# The Socio-Economic and Demographic Determinants of Age at Marriage: A Comparative Study of Rajasthan and Tamil Nadu, 1971

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Certified that the dissertation entitled "The Socio-Economic and Demographic Determinants of Age at Marriage : A Comparative Study of Rajasthan and Tamil Nadu, 1971" submitted by A. Ramaiah in partial fulfilment of the Degree of Master of Philosophy (M. Phil.) of the University, is his original work according to the best of our knowledge and may be placed before the examiners for evaluation.

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# CHAPTER = I

# C H A P T E R - I

## INTRODUCTION

Age at marriage especially female age at marriage is an
important factor in population growth. The reasons is obvious :
marriage often represents the socially sanctioned initiation
of sexual activity and child bearing for women. For men,
in addition to assuring convenient access to sexual relations,
marriage constitutes a commitment to support the children
born as a result of sexual activity. Thus, it is not surprising
to find that, on a worldwide basis, early marriage is associated
with high fertility and late marriage with low fertility.

Later marriage of women is also associated with many of
the beneficial and productive aspects of developed societies.
It permits women to achieve more education, to train for useful
careers, to earn cash incomes, and to contribute in a more
meaningful way to family, community, and national life.
Later marriage allows women to enter matrimony in a more
equal basis with their husbands, less as economic and social
dependents. Later marriage may also encourage women to make
decisions about child bearing and child raising based more
on their own abilities and their children's needs than on
traditions encouraging high fertility.

There are atleast three important demographic reasons
why individual women who marry early tend to have more
children than those who marry later and to hasten population

growth. If women marry young:

a. they are likely to have sexual intercourse frequently throughout their most fecound years;

b. they begin child bearing at an early age and thus live through a longer period of exposure to conception; and

c. they shorten the interval before the next generation is born and begins child bearing.

All three of these factors mean more rapid population growth. Moreover, from a socio-economic point of view, women who marry young tend to have less education and less opportunity to undertake jobs or roles other than motherhood. Bearing and raising children then becomes the major source of their status in the family and community. This lowers their incentive to limit family size. There are a number of reasons due to which women despite getting married at the early age, their fertility level remains low. These reasons include: the deliberate use of contraceptives and abortion to control fertility, regardless of marital status; the different definitions of marriage (and hence of age at marriage) in different cultures; the probability of more sexual activity and pregnancy outside of marriage as the age at marriage rise, a factor which varies in different cultures, and a number of other demographic qualifications and socio-economic conditions that influence fertility differently at various ages, both within and outside marriage.[1] But in countries like India where

1. Population Reports, 'Age at marriage and Fertility,' The Johns Hopkins University Maryland 21205, USA, 7(6). November, 1979 p.M.-107.

majority of the population is illiterate and religous minded, these factors play the least important role in social life and thus the average age at marriage continues to remain low and the rate of growth of population remains high.

It has widely been argued that population increase arising from high fertility is disadvantageous to economic growth in developing countries[2]. For countries that are trying to reach a balance between population and resources, policies that encourage this younger generation to postpone marriage will also encourage them to limit fertility after marriage and will contribute on a continuing basis to economic and social development. In India if the present annual exponential population growth rate of 2.25 per cent continues for the remainder of this century, then according to Thomas Mathew[3], by 2001 there will be a population of about 1074 million. And in about 45 years from now India's population will be roughly double its present size. So, reduction in rate of growth of population must be regarded as a major desideratum.

Realising the fact that the early age at marriage is one of the most important factors for population growth, the Child Marriage Restraint Act XIX of 1929, as amended by Act

2.  John C. Caldwell, 'Theory of Fertility decline', Academic Press, INC, London, New York, 1982, p.11

3.  Thomas Mathew, 'India's population: the worsening scenario', Yojna , 30(9), Oct. 16-31, 1986, p.4.

19 of 1938 and Hindu Marriage Act of 1955 which raised the minimum age of marriage of females to 15 years, were passed. But still in certain parts of India like Rajasthan, Bihar child marriage is a common phenomenon.

The influence of legislation in raising the age at marriage in the mass illiteracy and ineffective and improper measures taken by the government has been challenged by a number of scholars[4-8] who feel that the socio-economic conditions of society are more important than law in influencing the age at marriage.

In India there has been great deal written on socio-economic determinants of use of contraceptives and medical termination of pregancies. Comparatively, there have been very few attempts to explore the socio-economic and demographic

4. S.N. Agarwala, 'Some recent trends in age at marriage in India', paper contributed to Asian Population Conference, New Delhi, December, 1963

5. K.Davis, Population policy : Will current programmes succeed in population evaluation and birth control. San Fransisco, W.H. Freeman and Co., 1964.

6. M.N.Srinivas, Just marriage age will not do, Yojna, 21(26) 1977, p.33.

7. K.B. Pathak, Law and age at marriage for females India, The Indian Journal of Social work, 11(4) 1980 p.411

8. K.Mahadevan, 'Late marriage, Population control and better living' in readings in population education-1 (Graduate level tribal education),Deptt of Population Studies, S.V.University, 1982 pp.202-203.

determinants of age at marriage at the district level. Thus the present study.

## Age at marriage:

One of the first to recognize age at marriage as an important factor in population growth and to propose economic and social policies based on that recognition was the 18th century English Clergyman Thomas Malthus. Two elements could keep the population growth in check, Malthus believed - "Positive checks", which affect mortality, such as poverty, war, sickness, and famine; and "preventive checks", which affect fertility, such as delayed marriage and permanent celibacy. Contraception and abortion were also preventive checks. Malthus acknowledged, but he rejected them as vices. Moral restraint, on the otherhand, demonstrated by sexual abstinence and delay of marriage, provided time for saving ' and acquiring habits of sobriety; industry and economy which would enable (a persons) in a few years to enter into the matrimonial contract without fear of its consequences[9].

Throughout the world, women who marry late - in their mid or upper 20s - tend to have fewer children than women who marry early. In Europe since the beginning of modern era,

9. T.R.Malthus, 'An essay on the principle of population', London, Macmillan, 1926, p.396.

in Japan during the first half of this century and in a number of other Asian countries for the last three decades, delayed marriage has had an important effect in limiting population growth. Nevertheless the age at which people marry will be particularly important for the next two decades because by 1990 there will/be more than one billion young people of marriageable age - roughly 15 - 29 years old - in the developing countries.[10]

Age at marriage and fertility in Asia, currently run the gamut from child marriage and high fertility in Bangaladesh and parts of India to marriage delayed until after age 23 in China, Japan, Korea, and Sri Lanka with low fertility. In Japan, Korea, and Sri Lanka the usual age at marriage moved gradually upward during the first half of the 20th century with only slight decline in fertility. In Sri Lanka age at marriage has continued to climb while fertility, especially among younger women, has declined to a moderately low level.

The people's Republic of China has been first government to embark on a deliberate programme to increase the age at marriage to the mid or late 20s and concurrently to establish a comprehensive national family planning programme - one with special emphasis on young people.

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10. Population Reports, op.cit., p.M-105

## Age at Marriage, Population Growth and Socio-Eco.Development:

Fertility is known to depend on age at marriage, the duration of fertility union and the speed at which families are built. Taking the age at marriage alone, it has been demonstrated that if of the two countries with some reproduction rate one has a lower average age of female marriage than the other, then the country with the lower marriage age is going to have a higher birth rate.[11] It follows from this that the postponement of marriages by females can contribute to a reduction in the birth rate, even when an average woman continues to have the same number of children which she had previously. The proportion of population entering wedlock, and thereby, the extent to which marriages are dissolved by death and migration and hence mortality and migration rates vary substantially according to the age at marriage. Therefore, age at marriage is a conditioning factor of all aspects of fertility and population dynamics.

If the women of our country are to play their rightful role in its economic, social and intellectual life the practice of early marriage will have to be severely discouraged.[12]

11. A.J. Coale, and C.Y.Tye, 'The Significance of Age Pattern of Fertility' in High Fertility Population Milbank Memorial Fund Quarterly, 39(2) October,1961 pp. 632-646.

12. M.K.Premi, 'An Introduction to social demography' Vikas Publishing House Pvt Ltd., New Delhi,1983.p.176.

Due to early marriage the number of years with risk of
pregnancy to which each married woman is exposed increases
and this has been responsible to a considerable extent for
the prevailing high population growth. "Death rate is higher
among women than among men up to the age of 34. Early
marriage of girls is undoubtedly one of the reasons for this.
Infant mortality rate is higher among the children born
to girls aged, say, below 20 years than among those born
to girls aged above 20".[13] An increase in the age at marriage
shortens the reproductive span, delays the onset of child
bearing, prevents higher maternal and infant mortality arising
out of early pregnancies, and leads to more responsible
parenthood which consequently results in the reduction of
fertility, thus paving the way not only for socio-economic
development but also for the healthy living of both mother and
child.

Marriage in India:

In the Indian context when we look at the question of
early marriages, from the socio-cultural and religious points
of view, we understand that marriage in India is traditionally
a religious ceremony among Hindus which constitutes over
80 per cent of India's population. It is more of sacred
duty rather than a matter of personal convenience or arrangement.

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13. P.H.Reddy, ' Early marriage of girls, a bane of
    society', The Hindu , March 3, 1987, p.17.

Girls getting married before puberty or immediately after
phberty was strongly approved by the social organisations
and value system in early Hindu society. When there were
no definite social norms or taboos regarding marriage
age of males, the most common practice was to perform their
marriage before they had attained adulthood. Generally,
the marriages were fixed by the parents and selection of
partners in marriage was solely their choice. More important
factors were social and religious. Personal factors played
the least important role in the selection of marriage
partners. The social approval accorded to marriages between
partners with wide age gaps is an instance which reflects
on the total neglect of personal factors in fixing marriage
in early Hindu society. In Mannusamhita, a religious Hindu
text, the marriage of a man of thirty with a girl of twelve
and a man of twenty four with a girl of eight are described
as instances of permissible and socially noncognisable
marriages in early Hindu society.

Hindu system of marriage and the related customs
and values have had their impact on other religious commu-
nities. It is because quite a bulk of the members of these
communities in India were converts from Hinduism and carried
their traditional values with them. Pre-puberty and child
marriages also find social sanction among members of muslim
community. While males were permitted to remarry after the
death of their wives, females were generally not allowed

to take second husbands among Hindus. (The relegious sanctity of marriage is emphasised not only in Hinduism but in other religions also).

Though modern influence is slowly making its impact on various aspects of traditional marriage system, it is important to mention that basic values and norms still largely remain unchanged. Even now the marriages are generally arranged by parents and the marrying partners have little say in marriage. Most of the marriages are still performed under the provisions approved by the tradition and customs. Parents consider marriages of children as their major responsibilities and feel happy to discharge these at the earliest. Unmarried girls of marriagiable age group in Indian household are considered as matter of great concern and parents regard fixing their marriages at the earliest as their most sacred duty.[14] It clearly reveals that the child marriages have remained very much ingrained in the socio-cultural and religious milieus of the Indian Society.

Efforts taken to prevent early marriages and the results:

Social reformers of the nineteenth and twentieth centuries tried to counteract child marriage as they felt

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14. R.P.Goyal, 'Nuptiality trends and differentials in India', paper prepared at the request of population division, ESCAP, Bangkok,1982

that this practice was marrying child's educational,physical
and economic progress. In the mid-19th century, some educated
and enlightened individuals started social movement against
infant and child marriages.As a result of this movement, an
Act was passed in 1860 fixing the age of girls at ten. After
31 years in 1891 another Act was passed raising the age of
consent of girls to twelve. Noted social reformer Har Bilas
Sarda, who hailed from Ajmer had authored and piloted a Bill
in British legislature to prevent 'child marriage' which
in course of time became law in 1929, popularly known as
'Sarada Act'.[15] With much opposition in the then conservative
society the Child Marriage Restraint Act was passed on
October 1,1929 to restrain the soleminisation of child
marriage. According to the Act the minimum age of marriage
for females is 14 years whereas it is 18 years for males.
The Act empowered the authority to punish those who play
the 'contract' role for child marriage with imprisonment of
15 days or fine of Rs.1000 or both. Any adult male connected
with child marriage can be subjected to imprisonment for
three months or fine of Rs.1000, or both. The latest amendment
to the Act which was passed in 1978, further raised the

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15. Eleanor F. Rathbone, 'Child marriage: The Indian
    minotaur', George Allen & Unwin Ltd., London

minimum age of marriage from 15 to 18 for females and 18 to 21 for males[16]

Most of the people are, however, unaware of the existing law and its subsequent amendments and marriages are still celebrated at lower ages. It is mainly due to the deeprooted superstition, illiteracy and widespread ignorance prevailing among them. It can be gauged from the fact that they argue that this auspicious time is god sent and the duty of marrying their children is organised by God himself. Moreover, it is argued by Gaduliya Lohar community of Rajasthan that if the children are betrothed in their Childhood, their chances of death especially due to smallpox is minimised. Second argument surfaces on social plane. Betrothal of their children social network is enlarged. Thus, parents of betrothed children receive warm hospitality from each other's families and close relations. To substantiate this practice, it is said that "what so ever age, a marriage may be performed, as the wife does not go to live with her husband till she is physically matured. Even partners betrothed or married in childhood are prevented from meeting each other in a way avoids early pregancies. It has been observed by Jain[17]and

16. The Child Marriage Restraint (Amendment)Act, 1978, The Journal of Family Welfare, 25(1), September,1978,p.79

17. S.P.Jain, Indian Fertility - our knowledge and gaps (Part II). The Journal of Family Welfare. 11(5) Sep. 1954, p.6

and Saxena[18] that in early marriages, the interval between effective marriage and first birth is much greater than in the case of later marriages. But local pople opine "Kun drakhat Me hawa koni lage?" (which tree does not feel the touch of wind?).

Paranjpye, former Vice-Chancellor of Lucknow University (c.1937) observed, "It is often contended that the Act is too far in advance of public opinion and has remained practically inoperative and it is suggested that the work of the Diwan Bhadur(Har Bilas Sardda)is mere ploughing of sands". He further noted in 1937 that the compulsory registration of all marriages should be immediately taken up. After 49 years of Paranjpye's suggestion nothing seems to have happened to counteract this practice as the law is openly flouted and action is not taken against the guilty guardians of children. "In a recent past, a Minister of Rajasthan Government was accused of marrying of his grand-daughter aged below ten. But no penal action was taken against him.[19]

Having made all the possible efforts to prevent early

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18. G.B.Saxena, Age at marriage and fertility - A Sample study in rural U.P., *Artha Vijana*(4(1) 1962. p.53.

19. Gautam Chattopadhyay,'Child marriage still prevalent', *The Hindustan Times*, July 14, 1986.p.16

marriage, still early marriages, as stated earlier, are common phenomenon in some of the states of India. It would be really interes_ting to discuss why such things are happening. Interested demographers and social scientists have already made efforts to answer this question. A few have tried to know whether decrease in fertility is possible by raising the marriage age. Some of them have tried to find out the factors which influence early marriages while othershave paid attention to analyse the interstate/regional variations in the age at which people get married and the possible factors which are responsible for such changes in the marriage age. Let us now discuss some of the important studies which have already been carried out in this regard.

Although there is a vast literature on the relationship between age at marriage and socio-economic and demographic factors very little is strictly relevant for the purpose of this study.

Age at marriage and fertility

Krishna Tambi[20] through his study on 'Birth rate and age at marriage' has come to the conclusion that for any appreciable reduction in the number of children, the age

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20. N. Krishna Tambi, Birth rate and age at marriage.
    The Journal of Family Welfare, 11(1), Sept.1964,p.60

at marriage has to be postponed to at least 25. He has
quoted the survey carried out in 1962 by the Family Planning
Commuhication Research Project of Kerala University. It
was noted in this study that in 21926 families studied in
rural areas, the average age at marriage for males was 25
and that for females was 18. In this group there were 3212
females who were below 15 years at the time of marriage,
11925 females were married during the ages 15-19, 5324
during the ages 20-24 and only 940 during the ages 25-29.
In this group the number of first pregnancies were 383
among females below 15 years, 10958 in the age group 15-19
7840 in the age group 20-24, 1398 in the age group 25-29 and
only 38 in the age group 30-34. Postponement of marriage
to age 19 and above may no doubt reduce considerably the
number of children born to females in age groups below 20.

Similarly Guha Roy[21] through his study on 'Fertility
performance and female age at marriage' which was made for
the three diverse groups of population, namely, institutional
employees, and general urban and rural population groups
found that (i) women who married later in life got their

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21. S.Guha Roy, 'Fertility performance and female age at
    marriage', The Journal of Family Welfare,
    21(1), Sep., 1972, p.66

issues earlier as compa red to those who married young;
(ii) those who started cohabitation at the age of 16 had
more births per woman per year of married life as compared
to those who began their effective marriage at the ages
18 and 20;(iii) the estimated total births of women, married
at 16,18 and 20, during their reproductive life within
marriage were (per woman)respectively 7.83, 6.75 and 6.00
for the institutional group, 6.67, 5.94 and 4.85 for the
urban group, and 9.57, 6.48 and 6.00 for the rural group;
(iv) the effect of higher age at marriage in reducing
fertility could be felt after the spouses and spent six
and more years of married life in the case of institutional
couples, and 18 and more years in the case of rural couples.

Charles Hirschman[22] has come to the same conclusion.
His detailed analysis of age-parity-specific fertility rates
suggests that the recent rise in fertility is largely due
to a 'making up' of lower order births(first, second and
third)that had been by a rapid increase in age at marriage.

Bargawa[23]has tried to study the changes in the age at
marriage and its effects on fertility. He has come out with

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22. Charles Hirschman,'The Recent Rise in Malay Fertility:
    A New Trend or a Temporary Lull in a Fertility Transition
    Demography, 23(2) May 1986 p.179

23. P.K.Bargawa, 'Changes in the age at marriage and
    its effects on fertility', The Journal of Family
    Welfare,31(1), September 1984, p.32.

interesting conclusions. The study has revealed that even among people who belong to lower socio-economic class of urban society in which the fertility level is high and the average age at marriage is quite low, there is a negative relationship between female age at marriage and fertility. Hence, he believes that a substantial decline in the population growth could be achieved by raising the age at marriage particularly for females.

Having understood that reduction in population growth is possible by increasing the age at marriage, emphasis may be given to literature related to trend and regional differences in age at marriage and different factors involved in changes in the age at marriage.

Trend and regional variations in the mean age at marriage:

Agarwala[24] did a pioneering work on the time trend in the age at marriage between 1891-1961. He found that the mean age at marriage of both males and females had been rising between 1891-1901 and 1911-1921. The average decennial rate of growth for females was 0.55 years and for males 0.21 years. There was a marked fall in the mean age at marriage of both the sexes in 1921-1931, presumbaly

24. S.N.Agarwala, 'India's Population Problem' Tata McGraw-Hill Publishing Co., Ltd., New Delhi, 1972 pp.75-79

due to the passing of the Child Marriage Restraint Act.
The decade following this Act, there was a sharp rise in
the mean age at marriage of females and a significant drop
in the child marriages. Between 1941-51 there was further
rise in the mean age at marriages, at least among females
and decline in child marriages. In the decade 1951-61
the female mean age at marriage increased only by 0.05 years.
The average rise during the sixty years between 1896-1956
had been at a rate of 0.44 years per decade.

Analysing the regional differences during 1891-1961
in the mean age at marriage, Agarwala found that the states
situated in the south, north-west and east had higher
mean ages at marriage. These states were Travancore-Cochin
(Kerala), Madras(Tamil Nadu), Mysore, Assam, Punjab, Bengal
and Bombay(Maharashtra). Hyderabad(Andhra Pradesh)had the
lowest male mean age at marriage (11.35 years). For the
males, the general pattern was much the same as for the
females. Madhya Bharat had the lowest male mean age at
marriage in India, and Mysore had the highest, closely
followed by Travancore-Cochin(Kerala). The range between
the states with the highest and the lowest mean age at
marriage is 6.89 years for females and 6.54 years for
males. Goyal's[25] study on shifts in age at marriage in India

25. R.P.Goyal,'Shifts in Age at Marriage in India and
    Different States during 1961-71, Demography India,
    4(2), December 1975, p.336.

and different states during 1961-71', has revealed
interesting results. The mean increase in the age at
marriage for males between 1961 and 1971 having been
0.8 years and for females 1.1. years.for the whole of
India, the states which exceeded the national average for
males were Jammu and Kashmir, Bihar, Orissa, Maharashtra,
Himachal Pradesh and Tripura, the states of Punjab,
Madhya Pradesh, Gujarat and West Bengal being on the
national average. The states which exceeded the national
average for females were Jammu and Kashmir, Punjab,
West Bengal, Maharashtra, Mysore, Tamil Nadu, Himachal
Pradesh, Delhi, Manipur and Tripura, Gujarat being on
the national average. All the states experienced increases
during the decade in respect of both males and females
except for males in Goa, Daman, and Dill which showed
no increase from the 1961 mean age of 26.1, the highest
for all states, and a statistical decrease of 0.1 in
Assam from 1806 in 1961.

