 1986. The introduction itself raises several questions pertaining to women’s rights. Various issues relating to women in the context of British rule, social reform and the development of the Indian Nationalist Movement are discussed in each of the well–researched papers written by historians, sociologists and others. This collection should generate greater interest in reexamining the nature and implications of women’s participation in the momentous struggle.

Indian Women, Neera Desai And Vibhuti Patek, (Popular Prakasham Pvt. Ltd., Bombay). Indian women - Change and Challenge in the Internal Women’s Decade 1975 - 85. This monograph tries to examine the impact of International Women’ Decade on the lives, status and struggles of women in India. In this analysis, aspects of Indian women are highlighted in the context of changing socio-economic and political reality of the Indian subcontinent. Attempt has been made to answer some of vital questions affecting women.

This book also attempts to urge the activists and academicians, researchers and scholars, planners and policy-makers, politicians and people at large to take women’s problem seriously and start a genuine, sincere and consciousness–raising campaign to enhance the status of women in India.
African Women, Edited By Christine Obbo, (Vikas Publishing House Pvt. Ltd, New Delhi). This book is a study of the African women and their struggle for economic independence. It is an appealing account of the private pains inflicted upon them by society and their concern to lessen the institutional pain by dismantling the structures of male dominance. This book is a picture of how East African Women—Ordinary people in the urban and rural areas of Uganda and Western Kenya have been struggling day by day to lessen that ‘Pain’.

Women, Law And Social Change, edited by Dr. Shamsuddin Shams. (Foreworded by Justice M. Fathima Beevi, Ashish Pub. House, New Delhi). It is a Comprehensive study of women who have been subjected to deprivation, brutality and extortion. They constitute nearly half the population and still suffer from many social, legal, cultural and economic disadvantages in our male dominated society. It offers new socio–legal and Socio–economic dimensions that make Indian women more brave against insecurity, exploitation, and degradation. Their social, cultural, economic, and legal status is still shrinking by a variety of institutional complexes, connections and myths.

This book also offers the message that women must fight for their legitimate place in their own society. They will have to come forward to educate themselves with the various laws that affect their lives.

Women Who Dared, edited by Ritu Menon, (National Book Trust, India) Illustrates how women were on the higher position.

Women Of India, edited by Tara Ali Baig, presents the two views of women: one is typical old Indian viewpoint of the (Ministry of Information and Broadcasting, Government of India) Indian woman being the symbol of purity, faithful and submissive, devotion to her husband. The other view is that the Indian
woman is backward, suppressed and treated almost as a chattel. The book abounds with examples of success stories, narratives in which “low” caste, “illiterate”, “Powerless” slum women. Empowerment of women, and their struggle to achieve economic independence and freedom through meeting their needs without compromising the ability of others to meet their needs are the key issues of discussion. The endeavour enunciates, the potentialities of women, their aspirations, sufferings and achievements. It also vividly narrates the struggle of women against societal structures, systems, corruption, formidable inequities and their own degradations. In the words of Dr. Baxi: “this slender volume should inspire meditation on many a critical theme of theory, method and social praxis. But it is equally important that it also inspires us, each in our own location to pursue active projects for empowering women.”

Problems of Women's Liberation, Evelyn Reed, (Pathfinder, New York, NY 10014) is a book on Marxist approach to women’s problem. It looks at why women have been oppressed throughout recorded history and why opponents to women's rights are so implacably entrenched and determined. From examining the myth of female inferiority; to the ways women as a whole can regain control of their destiny and how cosmetics and fashions exploit women are the various issues dealt with elaborately. It also analyses problems of Women’s Liberation as a sharp-eyed and stringently worded wake-up call to the problems of the past and how they have shaped present gender discriminations. A very strongly recommended reading lists in addition to Women's Studies and Women's History collections, problems of Women's Liberation also offer concrete hope for a more egalitarian future.

Rural Sociology In India, A.R. Desai (5TH DEC), (Popular Prakashan, Bombay), provides a total picture of the emerging rural society in India. Its scope
is studying the Indian rural society from a scientific angle. Revolution And The Status Of Women In India: - DR. Sushila Mehta, (Metropolitan).

This book presents that the attitude of men on women must change in order to enable women to gain their right and their right place in society. This book examines critically handicaps and hardships, which women suffer from. Suggests remedies and solutions.

Status and Employment of Women in India, U. Lalitha Devi, (B.R. Publishing Corporation, New Delhi), brief the belief that employment has raised the status of women both in family and in society.

Indian Law Of Marriage And Divorce (4th Edition), Kumud Desai The Guardians And Wards Act 1890(8 Of 1890), Consolidate and amend the law relating to guardians and ward.

Indian Women (Images And Reflection’s), Indira Kulshreshtha, ‘Noopur’, presents the various facts of a woman’s life in Indian society starting from the status of women in historical perspective in India, the need for educational intervention for removing gender–bias and the disadvantages they suffer in health nutrition and education.

Changes In Marriage Practices, Mohan Singh, (Inter India Publications, New Delhi), deals with the changes in marriage practices to identify mechanisms, processes, causes therefore and to examine their social and demographic implications in rural; HP State.

Social Movements and Social Change, Sathish Kumar Sharma, (B.R.Publishing, New Delhi), presents the social structural conditions in terms of religion, castes and classes, economic and political conditions of untouchables in
Punjab the class structure of its leadership, ideology and strategies vis-a-vis untouchables. There is no end to writing and publishing books after books to promote gender equalizing to ensure the social advancement of both men and women. One might ask why those books have failed to stop atrocious acts against women.

In the literature on labour-force participation, standard sources begin with the supply of labour (Ellis, 1993) and quickly move on to mention human-capital aspects of labour supply (Mathur, 1994). According to this view, 34 percent of adult Indians participated in the labour market in 1991, and this figure comprised 16 percent among women and 51 percent among men (ibid: 470). 30 percent of the women in rural areas were working, as recorded in the National Sample Survey of India using a combination of principal and subsidiary employment status, compared with 53 percent of men (Srivastava, 2003: 130-131). Only 14 percent of urban women were working, by this measure (ibid., 131). Using NSS data the rural percentage in the labour force fell by 10 percent among women and by four percent among men between 1993/1994 and 1999 (Jacob, 2001: 6). The urban percentage in the labour force fell 11 percent among women and there was no change among men. (ibid: 55).

Women’s economic participation is significantly influenced by factors like their age, education, marital status. Employment status of the head of the household (generally a male), presence of male member, and children of ages 0-5 are also important variables that significantly affect women’s participation in economic activities (Zareen F. Naqvi and Lubna Shahnaz, 2002).

Shah (1976) analyzed the effects of selected demographic and socio economic variables on LFP in the four provinces of Pakistan. The results indicated
that work participation is inversely associated with child-women ratio and nuclear family type. Marital status, dependency ratio and literacy rates are found to have positive relation with LFP. In 1986, he again made an attempt to interpret the changes in women role in Pakistan between 1951 and 1981 and its adequacy in relation to national targets. The study concluded that the socio-economic status (ownership of durable goods, husband’s education and observance of purdah) of the family has a negative impact on women labor force participation decision.

There exist a number of studies regarding the factors affecting the female work force participation. But in the current study an attempt has been made to see the levels and differentials in the work participation rates among the ever married women in India and it’s two major States, Punjab and Tamil Nadu which are culturally and geographically different from each other.

Punjab shows lower performance by demographic indicators than Tamil Nadu. Again “female work participation rate fluctuated widely in Punjab during the period 1981-2001 when the male work participation rate has by and large remained stable. Female work participation rate in Punjab increased from 6.2 percent in 1981 to 18.7 percent in 2001. As per 1991 Census, Punjab had the lowest female work participation rate in the country i.e. 4.4 percent only”(Gupta S., Gupta,2006).

Tamil Nadu is one among the States with high female work participation rate. But ‘Female work participation in Tamil Nadu has increased only marginally during the decades 1991-2000; work participation is more among rural than urban women, gender disparity in work participation is relatively higher in urban than rural areas and there is no occupational diversification among women.
The concentration of women workers in the occupation of 'agricultural labour' is an indicator of women's disadvantaged position, increased economic disparity and poverty. Further, in rural Tamil Nadu, there is increase in unemployment, on one hand, and greater casualisation of labour force on the other.’ (Sundari S., 2006).

In many respects, an obvious antecedent of the work undertaken in the present paper is a contribution by Duflo (2004) who examines the impact of a policy decision rapidly to expand the education sector in Indonesia. Duflo’s work focuses on the wage and labour market participation impacts of the policy on various demographic groups. By way of contrast, our work drills down to the experience of the individual, and focuses on the choice that individuals make about their activity in each period – whether that activity be schooling, work in one occupation or another, or something else.

The relationship between schooling and wage (Mincer, 1974) has been the primary focus in the labour market outcome literature. However, Heckman et al. (2003) show that Mincer’s model of wage determination is a misspecification. It requires that wages fully adjust to compensate for differences in the characteristics of labour. But the ability of wages to adjust may be restricted by various institutional, structural and sociological factors (see Ham et al., 2009a for discussion). Occupational choice, which addresses this problem, is used as an alternative measure of labour market outcome.

Early work in the analysis of occupational choice stems from the seminal contribution of Roy (1951) who provides an admirably lucid exposition of the way in which destination depends upon skills and upon the distribution of returns to skills in each occupation. The empirical implementation of Roy’s ideas had to
await the development of appropriate econometric tools, however. The multinomial logit model, first set out by Theil (1969) and benefited by important contributions from McFadden (1973) and Nerlove and Press (1973), proved to be useful for analysing this type of problem. According to Ham et al. (2009a) the first systematic examination of occupational choice using discrete choice econometrics was Boskin (1974). This was closely followed by Schmidt and Strauss (1975) who applied the multiple logit model to the prediction of occupation of individuals, based on certain personal characteristics. Variants of the static model have also been employed (Ham et al 2009a, 2009b Cobb-Clark and Tan 2009 , Nieken and Störmer 2010 for literature survey) by, inter alia, Ham (1982); Bradley (1991); Orazem and Mattila (1991); Mwabu and Evenson (1997); Makepeace (1996); Johnes (1999); Pal and Kynch (2000); Harper and Haq (2001); Le and Miller (2001); Yuhong and Johnes (2003); Constant and Zimmermann (2003); Botticini and Eckstein (2005); Nasir (2005); Bjerk (2007); Hennessy and Rehman (2007); Croll (2008); Borooah and Mangan (2002) and Borooah and Iyer (2005).

The essentially dynamic nature of occupational choice was first addressed by Willis and Rosen (1979) who model the decision of when to leave education as an optimal stopping problem. In their model, there is only one post-school outcome, rather than a multiplicity of destinations (including various occupations and life outside the labour force). A solution to this type of problem is offered also by Rust (1987) who developed the nested fixed point algorithm as a means of solving such dynamic stopping models. The extension of this type of model to the case in which, at each point in time, agents make decisions across a multiplicity of options, and where these decisions are conditioned upon decisions made in the past (and determine the nature of options available in the future) is due to Keane and Wolpin (1994, 1997). In effect, the Keane and Wolpin method provides a means of
empirically estimating models that combine the salient features of the contributions of Roy, on the one hand, and Willis and Rosen, on the other. Other important papers include Stinebrickner (2000, 2001a, 2001b), and Sullivan (2010).

Both static and dynamic models of occupational choice have been widely applied to the analysis of occupational choice in developed economies. But nonetheless there is a dearth of analysis in the published literature on occupational choice in developing countries, in particular in India where there are (understandably perhaps, in view of data limitations) no dynamic studies, and static analyses are also hard to come by. Khandker (1992) uses survey data from Bombay to evaluate earnings and, using multinominal logit methods, occupational destination of men and women. This study uncovers evidence of labour market segmentation. More recently, Howard and Prakash (2010) have likewise used multinominal logit methods, and find, using data from the National Sample Survey, that the imposition of quota policies on the employment of scheduled caste and scheduled tribes in public sector jobs has had a positive effect on the occupational outcomes for these socially backward groups. In a recent study, Singh (2010) used the India Human Development Survey, 2005 data and found that the individuals with higher education and better ability are more likely to be Government (and permanent) employees. There is thus no comprehensive analysis of how educational attainment impacts on occupational outcomes of young workers entering the labour market in India and how this link is influenced by public expenditure on education.

**RESEARCH GAP**

The survey of existing literature reveals that there are many studies about women’s education, status work participation separately. The researcher was
interested in studying the combined socio-Economic status of educated women. The reason for choosing Madurai city is that, this city has a lot of educated women and the researcher wanted to know whether these educated women are enjoying the socio-economic status which is really due to them. Thus wanted to fill the research gap.

**METHODOLOGY**

The methodology followed by the researcher in this present study, which indicates the area of the study, data collection and sampling procedure, period of study and tools of analysis is pictured here.

**AREA OF STUDY**

Madurai, it covers Madurai Central, Madurai South, Madurai East, Madurai West.

**PERIOD OF STUDY**

The present study is a cross-section study, will be based on the data for the year 2009-2014.