Very recently Goyal[26] presented a paper on 'Recent
trends in age at marriage in India 1961-81' in the 10th
annual conference on Analysis of 1981 census results.
According to this study, there had been a marked increase
in the level of mean age at marriage of both the sexes

26.  R.P.Goyal,'Recent trend in age at marriage in India,
     1961-81', Paper presented in the Annual Conference of
     Indian Association  for the Study of Population,
     Banglore, 20-23, May,1985.

over the period 1961-81. It was found that the mean age
at marriage for males for the whole country improved from
21.39 years in 1961 to 22.24 years in 1971 and to 23.10
in 1981. The corresponding age for females increased from
16-10 years in 1961 to 17.23 in 1971 and to 18.41 years in
1981.

With regard to the rank position of different states,
the four central states of Uttar Pradesh, Bihar Madhya Pradesh
and Rajasthan continue to occupy the bottom position
from 10th to 13th and the southern states of Kerala and
Tamil Nadu maintained their Ist and 2nd positions in
respect of mean age at marriage of both males and females
all through this period (1961-1981).

Having confirmed that there has been upward shift in
the mean age at marriage from the state level studies
as being discussed so far, it is better to look into some
of the district and village level studies so as to confirm
the fingings more specifically.

In India, though there has been a speed increase in
the mean age at marriage, the increase, however, is not
uniform and it varies from state to state and even from
district to district mostly because of the differences in
the socio-economic conditions.

## Rural urban differences in the mean age at marriage:

Ever since age and civil condition began to be tabulated by age groups in 1951, important rural urban differences have emerged in the mean age at marriage. Agarwala[27] found that there was rural urban differences in the mean age at marriage. The male mean age at marriage in 1961 in urban areas was 23.08 and was 21.0 in rural areas. The female mean age at marriage in 1961 was 17.8 in urban areas and was 15.4 in rural areas. According to Goyal[28], the male mean age at marriage in urban areas was 23.5 in 1961 and 24.3 in 1971 and in rural areas it was 20.8 in 1961 and 21.6 in 1971. The female mean age at marriage in urban areas was 17.9 in 1961 and 19.2 in 1971 and in rural areas it was 15.7 in 1961 and 16.7 in 1971. Goyal's[29] study on 'Recent trend in age at marriage in India, 1961-81' revealed rural urban differences. Between the rural and urban areas, it was noted that while the decade 1961-71 recorded higher increases of mean age at marriage of both males and females in urban areas, the corresponding increase were higher in rural areas in the decade 1971-81. The mean age at marriage of males during 1971-81 decade showed an improvement of 0.86 years in rural areas as compared 0.50 years in urban areas and for females the corresponding increase had been obtained as 1.14 years and 0.92 years.

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27. S.N.Agarwala, op.cit. p.82

28. R.P.Goyal (1975) op.cit.p.337

29. R.P.Goyal (1985) op.cit.p.8

## Factors influencing age at marriage

All the studies which we have discussed so far one
way or other have tried to give only the rural urban
differences and sex variations in the mean age at marriage
at difference levels-state, district and village levels.
Very few scholars have tried to find out the effects of
different socio-economic variables on age at marriage.

Subhash Chander Gulati[30] tried to examine the impact
of literacy, urbanisation and sex ratio on age at marriage
in India. From this district level analysis, he had come
to the conclusion that education was always conducive to
late marriage. It was overall level of urbanisation most
effective among the three factors for late marriages in
Bihar, Gujarat and Uttar Pradesh for both the sexes and in
Kerala, Madhya Pradesh and Rajasthan it was for males only.
Sex ratio in Orissa had a strong linear associated with
age at marriage than the other two factors for both the
sexes and in Assam and West Bengal for males only and in
Jammu and Kashmir, Madhya Pradesh and Punjab for females
only. For India as a whole it was literacy level which was
most effective for a rise in age at marriage; this holds
true for both sexes.

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30. Subhash Chander Gulati, Impact of literacy, urbanisation
    and sex ratio on age at marriage, _Artha Vijnana_,
    Dec. 1969, 11(4), p.685.

Malakar[31] has done a eloborate study on age at marriage.
He has tried to analyse the causes for variations in the mean
age at marriage. He found that of the many socio-economic
and demographic variables, important factors, are urbanisation,
literacy, sex ratio  of the unmarried population of marriageable
age and per capita income. He has used these variables as
independent variables in his analysis.

Regarding the role of difference socio-economic and
demographic variables, literacy level of the female population
seemed to be the best individual predictor for interstate
nuptiality variation of the female population. It is
interesting to note that this variable alone accounted for
about two thirds of the variation in mean age at marriage
and marriage rate for the female population in India.
However, increase in the effect of male literacy on
nuptiality behaviour was much less prominant. Economic
activity had a positive influence on the marriage rate and
negative one on  the mean age at marriage of the population.
The same feature was observed for both males and females.
The sex ratio had positive association with mean age at
marriage of the male population and a negative one with
that of females.

Per capita income seemed to be a poor indicator in
india in explaining the nuptiality variation. This may

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31. C.R.Malakar, 'Socio-economic and demographic correlates
    of marriage patterns in India, Demography India
    4(2)1975, p.323.

be partly ascridable to a very low level of per capita income in India. In India, urbanisation was not an important factor in nuptiality variation.

Asok Mitra[32] in his study on 'New population policy and age at marriage', had discussed age at marriage with reference to religion, caste and community, occuptional status and income or level of consumption, educational level and level of fertility. The conclusion that he drew from his selected studies was that 'throughout the 1950's and 1960's a generally declining fertility, albeit at a low and jagged rate was in evidence and that the decline associated with castes and communities advantageously placed, occupations and professions that had higher status rather than lower, incomes that were higher than lower. The another fact in evidence was that ages at marriages increased with improvements in the social and economic scale and with education and fertility generally declined with improving social and economic status and education.

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32    Asok Mitra, 'New population policy and age at
      marriage', Document presented in the Second
      Annual Conference of Indian Association for the
      study of population, Bangalore, 27-29, December,
      1976.

Sadashivaiah[33]and Helena[34] have also come to the similar
conclusion i.e. higher the literacy level, higher the age
at marriage. At the same time there is evidence at
several levels of improving social and economic educational
rural urban status favouring a lowering of age at marriage
and general pronatalists trends and results. He also
said that in fact there would be few favourable social,
economic or cultural correlates that would not favour in
some way or other pronatalists trends in the short run,
although in the long run their effect would be decidedly
antinationalists.

But the report of the First All India Survey of
Family Planning Practices in India conducted by Operations
Research Group of Baroda in 1970-71 gave the estimated
mean age at marriage as 23.8 years for males and 18.3 years
for females for the period of marriages 1966-70.

Chari[35]found by analysing 1971 census data that in
rural India, Christians had the highest mean age at marriage

33. K.Sadashivaiah,'Trend in age at marriage, family
    size and level of education among sterlised cohort in
    Assam and Kerala, The Journal of Family Welfare,25(3)
    March, 1979, p.46.

34. Helena Chojnacka 'Polygyny and Rate of Population
    Growth', Population Studies, 34(1) March, 1980, p.91

35. R.B.Chari, 'Female age at marriage - Analysis of
    1971 census data, part 4 of 1971 series.1 Census of
    India, Office of the Registrar General, India,
    New Delhi, June, 1977, pp.4-7

(18.68) followed by Sikhs (17.83), Jains (15.90), Muslims(15.51), Buddhists(15.28) and Hindu(15.24).  In urban India, the order was Christians(19.39), Sikhs (18.02), Jains(17.51),Muslims(16.76), Hindus(16.67) and Buddhists (15.96).  About 70 per cent of Hindu, Muslim, Buddhist and Jain girls got married before they attained the age of 18.  The percentage was over 80 per cent for all religions in the states and union territories of Andhra Pradesh, Bihar, Haryana, Madhya Pradesh Rajasthan and Delhi.  Rural areas of Madhya Pradesh, Rajasthan, Bihar, Andhra Pradesh and Uttar Pradesh had the lowest age at marriage (13.71 to 14.62).  In many of the eastern and southern states like Arunachal Pradesh, Nagaland, Manipur, Meghalaya, Sikkim, Goa, Daman and Diu, Kerala and Tamil Nadu, the age at marriage was high ranging between 18.24 and 21.18.  The lowest and the highest figures for urban areas were 15.08(Rajasthan)and 19.19(Sikkim)

He has also worked out age at marriage according to the literacy levels.  At the national level the  indicated a positive correlation  between the level of education of currently married women and the age at marriage.  The age at marriage went up with the rise in literacy level.  In both rural and urban areas of India, there was a rise of little less than 6 years in age at marriage between illiterate and graduate women(rural 15.23 to 21.16 and urban 16.24 to 21.90).  The highest age at marriage in rural areas had been

recorded by women who were gruaduate and above.

The mean age at marriage for Scheduled Caste was 14.87 in rural India and 15.56 in urban India. Scheduled Tribes had a substantially higher mean age at marriage. Percentage of women getting married before the age of 18 was very high for Scheduled Castes(80.58 per cent rural; 73.55 per cent urban). For Scheduled Tribes the respective percentage were 67.71 and 62.08.

Apart from various factors having influence over marriage age as being discussed so far, Caldwell, Reddy and Pat Caldwell[36]from their study on 'The causes of marriage change in south India' have derieved some other interesting factors, which they think, responsible for the age at marriage.

A major control over the age at marriage of women was provided by the fact that-

1.Many families felt deep disquiet and guilt over the presence of an unmarried menstrating daughter in the household, an emotion that might be by an apprehension lest she might become pregnant and unmarriageable.

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36. J.C.Caldwell, P.H.Reddy and Pat Caldwell,'The causes of marriage change in south India, Population Studies, 37(3) 1983, p.343

2. The age of marriage of men had largely been determined by the commitment of families to provide daughters with a marriage(and eventually, sons with land and other property).

3. Two major changes were under way throughout most of south India. One was from a bride wealth to a dowry stem and the other was reduction in the proportion of all marriages between close relatives. Both have implications for age at marriage.

Fakhrul Islam[37] from his study on 'Raising age at marriage in a village in Uttar Pradesh' has noticed a change in age at marriage at two levels - first the age of marriage of eldest son/daughter was higher than the age at marriage of parent/respondent, secondly, the age at marriage of the youngest son/daughter was higher than the ages at marriage of eldest son/daughter of the respondents. Thus there was a rising trend of higher age at marriage among all the castes and status groups. Among the upper caste Hindus, the average age at marriage had reached a level of 23.9 years for males and 17.3 years for females. Among the backward caste Hindus it had reached

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37. Fakrul Islam, 'Raising age at marriage in a village in U.P,' The Journal of Family Welfare, 31(2), December, 1984, p.

15.2 years for males and 12.8 years for females while
Scheduled Caste Hindus recorded averages of 12.5 years for
males and 11.8 years for females. Among Muslim status
groups, the average age at marriage had reached 21.7 years
for males and 18.3 years for females. Including all the
Hindu castes and Muslim status groups, the average age at
marriage in village Ghuskar was 15.6 years for males and
13.5 years for females.

Audinaryana[38] has tried to analyse the inter relationship
between socio-economic variables and age at marriage. His
study revealed that among the five predictor variables
(proportion of effective literates, proportion in labour
force, proportion in non-agricultural occupations,
proportions living in urban areas, per-capita income)
each for males and females, the proportion of effective
literates and proportion in labour force and non agricultural
occupations had shown a high and significant relationship
with the mean age at marriage of males and females. Increase
in literacy which reduced child labour in agriculture,
increased the school going population. Later, the growing
literacy created an awareness regarding family formation
and fertility and led to an increase in the age at marriage.

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38. N.Audinarayana,'Inter-relationship between socio-
economic variables and age at marriage,' The Journal
of Family Welfare,31(4), June, 1985, p.39

Urbanisation also had a significant effect on female age at marriage. Per-capita income was also positively related and fairly correlated with age at marriage.

The reason for late marriage was that it was widely felt that a woman who marry two or three years after menarch will probably be more fecund because her reproductive power will not be impaired by early damage.

Another reason for the delay of women's marriage had been brought about by a marriage squeeze caused by a decline in mortality that steepened after the second world war.

Goyal[39] has tried to become familiar with the socio-economic explanations for district level variations in means age at marriage. This analysis was for two time periods 1961-71 in western india. It revealed that there was a notable variations in the levels of age at marriage between different districts. This was true for 1961 as well as 1971 and for both males and females. For males, the 1971 level variation was indicated by the highest estimates of 25.59 years for the Ratnagiri district in Maharashtra and the lowest estimates of 20.89 years for

39. R.P.Goyal, A socio-economic explanation for district level variations in mean age at marriage- An analysis for western india, unpublished mimeograph, Institute of Economic Growth, Delhi, January, 1986

the Dangs district in the neighbouring state of Gujarat.
The corresponding highest and lowest estimates for 1961
obtained as 24.99 years and 19.64 years. In the case of
females, the variations were indicated by the respective
highest estimates of 20.67 years and 19.37 years for 1971
and 1961 and the corresponding lowest estimates of 15.39
years and 14.04 years. For males the average of district
level estimates in 1961 and 1971 were found as 21.83 years
and 22.82 years respectively. The corresponding average
for females were found as 16.24 years and 17.71 years.
The relationship between variables - literacy, urbanisation
sex ratio, the size of labour force engaged in agriculture
and the economic participation rates as per this study
are as follows: Between the two dependent variables, that
are, mean age at marriage of females and mean age marriage
of males, he found significant positive dependence of one
on the other both in 1961 and 1971. Literacy was found
to be positively associated to urbanisation and negatively
to proportion of work force in agriculture and participation
rates in economic activity. Negative impact of urbanisation
on size of work force in agriculture and participation rates
in economic activity were also clearly brought out by the
results. There was a strong positive association of work
force size in agriculture to participation rates. In
relation to sex ratio, of the unmarried population and the

child women ratio, the results for 1961 did not come
out with a coherent picture. The results revealed very mild
negative association of urbanisation and also literacy
with sex ratio and child women ratio, with population size
in agriculture and participation rate. In respect of
the relationship of sex ratio and child women ratio with
population size in agriculture and participation rate, there
was no clear cut indication emerged. The mean age at
marriage for males as well females were found to be
positively influenced by literacy level and urbanisation level.
Kulkarni[40] and Srivastava[41] have also come almost to the
similar conclusion that of the many factors, literacy seems
to be positively significant in determining age at marriage.

40. P.M. Kulkarni, L.R. Savanur and C.V. Gokhale,'
    Increase in age at marriage in rural Karnataka:
    Evidence from a report survey. Demography India
    15(2), 1986, pp 149-162.

41  J.N.Srivastava,'Factors in Female Age at Marriage in
    India with Special Reference to Literacy Status',
    Inter-State Analysis for 1981, Demography India,
    15(2), 1986, p.228

From the foregoing literature survey we understand
that the fertility level can be brought down by raising
the age at marriage. It also reveals that the female
mean age at marriage has always remained higher in
southern part of India especially in Kerala and
Tamil Nadu and is relatively lower in states like
Madhya Pradesh, Rajasthan and Uttar Pradesh. Another
important finding is that the socio-economic and
demographic factors do have bearing on marriage age
and of the many determinants of age at marriage,
education, occupation, urbanisation, religion, sex
ratio are generally the main determinants. However,
literacy seems to be very much significant and there
is also a positive correlation between literacy and
age at marriage.

One can also understand that most of the studies
discussed in the literature survey especially of
Agarwala, Asok Mitra and Goyal which tried to examine
the effects of socio-economic factors on age at
marriage are only macro level studies. Besides, all
these studies one way or other have given importance

mostly for analysing the inter-state variation in the mean
age at marriage instead of analysing the extent to which
different factors influencing age at marriage, like Srivastava.
Very few scholars like Malakar, Gulati and Audi Narayana
have taken pains to adduce the effects of socio-economic and
demographic factors on age at marriage, but they are again
macro level studies. There are very few village level studies.
Fakrul Islam's study is one of this kinds. However, this
study has focussed on examining the factors affecting age
at marriage in a particular village. Just one village would
certainly not represent the nation. So the findings of
these studies may not be suitable for generalisation.

Need for a district level study:

As we discussed before there are state level studies
and also village level studies focussing on examining
the factors influencing age at marriage. In the context
of significant regional variations in India, a state is
too large unit of a study for making generalisation. Village
level studies may give a better picture of age at marriage,
but they are handicapped of the fact that they can not cover
major regional variations and also it requires the primary
data collection which is rather time consuming and expensive.
Contrary to village level, a huge amount of statistical
information is available in secondary sources for districts.
One can also utilize the district level information given

by the various government agencies. So to bridge the gap
between village level studies and state level studies, there
is a need for district level study while focussing upon the
influence of different socio-economic and demographic factors
on age at marriage.

The mean age at marriage which has shown a significant
inter-state variations, is greatly affected by the socio-
economic and demographic factors. One therefore expect
a significant role of such factors in the regional variations
of mean age at marriage. To understand these factors
which cause differences in the mean age at marriage in a
better way, the researcher has selected two states-one
from those which have higher mean age at marriages and the
other from those which have lower mean age at marriages.
A comparision of the results of the analysis of these two
states would provide further insight into the process.

OBJECTIVES:

In this study an attempt has been made to analyse the socio-economic and demographic determinants of age at marriage with the main objective of examining the regional variations in their relative contribution.

The following are the specific objectives of the study:

1. to bring out the district level variations in the mean age at marriage in two states of Rajasthan and Tamil Nadu

2. to identify the relative contribution of the main socio-economic and demographic determinants of age at marriage in Rajasthan and Tamil Nadu, and

3. to understand the variations in the relative contributions of these socio-economic and demographic determinants in Rajasthan and Tamil Nadu.

Of these three objectives, the first and third objectives are specially related with investigations. The second objective can, however, be translated into several hypotheses listed below.

HYPOTHESES:

The following are the hypotheses of this study:

1. There will be a positive correlation between age at marriage and literacy; 1b. the influence of literacy on marriage age will increase according to the increase in the levels of literacy.

Generally, those who like to go for higher studies, are likely to prefer late marriage as it would become difficult for them to spend time for studies after marriage due to many responsibilities which they are suppose to shoulder.

2. Higher the proportion of Hindus, lower the age at marriage.

The relegious sanctity of early marriage is emphasised in Hinduism itself. A Hindu religous text, Manusamhita,sanctions the marriage of a man of thirty with the girl of twelve and a man of twenty four with the girl of eight as instances of permissible and socially non-congnisable.

3. Higher the proportion of population belonging to

    Scheduled Caste and Scheduled Tribe (SC/ST). lower

    the mean age at marriage.

Among SC/ST the literacy rate is comparatively very low and they still remain consurvative, which always keep them unaware of the evil effects early marriage. Besides, most of them feel proud of getting their children married at very early age.

4. Higher proportion of urban population is expected

    to result in higher mean age at marriage.

It is possible because in urban areas there will be enough opportunities for education and generally every one will like to study, as they are aware of the value of education. Once they are get into academic, most of them will not prefer to marry unless they are sure of getting jobs. This in turn would keep them remain unmarried for many years.

5.a.Higher the proportion of workers, lower the mean age

    at marriage.

   b.Higher the proportion of working population engaged

    in primary sector, lower the mean age at marriage

    and higher the proportion of population engaged in

    secondary, tertiary sectors and other works, higher

    the mean age at marriage.

Mean age at marriage will be low among workers because majority of them (62.%)are engaged directly or indirectly in agriculture and allied activities (Primary Sector)which need more of man power and mostly for this reason parents having agriculture as their main source income prefer especially their son to get married at the early age so that one more persons who can contribute a lot in raising the family income is brought to

their home. They also like to get their daughters married at the early age as they generally consider their unmarried daughters as burden to their family.

Age at marriage will be low among those who are engaged in primary sector for the same reason mentioned above. In secondary and tertiary sectors and other works, mostly the educated population which is generally aware of the evil effects of early marriage and also the advantages of late marriage is engaged and may not prefer costly marriage. It is therefore expected that there will be a positive correlation between age at marriage and the population engaged in secondary sector tertiary sector and other works.

6. Higher the sex ratio, higher the age at marriage.

The higher sex ratio shows the flight of men folk from the areas through migration. This might increase the waiting period for the perspective brides.

7. Higher the child woman ratio, higher the female age

at marriage.

The higher child woman ratio indicates the higher fertility in the recent past. In the present context, it may compel the people to reduce the level of fertility and it may be possible by increasing the age at marriage.

## PLAN OF STUDY

This study is consisted of six chapters. Emphasis in the first chapter has been given to Introduction and review of relevant literature. In chapter two, Area,Data and Methodology of this study have been discussed in detail. The third chapter highlights the district level variations in the male and female age at marriages. In the fourth and fifth chapters, attempts have been made to identify the determinants of male and female age at marriage respectively. And the sixth chapter gives the Summary and Conclusions of this study.

# CHAPTER - II

# C H A P T E R - II

## AREA, DATA AND METHODOLOGY

AREA :

As mentioned earlier in the first chapter, the relative contribution of determinants of age at marriage is likely to varry from one region to another. In this study, therefore, two regions have been choøsen, one having relatively lower mean age at marriage and the other having relatively higher mean age at marriage. Table 2.1, derived from Goyal's[1] work, gives the statewise distribution of mean age at marriage for both males and females.

## TABLE -2.1

### STATEWISE DISTRIBUTION OF MALE AND FEMALE MEAN AGE AT MARRIAGES, 1971

| States | Male mean age at marriage | Female mean at marriage |
|--------|---------------------------|-------------------------|
| Andhra Pradesh | 22.6 | 16.4 |
| Assam | 25.1 | 18.5 |
| Bihar | 19.9 | 15.5 |
| Gujarat | 22.1 | 18.3 |
| Jammu and Kashmir | 23.4 | 17.8 |
| Kerala | 26.3 | 20.9 |
| Madhya Pradesh | 19.2 | 15.2 |
| Maharashtra | 23.3 | 17.5 |
| Mysore | 24.8 | 17.9 |
| Orissa | 22.6 | 17.2 |
| Punjab | 22.4 | 18.8 |
| Rajasthan | 19.5 | 15.4 |
| Tamil Nadu | 25.5 | 19.6 |
| Uttar Pradesh | 19.4 | 15.6 |
| West Bengal | 24.3 | 17.8 |

1. R.P.Goyal,'Shifts in age at marriage,' 1961-71, Demography India,4(2), March 1980,p.336.

Madhya Pradesh and Kerala are found to be at
the two extremes of male and female mean age at marriages.
For Madhya Pradesh, the mean age at marriage accounts for
19.2 for males and 15.2 for females and for Kerala these
values are 26.3 and 20.9 respectively.

The choice of Kerala, however, is not suppose to be
a typical for the higher age at marriage, because it does
not represent sufficiently the other areas of higher
mean age at marriage. The reasons being the higher
occupational as well as horizontal mobility, higher
literacy, higher proportion of Christian population and
the presence of other positive social factors in Kerala.
The choice, therefore, has gone to Tamil Nadu which shows
the next highest mean age at marriage which is 25.5 for
males and 19.6 for females. Tamil Nadu was thought to
be more representative of the areas of higher mean age
at marriage than Kerala.

Similarly, Madhya Pradesh has also not been considered
as the best representative of the areas of lower mean age
at marriage because of its size and regional and cultural
diversities. Rajasthan has, therefore, been choøsen
instead of Madhya Pradesh. Its mean age at marriage is the
next lowest i.e. 19.5 for males and 15.4 for females.
Rajasthan is thought to be more representative of the
areas of lower mean age at marriage compared to Madhya Pradesh.

Thus, the choice of these two states may be considered as purposive. Figure 2.1 gives the location of Rajasthan and Tamil Nadu. Names and boundaries of districts of Rajasthan and Tamil Nadu are shown in Figure 2.2. and Figure 2.3. respectively.

DATA :

The basic data required for this analysis is the district level data on mean age at marriage and its socio-economic and demographic determinants. However, census of India does not provide district level data on mean age at marriage directly. It can be calculated indirectly by using Hajnal's[2.] method.

## Hajnal's method of calculating mean age at marriage from census data:

Basic requirement of Hajnal's method is age, sex, marital status distribution of census data. The marital categories required are never-married and ever married. Marriage frequencies for different ages from the census data are obtained by comparing the proportions of never-married population at successive ages. This is done by taking the difference between the two adjoining figures of proportions single and repeating this over the entire

2.    John Hajnal,'Age at marriage and proportions marrying', Population Studies, 7(2), November, 1953,pp.111-136.

Fig. 2.1

**Rajasthan
1971**

Ganganagar

50   0   50   100 Km

Churu

Jhunjhnun

Bikaner

Sikar

Alwar

Nagaur

Bharatpur

Jaisalmer

Jaipur

Jhodhpur

Sawai
Madhopur

Ajmer

Tonk

Barmer

Pali

Bhilwara

Bundi

Jalor

Kota

Sirohi

Chittorgarh

Jhalawar

Udaipur

Census of India
Series 18 Rajasthan
Part XA & B
District Census Handbook

Dungarpur

Banasaowara
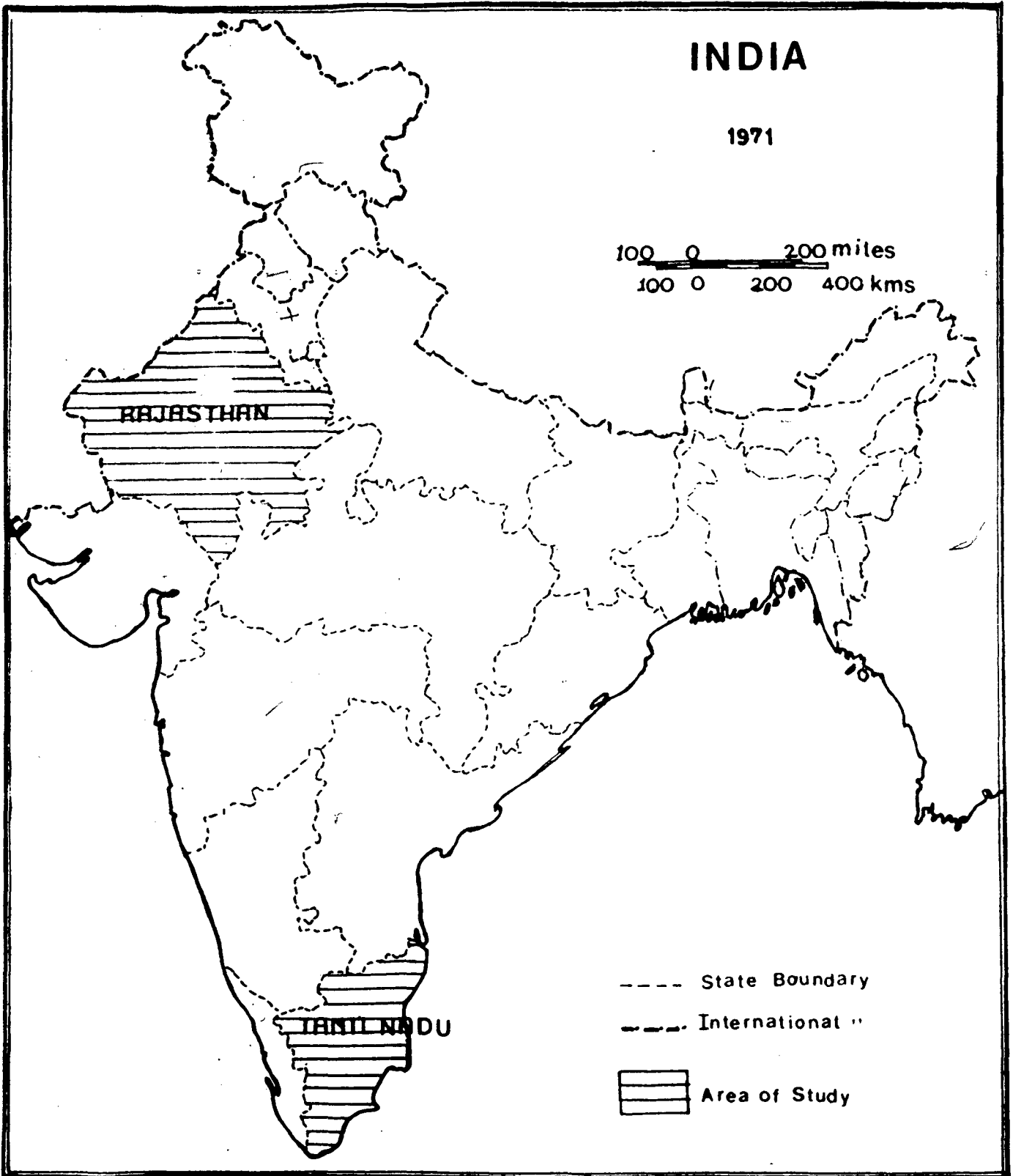
Fig. 2·2

# Tamil Nadu
## 1971

20 0 40 80 KM

Madras

Chingleput

N·Arcot

Dharmapuri

PONDICHERRY

S·Arcot

Nilgiri

Salem

Coimbatore

Tiruchirapalli

Karaikal
(PONDI)

Thanjuvur

Madurai

Ramanathapuram

Thirunelvelli

Kanya Kumari
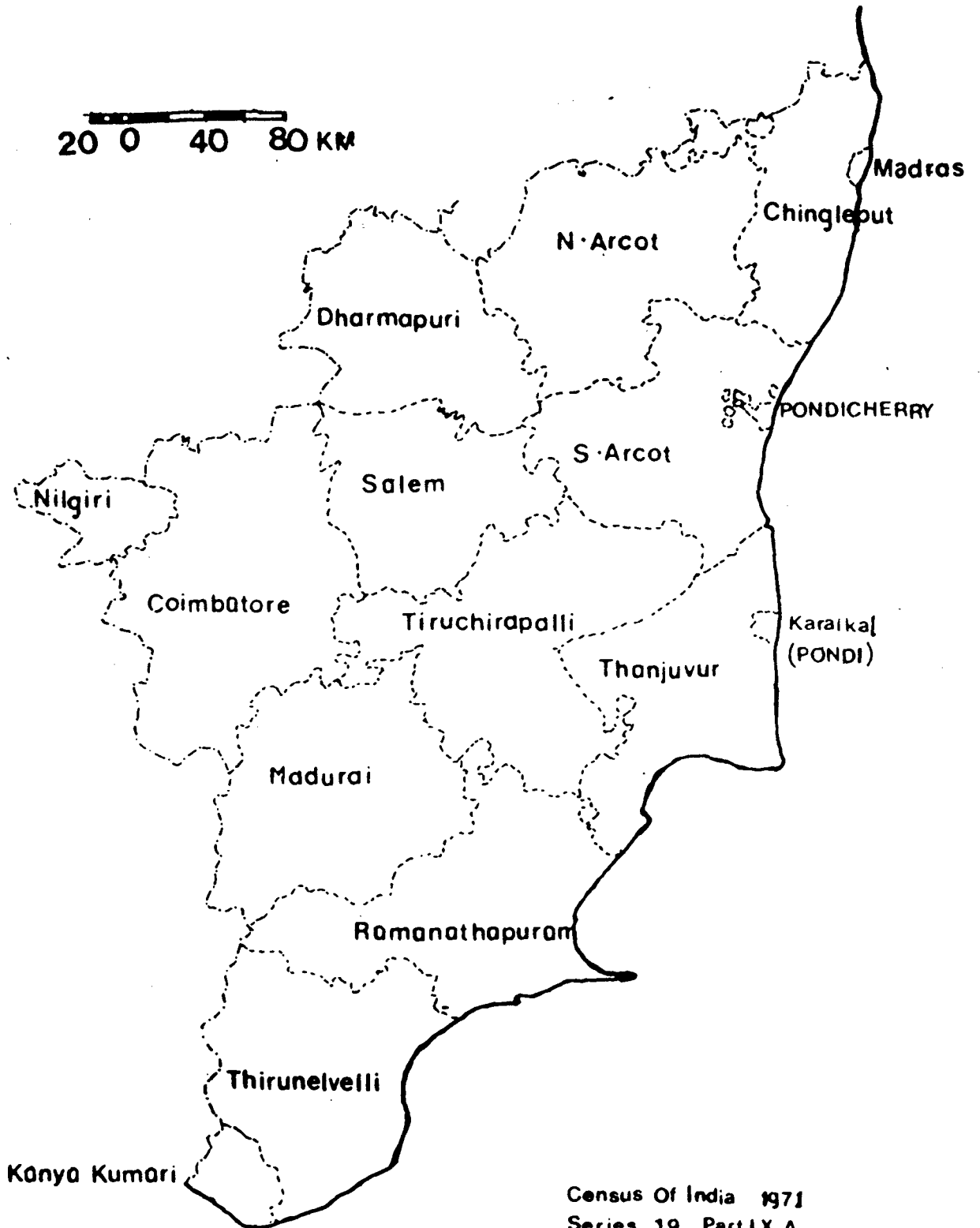
Census Of India 1971
Series 19 Part IX A
Administrative Atlas

Fig 2·3

range of life span within which marriages generally take place. The table of marriage frequencies derived for successive ages can be assumed to represent the marital experience of a synthetic cohort not exposed to mortality. Assuming the constant pattern in the recent past and that mortality rates do not differ according to martial status, the mean age at marriage ($\bar{X}m$) can be worked out using the following equation.

$$\bar{X}m = \frac{\sum_{o}^{k} (Sx + 1-Sx) X - k \, sk}{1 - Sk}$$

where

Sx = proportion of population single at age x

k = Highest age by which most of the persons get married.

In case the data is given in five years interval, the equation may be adjusted as follows:

$$\bar{X}m = \frac{\sum_{o}^{k} (5 \, Sx+5 - 5 \, Sx) (x+2.5) - k \, Sk}{1 - Sk}$$

where

5Sx= shows the proportion of single in the age group x to x + 5

Using the age,sex,marital status distribution given in the
Social and Cultural Table, Goyal[3], has worked out mean age at/marriage f
1971 for India by applying Hajnal's method. However,
he has not been able to take into consideration the
mortality aspect. For including the mortality factor
into calculation, districtwise Life Tables are required,
but they are never prepared. Thus, assuming that the
levels of mortality do not vary significantly within the
states, relative position of Goyal's estimates of mean
age at marriage may be considered as reliable.

For the collection of required data on various
socio-economic and demographic variables the reliance
has been placed on the secondary data provided by the
census of India Rajasthan and Tamil Nadu census publications.
variables used in this study may be divided into the
following categories:

1. Literacy.

2. Religion,

3. Scheduled Castes and Scheduled Tribes,

4. Levels of urbanisation.

5. Industrial classification of workers.

6. Sex ratio
7. child woman ratio

---

3. R.P.Goyal using the same technique has already
   worked out mean age at marriage for 1961.

From Social Cultural Tables of the two different
states of Rajasthan[4] and Tamil Nadu[5] data related to levels
of literacy, Religion, Scheduled Caste and Scheduled Tribe
and child woman ratio have been derieved from Table Nos.C-III,
C-VII, C-VIII, C-III and C-III respectively. Data
related to levels of urbanisation, sex ratio and different
industrial categories of workers have been calculated from
the respective Tables of State Primary Census Abstract
for Rajasthan[6] and Tamil Nadu[7].

<u>Levels of Literacy.</u>

Seven levels of literacy have been clubed into three
broad levels of literacy as follows:

1. The **first level of literacy** includes literates **without**
educational level and also those who have studied up
to primary and middle level education.

---

4. Census of India, 1971, Series 18, Rajasthan, Part II
C(i) and C(ii),Social Cultural
Tables.

5. Census of India, 1971, Series 19, Tamil Nadu, Part II
C(i) and C(ii),Social Cultural
Tables.

6. Census of India, 1971, Series 18, Rajasthan, Part II-A,
State Primary Census Abstract,
General Population Tables.

7. Census of India, 1971, Series 19, Tamil Nadu Part II-A,
State Primary Census Abstract,
General Population Tables

2. The second level includes those who have studied up to matriculation or certificate course/diploma hot equal to degree(technical/non-technical).

3. And the third level of literacy includes those who have studied up to graduation and above.

<u>Religions</u>:

People belonging to three major religions - Christians, Hindus and Muslims, have been taken into consideration in this analysis. People belonging to Scheduled Caste and Scheduled Tribes have also been taken for this analysis.

<u>Workers</u>:

In this analysis workers engaged in different industrial categories of works have been included. Details of the nine industrial categories of workers are as follows:

Category - I

It includes only the cultivators.

Category - II

It includes only the agricultural labourers.

Category - III

In this category livestock, forestry, fishing, hunting and plantations, orchards and allied activities are included.

Category - IV

This category includes mining and quarrying.

**Category - V**

Manufacturing, processing, servicing and repairing of household industry come under Category-V.a and under Category V.b manufacturing, processing, servicing and repairing of other than household industry.

**Category - VI**

It includes only construction.

**Category - VII**

Trade and Commerce come under this category.

**Category - VIII**

Transport, storage and communication come in this category.

**Category - IX**

Other services come under this category.

In the present study the above mentioned nine categories have been converted into four sectors of economy as below:

| | |
|---|---|
| Primary Sector | = Categories I + II + III |
| Secondary Sector | = Categories IV+ V.a+ V.b |
| Tertiary Sector | = Categories VI+ VII+ VIII |
| Other workers | = Category IX |

Using these Tables number of independent variables representing the socio-economic and demographic conditions of Rajasthan and Tamil Nadu have been derived for this analysis. They are as follows:

List of Independent variables for males.

1. percentage of male literates to total males. $(XM_1)$

2. percentage of male literates without educational level, those who have studied up to primary and middle level to total male literates. $(XM_2)$

3. percentage of males studied up to matriculation, certificate/diploma not equal to degree(technical/ non-technical)to total male literates. $(XM_3)$

4. percentage of males studied up to graduation and above to total male literates. $(XM_4)$

5. percentage of male Christians to total males $(XM_5)$

6. percentage of male Hindus to total males $(XM_6)$

7. percentage of male Muslims to total males $(XM_7)$

8. percentage of males belonging to Scheduled Caste and Scheduled Tribe to total males $(XM_8)$

9. percentage of urban population to total population. $(X_9)$

10. percentage of male workers to total males $(XM_{10})$

11. percentage of males workers engaged in primary sector to total male workers $(XM_{11})$

12. percentage of male workers in secondary sector to total male workers $(XM_{12})$

13. percentage of male workers engaged in tertiary sector to total male workers $(XM_{13})$

14. percentage of male workers engaged in other services to total male workers $(XM_{14})$

15. Sex ratio (Number of females per 1000 males) $(X_{15})$

16. Child woman ratio.(Ratio of children under 5 years old to woman of child bearing age 15 - 49) $(X_{16})$

List of independent variables for females.

17. percentage of female literates to total females($XF_1$)

18. percentage of female literates without educational level, those who have studied up to primary and middle level to total female literates.($XF_2$).

19. percentage of females studied up to matriculation, certificate/diploma not equal to degree(technical/non technical)to total female literates. ($XF_3$)

20. percentage of males studied up to graduation and above to total female literates. ($XF_4$)

21. percentage of female Christians to total. females($XF_5$)

22. percentage of female Hindus to total females ($XF_6$)

23. percentage of female Muslims to total females($XF_7$)

24. percentage of females belonging to Scheduled Caste and Scheduled Tribe to total females ($XF_8$)

25. percentage of urban population to total population($X_9$).