**DATA COLLECTION**

The researcher collected both the primary and secondary data. Data regarding household particulars of the women workers in various fields, types of work done by them and income drawn, nature or work, status of women in their households, are not available from secondary sources. A comprehensive interview schedule was used together all the including information by personal interview method from the selected women respondents.
The secondary data consists of published and unpublished material in the form of books, periodicals, reports and journals relating to women. The published material includes the Census report, report published by Economic Survey, Human Development Report.

DATA COLLECTION AND SAMPLING PROCEDURE

Keeping in view of the objective of the study on women’s status with special reference to education and employment of women in Madurai, primary data was collected by simple random method. The primary data has been collected through interview method by using well structured interview schedule. Thus 600 women respondents were considered for the study.

DEFINITION OF CONCEPTS

(a) Impact

In this study impact implies the importance of education with reference to women employment, their socio-economic status.

(b) Economic Status

Economic status implies that the employed women will be at more advantageous position due to their employment or work role than their counterparts remaining at home. The salary income of a working woman is a substantial contribution to the family income which would be expected to give her greater status than the yester year women.

(c) Social Status

In this study the purpose is to examine the influence of educated employed women as competent decision makers in the family than the unemployed women.
In families with working women the family decisions would have been changed from a male-dominated towards more egalitarian joint decisions.

**STATEMENT OF THE PROBLEM**

Women education is one of the significant factors influencing the socio-economic status of a family. Lack of education among women affects the family income, expenditure, education of their children, degree of labour skill, savings and investment pattern of the household and many other factors. Madurai city has many educational institutions, so girls have little difficulty to go to their schools and colleges unlike girls in rural areas, who have to travel a long way to get their education. But the problem is there is no sign of any change in their status socially or economically. So the researcher wanted to make an indepth study of the impact of education on the socio status of women at home, work place and society. The researcher was also interested in studying whether the status of educational women has improved economically.

**TOOLS FOR ANALYSIS**

Statistical package for Social Sciences (SPSS) was used for analytical purpose of the study and simple statistical tools such as Chi-Square and Two-way Annova was used.

**Chi-Square test \( (x^2) \)**

In order to study the socio-economic status of women at home, workplace and in the society, the Chi-square test was used. The value of chi-square was calculated by using the following formula
\[ \chi^2 = \sum \frac{(O - E)^2}{E} \]

where

- \( O \) = Observed Frequency
- \( E \) = Expected Frequency
- \( E = \frac{\text{Row Total X Column Total}}{\text{Total no. of observation}} \)

Degrees of freedom = \((r - 1) (c - 1)\)

- \( r \) = Number of rows
- \( c \) = Number of columns
Two-way ANOVA

The ANOVA in Two-way classification is used to analyse the effect of more than one independent variable on the same dependent variable. (i) In order to study the influence of educational level on their employment and income level plus (ii) in order to study the influence of women education level on the economic status and social status, ANOVA in Two-way classification is used. The ‘F’ ratios were calculated as follows:

\[ F_{(v_1, v_2)} = \frac{M_{SC}}{M_{SE}} \]

where, \( v_1 = (c - 1) \) and \( v_2 = (c - 1)(r - 1) \)

\[ F_{(v_1, v_2)} = \frac{M_{SR}}{M_{SE}} \]

Where, \( v_1 = (r - 1) \) and \( v_2 = (c - 1)(r - 1) \)

PROFILE OF THE STUDY AREA

The usefulness of any research study can be fully appreciated only when the results are studied with the demographic features such as location, soil conditions and cropping pattern. Hence, an attempt is made to present a brief profile of the study area.
In 2011 Madurai had a population of 30,41,038 of which male and female were 15,28,308 and 15,12,730 respectively. There was a change of 17.95 percent in the population compared to population as per 2001. In the previous Census of India 2001 Madurai district recorded an increase of 7.41 percent to its population compared to 1991.

The initial provisional data suggest a density of 823 in 2011 compared to 698 of 2001. Total area under Madurai district is of about 3,696 sq.km.

**Madurai:**

- Coordinates: 9.919662°N 78.119393°E
- Country: India
- State: Tamil Nadu
- District: Madurai district
- **Area:**
  - City 248 km² (96 sq km)
- Elevation: 101 m (331 ft)
Population (2011)

- **City** 10,17,865
- **Metro** 14,62,420

Languages

- **Official** Tamil

Time zone

IST (UTC+5:30)

PIN

625 0xx

Telephone code

0452

Vehicle registration

TN-58, TN-59 and TN-64

Website

www.maduraicorporation.in

**Fig. 2.2**

Madurai District

The Geographical area of the Madurai district is 3741.73 sq.km. accounting for nearly 2.9 per cent of the geographical area of the Tamil Nadu State. There are thirteen taluks and revenue blocks. The Dindigul district, the Sivagangai district, the Virudhunagar district and the Theni district serve as the Northern, Eastern, Southern and Western boundaries respectively of the Madurai district. Madurai district is classified into six sub-zones (Southern Plateau and hill region) under zone X among the 13 agro-climatic zones in the country. Normally sub-tropical climate prevails over the district without any sharp variation. The Electoral Division consists of

- Assembly Constituency
- Thirupparankundram
- Usilampatti
- Madurai North
- Melur
- Madurai East
- Madurai Central
- Sholavandan
- Tirumangalam
- Madurai South
- Madurai West
HISTORY

Madurai has been inhabited since at least the 3rd Century BCE. Megasthenes may have visited Madurai during the 3rd Century BCE, with the city referred as "Methora" in his accounts. The view is contested by some scholars who believe "Methora" refers to the north Indian city of Mathura, as it was a large and established city in the Mauryan Empire. The city is also mentioned in Kautilya's (370–283BCE) *Arthashastra*. Sangam literature like *Maturaikkâńchi* records the importance of Madurai as a capital city to the Pandyan dynasty. Madurai is mentioned in the works of Roman historians Pliny the Younger (61 – c. 112 CE), Ptolemy (c. 90 – c. CE 168), those of the Greek Geographer Strabo(64/63 BCE – c. 24 CE), and also in Periplus of the Erythraean Sea.
After the Sangam age, most of present day Tamil Nadu, including Madurai, came under the rule of the Kalabhra dynasty, which was ousted by the Pandyas around 590 CE. The Pandyas were ousted from Madurai by the Chola dynasty during the early 9th Century. The city remained under the control of the Cholas until the early 13th Century, when the second Pandyan empire was established with Madurai as its capital. After the death of Kulasekara Pandian (1268–1308 CE), Madurai came under the rule of the Delhi Sultanate. The Madurai Sultanate then came from Delhi and functioned as an independent kingdom until its gradual annexation by the Vijayanagar Empire in 1378 CE. Madurai became independent from Vijayanagar in 1559 CE under the Nayaks. Nayak rule ended in 1736 CE and Madurai was repeatedly captured several times by Chanda Sahib (1740 – 1754 CE), Arcot Nawab and Muhammed Yusuf Khan (1725 – 1764 CE) in the middle of 18th Century. In 1801, Madurai came under the direct control of the British East
India Company and was annexed to the Madras Presidency. The British
government made donations to the Meenakshi temple and participated in the Hindu
festivals during the early part of their rule. The city evolved as a political and
industrial complex through the 19th and 20th Centuries to become a district
headquarters of a larger Madurai district.