26. percentage of female workers to total females($XF_{10}$)

27. percentage of females engaged in primary sector to total female workers ($XF_{11}$)

28. percentage of females engaged in secondary sector to total female workers ($XF_{12}$).

29. percentage of females engaged in tertiary sector to total female workers. ($XF_{13}$)

30. percentage of females engaged in other services to total female workers ($XF_{14}$)

31. Sex Ratio (Number of females per 1000 males)($X_{15}$)

32. Child Woman Ratio (ratio of children under 5 years old to woman of child bearing age 15-49) ($X_{16}$)

The choice of the explanatory variables listed above

was guided by the findings of previous studies. The nature

of variables used in different studies are listed in
appendix I. Though these variables have already been used
as seen in appendix I, this study proceeds with an assumption
that the intensity of these variables in determining age
at marriage will vary from place to place. Also it has
already been found that the contribution of each variable
in explaining age at marriage will varry from study
to study.

METHODOLOGY:

In this study, catographic and statistical tools have been used. Location of the states and district boundaries have been catographically represented on maps.

The relationship between dependent and independent variables have been first worked out by using the Zero-Order Inter Correlation Matrices and test of significance have also been applied to them.

The relative contribution of the independent variables in explaining the mean age at marriage has been identified by using the Multiple Regression Analysis. Stepwise approach has been followed for this purpose.

The correlation coefficient between two variables - X and Y has been worked out by using Pearson's Product Moment Correlation Coefficient[8] and a statistical test of significance[9] is also carried out. The coefficient of correlation between each pair of variables will give a symmentrical matrix of 17 x 17. These matrices of inter correlations are prepared for males and females of each state separately. Since these are symmentrical only one part is given.

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8. Aslam Mahmood,'Statistical Methods in Geographical Studies', Rajesh Publications, New Delhi,1986, p. 51.

9. P.Rao and R.L. Miller,'Applied Economitrics', Prentice Hall India, 1972.

Attepting to identify the power of each independent variable in explaining the dependent variable, Multiple Regression Analysis[10] has been used. Multiple regression analysis is used when we have more than one explanatory variables. The squares of multiple regression coefficient is represented by $R^2$. It shows the pro-portion of variations in the dependent variable explained by the independent variables. Its value is inbetween 0 and 1. Once the value of $R^2$ is found out, one will also like to know whether it is statistically significant or not.

This is possible by looking at the value of F. If the value of F is found to be insignificance, the explanatory power of independent variables included in the whole model is almost nil. The value of F can be found out using the following formula.[11]

$$F = \frac{R^2 / (k-1)}{(1-R^2)/(n-k)} \quad \text{for (k-1, n-k) degrees of freedom}$$

where k = number of variables

n = number of observations.

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10. A.Koutsoyiannis,'Theory of Econoctrics', Macmillan, 1985, pp.117-134

11. Aslam Mahmood, op.cit. p.150

The value of $R^2$ in two problems of multiple regressions, having unequal number of observations and unequal numbers of variables, can not be compared because of different degrees of freedom. Our study is a comparative study of two states with different number of observations. Thus, the $R^2$ values of these two states can not be compared. To make it comparable, the $R^2$ is adjusted for degrees of freedom which is denoted by $\bar{R}^2$ as given below.

$$\bar{R}^2 = 1 - \frac{n-1}{n-k} (1-R^2)$$

While employing the multiple regression coefficient, a Stepwise Regression approach is followed in this study.

Stepwise regression analysis:

The stepwise regression analysis gives the variables which have sufficiently higher partial correlation with the dependent variable, the regression coefficient of those variables, their standard errors, computed 't' values, multiple correlation adjusted for degrees of freedom ($\bar{R}$) the cumulative value of the square of multiple correlation ($R^2$) and 'F' ratio . In the first step of stepwise regression analysis, the variable which has the highest partial correlation with dependent variable is brought. In the second step, the variable having the next highest partial correlation with dependent variable is also given. Likewise all the independent variables are brought to the model

one by one according to their contribution to $R^2$ in the decreasing order till the value of $\bar{R}$ starts declining. The value of $\bar{R}$ will start decline   gradually as the independent variables which do not have significant effect on the dependent variable are added to the model one by one. It means that their contribution in increasing the value of $R^2$ is not strong enough to counter balance the reverse effect on the explaining power of the model due to increase in the degrees of freedom. Thus, the relationship as given in the step after which the value of $\bar{R}$ starts declining is considered as the optimal fit and results are derived from that step.

# CHAPTER - III

## DISTRICT LEVEL VARIATION IN THE MEAN AGE AT MARRIAGE

This chapter gives an account of district level variations
in the mean age at marriage for both Rajasthan and Tamil Nadu.
These two states are not only on the two extreme sides of mean
age at marriage but also belong to two different regional
settings.  The differences in these regional factors are
reflected in the various parameters; most of them have been
included in the list of independent variables as determinants
of age at marriage as seen in chapter II.  Before entering
into the analysis of explaining age at marriage through
these determinants, it would be useful to understand the
regional variations among them.

In this chapter firstly, the district level variations
in the male mean age at marriage of Rajasthan are compared
with that of Tamil Nadu and then the district level variations
in the female mean age at marriage of Rajasthan are compared
with that of Tamil Nadu.  These categorisation have purposely
been made for better comparison of variations in the mean
age at marriage at district level.

### District level variations in the male mean age at marriage:

As noted before, Rajasthan has been one of the states
having very low  mean age at marriage and Tamil  Nadu has
been one of the states with farily high mean age at marriage

continuously for decades. The male mean age at marriage based on 1971 census data for Rajasthan is 19.52 and is 25.52 for Tamil Nadu. Looking at figure 3.1. and 3.2. which show the district level variations in the male mean age at marriage of Rajasthan and Tamil Nadu respectively, we can understand the magnitude in the variations. A very striking difference is noticed between the two states. The minimum male mean age at marriage found in one of the districts of Tamil Nadu is more than the maximum male mean age at marriage found ine one of the districts of Rajasthan.

While looking at Table 3.1. and Table 3.2. which give in ascending order an account of district level male mean age at marriage of Rajasthan and Tamil Nadu respectively, we can understand that the minimum male mean age at marriage found in Dharmapuri district(24.64) of Tamil Nadu is more than the maximum male mean age at marriage found in Jaisalmer district (24.04) of Rajasthan. It can also be noticed that the male mean age at marriage in Rajasthan ranges from 16.80 found in Tonk district, to 24.04 found in Jaisalmer district, whereas in Tamil Nadu the range is in between 24.64 and 28.13 of Dharmapuri and Kanyakumari districts respectively. The male mean age at marriage of thirteen districts - Tonk, Bhilwara, Bundi, Chittrugarh, Thalwar, Sawai Madhopur, Alwar, Sikar, Ajmer, Nagaur,

# Mean Age at Marriage
## RAJASTHAN - MALE
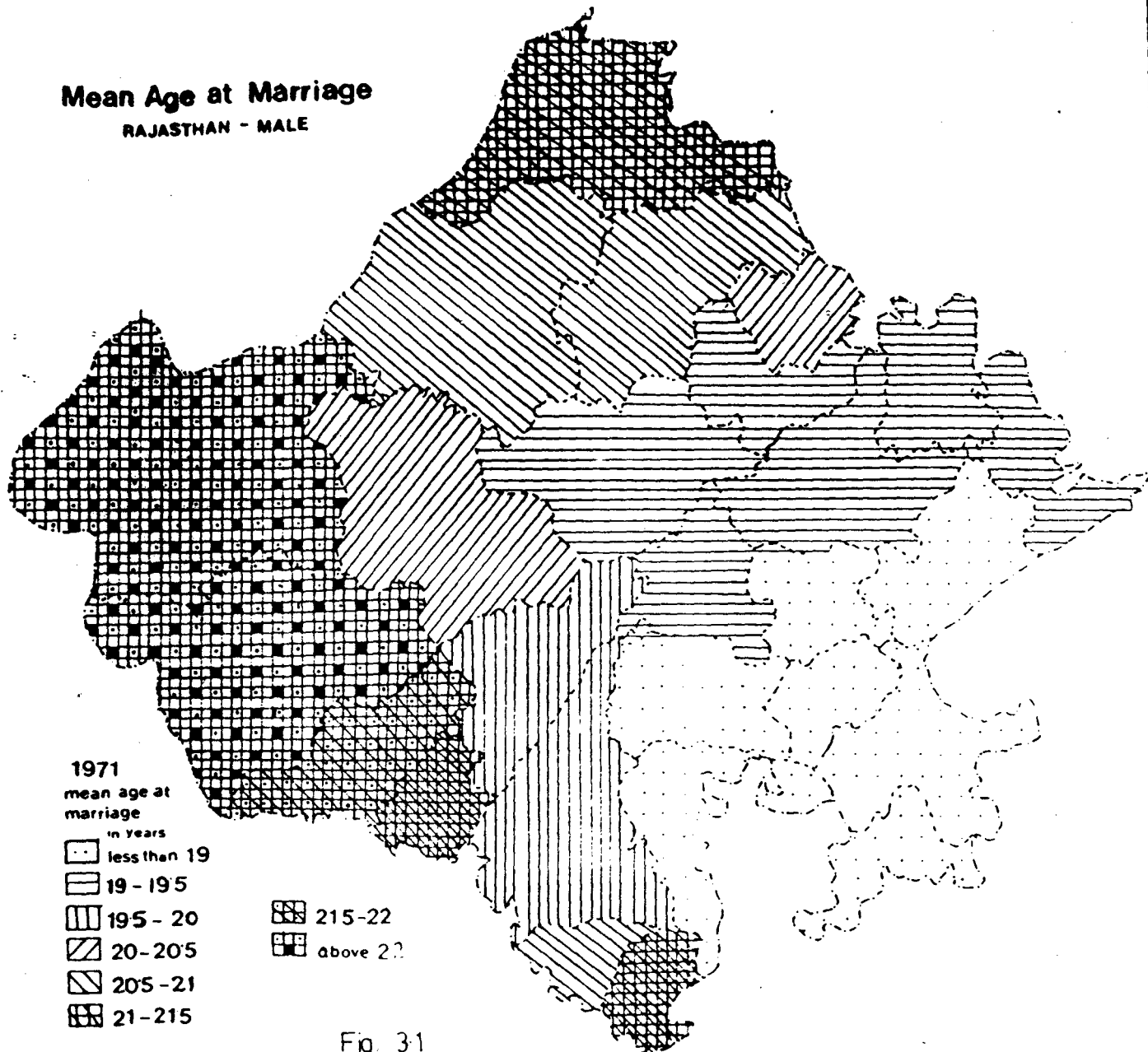
**1971**
mean age at
marriage
in Years

- ⬚ less than 19
- ⊟ 19 - 19·5
- ⦀ 19·5 - 20
- ⧄ 20 - 20·5
- ⧅ 20·5 - 21
- ⊞ 21 - 21·5
- ⊞ 21·5 - 22
- ⊞ above 22

Fig. 3·1

# Mean Age at Marriage
## TAMIL NADU — MALE



1971

mean age at
marriage in years

| | |
|---|---|
| ⬚ | less than 25 |
| ⬚ | 25 - 25.5 |
| ⦀ | 25.5 - 26 |
| ◪ | 26 - 26.5 |
| ◩ | 26.5 - 27 |
| ▦ | 27 - 27.5 |
| ▦ | above 27.5 |

Fig 3.2

## TABLE - 3.1

### DISTRICT LEVEL VARIATIONS IN THE MEAN AGE MARRIAGE,1971
### (RAJASTHAN - MALE)

| S.No. | State/Districts | Rank | Mean age at marriage |
|-------|-----------------|------|----------------------|
|       | RAJASTHAN       | -    | 19.52 |
| 1.    | Tonk            | 1    | 16.80 |
| 2.    | Bhilwara        | 2    | 17.08 |
| 3.    | Bundi           | 3    | 17.66 |
| 4.    | Chittaurgarh    | 4    | 17.73 |
| 5.    | Jhalawar        | 5    | 18.08 |
| 6.    | Sawai Madhopur  | 6    | 18.23 |
| 7.    | Alwar           | 7    | 19.04 |
| 8.    | Sikar           | 7    | 19.04 |
| 9.    | Ajmer           | 8    | 19.23 |
| 10.   | Nagaur          | 9    | 19.26 |
| 11.   | Bharatpur       | 10   | 19.28 |
| 12.   | Jaipur          | 11   | 19.30 |
| 13.   | Kota            | 12   | 19.31 |
| 14.   | Pali            | 13   | 19.88 |
| 15.   | Udaipur         | 14   | 19.94 |
| 16.   | Churu           | 15   | 20.03 |
| 17.   | Dungarpur       | 16   | 20.49 |
| 18.   | Jhunjhunun      | 17   | 20.54 |
| 19.   | Jodhpur         | 18   | 20.94 |
| 20.   | Bikaner         | 19   | 20.97 |
| 21.   | Ganganagar      | 20   | 21.01 |
| 22.   | Banswara        | 21   | 21.04 |
| 23.   | Sirohi          | 22   | 21.15 |
| 24.   | Jalor           | 23   | 21.68 |
| 25.   | Barmer          | 24   | 22.63 |
| 26.   | Jaisalmer       | 25   | 24.04 |

Source: R.P.Goyal,'Unpublished district level data on
mean age at marriage; Institute of Economic Growth,
Delhi, February, 1987

## TABLE - 3.2.

### DISTRICT LEVEL VARIATIONS IN THE MEAN AGE AT MARRIAGE,1971 (TAMIL NADU -MALE)

| S.No. | State/District | Rank | Mean age at marriage |
|-------|----------------|------|----------------------|
|       | TAMIL NADU     | -    | 25.52 |
| 1.    | Dharmapuri     | 1    | 24.64 |
| 2.    | Selam          | 2    | 24.79 |
| 3.    | Ramanathapuram | 3    | 25.36 |
| 4.    | South Arcot    | 4    | 25.46 |
| 5.    | Madurai        | 5    | 25.69 |
| 6.    | North Arcot    | 6    | 25.77 |
| 7.    | Tirunelveli    | 7    | 25.78 |
| 8.    | Nilgiri        | 8    | 25.88 |
| 9.    | Chengalpattu   | 9    | 26.13 |
| 10.   | Thanjavur      | 10   | 26.20 |
| 11.   | Trichirappalli | 11   | 26.22 |
| 12.   | Coimbatore     | 12   | 26.96 |
| 13.   | Madras         | 13   | 27.44 |
| 14.   | Kanyakumari    | 14   | 28.13 |

Source : R.P.Goyal, 'unpublished district level data on mean age at marriage', Institute of Economic Growth, Delhi, February, 1987.

Bharatpur, Jaipur and Kota of Rajasthan is below the
state average of 19.52 (Table 3.1), whereas in Tamil Nadu
only four districts - Dharmapuri, Selam, Ramanathapuram
and South Arcot have the mean male age at marriage which
are less than the state average (25.22) as seen in
Table 3.2.

From Figure 3.1 it can also be understood that in
Rajasthan high male mean age at marriage is found in
the extreme ᴡeastern part which includes Barmer district
(22.63) and Jaisalmer district (24.04). Lowest male mean
age at marriage is found eastern part of Rajasthan. The
districts having low male mean age at marriage in this
region are Tonk (16.80), Bhilwara (17.08) and Bundi (17.66).

In Tamil Nadu, the extreme sourthern parts adjoining
to Kerala have the high male mean age at marriages;especially
in Kanyakumari the highest male mean age at marriage(28.13)
is found (Figure 3.2). Lowest male mean age at marriage
is found in the extreme northern side of Tamil Nadu especially
in Dharmapuri district (24.64) and Selam district (24.79).

Table 3.1 and Table 3.2. may be refer ed for further
understanding of the variations in the male mean age at
marriage much more clearly.

District level variations in the female mean age at marriage:

Considerable difference in the female mean age at marriage

# Mean Age at Marriage
## RAJASTHAN - FEMALE

1971
mean age at
marriage(in years)

| | |
|---|---|
| less than 14 | |
| 14 – 14·5 | |
| 14·5 – 15 | |
| 15 – 15·5 | |
| 15·5 – 16 | |
| 16 – 16·5 | 16·5 – 17 |
| | above 17 |

Fig. 3·3

# Mean Age at Marriage
## TAMIL NADU — FEMALE



1971
mean age at
marriage (in years)

- less than 18·5
- 18·5 - 19
- 19 - 19·5
- 19·5 - 20
- 20 - 20·5
- above 20·5
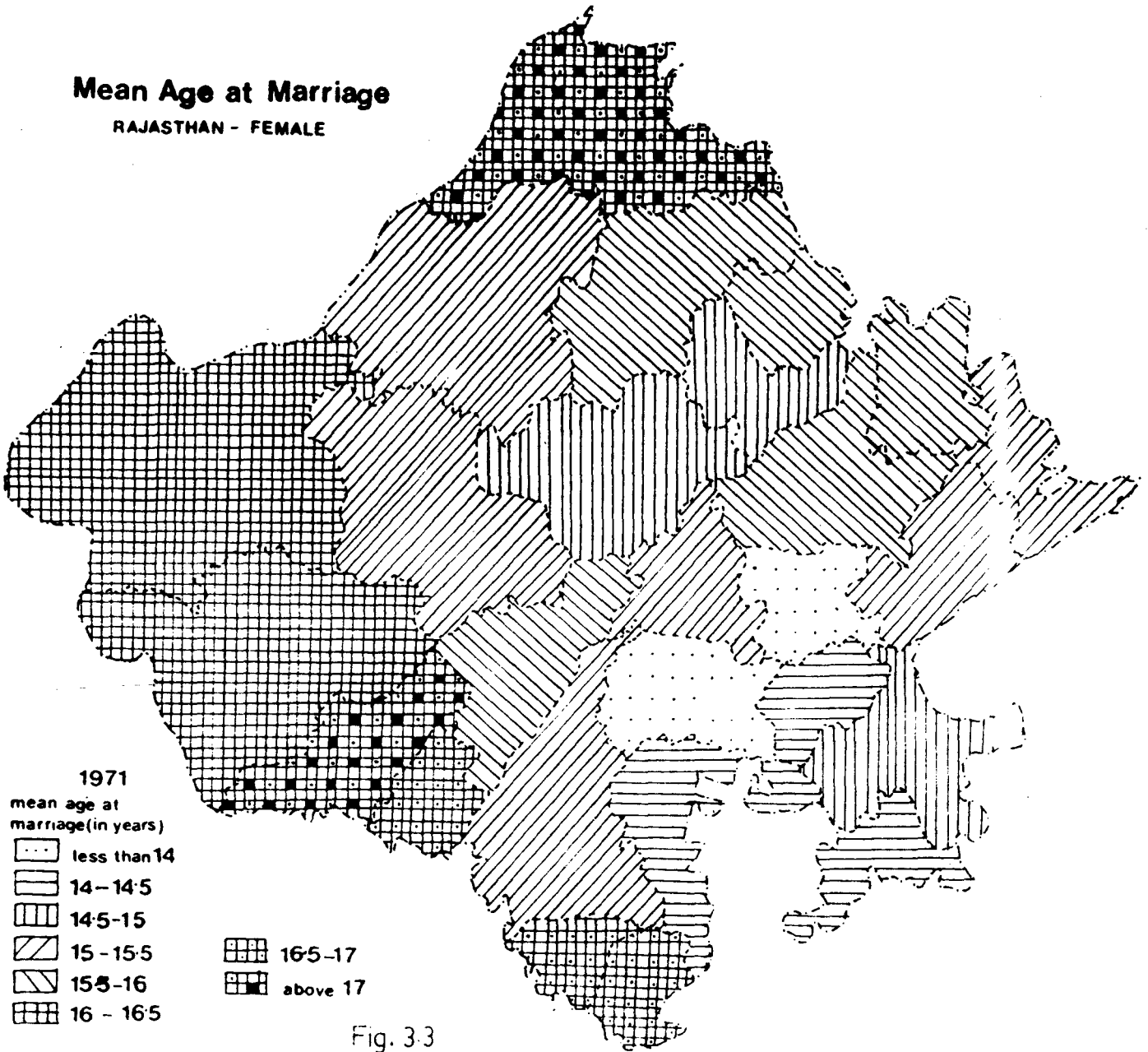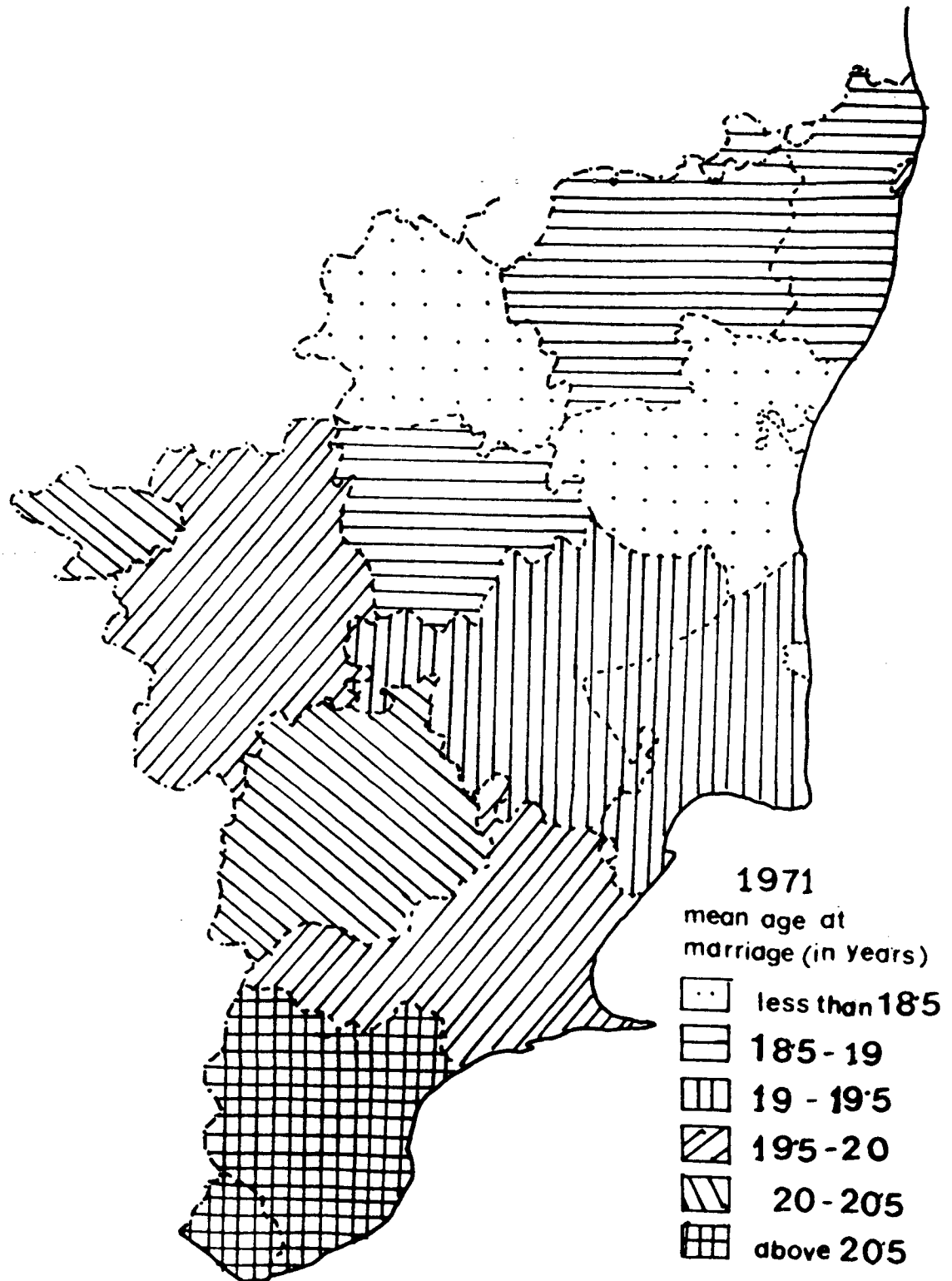
Fig. 3·4

is noticed between Rajasthan and Tamil Nadu. The average
female mean age at marriage of Rajasthan accounts only
for 15.41 while Tamil Nadu accounts for 19.63; the difference
between these two comes to 4.22 which is not very less
to be ignored. Having understood the variation in the
male mean age at marriage between the two states, let
us look into the variations in the female mean age marriage
at the district level. In this regard Figure 3.3. and
3.4. which give the district level variation in the female
mean age at marriage in Rajasthan and Tamil Nadu respectively,
may be looked in. It is quite interesting to note that
as we have seen for male mean age at marriage, here also
the maximum female mean age at marriage found in one of
the districts of Rajasthan is less than the minimum female
age at marriage found in one of the districts of Tamil Nadu.
Referring Table 3.3., we come to know that the maximum
female mean age at marriage (17.17) found in Jalore district
of Rajasthan is less than the minimum female mean age
at marriage (19.63) found in Dharmapuri district of Tamil Nadu.
In Rajasthan, the female mean age at marriage ranges from
13.49 found in Bhilwara district to 17.17 found in Jalore
district, whereas in Tamil Nadu it ranges from 17.92 to
22.38 found in Dharmapuri and Kanyakumari districts
respectively. It is worth mentioning that twelve districts-
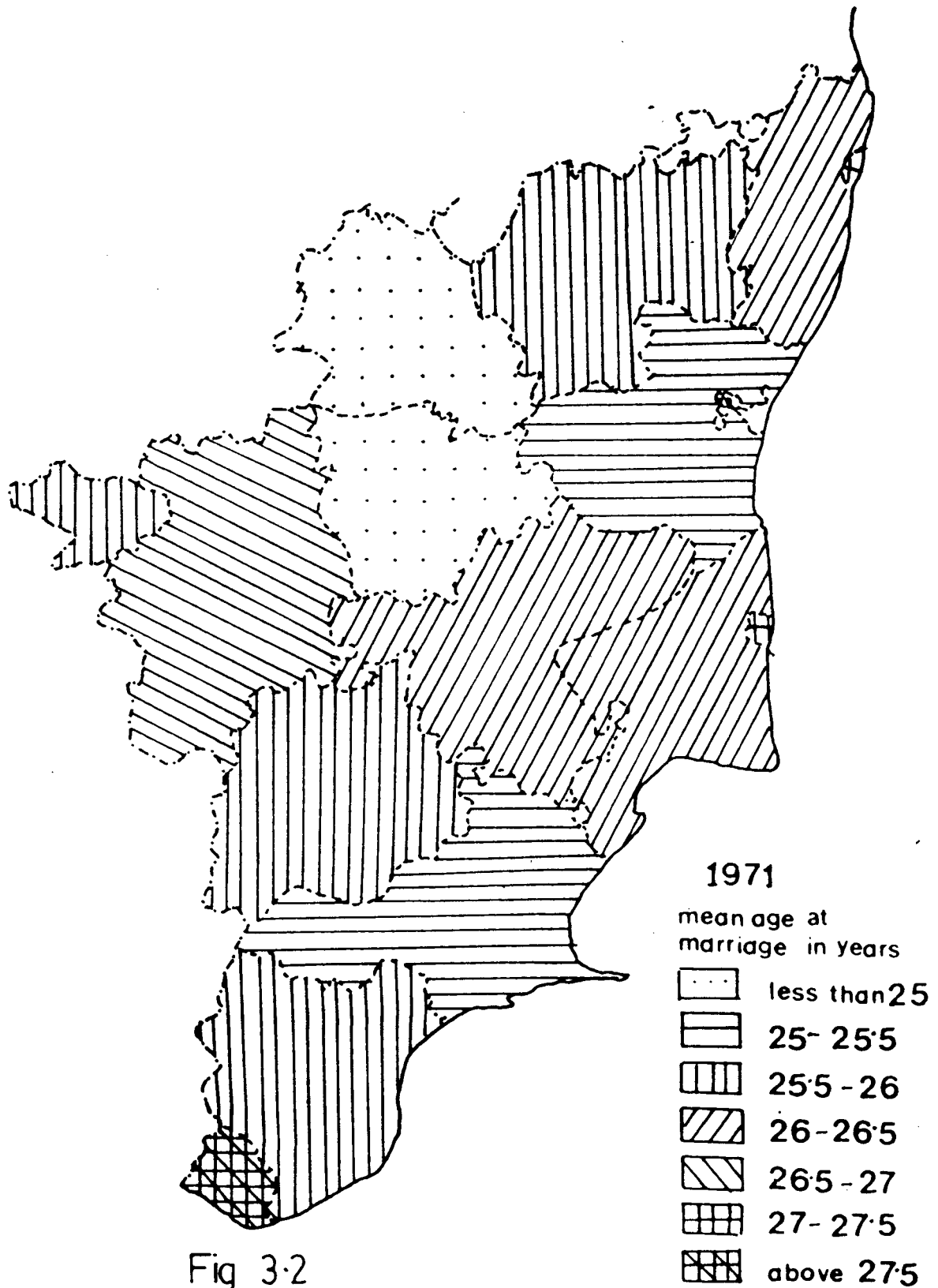Bhilwara, Tonk, Bundi, Jhalwar, Chittaurgarh, Sawai Madhopur,

TABLE - 3.3

DISTRICT LEVEL VARIATIONS IN THE MEAN AGE AT MARRIAGE, 1971
(RAJASTHAN -FEMALE)

| S.No. | State/Districts | Rank | Mean age at marriage |
|-------|-----------------|------|----------------------|
|       | RAJASTHAN       | -    | 15.41 |
| 1.    | Bhilwara        | 1    | 13.49 |
| 2.    | Tonk            | 2    | 13.53 |
| 3.    | Bundi           | 3    | 14.03 |
| 4.    | Jhalawar        | 4    | 14.04 |
| 5.    | Chittaurgarh    | 5    | 14.20 |
| 6.    | Sawai Madhopur  | 6    | 14.28 |
| 7.    | Kota            | 7    | 14.71 |
| 8.    | Nagaur          | 8    | 14.73 |
| 9.    | Sikar           | 9    | 14.89 |
| 10.   | Jaipur          | 10   | 15.30 |
| 11.   | Churu           | 11   | 15.32 |
| 12.   | Pali            | 11   | 15.32 |
| 13.   | Jhunjhunun      | 12   | 15.41 |
| 14.   | Bikaner         | 13   | 15.55 |
| 15.   | Udaipur         | 14   | 15.58 |
| 16.   | Alwar           | 15   | 15.69 |
| 17.   | Bharatpur       | 16   | 15.71 |
| 18.   | Ajmer           | 17   | 15.73 |
| 19.   | Jodhpur         | 18   | 15.98 |
| 20.   | Jaisalmer       | 19   | 16.24 |
| 21.   | Barmer          | 20   | 16.47 |
| 22.   | Dungarpur       | 21   | 16.64 |
| 23.   | Sirohi          | 22   | 16.65 |
| 24.   | Banswara        | 23   | 16.94 |
| 25.   | Ganganagar      | 24   | 17.04 |
| 26.   | Jalor           | 25   | 17.17 |

Source : R.P.Goyal, unpublished district level data on mean
age at marriage, Institute of Economic Growth,
Delhi, February, 1987.

## TABLE - 3.4.

### DISTRICT LEVEL VARIATION IN THE MEAN AGE AT MARRIAGE,1971
### (TAMIL NADU -FEMALE)

| S.No. | State/District | Rank | Mean age at marriage |
|-------|----------------|------|----------------------|
|       | TAMIL NADU     | -    | 19.63 |
| 1.    | Dharmapuri     | 1    | 17.92 |
| 2.    | South Arcot    | 2    | 18.47 |
| 3.    | Chengalpattu   | 3    | 18.52 |
| 4.    | North Arcot    | 4    | 18.60 |
| 5.    | Selam          | 5    | 18.87 |
| 6.    | Thanjavur      | 6    | 19.42 |
| 7.    | Tiruchirappalli| 7    | 19.50 |
| 8.    | Nilgiri        | 8    | 19.74 |
| 9.    | Madurai        | 9    | 19.81 |
| 10.   | Ramanathapuram | 10   | 20.14 |
| 11.   | Madras         | 11   | 20.32 |
| 12.   | Coimbatore     | 12   | 20.33 |
| 13.   | Tirunelveli    | 13   | 20.76 |
| 14.   | Kanyakumari    | 14   | 22.38 |

Source: R.P.Goyal, 'unpublished district level data on mean age at marriage', Institute of Economic Growth, Delhi, February, 1987.

Kota, Nagaur, Sikar, Jaipur, Churu and Pali of Rajasthan
have the female mean age at marriages which are below
the state average of female age at marriage (15.41), whereas
in Tamil Nadu as seen in Table 3.4., the female mean age
at marriage is less only in seven districts - Dharmapuri,
South Arcot, Chengalpattu, North Arcot, Selam, Jhanjaur
and Tiruchirappalli than the state average (19.63).
Figure 3.3. further reveals that high female mean age at
marriage is found to those districts which are situated
in southern east part of Rajasthan. Those districts are
Jalor (17.17), Banswara (16.94), Sirohi (16.65) and
Dungarpur (16.64). However, high mean age at marriage is
also found in Ganganagar which is situated in the extreme
northern part of Rajasthan. Low female mean age at
marriage is found mostly in those districts where the male
mean age at marriage is also found low. Bhilwara, Tonk
and Bundi are those districts.

In Tamil Nadu also, as Figure 3.4. indicates, female
mean age at marriages are found in those districts where
the male mean age at marriages are also found high.
Kanyakumari (22.38) and Tirunelveli (20.76) are those
districts. Lowest female mean age at marriages are found
in Dharmapuri (17.92) and South Arcot (18.47) districts
which are situated at the northern part of Tamil Nadu.
Table 3.3 and Table m.4 may be refered for further under-
standing in this regard.

For better understanding of the variable responsible
for prevailing differences in the mean age at marriages
between these two states, a great deal of very subtle
research is required. Thus, in the coming chapters,the
researcher has concentrated absolutely in analysing the **inter**
relationship between the dependent variables and independent
variables and the contribution of each independent
variable in explaining the mean age at marriage.

# CHAPTER - IV

## MALE AGE AT MARRIAGE AND ITS DETERMINANTS

In the previous chapter the district level variations in the male and female mean age at marriages have been discussed in detail. The present chapter is devoted to explain the male age at marriages with the help of some of the socio-economic and demographic variables.

This chapter is divided into two parts. The first part deals with analysing the inter correlation between male age at marriages and some of the socio-economic and demographic variables through Zero-Order Correlation Coefficient Matrices. In the second part of the analysis, the determinants of male age at marriage are identified through Stepwise Regression Analysis. These statistical analysis are applied for both Tamil Nadu and Rajasthan separately.

#### INTER-CORRELATIONS BETWEEN MALE AGE AT MARRIAGE AND SOME OF THE SOCIO-ECONOMIC AND DEMOGRAPHIC VARIABLES

For analysing the inter correlations between male age at marriage and some of the socio-economic and demographic variables, two zero-order correlations coefficient - one representing Tamil Nadu (male) and the other representing Rajasthan(male)have been worked out. The zero-order correlation coefficient matrices give not only the relationship between dependent variable and independent variables but also give the relationship among the independent variables.

Following are the variables considered for the analysis:

List of variables for male.

Dependent variable:

Male mean age at marriage (Y)

Independent variables:

1. percentage of male literates to total males $(XM_1)$

2. percentage of male literates without educational level, those who have studied up to primary and middle level to total male literates $(XM_2)$

3. percentage of males studied upto matriculation, certificate/diploma not equal to degree(technical/ non-technical)to total male literates $(XM_3)$

4. percentage of males studied up to graduation and above to total male literates $(XM_4)$

5. percentage of male Christians to total males $(XM_5)$

6. percentage of male Hindus to total males $(XM_6)$

7. percentage of male Muslims to total males $(XM_7)$

8. percentage of males belonging to Scheduled Caste and Scheduled Tribe to total males $(XM_8)$

9. percentage of urban population to total population. $(X_9)$

10. percentage of male workers to total males $(XM_{10})$

11. percentage of males workers engaged in primary sector to total male workers $(XM_{11})$

12. percentage of male worker engaged in secondary sector to total male workers $(XM_{12})$

13. percentage of male workers engaged in tertiary sector to total male workers $(XM_{13})$

14. percentage of male workers engaged in other services to total male workers $(XM_{14})$

15. Sex ratio $(X_{15})$

16. Child woman ratio $(X_{16})$

Using these variables correlation coefficients between
each pair of variables (dependent and independent variable)
have been worked out through zero-order correlation coefficient
matrices for both Tamil Nadu and Rajasthan. Two 17 x 17
correlation matrices are generated and are given in Table 4.1
and Table 4.2. for Tamil Nadu and Rajasthan respectively.

Results of zero-order correlation coefficient matrices:

A close examination of Table 4.1. of Tamil Nadu reveals
that the coefficient of correlation between male mean age
at marriage and percentage of male literates $(XM_1)$ is positive
(.78) and is also statistically significant.

However, when we break up the male literacy into three
different levels-literates without educational level, and those
who have studied up to primary and middle levels $(XM_2)$, those
who have studied up to matriculation, certificate/diploma
not equal to degree (technical/non technical )$(XM_3)$and those
who have studied up to graduation and above $(XM_4)$ and analyse
the effect of literacy at each level, we get different results.
The coefficient correlation between male age at marriage and
those males studied only up to primary and middle level
$(XM_2)$ is seen to be negative (-.56) and is also statistically
significant. The higher levels of literacy $(XM_3$ and $XM_4)$
are seen to have positive correlation (.57 and .53 respectively
with male age at marriage and are also satistically significant.