In 1837, the fortifications around the temple were demolished by the British.
The moat was drained and the debris was used to construct new streets – Veli,
Marat and Perumaal Mesthiri streets.

The city was constituted as a municipality in 1866 CE. The British
government faced initial hiccups during the earlier period of the establishment of
municipality in land ceiling and tax collection in Madurai and Dindigul districts
under the direct administration of the officers of the government. The city, along
with the district, was resurveyed between 1880 and 1885 CE and subsequently,
five municipalities were constituted in the two districts and six taluk boards were
set up for local administration. Police stations were established in Madurai city,
housing the headquarters of the District Superintendent.
It was in Madurai, in 1921, that Mahatma Gandhi, pre-eminent leader of Indian Nationalism in British-ruled India, first adopted the loin cloth as his mode of dress after seeing agricultural labourers wearing it. Leaders of the Independence movement in Madurai included Vadhiya Natha Iyer N.M.R. Subbaraman and Mohammad Ismail Sahib.

The Temple Entry Authorization and Indemnity Act passed by the Government of Madras Presidency under C. Rajagopalachari in 1939 removed restrictions prohibiting Shanars and Dalits from entering Hindu temples. The
temple entry movement was first led in Madurai Meenakshi temple by Independence activist A. Vaidyanatha Iyer in 1939.

**Fig.2.6**

**Madurai- Yesteryears**

![Madurai- Yesteryears](www.maosofindia.com)

Madurai is built around the Meenakshi Amman Temple, which acted as the geographic and ritual center of the ancient city of Madurai. The city is divided into a number of concentric quadrangular streets around the temple. Vishwanatha Nayak (1159–64 CE), the first Madurai Nayak king, redesigned the city in accordance with the principles laid out by *Shilpa Shastras* (Sanskrit: śilpa śāstra, also anglicised as *silpa sastra* meaning rules of architecture) related to urban planning. These squares retain their traditional names of Aadi, Chittirai, Avani-moola and Masi streets, corresponding to the Tamil month names and also to the festivals associated. The temple *prakarams* (outer precincts of a temple) and streets accommodate an elaborate festival calendar in which dramatic processions circumambulate the shrines at varying distances from the centre. The temple chariots used in processions are progressively larger in size based on the size of the concentric streets. Ancient Tamil classics record the temple as the center of the city and the surrounding streets appearing liken a lotus and its petals. The city's axes
were aligned with the four quarters of the compass, and the four gateways of the temple provided access to it. The wealthy and higher echelons of the society were placed in streets close to the temple, while the poorest were placed in the fringe streets. With the advent of British rule during the 19th Century, Madurai became the headquarters of a large colonial political complex and an industrial town; with urbanisation, the social hierarchical classes became unified.

Fig. 2.7

Madurai on banks of River Vaigai

GEOGRAPHICAL FEATURES

Madurai is located at 9.93°N 78.12°E. It has an average elevation of 101 metres. The city of Madurai lies on the flat and fertile plain of the river Vaigai, which runs in the northwest-southeast direction through the city, dividing it into two almost equal halves. The Sirumalai and Nagamalai hills lie to the north and west of Madurai. The land in and around Madurai is utilised largely for agricultural activity, which is fostered by the Periyar Dam.

AGRICULTURE

Madurai was traditionally an agrarian society, with rice paddies as the main crop. Cotton crop cultivation in the regions with black soil in Madurai district was introduced during the Nayaka rule during the 16th Century to increase the revenue from agriculture. The paddy fields cultivated in the Vaigai delta across Madurai North, Melur, Nilakottai and Uthamapalayam are known as "double-crop paddy belts". Farmers in the district supplement their income with subsidiary occupations like dairy farming, poultry-farming, pottery, brick making, mat-weaving and carpentry.
### Table 2.1

**Area Irrigated By Crops 2010-11**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Crop</th>
<th>Area (in Hec)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CEREALS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Paddy</td>
<td>61064</td>
</tr>
<tr>
<td>2.</td>
<td>Cholam</td>
<td>614</td>
</tr>
<tr>
<td>3.</td>
<td>Cumbu</td>
<td>635</td>
</tr>
<tr>
<td>4.</td>
<td>Ragi</td>
<td>9</td>
</tr>
<tr>
<td>5.</td>
<td>Korra</td>
<td>---</td>
</tr>
<tr>
<td>6.</td>
<td>Varagu</td>
<td>108</td>
</tr>
<tr>
<td>7.</td>
<td>Samai</td>
<td>1</td>
</tr>
<tr>
<td>8.</td>
<td>Maize</td>
<td>594</td>
</tr>
<tr>
<td>9.</td>
<td>Other cereals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total cereals:</td>
<td>63241</td>
</tr>
<tr>
<td><strong>PULSES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Redgram</td>
<td>37</td>
</tr>
<tr>
<td>11.</td>
<td>Bengalgram</td>
<td>3</td>
</tr>
<tr>
<td>12.</td>
<td>Greengram</td>
<td>522</td>
</tr>
<tr>
<td>13.</td>
<td>Blackgram</td>
<td>42</td>
</tr>
<tr>
<td>14.</td>
<td>Horsegram</td>
<td>--</td>
</tr>
<tr>
<td>15.</td>
<td>Other Pulses</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>Total Pulses</td>
<td>687</td>
</tr>
<tr>
<td><strong>OIL SEEDS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>Groundnut</td>
<td>1197</td>
</tr>
<tr>
<td>17.</td>
<td>Gingelly</td>
<td>102</td>
</tr>
<tr>
<td>18.</td>
<td>Sunflower</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Total Oil Seeds</td>
<td>1384</td>
</tr>
<tr>
<td><strong>COMMERCIAL CROPS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>Cotton</td>
<td>1462</td>
</tr>
<tr>
<td>20.</td>
<td>Sugarcane</td>
<td>3571</td>
</tr>
<tr>
<td>21.</td>
<td>Banana</td>
<td>2365</td>
</tr>
<tr>
<td>22.</td>
<td>Coriander</td>
<td>50</td>
</tr>
<tr>
<td>23.</td>
<td>Chillies</td>
<td>544</td>
</tr>
<tr>
<td>24.</td>
<td>Onion</td>
<td>1041</td>
</tr>
<tr>
<td>25.</td>
<td>Others</td>
<td>12522</td>
</tr>
<tr>
<td></td>
<td>Total Commercial crops</td>
<td>21555</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>86867</strong></td>
<td></td>
</tr>
</tbody>
</table>
Madurai is famed for its jasmine plantations, called "Madurai Malli", primarily carried out at the foothills of Kodaikanal hills and traded at the Madurai morning flower market. An average of 2,000 farmers sell flowers daily at the flower market. With the advent of Small Scale Industries (SSI) after 1991, the industrialisation of Madurai increased employment in the sector across the district from 63,271 in 1992–93 to 166,121 persons in 2001–02.