## TABLE 4.1

### ZERO-ORDER CORRELATION COEFFICIENT MATRIX:
MALE AGE AT MARRIAGE AND SOCIO-ECONOMIC AND DEMOGRAPHIC VARIABLES,1971, INTER-DISTRICT ANALYSIS OF TAMIL NADU (N= 17)

| Variable | Y | $XM_1$ | $XM_2$ | $XM_3$ | $XM_4$ | $XM_5$ | $XM_6$ | $XM_7$ | $XM_8$ | $X_9$ | $XM_{10}$ | $XM_{11}$ | $XM_{12}$ | $XM_{13}$ | $XM_{14}$ | $X_{15}$ | $X_{16}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Y | 1.00 | | | | | | | | | | | | | | | | |
| $XM_1$ | 0.78** | 1.00 | | | | | | | | | | | | | | | |
| $XM_2$ | -0.56* | -0.67** | 1.00 | | | | | | | | | | | | | | |
| $XM_3$ | 0.57* | 0.66** | -0.99** | 1.00 | | | | | | | | | | | | | |
| $XM_4$ | 0.53* | 0.68** | -0.98** | 0.97** | 1.00 | | | | | | | | | | | | |
| $XM_5$ | 0.67** | 0.56* | -0.11 | 0.11 | 0.10 | 1.00 | | | | | | | | | | | |
| $XM_6$ | -0.67** | -0.65* | 0.22 | -0.22 | -0.22 | 0.97** | 1.00 | | | | | | | | | | |
| $XM_7$ | -0.26 | 0.43 | -0.36 | 0.33 | 0.46 | -0.03 | -0.11 | 1.00 | | | | | | | | | |
| $XM_8$ | -0.55* | 0.46 | 0.30 | -0.27 | -0.38 | -0.62* | 0.62* | -0.37 | 1.00 | | | | | | | | |
| $X_9$ | 0.42 | 0.69** | -0.94** | 0.93** | 0.95** | -0.03 | -0.11 | 0.42 | -0.22 | 1.00 | | | | | | | |
| $XM_{10}$ | -0.54* | -0.79** | 0.62* | -0.61* | -0.63* | -0.59* | 0.73** | -0.41 | 0.36 | -0.58* | 1.00 | | | | | | |
| $XM_{11}$ | -0.54* | -0.74** | -0.93** | -0.93** | -0.94** | -0.06 | 0.18 | -0.47 | 0.35 | -0.97** | 0.55 | 1.00 | | | | | |
| $XM_{12}$ | 0.47 | 0.59* | -0.78** | 0.78** | 0.75** | 0.01 | -0.05 | 0.25 | -0.30 | 0.82** | -0.28 | -0.91** | 1.00 | | | | |
| $XM_{13}$ | 0.51 | 0.66** | -0.90** | 0.89** | 0.93** | -0.00 | -0.10 | 0.63 | -0.38 | 0.90** | -0.49 | -0.92** | 0.77 | 1.00 | | | |
| $XM_{14}$ | 0.57* | 0.83** | -0.87** | 0.86** | 0.86** | 0.26 | -0.42 | 0.38 | -0.27 | 0.91** | -0.81** | -0.87** | 0.66 | 0.75* | 1.00 | | |
| $X_{15}$ | -0.34 | -0.15 | 0.71** | -0.72** | -0.64* | 0.05 | -0.01 | 0.16 | -0.01 | -0.56 | 0.23 | 0.51 | -0.44 | -0.44 | -0.48 | 1.00 | |
| $X_{16}$ | 0.07 | 0.07 | 0.24 | -0.24 | -0.22 | 0.62* | -0.63 | -0.02 | -0.28 | -0.33 | -0.49 | 0.34 | -0.50 | -0.34 | -0.36 | 0.22 | 1.00 |

** Significant at 1 per cent level of significance.
* Significant at 5 per cent level of significance.

## TABLE - 4.2

### ZERO-ORDER CORRELATION COEFFICIENT MATRIX:
MALE AGE AT MARRIAGE AND SOCIO-ECONOMIC AND DEMOGRAPHIC VARIABLES,1971,INTER-DISTRICT ANALYSIS OF RAJASTHAN (N=17)

| Variable | Y | $XM_1$ | $XM_2$ | $XM_3$ | $XM_4$ | $XM_5$ | $XM_6$ | $XM_7$ | $XM_8$ | $X_9$ | $XM_{10}$ | $XM_{11}$ | $XM_{12}$ | $XM_{13}$ | $XM_{14}$ | $X_{15}$ | $X_{16}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Y | 1.00 | | | | | | | | | | | | | | | | |
| $XM_1$ | -0.23 | 1.00 | | | | | | | | | | | | | | | |
| $XM_2$ | -0.02 | -0.65** | 1.00 | | | | | | | | | | | | | | |
| $XM_3$ | 0.00 | 0.65** | -0.99 | 1.00 | | | | | | | | | | | | | |
| $XM_4$ | 0.07 | 0.60** | -0.95** | 0.92** | 1.00 | | | | | | | | | | | | |
| $XM_5$ | 0.05 | 0.28 | -0.42* | 0.40* | 0.48* | 1.00 | | | | | | | | | | | |
| $XM_6$ | -0.51** | -0.03 | 0.32 | -0.36 | -0.18 | 0.16 | 1.00 | | | | | | | | | | |
| $XM_7$ | 0.41* | 0.03 | -0.23 | 0.26 | 0.13 | -0.20 | -0.70** | 1.00 | | | | | | | | | |
| $XM_8$ | 0.07 | -0.37 | 0.47* | -0.51** | -0.33 | 0.36 | 0.51** | 0.51** | 1.00 | | | | | | | | |
| $X_9$ | 0.02 | 0.74** | -0.82** | 0.81** | 0.81** | 0.31 | -0.26 | 0.26 | -0.44* | 1.00 | | | | | | | |
| $XM_{10}$ | -0.26 | -0.54** | 0.24 | -0.24 | -0.20 | -0.16 | 0.06 | -0.13 | 0.14 | -0.38** | 1.00 | | | | | | |
| $XM_{11}$ | 0.01 | -0.81** | 0.84** | -0.82** | 0.83** | -0.40* | 0.17 | -0.18 | 0.44* | -0.85** | 0.37 | 1.00 | | | | | |
| $XM_{12}$ | -0.27 | 0.70** | -0.67** | 0.68** | 0.62** | 0.37 | 0.03 | -0.02 | -0.37 | 0.63** | -0.23 | -0.89** | 1.00 | | | | |
| $XM_{13}$ | 0.06 | 0.73** | -0.79** | 0.77** | 0.80** | 0.42* | -0.17 | 0.05 | -0.35 | 0.88** | -0.30 | -0.91** | 0.76** | 1.00 | | | |
| $XM_{14}$ | 0.14 | 0.75** | -0.78** | 0.76** | 0.78** | 0.28 | -0.29 | 0.43* | 0.45* | 0.77** | -0.46* | -0.88** | 0.66** | 0.70** | 1.00 | | |
| $X_{15}$ | -0.09 | -0.11 | 0.43* | -0.47* | -0.26 | 0.80** | 0.63** | -0.62** | 0.45* | -0.20 | -0.12 | 0.21 | -0.10 | 0.10 | -0.34 | 1.00 | |
| $X_{16}$ | 0.12 | 0.17 | 0.04 | -0.02 | -0.12 | 0.24 | 0.08 | -0.28 | 0.22 | -0.03 | -0.70** | 0.05 | -0.03 | -0.01 | -0.08 | 0.12 | 1.00 |

** Significant at 1 per cent level of significance.
* Significant at 5 per cent level of significance.

It is important here to note that though there is negative correlation between age at marriage and lower literacy level $(XM_2)$, the relationship becomes positive as the level of literacy increases. Thus, it can be said that these relationships go in accordance with first hypothesis i.e. higher the literacy levels of males, higher the male age at marriage as far as Tamil Nadu is concerned.

Examination of Table 4.2 of Rajasthan, however, shows surprisingly an insignificant correlation between male age at marriage and percentage of male literacy $(XM_1)$. It may be due to the fact that the percentage male literacy is only 28.7 in Rajasthan and compare to Tamil Nadu where the literacy is 51.77 per cent, it is very less.

The correlation between Y and percentage of primary and middle level male literates $(XM_2)$ though seems to be negative, it is not statistically significant here even at 6 per cent level of significance. Though the nature of relationship between Y and higher levels of literacy $(XM_3$ and $XM_4)$ found to be positive, they are again statistically insignificant. It clearly indicates that literacy does not have a significant relation with age at marriage as far as Rajasthan is concerned. Thus, it can be said that the first hypothesis i.e., higher male literacy level, higher the male age at marriage, is found to be true in the case of Tamil Nadu and not so in the case of Rajasthan.

In Tamil Nadu (Table 4.1), the correlation coefficient between Y and the percentage of Hindu male population $(XM_6)$ is found to be negative (-.67) and is also statistically significant. In Rajasthan (Table 4.2) also a statistically significant negative correlation (-.51) is observed between Y and percentage of male Hindu population (Table 4.2.). Thus, the hypothesis i.e., higher the proportion of male Hindus, lower the male age at marriage, is proved.

Table 4.1. and Table 4.2. also reveal the relationship of Christian population $(XM_5)$ and Muslim population $(XM_7)$ with age at marriage. It is found that the percentage of Christian males has a significant positive correlation (.67) with male age at marriage. The correlation between Y and the percentage of male Muslims is statistically insignificant in Tamil Nadu. In Rajasthan (Table 4.2.) however, both the variables $XM_5$ and $XM_7$ have shown insignificant correlation with male age at marriage.

Another variable which, in accordance with hypothesis, shows a significant negative correlation (-.55) with male mean age at marriage (Y) is the percentage males belonging to Scheduled Caste and Scheduled Tribe $(XM_8)$ in Tamil Nadu (Table 4.1.). But in Rajasthan (Table 4.2.) this variable $(XM_8)$ has shown an insignificant correlation with male mean age at marriage. Thus, it can be said that the proportion of Scheduled Castes and Scheduled Tribes is not

the factor responsible for low male mean age at marriage as far as Rajasthan is concerned.

The correlation between male mean age at marriage and percentage of urban population is found to be statistically insignificant in both the states. Thus, the fourth hypothesis i.e., higher the urban population, higher the age at marriage, is not validated.

In conformity with 5.a.hypothesis, the relationship between the male work participation rate ($XM_{10}$) and male mean age at marriage (Y) is found to be negative (-.54) and is statistically significant at one per cent level of significance in Tamil Nadu (Table 4.1). In Rajasthan also the coefficient of correlation is found to be negative (-.26), but is statistically insignificant. Thus, the hypothesis (5.a)i.e., higher the male working population, lower the male age at marriage, is fully validated for Tamil Nadu and for Rajasthan, however, the relationship is found to be weak.

Table 4.1. further reveals the relationship of the percentages of male workers engaged in four different economic activities on male mean age at marriage. A statistically significant negative correlation (-.54) is observed between Y and percentage of male workers engaged in primary sector ($XM_{11}$). Between Y and percentage of male workers engaged in secondary sector ($XM_{12}$), tertiary sector ($XM_{13}$) and other

works ($XM_{14}$), a positive correlation is noticed. However, only other works ($XM_{14}$)is seen to be statistically significant at 5 per cent level of significance. It may be due to the fact that most of the people who fall in the category of 'other works' are likely to be literates who generally know the evil effects of early marriage and also the positive aspects of late marriage. However, from Table 4.2. of Rajasthan we can not come to any conclusion with regard to the relationship of economic variables ($XM_{11}$, $XM_{12}$, $XM_{13}$ and $XM_{14}$) on male age at marriage since none of them seems to be statistically significant.

Coming to the relationship of one of the demographic variables-sex ratio ($X_{15}$) with male age at marriage, it is found that sex ratio does not have a significant correlation with male age at marriage in both Tamil Nadu and Rajasthan.

The correlation between male mean age at marriage and child women ratio is found to be statistically insignificant in Tamil Nadu as well as in Rajasthan. Thus, the hypothesis i.e. higher the child woman ratio, higher the male age at marriage, is not validated

## MULTIPLE REGRESSION ANALYSIS FOR THE DETERMINANTS OF MALE AGE AT MARRIAGE

The preceding analysis is restricted only to zero-order correlation. As one observes in both Table 4.1 and Table 4.2, that there is considerable amount of inter correlations among the independent variables. It was, therefore, felt necessary to further investigate the explanatory power of each independent variable keeping the effects of others constant through the Stepwise Regression Analysis. In the second part of the analysis therefore a stepwise regression analysis has been carried out for this purpose.

Tables showing the results of stepwise regression analysis as given in this analysis do not show the results of the step at which the value of $\overline{R}$ starts declining and also other steps following it.

It has been discussed in the first chapter that literacy and work participation rate are some of the important determinants of age at marriage. In this exercise, therefore, we try to further investigate whether any particular category or categories of these two variables can also be isolated as the main determinant(s) of age at marriage. Therefore, literacy is disaggregated into three different levels and the work participation rate into four disaggregated industrial categories as given in chapter-II.

The stepwise regression analysis has been used in three

Sections - Section A, Section B and Section C. In Section A of the analysis, along with other variables, literacy rate and work participation rate are used without their break up. In Section B, only the different categories of levels of literacy have been used as independent variables. And in Section C, categories of workers in different economic activities have been considered as independent variables.

## Section - A

In this section of the analysis, as stated earlier, along with other variables, literacy and work participation rate are used without their break up. Thus, the variables used here for the stepwise regression analysis are as follows:

Dependent variable:

Male mean age at marriage (Y)

Independent variable:

1. percentage of male literates to total males ($XM_1$),

2. percentage of male Christians to total males ($XM_5$),

3. percentage of male Hindus to total males ($XM_6$),

4. percentage of male Muslims to total males ($XM_7$),

5. percentage of male Scheduled Castes and Scheduled Tribes to total males ($XM_8$),

6. percentage of urban population to total population ($X_9$),

7. percentage of male workers to total males ($XM_{10}$),

8. Sex ratio ($X_{15}$), and

9. Child woman ratio ($X_{16}$).

## Results of Stepwise Regression Analysis:

The results of stepwise regression analysis for Tamil Nadu

## TABLE - 4.3.

### THE EFFECT OF SOCIO-ECONOMIC AND DEMOGRAPHIC VARIABLES ON AGE AT MARRIAGE ( TAMIL NADU - MALE)

| Variable | Regrsn. Coeffnt. | Std Error of Regrsn. Coeffnt. | Computd t value | $R^2$ | Increase in $R^2$ | $\bar{R}$ Adjustd. | F for D.F. |
|---|---|---|---|---|---|---|---|
| **Step-1** | | | | | | | |
| $XM_1$ | .07876 | .01828 | 4.309** | .607 | .607 | .779 | 18.570** |
| **Step-2** | | | | | | | |
| $XM_1$ | .05957 | .02051 | 2.905* | .688 | .080 | .813 | 12.106** |
| $XM_5$ | .03362 | .02001 | 1.680 | | | | |
| **Step-3** | | | | | | | |
| $XM_1$ | .05224 | .01921 | 2.719* | .762 | .075 | .348 | 10.694** |
| $XM_5$ | .03895 | .01855 | 2.100 | | | | |
| $X_{15}$ | -0.73913 | .41670 | -1.774 | | | | |
| **Step-4** | | | | | | | |
| $XM_1$ | .08520 | .02184 | 3.901** | .848 | .086 | .896 | 12.544** |
| $XM_5$ | .05144 | .01660 | 3.099* | | | | |
| $X_{15}$ | -0.94147 | .36272 | -2.590* | | | | |
| $XM_{10}$ | .14685 | .06527 | 2.250 | | | | |
| **Step-5** | | | | | | | |
| $XM_1$ | .07204 | .01837 | 3.922** | .918 | .065 | .035 | 16.720** |
| $XM_5$ | .07085 | .01554 | 4.559** | | | | |
| $X_{15}$ | -1.27919 | .32284 | -3.962** | | | | |
| $XM_{10}$ | .19924 | .05670 | 3.514** | | | | |
| $XM_7$ | .16983 | .6974 | 2.435 | | | | |
| **step-6** | | | | | | | |
| $XM_1$ | .11405 | .02690 | 4.240** | .943 | .030 | .953 | 19.326** |
| $XM_5$ | .04216 | .02000 | 2.108 | | | | |
| $X_{15}$ | -1.82036 | .39495 | -4.609** | | | | |
| $XM_{10}$ | .17419 | .05063 | 3.440* | | | | |
| $XM_7$ | .18647 | .06080 | 3.067* | | | | |
| $X_9$ | - .02285 | .01182 | -1.934 | | | | |

** Significant at 1 per cent level of significance.
 * Significant at 5 per cent level of significance.

(male) is given in Table 4.3. It is apparent from the first step of the Table 4.3. that the male literacy $(XM_1)$ is the most dominant factor in explaining male age at marriage. It explains with positive effects the district level variations in the male mean age at marriage to the extent of 60.7 per cent. The second dominant factor, showing positive effect, is the Christian males $(XM_5)$. Its contribution to $R^2$ is 8 per cent. The third dominant factor is found to be the sex ratio $(X_{15})$ with negative effect. Its contribution to $R^2$ accounts only for 7.5 per cent

Male workers $(XM_{10})$ is found to be the fourth dominant factor with negative effect. It has contributed to $R^2$ to the extent of 8.6 per cent. The fifth dominant factor with positive effect is found to be the male Muslims $(XM_7)$ and its contribution to $R^2$ is only 6.5 per cent. And the sixth dominant factor is found to be the urban population $(X_9)$. It shows a negative effect on male age at marriage. Its contribution to $R^2$ is only 3 per cent.

Since the value of $\bar{R}$ starts declining from the seventh step on words sixth step may be considered as the optimal fit and final results may be drawn from the sixth step itself.

Results given in the sixth step of Table 4.3. explains male age at marriage to the extent of 94.3 per cent. The

'F' value is also statistically significant. Of the
six variables emerged in this step, only three - male
literacy $(XM_1)$, male workers $(XM_{10})$ and male Muslims
$(XM_7)$ are found to have positive regressions coefficients
(4.24,3.44 and 3.07 respectively)on male age at marriage.
It is better to mention here that of these three variables,
$XM_7$ showed statistically insignificant negative correlation
and $XM_{10}$ showed statistically significant negative corelation
effect male age at marriage while analysing the correlation
between dependent and independent variables as Table 4.1
indicates. $X_{15}$ which showed statistically insignificant
negative correlation as noted in Table 4.1, continues to
have negative effect (-4.61)which is statistically significant
on male age at marriage here (Table 4.3.). It is also
noticed in Table 4.3. that of the remaining two variables -
male Christians $(XM_5)$ and urban population $(X_9)$ which are
statistically insignificant, $XM_5$ shows positive effect(2.11)
and $X_9$ shows negative effect (-1.93) on male age at marriage.
However, it is worth remembering here that $XM_5$ had
significant positive correlation and $X_9$ also had positive
correlation, though statistically insignificants with
male age at marriage as indicated in Table 4.1.

To assert the effects of these independent variables
on age at marriage, Table 4.3. of Tamil Nadu may be compared
with that of Table 4.4 of Rajasthan.

## TABLE - 4.4.

### THE EFFECT OF SOCIO-ECONOMIC AND DEMOGRAPHIC VARIABLES ON AGE AT MARRIAGE (RAJASTHAN - MALE)

| Variable | Regran. Coeffnt. | Std. Error of Regrsn. Coeffnt. | Computd t value | $R^2$ | Increase in $R^2$ | $\overline{R}$ Adjstd. for D.F. | F |
|---|---|---|---|---|---|---|---|
| Step-1 | | | ** | | | | ** |
| $XM_6$ | -.18146 | .06182 | -2.935 | .264 | .264 | .514 | 8.615 |
| Step-2 | | | ** | | | | ** |
| $XM_6$ | -.26605 | .07600 | -3.501 | .353 | .089 | .571 | 6.271 |
| $X_{15}$ | 1.46153 | .82297 | 1.776 | | | | |
| Step-3 | | | ** | | | | |
| $XM_6$ | -.26138 | .07484 | -3.492 | | | | ** |
| $X_{15}$ | 1.33366 | .81522 | 1.636 | .401 | .048 | .591 | 4.911 |
| $XM_1$ | -.06116 | .04598 | -1.330 | | | | |
| Step-4 | | | ** | | | | |
| $XM_6$ | -.21897 | .07011 | -3.123 | | | | ** |
| $X_{15}$ | .72455 | .78135 | .927 | .530 | .129 | .683 | 5.923 |
| $XM_1$ | -.13166 | .05098 | -2.583* | | | | |
| $XM_{10}$ | -.22042 | .09177 | -2.402* | | | | |
| Step-5 | | | ** | | | | |
| $XM_6$ | -.23169 | .06917 | -3.350 | | | | |
| $X_{15}$ | .72206 | .76416 | .945 | | | | ** |
| $XM_1$ | -.14795 | .05120 | -2.890** | .572 | .042 | .700 | 5.345 |
| $XM_{10}$ | -.21798 | .08977 | -2.428* | | | | |
| $XM_5$ | 1.64737 | 1.17802 | 1.398 | | | | |
| Step-6 | | | ** | | | | |
| $XM_6$ | -.020738 | .06967 | -2.977 | | | | |
| $X_{15}$ | .50196 | .76197 | .659 | | | | |
| $XM_1$ | -.18226 | .05557 | -3.280** | .613 | .041 | .718 | ** 5.008 |
| $XM_{10}$ | -.36318 | .13509 | -2.688* | | | | |
| $XM_5$ | 2.09224 | 1.19218 | 1.755 | | | | |
| $X_{16}$ | -.80116 | .56736 | -1.412 | | | | |

** Significant at 1 per cent level of significance.
 * Significant at 5 per cent level of significance.

Results of stepwise regression analysis have been given in Table 4.4. for Rajasthan. Male Hindus ($XM_6$)is the most dominant factor in Rajasthan in determining male age at marriage with negative effects. It is followed by sex ratio ($X_{15}$) with positive effect, male literacy ($XM_1$) with negative effect, male workers ($XM_{10}$) with negative effect, male Christians ($XM_5$) with positive effect and child woman ratio ($X_{16}$) with negative effect,with 8.9 per cent, 4.8 per cent 12.9 per cent, 4.2. per cent and 4.1. per cent respectively as the value of $R^2$. Since the value of $\bar{R}$ starts declining in the seventh step, sixth step is identified as the optimal fit and final results are drawn from this step.

It is observed in the sixth step of Table 4.4. that the male Hindus ($XM_6$) which was one of the least important factors in Tamil Nadu, has emerged as the most dominant factor in Rajasthan. Its negative effect on age at marriage is statistically significant (-2.98). The other two variables showing significant negative effect on marriage age are male literacy($XM_1$) and male workers ($XM_{10}$) with the 't' value of -3.28 and -2.69 respectively.

Comparing Table 4.3. and 4.4., it is noticed, that though there have been six different variables emerged in these tables, only four variables have emerged commonly in both the tables. They are male literacy ($XM_1$), male Christians ($XM_5$), male workers($XM_{10}$) and sex ratio ($X_{15}$). However,

there are differences in their nature and degree of
influence over male age at marriage. On male age at
marriage, literacy shows significant positive effect
in Tamil Nadu and significant negative effect in Rajasthan;
Male workers ($XM_{10}$)shows significant positive effect
in Tamil Nadu and significant negative effect in Rajasthan;
sex ratio shows significant negative effect in Tamil Nadu
and positive effect, though insignificant, in Rajasthan.
Though the male Christians ($XM_5$)shows positive effect
on male marriage age in both the states they are statis-
tically insignificant.

Besides, it is also observed that some of the
variables which have emerged in one state as significant
determinants of age at marriage have not emerged in
another. As far as male age at marriage is concerned,
proportion of male Hindus has emerged as the most dominant
factor __ in Rajasthan and has not emerged in Tamil Nadu
even as the least important factor. Proportion male
Muslims has shown a significant positive effect in
Tamil Nadu and has not emerged in Rajasthan.

### Section - B

In this section, the effects of different levels of
literacy is examined. The following are the different
levels of literacy and have also been used as independent

variables.

Dependent variable:

Male mean age at marriage (Y)

Independent variables:

1. percentage of male literates without educational level, those who have studied up to primary and middle levels to total male literates ($XM_2$),

2. percentage of males studied up to matriculation, certificate/diploma not equal to degree (technical/ non technical) to total male literates ($XM_3$), and

3. percentage of males studied up to graduation and above to total male literates ($XM_4$)

Stepwise regression analysis has been carried out using the above mentioned dependent and independent variables.

Results of stepwise regression analysis:

Table 4.5 gives the effects of different levels of male literacy on male age at marriage.

### TABLE 4.5

THE EFFECT OF DIFFERENT LEVELS OF LITERACY ON AGE AT MARRIAGE ( TAMIL NADU-MALE)

| Variables | Regrsn. Coeffnt. | Std. Error | Comptd. t value | $R^2$ | Increase in $R^2$ | $\bar{R}$ adjust. D.F. | F |
|---|---|---|---|---|---|---|---|
| Step -1 | | | | | | | |
| $XM_3$ | .14240 | .05923 | 2.404* | .325 | .325 | .570 | 5.681* |

* Significant at 5 per cent level of significance.

It has already been observed in Table 4.3. that in Tamil Nadu male literacy ($XM_1$) alone explains age at marriage to the extent of 60.7 per cent. However, when we break up the literacy into three levels represented by $XM_2$, $XM_3$ and $XM_4$, it is noticed that $XM_2$(those males who have studied only up to matriculation) does not explains male age at marriage separately and $XM_3$(those males who have studied less than degree)explains optimally male age at marriage at 5 per cent level of significance. $XM_4$(those males who have studied up to graduation and above) also does not explain male marriage age sufficiently.

The zero-order correlation, however, shows a significant positive relationship of these two variables ($XM_3$ and $XM_4$) with male age at marriage. In the regression analysis $XM_4$ could not emerge as an important determinants because of its multi collinearity with $XM_3$.

Results of regression analysis for Rajasthan have been given in Table 4.6.

TABLE -4.6
THE EFFECTS OF DIFFERENT LEVELS OF LITERACY ON
AGE AT MARRIAGE (RAJASTHAN -MALE)

| Variable | Regrsn. Coeffnt. | Std. Error. | Comptd. t value | $R^2$ | Increase in $R^2$ | $\bar{R}$ adjustd. D.F. | F |
|---|---|---|---|---|---|---|---|
| Step-1 | | | | | | | |
| $XM_4$ | .11409 | .35604 | .320 | .004 | .004 | .065 | .103 |

In the case of Rajasthan-male, however, as    shown
in Table 4.2. none of the levels of literacy has shown any
significant correlation with age at marriage.  The same
pattern has been observed in the regression analysis of
Section A.  In this section also none of the variables of
levels of literacy shows significant relationship with
age at marriage.  Table 4.6 very clearly confirm the absence
of the relationship  of levels of literacy with age at
marriage.  The explanatory power of the only factor $(XM_4)$
is as low as 6.4 per cent which is statistically insignificant.

Thus, it can once again be said that literacy is a
dominant factor in increasing male marriage age in Tamil
Nadu.  For Rajasthan the effect of literacy on  male age
at marriage is not strong enough.

## Section -C

In this section, the effects of different industrial
categories of male workers on male age at marri ce have
been examined.  As stated ea rlier, the nine industrial
categories of male workers have been grouped into four major
sectors(primary sector, secondary sector, tertiary sector
and other works)and they have been considered as independent
variables in this analysis.  The following are the variables
used for the stepwise regression analysis in this section.

Dependent variable:

Male mean age at marriage (Y)

Independent variables:

1. percentage of male workers engaged in primary
   sector ($XM_{11}$),

2. percentage of male workers engaged in secondary
   sector ($XM_{12}$),

3. percentage of male workers engaged in tertiary
   sector ($XM_{13}$), and

4. percentage of male workers engaged in other
   works ($XM_{14}$).

Results of stepwise regression analysis for Tamil Nadu
have been given in Table 4.7.

TABLE- 4.7

THE EFFECT OF WORK PARTICIPATION RATE IN DIFFERENT
ECONOMIC ACTIVITIES ON AGE AT MARRIAGE
(TAMIL NADU -MALE)

| Variable | Regrsn. Coeffnt. | Std. Error. | Comptd. t value | $R^2$ | Increase in $R^2$ | $\bar{R}$ adjustd. D.F. | F |
|---|---|---|---|---|---|---|---|
| Step-1 | | | | | | | |
| $XM_{14}$ | .14560 | .06070 | 2.398* | .324 | .324 | .569 | 5.753* |

*Significant at 5 per cent level of significance

Referring Table 4.7, it can be understood that except
$XM_{14}$(males engaged in other works )which emerges in the first
step itself and showing significant positive effect, no other
variables explains male age at marriage, as far as Tamil Nadu
is concerned. It may be due to the fact,as mentioned earlier,
that the proportion of literates who generally prefer late

marriage is likely to be higher in this category($XM_{14}$). The correlation between Y and $XM_{14}$ is also significantly positive (Table 4.1).

The results of similar analysis for Rajasthan is given in Table 4.9.

### TABLE -4.8

THE EFFECT OF WORK PARTICIPATION RATE IN DIFFERENT ECONOMIC ACTIVITIES ON AGE AT MARRIAGE
(RAJASTHAN - MALE)

| Variable | Regrsn. Coeffnt. | Std. Error | Comptd. t value | $R^2$ | Increase in $R^2$ | $\bar{R}$ adjustd. D.F. | F. |
|---|---|---|---|---|---|---|---|
| Step-1 | | | | | | | |
| $XM_{11}$ | -.15689 | .11511 | -1.363 | .242 | .242 | .460 | 7.12* |
| | | | | | | | |
| Step-II | | | | | | | |
| $XM_{11}$ | -.21909 | .0680 | -3.242** | .314 | .072 | .500 | 5.23* |
| $XM_{12}$ | -.71888 | .2480 | -2.899** | | | | |

* Significant at 5 per cent level of significance.

It is obvious from Table 4.8 that the male workers engaged in primary sector ($XM_{11}$) and the male workers engaged in secondary sector ($XM_{12}$) have negative effects on male age at marriage and their regression coefficient are also statistically significant. The value of $R^2$ accounts for 31.4 per cent. $XM_{14}$(other workers) has not emerged here as a significant factor though it did so for Tamil Nadu

It may be once again due to less proportion of literates
in Rajasthan.

While comparing Table 4.7 and 4.8, it can be understood
that in Tamil Nadu the male workers engaged in  other works
$(XM_{14})$ in which mostly educated people are engaged, has
a positive impact on male age at marriage and in Rajasthan,
however, the male workers engaged in primary and secondary
sectors have significant negative effects on male age at
marriage.  It is confirmed by referring Table 4.2. of
Rajasthan.

# CHAPTER - V

# C H A P T E R - V

## FEMALE AGE AT MARRIAGE AND ITS DETERMINANTS

In the previous chapter the relationship between male
age at marriage and some of the socio-economic and demographic
variables was discussed. In this chapter, however, relation-
ship between the mean age at marriage and the similar socio-
economic and demographic variables for females are analysed.
This chapter also consists of two parts. The first part
is related to the analysis of correlations between female
age at marriage and its socio-economic and demographic
determinants through Zero-Order Correlation Coefficient
Matrices and the second part deals with the identification
of variables determining female age at marriage through
Stepwise Regression Analysis.

### INTER CORRELATION BETWEEN FEMALE AGE AT MARRIAGE AND SOME OF THE SOCIO-ECONOMIC AND DEMOGRAPHIC VARIABLES.

For the analysis of inter correlations between female
age at marriage and some of the socio-economic and demographic
variables by employing two zero-order correlation coefficient
matrices - one for Tamil Nadu (female) and the other for
Rajasthan (female), the following variables have been considered.

**Dependent variable:**

Female mean age at marriage (Y)

Independent Variables :

1. percentage of female literates to total females ($XF_1$),

2. percentage of female literates without educational level and those who have studied up to primary and middle level to total female literates $(XF_2)$,

3. percentage of females studied up to matriculation, certificate/diploma not equal to degree (technical/non technical) to total female literates $(XF_3)$,

4. percentage of females studied up to graduation and above to total female literates $(XF_4)$,

5. percentage of female Christians to total females $(XF_5)$,

6. percentage of female Hindus to total females $(XF_6)$,

7. percentage of female Muslims to total females $(XF_7)$,

8. percentage of females belonging to Scheduled Caste and Scheduled Tribe to total females $(XF_8)$,

9. percentage of urban population to total population $(X_9)$,

10. percentage of female workers to total females $(XF_{10})$,

11. percentage of females engaged in primary sector to total female workers $(XF_{11})$,

12. percentage of females engaged in secondary sector to total female workers $(XF_{12})$,

13. percentage of females engaged in tertiary sector to total female workers $(XF_{13})$,

14. percentage of females engaged in other works to total female workers $(XF_{14})$,

15. Sex ratio $(X_{15})$, and

16. Child Woman Ratio $(X_{16})$

Using these variables, correlation coefficients between each pair of variables (dependent and independent variables) have been worked out through zero-order correlation coefficient matrices for both Tamil Nadu and Rajasthan. Two 17 x 17 correlation matrices are generated and are given in Table 5.1

and Table 5.2. for Tamil Nadu and Rajasthan respectively.

Results of Zero-Order Correlation Coefficient Matrices:

Looking at Table 5.1, it is apparent that in accordance with first hypothesis, there is a highly significant positive correlation (.75) between percentage of female literates ($XF_1$) and female mean age at marriage (Y) in Tamil Nadu. However, in Rajasthan this correlation is statistically insignificant. Thus, it can be contented that female literacy does not have a positive correlation with female age at marriage as far as Rajasthan is concerned though it does so in the case of Tamil Nadu.

Of the three levels of literacy - proportion of females studied less than matriculation level ($XF_2$), proportion of females studied less than graduation level ($XF_3$) and proportion of females studied graduation and above ($XF_4$), none of them show significant correlation with female mean age at marriage (Y). This is found to be true for both the states. Thus, the hypothesis i.e. increase in literacy level will increase the age at marriage (part of first hypothesis-5.b.) does not seem to be true as far as female age at marriage is concerned.

Analysing the relationship between female age at marriage and females belonging to different religions, it is noticed that the proportion female Hindus has significant negative correlation (-.83) with female mean age at marriage (Y)

## TABLE- 5.1

### ZERO-ORDER CORRELATION COEFFICIENT MATRIX:
FEMALE AGE AT MARRIAGE AND SOCIO-ECONOMIC AND DEMOGRAPHIC VARIABLES, 1971, INTER-DISTRICT ANALYSIS OF TAMIL NADU (N=17)

| Variable | Y | $XF_1$ | $XF_2$ | $XF_3$ | $XF_4$ | $XF_5$ | $XF_6$ | $XF_7$ | $XF_8$ | $X_9$ | $XF_{10}$ | $XF_{11}$ | $XF_{12}$ | $XF_{13}$ | $XF_{14}$ | $X_{15}$ | $X_{16}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Y | 1.00 | | | | | | | | | | | | | | | | |
| $XF_1$ | 0.75** | 1.00 | | | | | | | | | | | | | | | |
| $XF_2$ | -0.35 | -0.80** | 1.00 | | | | | | | | | | | | | | |
| $XF_3$ | 0.36 | 0.81** | -0.99** | 1.00 | | | | | | | | | | | | | |
| $XF_4$ | 0.30 | 0.75** | -0.88** | 0.97** | 1.00 | | | | | | | | | | | | |
| $XF_5$ | 0.81** | 0.67** | -0.20 | 0.21 | 0.90** | 1.00 | | | | | | | | | | | |
| $XF_6$ | -0.83** | -0.73** | 0.27 | -0.28 | -0.19 | -0.97** | 1.00 | | | | | | | | | | |
| $XF_7$ | 0.25 | 0.27 | -0.08 | 0.06 | 0.21 | -0.02 | -0.09 | 1.00 | | | | | | | | | |
| $XF_8$ | -0.73** | -0.58* | 0.38 | -0.40 | -0.30 | -0.62* | 0.60* | -0.28 | 1.00 | | | | | | | | |
| $X_9$ | 0.25 | 0.69** | -0.92** | 0.91** | 0.97** | -0.03 | -0.10 | 0.27 | -0.20 | 1.00 | | | | | | | |
| $XF_{10}$ | -0.14 | -0.45 | 0.34 | -0.35 | -0.30 | -0.27 | 0.22 | -0.34 | 0.36 | -0.15 | 1.00 | | | | | | |
| $XF_{11}$ | -0.65** | -0.91** | 0.82** | -0.82** | -0.78** | -0.49 | 0.53 | -0.38 | 0.70** | -0.71** | 0.58* | 1.00 | | | | | |
| $XF_{12}$ | 0.82** | 0.58* | -0.18 | 0.19 | 0.10 | 0.71** | -0.68** | 0.24 | -0.66** | 0.08 | -0.22 | -0.63* | 1.00 | | | | |
| $XF_{13}$ | 0.24 | 0.72** | -0.91** | 0.90** | 0.92** | 0.07 | -0.13 | 0.35 | -0.42 | 0.86** | -0.59* | -0.86** | 0.17 | 1.00 | | | |
| $XF_{14}$ | 0.43 | 0.85** | -0.81** | 0.91** | 0.90** | 0.29 | -0.36 | 0.39 | -0.54* | 0.83** | -0.60* | -0.94** | 0.32 | 0.97** | 1.00 | | |
| $X_{15}$ | 0.17 | -0.36 | 0.72** | -0.72** | -0.66** | 0.04 | -0.06 | 0.36 | 0.02 | -0.56* | 0.31 | 0.36 | 0.31 | -0.63* | -0.56* | 1.00 | |
| $X_{16}$ | 0.24 | 0.18 | 0.20 | -0.20 | -0.25 | 0.64* | -0.62* | 0.03 | -0.27 | -0.33 | -0.16 | -0.04 | 0.32 | -0.25 | -0.06 | 0.22 | 1.00 |

** Significant at 1 per cent level of significance.
* Significant at 5 per cent level of significance.

in Tamil Nadu (Table 5.1). Though it has shown a negative correlation also in Rajasthan, the degree of correlation in statistically insignificant (Table 5.2). Thus, the second hypothesis, i.e. higher the proportion of Hindus, higher the age at marriage, is validated for Tamil Nadu and not for Rajasthan. Coming to the relationship of female Christians $(XM_5)$ and females to Muslims $(XM_7)$, it is found that the proportion of Christian females has a highly significant positive correlation with female mean age at marriage in Tamil Nadu and is not significant in Rajasthan. The correlation between the proportion of female Muslims and female mean age at marriage is found to be statistically insignificant in both the states.

In accordance with the third hypothes i.e. higher the proportion of Scheduled Caste and Scheduled Tribe population, (SC/ST), lower the mean age at marriage, a significant negative correlation (-.73) is observed between the proportion of SC/ST females $(XF_8)$ and female mean age at marriage (Y) in Tamil Nadu (Table 5.1). However, the hypothesis is not validated for Rajasthan since the correlation is found to be statistically insignificant.

The correlation between the proportion of urban population $(X_9)$ and female mean age at marriage is seen to be statistically insignificant for both the states (Table 5.1 and 5.2). Thus, the fourth hypothesis i.e. higher the proportion

TABLE- 5.2

ZERO-ORDER CORRELATION COEFFICIENT MATRIX :
FEMALE AGE AT MARRIAGE AND SOCIO-ECONOMIC AND DEMOGRAPHIC VARIABLES, $1971$, INTER-DISTRICT ANALYSIS OF RAJASTHAN (N=17)

| Variable | Y | $XF_1$ | $XF_2$ | $XF_3$ | $XF_4$ | $XF_5$ | $XF_6$ | $XF_7$ | $XF_8$ | $X_9$ | $XF_{10}$ | $XF_{11}$ | $XF_{12}$ | $XF_{13}$ | $XF_{14}$ | $X_{15}$ | $X_{16}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Y | 1.00 | | | | | | | | | | | | | | | | |
| $XF_1$ | -0.01 | 1.00 | | | | | | | | | | | | | | | |
| $XF_2$ | 0.05 | -0.76** | 1.00 | | | | | | | | | | | | | | |
| $XF_3$ | -0.04 | 0.76** | -0.99** | 1.00 | | | | | | | | | | | | | |
| $XF_4$ | -0.08 | 0.73** | -0.96** | 0.94** | 1.00 | | | | | | | | | | | | |
| $XF_5$ | 0.33 | 0.38 | -0.32 | 0.35 | 0.22 | 1.00 | | | | | | | | | | | |
| $XF_6$ | -0.30 | -0.12 | 0.02 | -0.00 | -0.06 | 0.14 | 1.00 | | | | | | | | | | |
| $XF_7$ | -0.05 | -0.03 | 0.03 | -0.06 | -0.06 | -0.22 | -0.65** | 1.00 | | | | | | | | | |
| $XF_8$ | 0.17 | -0.29 | 0.10 | -0.10 | -0.19 | 0.47* | 0.52** | -0.45* | 1.00 | | | | | | | | |
| $X_9$ | -0.07 | 0.88** | -0.71** | 0.70** | 0.72** | 0.17 | -0.26 | 0.28 | -0.45* | 1.00 | | | | | | | |
| $XF_{10}$ | -0.55* | 0.13 | -0.05 | 0.06 | 0.04 | -0.01 | 0.22 | -0.03 | -0.18 | 0.12 | 1.00 | | | | | | |
| $XF_{11}$ | -0.17 | -0.35 | 0.40* | -0.40* | -0.39 | -0.10 | 0.48* | -0.47* | 0.11 | -0.37 | 0.51** | ,1.00 | | | | | |
| $XF_{12}$ | 0.15 | 0.20 | -0.19 | 0.18 | 0.24 | 0.03 | -0.61** | 0.66** | 0.17 | 0.26 | -0.40 | 0.91** | 1.00 | | | | |
| $XF_{13}$ | 0.09 | 0.31 | -0.43* | 0.44* | 0.36 | 0.22 | -0.08 | 0.10 | 0.10 | 0.26 | -0.32 | -0.74** | 0.57** | 1.00 | | | |
| $XF_{14}$ | 0.04 | 0.33 | -0.49* | 0.51** | 0.38 | 0.07 | -0.23 | 0.19 | -0.31 | 0.33 | -0.46* | -0.84** | 0.65** | 0.71** | 1.00 | | |
| $X_{15}$ | 0.13 | -0.08 | 0.25 | -0.24 | -0.25 | 0.19 | 0.62** | -0.55** | 0.43* | -0.20 | 0.17 | 0.59** | -0.57** | -0.25 | -0.52** | 1.00 | |
| $X_{16}$ | 0.40* | 0.05 | 0.09 | -0.08 | -0.11 | 0.19 | 0.07 | -0.36 | 0.21 | -0.03 | -0.65** | -0.05 | -0.10 | 0.05 | 0.13 | 0.12 | 1.00 |

** Significant at 1 per cent level of significance.
* Significant at 5 per cent level of significance.

of urban population, higher the age at marriage, is not validated.