Table 2.2
Area under Agriculture Cultivation (in Hec)

<table>
<thead>
<tr>
<th>Year</th>
<th>Area under Cultivation</th>
<th>Change in Area under Cultivation</th>
<th>Irrigated Area</th>
<th>Change in Irrigated Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-2001</td>
<td>148950</td>
<td>---</td>
<td>90115</td>
<td>---</td>
</tr>
<tr>
<td>2001-2002</td>
<td>150704</td>
<td>1754</td>
<td>94545</td>
<td>4430</td>
</tr>
<tr>
<td>2002-2003</td>
<td>123929</td>
<td>-26775</td>
<td>68365</td>
<td>-26180</td>
</tr>
<tr>
<td>2003-2004</td>
<td>106891</td>
<td>-17038</td>
<td>48631</td>
<td>-19734</td>
</tr>
<tr>
<td>2004-2005</td>
<td>147499</td>
<td>40608</td>
<td>77206</td>
<td>28575</td>
</tr>
<tr>
<td>2005-2006</td>
<td>160808</td>
<td>13309</td>
<td>92245</td>
<td>15039</td>
</tr>
<tr>
<td>2006-2007</td>
<td>153519</td>
<td>-7289</td>
<td>85951</td>
<td>-6294</td>
</tr>
<tr>
<td>2007-2008</td>
<td>150983</td>
<td>-2536</td>
<td>83680</td>
<td>-2271</td>
</tr>
<tr>
<td>2008-2009</td>
<td>150524</td>
<td>-459</td>
<td>85152</td>
<td>1472</td>
</tr>
<tr>
<td>2009-2010</td>
<td>127525</td>
<td>-22999</td>
<td>79240</td>
<td>-5912</td>
</tr>
</tbody>
</table>

Source: Statistical Hand Book of Madurai District.

Madurai lies southeast of the western ghats, and the surrounding region occupies the plains of South India and contains several mountain spurs. The soil type in central Madurai is predominantly clay loam, while red loam and black cotton types are widely prevalent in the outer fringes of the city. Paddy is the major crop, followed by pulses, millet, oil seed, cotton and sugarcane. The municipal corporation of Madurai has an area of 147.977 km².
CLIMATE

From the year 2000-2001 to 2009-2010, the maximum temperature in Celsius was increased by 1.8. and minimum temperature in Celsius was increased by 2.1. It seems that there is a rise in the normal temperature prevalence in Madurai district.

Table 2.3

Temperature in Madurai District

<table>
<thead>
<tr>
<th>Year</th>
<th>Temperature in Celsius</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum</td>
</tr>
<tr>
<td>2000-2001</td>
<td>36.9</td>
</tr>
<tr>
<td>2001-2002</td>
<td>37.7</td>
</tr>
<tr>
<td>2002-2003</td>
<td>38.7</td>
</tr>
<tr>
<td>2003-2004</td>
<td>38.7</td>
</tr>
<tr>
<td>2004-2005</td>
<td>38.5</td>
</tr>
<tr>
<td>2005-2006</td>
<td>38.2</td>
</tr>
<tr>
<td>2006-2007</td>
<td>38.5</td>
</tr>
<tr>
<td>2007-2008</td>
<td>37.5</td>
</tr>
<tr>
<td>2008-2009</td>
<td>37.8</td>
</tr>
<tr>
<td>2009-2010</td>
<td>38.7</td>
</tr>
</tbody>
</table>

Source: Statistical Hand Book of Madurai District

Madurai is hot and dry for eight months of the year. Cold winds are experienced during February and March as in the neighbouring Dindigul. The hottest months are from March to July. The city experiences a moderate climate.
from August to October, tempered by heavy rain and thundershowers, and a cool and climate from November to February. Fog and dew are rare, occurring only during the winter season. Being equidistant from mountains and the sea, it experiences similar monsoon pattern with Northeast monsoon and Southwest monsoon, with the former providing more rain during October to December.

It is revealed from the table that there is a higher variation in the rainfall over the year as well as there is a wide gap between actual rain fall and normal rain fall in most of the years. In the recent years, at the global level also, there is a high deviation from normal rainfall to actual rainfall.

**Fig. 2.8**

**Madurai – Map**

Source: www.mapsofindia.com
The average annual rainfall for the Madurai district is about 85.76 cm. Temperatures during summer generally reach a maximum of 40 °C and a minimum of 26.3 °C, although temperatures up to 42 °C are not uncommon.[51] Winter temperatures range between 29.6 °C and 18 °C.

Table 2.4
Rainfall in Madurai District

<table>
<thead>
<tr>
<th>Year</th>
<th>Rainfall (in m.m)</th>
<th>Actual</th>
<th>Normal</th>
<th>% of deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-2001</td>
<td>638.5</td>
<td>872.2</td>
<td></td>
<td>-26.9</td>
</tr>
<tr>
<td>2001-2002</td>
<td>588.3</td>
<td>874.5</td>
<td></td>
<td>-33.8</td>
</tr>
<tr>
<td>2002-2003</td>
<td>674.7</td>
<td>888.7</td>
<td></td>
<td>-19.7</td>
</tr>
<tr>
<td>2003-2004</td>
<td>736.7</td>
<td>839.0</td>
<td></td>
<td>-12.3</td>
</tr>
<tr>
<td>2004-2005</td>
<td>1010.7</td>
<td>839.8</td>
<td></td>
<td>+20.3</td>
</tr>
<tr>
<td>2005-2006</td>
<td>1177.8</td>
<td>840</td>
<td></td>
<td>+40.2</td>
</tr>
<tr>
<td>2006-2007</td>
<td>668</td>
<td>840</td>
<td></td>
<td>-20.5</td>
</tr>
<tr>
<td>2007-2008</td>
<td>988</td>
<td>840</td>
<td></td>
<td>+17.7</td>
</tr>
<tr>
<td>2008-2009</td>
<td>880.1</td>
<td>840</td>
<td></td>
<td>+4.8</td>
</tr>
<tr>
<td>2009-2010</td>
<td>713.3</td>
<td>840</td>
<td></td>
<td>-15.1</td>
</tr>
</tbody>
</table>

Source: Statistical Hand Book of Madurai District

A study based on the data available with the Indian Meteorological Department on Madurai over a period of 62 years indicate rising trend in atmospheric temperature over Madurai city, attributed to urbanisation, growth of vehicles and industrial activity. The maximum temperature of 42 °C for the decade of 2001 – 2010 was recorded in 2004 and in 2010.
### Table 2.5

**Climate Data For Madurai**

<table>
<thead>
<tr>
<th>Month</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average high °C (°F)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30.6 (87.1)</td>
<td>33.2 (91.8)</td>
<td>35.8 (96.4)</td>
<td>37.3 (99.1)</td>
<td>37.7 (99.9)</td>
<td>36.8 (98.2)</td>
<td>36.0 (96.8)</td>
<td>35.7 (96.3)</td>
<td>34.8 (94.6)</td>
<td>32.7 (90.9)</td>
<td>30.6 (87.1)</td>
<td>29.7 (85.5)</td>
<td>34.24 (93.64)</td>
</tr>
<tr>
<td><strong>Average low °C (°F)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20.1 (68.2)</td>
<td>21.1 (70)</td>
<td>23.0 (73.4)</td>
<td>25.4 (77.7)</td>
<td>26.1 (79)</td>
<td>26.1 (79)</td>
<td>25.6 (78.1)</td>
<td>25.3 (77.5)</td>
<td>24.3 (75.7)</td>
<td>23.6 (74.5)</td>
<td>22.6 (72.7)</td>
<td>21.1 (70)</td>
<td>23.69 (74.65)</td>
</tr>
<tr>
<td><strong>Precipitation mm (inches)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7.4 (0.29)</td>
<td>11.8 (0.46)</td>
<td>14.1 (0.55)</td>
<td>37.1 (1.46)</td>
<td>72.6 (2.85)</td>
<td>32 (1.26)</td>
<td>83.2 (3.27)</td>
<td>80.3 (3.16)</td>
<td>146.9 (5.78)</td>
<td>159.4 (6.27)</td>
<td>140.3 (5.52)</td>
<td>53 (2.09)</td>
<td>838 (32.99)</td>
</tr>
<tr>
<td><strong>Avg. Precipitation days</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.9</td>
<td>1.1</td>
<td>1.1</td>
<td>2.4</td>
<td>4.4</td>
<td>2.0</td>
<td>3.6</td>
<td>4.1</td>
<td>7.8</td>
<td>8.1</td>
<td>6.3</td>
<td>3.4</td>
<td>45.1</td>
</tr>
</tbody>
</table>

Source: Indian Meteorological Department Mean data from 1971 -2000

### INDUSTRIES

Madurai is one of the few rubber growing areas in South India, and there are rubber-based industries in Madurai. Gloves, sporting goods, mats, other utility products and automobile rubber components are the most produced items by these industries. TVS Srichakra (tyre manufacturing), Sundaram Industries (Rubber Division, Coach division), Fenner India, Hi-Tech Arai Ltd and Lanxess India are some of the rubber-based industries in the city. Automobile producers like General Motors, Ford, Toyota and Honda are the major consumers of components produced in the city.
The city is home to one of the top motorcycle manufacturers in India, the TVS Group. There are numerous textile, granite and chemical industries operating in Madurai.

Madurai is promoted as a second-tier city for IT and some software companies like Honeywell Technology Solutions have opened their offices in Madurai. Software Technology Parks of India, an agency of the Government of India, has authorised several such companies to receive benefits under its national information technology development program. The State Government proposed two IT-based Special Economic Zones (SEZ) in Madurai, and these have been fully occupied by various IT companies.

**Fig. 2.9**

**Madurai - Industries**
EDUCATION

Madurai has been an academic centre of learning of Tamil culture, literature, art, music and dance for centuries. All three Assemblies Sangams of the Tamil language, the Tamil Sangam (about the 3rd Century BC to the 3rd Century CE), were held at Madurai. The American College in Madurai is the oldest college in the city and second oldest college in Tamil Nadu, established in 1881 by American Christian missionaries.

Fig. 2.10
Madurai Kamaraj University

The Lady Doak college, established in 1948, is the oldest women's college in Madurai. The Madura College (established in 1889), Fatima College (established in 1953) and M.S.S.Wakf Board College (established in 1964) are among the oldest educational institutions of the city. Madurai Kamaraj University (originally
called Madurai University), established in 1966, is the State run university that has 109 affiliated arts and science colleges in Madurai and neighbouring districts. There are 47 approved institutions of the university in and around the city consisting of autonomous colleges, aided colleges, self-financing colleges, constituent colleges, evening colleges and other approved institutions. There are seven polytechnics and five Industrial training institutes (ITIs) in Madurai, with the Government ITI and the Government Polytechnic for Women being the most prominent of them all. Fire and Safety Training Provided by Ideal industrial Training Institute (IITI) Located in Krihsnapuram colony, The government institutes, namely, the Madurai Medical College and the Homoeopathic Medical College, along with the 11 paramedical institutes constitute the medical and paramedical paradigm of Madurai.

There are seven engineering colleges in Madurai affiliated to Anna University, with the Thiagarajar College of Engineering being the oldest of all. The Madurai Law College, established in 1979, is one of the seven government law colleges in the State, administered by the Tamil Nadu Government Department of Legal Studies, and affiliated to the Tamil Nadu Dr. Ambedkar Law University. There are three teacher training institutes, two music colleges, three management institutes and 30 Arts & Science colleges in Madurai. The agricultural college and research institute in Madurai, started in 1965, by the State Government provides agricultural education to aspirants in the southern districts of Tamil Nadu. There are a total of 369 primary, secondary and higher secondary schools in the city.
POPULATION GROWTH

Table 2.6
Percentage Decadal Variation in Population for Madurai District

<table>
<thead>
<tr>
<th>Census</th>
<th>Madurai</th>
<th>Tamilnadu</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951-61</td>
<td>12.68</td>
<td>11.85</td>
</tr>
<tr>
<td>1961-71</td>
<td>25.49</td>
<td>22.3</td>
</tr>
<tr>
<td>1971-81</td>
<td>18.07</td>
<td>17.5</td>
</tr>
<tr>
<td>1981-91</td>
<td>17.51</td>
<td>15.39</td>
</tr>
<tr>
<td>1991-01</td>
<td>7.41</td>
<td>11.7</td>
</tr>
<tr>
<td>2001-11</td>
<td>17.95</td>
<td>15.60</td>
</tr>
</tbody>
</table>

Source: Various Census records

Madurai is the second most populous district in Tamil Nadu. The population growth of Madurai district from 1951-61 to 2001-2011 is presented in Table 1. The decadal growth rates of the population are irregular, as it increased from 12.68 percent in 1951-61 to 25.49 percent in 1961-71. It declined to 18.07 percent in 1971-1981, 17.51 percent in 1981-1991 and 7.41 percent in 1991-2001. It again raised to 17.95 percent in the Census 2011. In all the decades the decadal growth rate of population of Madurai district is higher than that of State except in the
TREND IN URBANISATION

Table 2.7
Trend in Urbanisation in Madurai District

<table>
<thead>
<tr>
<th></th>
<th>Madurai</th>
<th>Tamil Nadu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rural</td>
<td>Urban</td>
</tr>
<tr>
<td>Census</td>
<td>Population (in %)</td>
<td>Population (in %)</td>
</tr>
<tr>
<td>1981 – 1991</td>
<td>51.86</td>
<td>48.14</td>
</tr>
<tr>
<td>1991 – 2001</td>
<td>44.07</td>
<td>55.93</td>
</tr>
<tr>
<td>2001 - 2011</td>
<td>40.83</td>
<td>59.17</td>
</tr>
</tbody>
</table>

Source: Various Census records

It is evident from the Table-2.7 that the share of rural population to the total population is reducing consecutively from 1981-91 to 2001-2011 and the share of urban population is rising tremendously and it accounts nearly 59 % in Madurai district and the same trend was happened at the State level also. Yet the rate of urbanization of Madurai district is higher than Tamil Nadu. Several push and pull factors are presumed to be operative towards distress out migration from rural to urban areas. This might be due to the declining resource availability per capita and shrinking economic opportunities in rural areas, and better economic opportunities, health and educational facilities etc. in urban areas, providing opportunities for
higher level of human capital development could be the underlying factors for rural out migration.

**DENSITY OF POPULATION**

**Table 2.8**

Density of Population in Madurai District

<table>
<thead>
<tr>
<th>Census</th>
<th>Density of population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Madurai</td>
</tr>
<tr>
<td>1981-91</td>
<td>686</td>
</tr>
<tr>
<td>1991-01</td>
<td>733</td>
</tr>
<tr>
<td>2001-11</td>
<td>823</td>
</tr>
</tbody>
</table>

Source: Census Records

The density of population has gone up from 686 in the decade 1981-91 to 823 persons in 2001-2011 and it always shows an increasing trend over the census years in persons per square kilometer. It has to be noted that in all the decades the density of population in Madurai district is higher than that of Tamil Nadu at the incremental change in the density of population was also higher than that of Tamil Nadu.

**Table 2.9**

Historical Population

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>+/- %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951</td>
<td>361,781</td>
<td>------</td>
</tr>
<tr>
<td>1961</td>
<td>424,810</td>
<td>+17.4%</td>
</tr>
<tr>
<td>1971</td>
<td>549,114</td>
<td>+29.3%</td>
</tr>
</tbody>
</table>
According to 2011 Census, Madurai had a population of 10,17,865 with a sex-ratio of 990 females for every 1,000 males, much above the national average of 929.[56] A total of 100,324 were under the age of six, constituting 51,485 males and 48,839 females. Scheduled Castes and Scheduled Tribes accounted for .31% and 6.27% of the population respectively. The average literacy of the city was 81.95%, compared to the national average of 72.99%. There were a total of 391,315 workers, comprising 1,224 cultivators, 2,178 main agricultural labourers, 11,282 in household industries, 348,849 other workers, 27,782 marginal workers, 388 marginal cultivators, 616 marginal agricultural labourers, 1,611 marginal workers in household industries and 25,167 other marginal workers. The urban agglomeration had a population of 14,62,420. Madurai metropolitan area constitutes the third largest metropolitan area in Tamil Nadu and the 31st in India. The religion data in 2001 indicated a majority of Hindus with sizeable number of Christians and Muslims. Buddhists, Sikhs and Jains were also present in smaller numbers. Tamil is spoken by most, and the standard dialect is the Madurai Tamil dialect. Saurashtrian, another common language in the city, is the mother tongue of the Patnūkarars who migrated from Gujarat in the 16th Century CE. Roman Catholics in Madurai are affiliated with the Roman Catholic Diocese of Madurai, while Protestants are affiliated with the Madurai-Ramnad Diocese of the Church of South India.
In 2011 Madurai had a population of 30,41,038 of which male and female were 15,28,308 and 15,12,730 respectively. There was a change of 17.95 percent in the population compared to population as per 2001. In the previous
census of India 2001 Madurai district recorded an increase of 7.41 percent to its population compared to 1991. The initial provisional data suggest a density of 823 in 2011 compared to 698 of 2001. Total area under Madurai district is of about 3,696 sq.km.

**Fig. 2.12.**

**Literacy Rate of Madurai District**

Average literacy rate of Madurai in 2011 were 81.66 compared to 77.82 of 2001. If things are looked out at gender wise male and female literacy were 86.55 and 76.74 respectively. For 2001 census the same figures stood at 86.17 and 69.35 in Madurai district. The total literates in Madurai District were 22,48,749 of which
male and female were 11,94,631 and 10,54,118 respectively. In 2001, Madurai District had 1,776,654 in its total region.

With regard to sex ratio in Madurai it stood at 990 per 1000 male compared to 2001 Census figure of 978. The average national sex ratio in India is 940 as per latest reports of Census 2011 Directorate.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Block/Municipalities /Corporation</th>
<th>Area in Sq.Km</th>
<th>Total Population in Persons</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Madurai East</td>
<td>221.11</td>
<td>158680</td>
<td>80895</td>
<td>77785</td>
</tr>
<tr>
<td>2.</td>
<td>Madurai West</td>
<td>154.27</td>
<td>114520</td>
<td>57938</td>
<td>56582</td>
</tr>
<tr>
<td>3.</td>
<td>TP Kundram</td>
<td>210.84</td>
<td>158840</td>
<td>80523</td>
<td>78317</td>
</tr>
<tr>
<td>4.</td>
<td>Melur</td>
<td>383.18</td>
<td>112928</td>
<td>56659</td>
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<td>5.</td>
<td>Kottampatti</td>
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<td>98022</td>
<td>48248</td>
<td>49774</td>
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<td>6.</td>
<td>Vadipatti</td>
<td>189.00</td>
<td>66362</td>
<td>33422</td>
<td>32940</td>
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<td>7.</td>
<td>Alanganallur</td>
<td>293.00</td>
<td>82104</td>
<td>41403</td>
<td>4071</td>
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<td>8.</td>
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<td>84748</td>
<td>43263</td>
<td>41485</td>
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<td>9.</td>
<td>Kallikudi</td>
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<td>68263</td>
<td>33774</td>
<td>34489</td>
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<td>33015</td>
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<td>Chellampatti</td>
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<td>84725</td>
<td>44504</td>
<td>40221</td>
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<td>88863</td>
<td>45170</td>
<td>43693</td>
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<td>13.</td>
<td>T. Kallupatti</td>
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<td>32090</td>
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<td></td>
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<td>1246777</td>
<td>630904</td>
<td>615873</td>
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<td>82563</td>
<td>81515</td>
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<td>Madurai(M.Corp)</td>
<td>51.85</td>
<td>928869</td>
<td>469396</td>
<td>459473</td>
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<td>33881</td>
<td>17238</td>
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<td>16.</td>
<td>Usilampatti (M)</td>
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<td>30601</td>
<td>15383</td>
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<td>17.</td>
<td>Thirumangalam (M)</td>
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<td>43631</td>
<td>21840</td>
<td>21791</td>
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<td>18.</td>
<td>Anaiyur (M)</td>
<td>8.00</td>
<td>38310</td>
<td>19299</td>
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<td>19.</td>
<td>Avaniapuram (M)</td>
<td>16.00</td>
<td>53006</td>
<td>27056</td>
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</tbody>
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TRANSPORT

ROAD

Fig2.13

Madurai Road Network

Source : www.mapsofindia.com
The National Highways NH 7, NH 45B, NH 208 and NH 49 pass through Madurai. The State highways passing through the city are SH-33, SH-72, SH-72A, SH-73 and SH-73A which connect various parts of Madurai district. Madurai is one of the seven circles of the Tamil Nadu State Highway network. Madurai is the headquarters of the Tamil Nadu State Transport Corporation (Madurai) and provides local and inter-city bus transport across seven districts, namely Madurai, Dindigul, Theni, Virudhunagar, Tirunelveli, Thoothukudi and Kanyakumari. Madurai has three major bus terminals, namely, Mattuthavani Integrated Bus Terminus (MIBT) and Arappalayam(for inter city buses),and Periyar Bus stand (for intra city buses).

Fig 2.14

Mattuthavani Bus Stand
There are 12,754 registered three-wheeled vehicles called auto rickshaws, which are commercially available for renting within the city. In addition to the government operated city buses that are used for public transport, there are 236 registered private mini-buses that support local transportation.

There are many important bus stands in the city which include the Madurai Integrated Bus Terminus (MIBT) located at Mattuthavani, Shopping Complex Bus Station, Madurai, and others. See the Madurai City Map for more details.
Stand, and other bus stations at Periyar and Arappalayam. Buses are available in the city and to different places throughout Southern India. For local transportation, travelers can use auto rickshaws to cover short distances. Prepaid auto rickshaws are available near the Madurai Integrated Bus Terminus. The city is well linked to other places in Tamil Nadu, Kerala, and Karnataka via various National Highways (NH 45B, NH 7, and NH 49) such as Chennai, Trivandrum, Bengaluru, Ernakulam, and Mysore.

**Fig.2.16**

**Madurai- Proposed Outer Ring Road**

Source: [www.mapsofindia.com](http://www.mapsofindia.com)

**RAIL**
Madurai Junction is an important and busiest railway junction in southern Tamil Nadu and constitutes a separate division of the Southern Railway. It is the second largest revenue division in Southern railway next to the Chennai division. It is one of the well kept stations in the Southern railways division of the Indian Railways. It fetches the second highest amount of income in the State after Chennai.

There are direct trains from Madurai connecting important cities in India like Chennai, Mumbai, New Delhi, Bangalore, Jaipur, Hyderabad, Visakhapatnam, Trivandrum, Coimbatore, Kollam, Kanyakumari, Trichy, Tirunelveli, Rameswaram, Thanjavur, Vijaywada, Calcutta, Nagpur and Bhopal. Madurai has rail connectivity with important cities and towns across India. The state government announced a Mono rail project for Madurai in 2011, which is in planning stages. The monorail project has undertaken by the Tamil Nadu Government. The major railway stations in and around the city are as follows:
Fig. 2.18

Madurai – Major Towns

- Koodal Nagar
- Madurai Junction
- Sholavandan
- Samayanallur
- East Madurai
- Vadipatti
- Tirupuvanam
- Silaiman
- Tirumangalam
- Thiruparankundram
- Usilampatti
- Chekanoorani
AIR

Fig.2.19

Madurai Airport
Madurai Airport is located 12 kilometres from the city. It is one of the important airport in Tamil Nadu. It offers domestic flight services to major cities in India and international services to Colombo, Sri Lanka and Dubai, UAE. The carriers operating from the airport are Air India, Jet Airways, Mihin Lanka, and SpiceJet. The airport handled 5.2 lakhs passengers between April 2011 and March 2012.

Air India -------Chennai, Mumbai

Jet Airways---- Chennai

Mihin Lanka ---Colombo

Spice Jet ------- Chennai, Colombo, Delhi, Hyderabad, Mumbai, Dubai.

Madurai airfield was first used by the Royal Air Force in World War II in 1942. The first passenger flight was a Fokker Friendship aircraft on the Madras – Madurai – Trivandrum – Madurai – Madras route in 1957. It was identified as one
of 35 non-metro airports for modernization, and thus the new integrated terminal building was inaugurated on 12 September 2010. The airport was notified as customs airport. The notification, issued on 31 December 2011, has come into effect from 1 January 2012. In a historic event, two chartered flights from Malaysia landed at the airport on 25 August 2012, making them the first international aircraft that landed in the temple city. The first commercial international flight started on 20 September 2012 by SpiceJet commencing its maiden service to Colombo. Spicejet started its second international flight from Madurai to Dubai on 22 November 2013.

In order to boost exports from Madurai and its surrounding districts, the Department of Revenue under the Union Ministry of Finance has issued a notification dated 28 May 2013 permitting the airport to handle cargo.