Coming to the correlation between the proportion of female work participation rate ($XF_{10}$) and female mean age at marriage (Y), it is found that there is a negative correlation between them. However, the degree correlation is statistically significant only in the case of Rajasthan (-.55) and not in the case of Tamil Nadu (-.14). The first part of the fifth hypothesis i.e. higher the proportion of workers, lower the mean age at marriage, is validated for Rajasthan and is not validated for Tamil Nadu.

When we break up the proportion of female worker ($XF_{10}$) into four categories - females engaged in primary sector ($XF_{11}$) in secondary sector ($XF_{12}$), in tertiary sector ($XF_{13}$) and females engaged in other works ($XF_{14}$), We notice that in Tamil Nadu (Table 5.1) $XF_{11}$ has a significant negative correlation (-.65) and $XF_{12}$ has a significant positive correlation (.82) with female age at marriage. The remaining two variables ($XF_{13}$ and $XF_{14}$) do not have significant correlation with female mean age at marriage in Tamil Nadu. However, in Rajasthan none of the categories of female workers has significant correlation with female age at marriage. Thus, it can be said that the hypothesis i.e. higher the proportion of workers engaged in primary sector, lower the mean age at marriage, is validated for Tamil Nadu and not for Rajasthan. The hypothesis i.e. higher the proportion of population

engaged in secondary sector, tertiary sector, and other works, higher the mean age at marriage, is not validated for both the states.

Analysing the correlation between sex ratio ($X_{15}$) and female mean age at marriage, it is found in both the states that sex ratio does not have a significant correlation with female mean age at marriage. Thus, the hypothesis i.e. higher the sex ratio, higher female age at marriage, is not validated.

The correlation between child woman ratio and female mean age at marriage is found to be statistically insignificant in Tamil Nadu and is positively significant (.46) in Rajasthan. So, the hypothesis, i.e. 'higher the child woman ratio, higher the mean age at marriage', is found to be true as far as Rajasthan female mean age at marriage is concerned and is not so for Tamil Nadu.

## MULTIPLE REGRESSION ANALYSIS FOR THE DETERMINANTS OF FEMALE AGE AT MARRIAGE

In part one of this chapter, the correlation between female age at marriage and some of the socio-economic and demographic variables have been discussed. From Table 5.1 and Table 5.2, it is understood that there is inter correlation among the independent variables to a notable extent. Thus, in the second part of this chapter stepwise regression analysis has been adopted to further investigate the explanatory power of each independent variable keeping the effects of others constant. Details about stepwise regression analysis

have already been discussed in the second dhapter.

This part of the analysis explains, through stepwise regression analysis, the effects of different socio-economic and demographic variables on female age at marriage in three sections - Section A, Section B and Section C. While employing the stepwise regression analysis, Section A takes into account along with other independent variables literacy and work participation rate without their break up. Section B takes into consideration the different categories of levels of literacy, and Section C takes the four categories of workers engaged in different economic activities into account.

## Section - A

In the attempt of identifying the factors which have relatively stronger bearing on female age at marriage through stepwise regression analysis, the following variables have been chosen.

Dependent Variable:

Female mean age at marriage (Y)

Independent Variables:

1. percentage of female literates to total females ($XF_1$),

2. percentage of female Christians to total females ($XF_5$),

3. percentage of female Hindus to total females ($XF_6$),

4. percentage of female Muslims to total females ($XF_7$),

5. percentage of females belonging to Scheduled Caste and Scheduled Tribe to total females ($XF_8$),

6. percentage of urban population to total population ($X_9$),

7. percentage of female workers to total females ($XF_{10}$),

8. Sex Ratio ($X_{15}$), and

9. Child Woman Ratio ($X_{16}$).

## Results of stepwise regression analysis:

Table 5.3 gives the effects of different socio-economic and demographic variables mentioned above on female age at marriage in Tamil Nadu. It is clear from Table 5.3. that of the different independent variables, female Hindus ($XF_6$) is seen to be the most influencing factor of female age at marriage (Y) with negative effect. $XF_6$ alone explains female age at marriage to the extent of 69 per cent. The values of both t and F are significant at one per cent level of significance.

The second dominant factor is Child Woman Ratio ($X_{16}$) with negative effect. Its contribution in increasing the value of $R^2$ is 12.1 per cent.

The third dominant factor is females belonging to Scheduled Caste and Scheduled Tribes ($XF_8$) once again with negative effect. Its contribution for the increase in $R^2$ is 5.5 per cent.

Sex ratio ($X_{15}$) is the fourth dominant factor with a positive effect. Its partial contribution to $R^2$ is 4.9 per cent. The fifth dominant factor is female literacy ($XF_1$). Its

## TABLE - 5.3

THE EFFECT OF SOCIO-ECONOMIC AND DEMOGRAPHIC VARIABLES
ON AGE AT MARRIAGE (TAMIL NADU - FEMALE)

| Variable | Regrsn. Coeffnt. | Std. Error of Regrsn. Coeffnt. | Computd. t value. | $R^2$ | Increase in $R^2$ | $\bar{R}$ Adjust. for D.F. | F |
|---|---|---|---|---|---|---|---|
| Step-1 | | | ** | | | | ** |
| $XF_6$ | -.09076 | .01756 | -5.169 | .690 | .690 | .831 | 26.721 |
| | | | | | | | |
| Step-2 | | | ** | | | | ** |
| $XF_6$ | -.12036 | .01817 | -6.623 | .811 | .121 | .892 | 23.568 |
| $X_{16}$ | -.83992 | .31708 | -2.649 | | | | |
| | | | | | | | |
| Step-3 | | | ** | | | | |
| $XF_6$ | -.09732 | .01965 | -4.952 | | | | ** |
| $X_{16}$ | -.74542 | .28373 | -2.627 * | .866 | .055 | .917 | 21.538 |
| $XF_8$ | -.05649 | .02734 | -2.029 | | | | |
| | | | | | | | |
| Step-4 | | | ** | | | | |
| $XF_6$ | -.09995 | .01655 | -6.040 | | | | |
| $X_{16}$ | -.87422 | .24497 | -3.569 ** | .915 | .049 | .943 | ** 24.187 |
| $XF_8$ | .05803 | .02339 | -2.481 * | | | | |
| $X_{15}$ | .72722 | .31974 | 2.274 | | | | |
| | | | | | | | |
| Step-5 | | | * | | | | |
| $XF_6$ | -.07322 | .02268 | -3.228 | | | | |
| $X_{16}$ | -.70509 | .24992 | -2.821 * | | | | ** |
| $XF_8$ | -.04855 | .02242 | -2.166 | .935 | .021 | .952 | 23.179 |
| $X_{15}$ | 1.04314 | .35565 | 2.933 * | | | | |
| $XF_1$ | .02780 | .01743 | 1.595 | | | | |
| | | | | | | | |
| Step-6 | | | | | | | |
| $XF_6$ | -.05334 | .02707 | -1.970 | | | | |
| $X_{16}$ | -.62106 | .25069 | -2.477 * | | | | |
| $XF_8$ | -.05399 | .02209 | -2.443 * | .947 | .012 | .956 | ** 20.943 |
| $X_{15}$ | 1.46775 | .48300 | 3.039 * | | | | |
| $XF_1$ | .04653 | .02253 | 2.065 | | | | |
| $XF_7$ | .09443 | .07547 | -1.251 | | | | |

** Significant at 1 per cent level of significance.
 * Significant at 5 per cent level of significance.

partial contribution to $R^2$ is only 2.1. per cent. It shows a positive effect. The sixth dominant factor is seen to be female Muslims ($XF_7$). It shows a negative effect on female age at marriage. Its contribution to $R^2$ is 1.2. per cent only.

Since the value of $\bar{R}$ starts declining at seventh step, sixth step may be identified as an optimal fit and final results may be drawn from this step. Female age at marriage is explained in this step to the extent of 94.7 per cent.

Of the six variables being introduced, only four variables - $XF_6$, $X_{16}$ $XF_8$ and $X_{15}$ are seen to be statistically significant in explaining female age at marriage in the sixth step. The F value is also significant at one per cent level of significance. The remaining two variables - $XF_1$ and $XF_7$ do not seem to have any significant effect in explaining female age at marriage.

All the above statistically significant variables have negative effect on female age at marriage except $X_{15}$ (sex ratio).

It is found while analysing the effects of different socio-economic and demographic variables on female age at marriage that proportion of female Hindus, child woman ratio and proportion of SC/ST and sex ratio are the variables having significant bearing on the prevailing high female age at marriage in Tamil Nadu.

The extent to which different socio-economic and
demographic variables explain female age at marriage in
Rajasthan are given in Table 5.4. It is noticed while
examining Table 5.4 that the female work participation rate
($XF_{10}$) is seen to be the most dominant factor in explaining
female age at marriage with the negative effect. It
explains female age at marriage to the extent of 30.1 per
cent.

The second dominant factor is the proportion of female
Christians ($XF_5$) with positive effect. Its partial
contribution to $R^2$ is 10.9 per cent and its t and F values
are statistically significant. The proportion of female
Hindus ($XF_6$) which was the most dominant factor in Tamil Nadu,
has emerged as the third dominant factor in Rajasthan with
negative effect. Its contribution in increasing the value
$R^2$ is 5.4. per cent.

In Table 5.4, fourth step has become the optimal fit
since the value of $\overline{R}$ starts declining when the proportion
of urban population ($XF_9$) is brought to the model at fifth
step. The variable included in fourth step is sex ratio
($X_{15}$) and its partial contribution to $R^2$ is 4.3. per cent.
Its t value is also statistically significant with positive
effect.

TABLE -5.4

THE EFFECT OF SOCIO-ECONOMIC AND DEMOGRAPHIC VARIABLES
ON AGE AT MARRIAGE (RAJASTHAN - FEMALE)

| Variable | Regrsn. Coeffnt. | Std. Error of Regrsn. Coeffnt. | Computd t value | $R^2$ | Increase in $R^2$ | Adjust. $\bar{R}$ for D.F. | F. |
|---|---|---|---|---|---|---|---|
| Step-1 | | | | | | | |
| $XF_{10}$ | -.14681 | .04569 | -3.213 ** | .301 | .301 | .548 | 10.326 ** |
| Step-2 | | | | | | | |
| $XF_{10}$ | -.1'623 | .04286 | -3.412 ** | .410 | .109 | .621 | 7.999 ** |
| $XF_5$ | 1.94435 | .94126 | 2.070 * | | | | |
| Step-3 | | | | | | | |
| $XF_{10}$ | -.13221 | .04279 | -3.090 ** | | | | |
| $XF_5$ | 2.14395 | .92656 | 2.314 * | .465 | .054 | .647 | 6.366 ** |
| $XF_6$ | -.05385 | .03599 | -1.496 | | | | |
| Step-4 | | | | | | | |
| $XF_{10}$ | -.13799 | .03756 | -3.688 ** | | | | |
| $XF_5$ | 1.83078 | .32007 | 2.232 * | .607 | .143 | .744 | 8.122 ** |
| $XF_6$ | -.11793 | .03916 | -3.012 ** | | | | |
| $X_{15}$ | 1.17459 | .42518 | 2.763 * | | | | |

** Significant at 1 per cent level of significance.
 * Significant at 5 per cent level of significance.

All the four variables - $XF_{10}$, $XF_5$, $XF_6$ and $X_{15}$, as seen in fourth step, together explain female age at marriage to the extent of 60.7 per cent. As far as Rajasthan is concerned, it is to be noted that $X_9$, $XF_7$, $XF_8$, $XF_1$ and $X_{16}$ do not sufficiently explain the female age at marriage as the value of $\bar{R}$ starts declining when they are added to the model one by one.

To understand at a glance the differences in the effects of some of the variables which have emerged commonly in both Tamil Nadu and Rajasthan as determinants of female age at marriage the following discussion may be useful.

Of the nine variables introduced, only two variables - female Hindus and sex ratio have emerged commonly in both the states as determinants of female age at marriage. However, the effect of female Hindus is statistically insignificant in Tamil Nadu and is statistically significant in Rajasthan. The effect of sex ratio is however found to be statistically significant in both the states. We further understand while comparing Table 5.3 and Table 5.4 that there are some variables which have emerged as determinants in only one state and not in the other. Child woman ratio and Scheduled Caste and Scheduled Tribe females with highly significant negative effect have emerged as important determinants of female age at marriage only in Tamil Nadu. Female workers has emerged with significant negative effect as the dominant determinant of female age at marriage only

in Rajasthan. Another variable with significant positive effect emerged only in Rajasthan as determinant of female age at marriage is female Christians.

## Section - B

As indicated in chapter four, literacy have been classified in to three different levels. In this section, female literacy has been classified in to three different levels with an assumption that any particular category or categories of literacy would explain female age at marriage to a considerable extent. Percentage of female literacy has been categorized into the following three levels and have been used as independent variables in this section.

Dependent variable:

Female mean age at marriage (Y)

Independent variables:

1. percentage of female literates without educational level, and those females who have studied up to primary and middle levels to total female literates $(XF_2)$,

2. percentage of females studied up to matriculation, certificate/diploma not equal to degree (technical/ non-technical)to total female literates $(XF_3)$, and

3. percentage of females studied up to graduation and above to total female literates $(XF_4)$

Using the above mentioned variables stepwise regressions have been worked out for both Tamil Nadu and Rajasthan. Results of stepwise regression analysis for Tamil Nadu have given in Table 5.5.

## TABLE -5.5

## THE EFFECT OF DIFFERENT LEVELS OF LITERACY ON AGE AT MARRIAGE (TAMIL NADU-FEMALE)

| Variable | Regrsn. Coeffnt. | Std. Error. | Comptd. t value | $R^2$ | Increase in $R^2$ | $\bar{R}$ adjustd. D.F. | F |
|---|---|---|---|---|---|---|---|
| Step-1 | | | | | | | |
| $XF_3$ | .14958 | .11244 | 1.330 | .129 | .129 | .359 | 1.770 |

It is obvious from Table 5.5 that even $XF_3$ which has emerged as the predominant variable does not show a significant effect in explaining female age at marriage. Table gives only one step since the value of $\bar{R}$ starts declining immediately after first step. While taking the first step into consideration, it is clear that none of the levels of literacy has any effect on female age at marria ge as far as Tamil Nadu is concerned. It is worth to remember here that even $XF_1$ did not show any effect in explaining female age at marriage as has already been discussed in Section A.

Understanding the effects of different levels of literacy on female age at marriage in Tamil Nadu, it would be better to see the same in Rajasthan. Table 5.6 gives the effects of literacy levels of female marriage age in Rajasthan.

## TABLE - 5.6

### THE EFFECT OF DIFFERENT LEVELS OF LITERACY ON AGE AT MARRIAGE (RAJASTHAN - MALE)

| Variable | Regrsn. Coeffnt. | Std. Error | Comptd. t value | $R^2$ | Increase in $R^2$ | $\bar{R}$ adjustd. D.F. | F |
|---|---|---|---|---|---|---|---|
| Step-1 $XF_4$ | -.09705 | .23787 | -.408 | .007 | .007 | .083 | .166 |

Of the three levels of literacy, only $XF_4$ (those females studies up to graduation and above) has had some effect on female age at marriage. However, neither its  t  value nor its  F  value is statistically significant.  From Table 5.6 it can also be understood that $XF_2$ and $XF_3$ do not have any effect on female marriage age.  It is evident from this analysis that none of the levels of literacy has any effect on female age at marriage in Rajasthan.

A close examination of Table 5.5. and 5.6 has revealed that female literacy has very little effect on female marriage age and of the three levels of literacy none of them has any effect on female age at marriage.

### Section- C

Now, specific emphasis may be given to female work participation rate as to identify the particular category or categories of work  participation rate which may explain female age at marriage.  The following are the different categories of female work  participation rate and they have

been used as independent variables in this section.

**Dependent Variable:**

Female mean age at marriage (Y)

**Independent Variables:**

1. percentage of females engaged in primary sector ($XF_{11}$),

2. percentage of females engaged in secondary sector ($XF_{12}$),

3. percentage of females engaged in tertiary sector ($XF_{13}$), and

4. percentage of females engaged in other works ($XF_{14}$).

Using these variables, stepwise regressions have been worked out for both Tamil Nadu and Rajasthan.

Results of regression analysis for Tamil Nadu are given in Table 5.7.

### TABLE -5.7

THE EFFECT OF WORK PARTICIPATION RATE IN DIFFERENT ECONOMIC ACTIVITIES ON AGE AT MARRIAGE (TAMIL NADU-FEMALE)

| Variable | Regrsn. Coeffnt. | Std. Error | Comptd. t value | $R^2$ | Increase in $R^2$ | $\bar{R}$ adjustd. D.F. | F |
|---|---|---|---|---|---|---|---|
| Step-1 | | | | | | | |
| $XF_{12}$ | .08753 | .01745 | 5.017 * | .677 | .677 | .823 | 25.172 ** |
| Step-2 | | | | | | | |
| $XF_{12}$ | .08127 | .01833 | 4.433 ** | .707 | .030 | .826 | 13.278 ** |
| $XF_{14}$ | .01416 | .01336 | 1.060 | | | | |
| Step-3 | | | | | | | |
| $XF_{12}$ | .05393 | .01873 | 2.879 * | | | | |
| $XF_{14}$ | .14287 | .65311 | 2.690 * | .819 | .111 | .886 | 15.033 ** |
| $XF_{13}$ | -.35894 | .14286 | -2.478 * | | | | |
| Step-4 | | | | | | | |
| $XF_{12}$ | -.03482 | .08681 | - .401 | | | | |
| $XF_{14}$ | .03186 | .11850 | .269 | .838 | .020 | .889 | 11.656 ** |
| $XF_{13}$ | -.42414 | .15721 | -2.698 * | | | | |
| $XF_{11}$ | - 09835 | .09397 | -1.047 | | | | |

** Significant at 1 percent level of significant

It can be understood from Table 5.7 that females engaged in secondary sector $XF_{12}$ explains female age at marriage (Y) to the extent of 67.7 per cent. Its t and F values are also statistically significant in step one. $XF_{12}$ is followed by $XF_{14}$, $XF_{13}$ and $XF_{11}$. However, in step four only the proportion of females engaged in tertiary sector $(XF_{13})$ shows a significant effect on female age at marriage. It is to be noted here that $XF_{13}$ shows a negative effect, which generally use to show a positive effect. $XF_{12}$ which showed a positive effect when it was introduced to the model shows a negative effect when $XF_{14}$, $XF_{13}$ and $XF_{11}$ are added to the model. Thus no concrete conclusion is possible out of Table 5.7 since none of them shows significant effect except $XF_{13}$ which also shows contrary to our expectation a significant negative effect (-2.69) on female age at marriage.

Proceeding further to understand the effects of different categories of work participation rate in Rajasthan, it is quite disappointing to note that none of the categories of work participation rate explains female age at marriage even to a negligible extent. What needs to be noted here is that the work participation rate $(XF_{10})$ showed a significant negative effect on female age at marriage as seen in Section A, even though none of its categories shows a significant effect here.

The reason for different categories of female workers not showing any effect on female age at marriage may be due to

the fact that the proportion of females engaged especially in secondary sector, tertiary sector and other works is very less in Rajasthan compare to Tamil Nadu. To understand why the different categories of female workers do not show any effect on female age at marriage in Rajasthan, one has to go for a specific and indebth study in this regard.

# CHAPTER - VI

# C H A P T E R - VI

## SUMMARY AND CONCLUSIONS

Age at marriage is an important factor in population
growth. Early marriage has always been associated with
high fertility and late marriage with low fertility. It
has widely been argued that population increase arising
from high fertility is disadvantageous to economic growth
in developing countries like India. Realising the fact
that the early marriage is one of the most important
factors for population growth, legislative measures like
passing of Sarada Act 1929 and Hindu Marriage Act 1955,
were taken to raise the minimum age for females to 15 years.
But still in certain part of India like Rajasthan and
Bihar, child marriage is a common phenomenon.

The influence of legislation in raising the age at
marriage in the mass illiteracy and ineffective and improper
measures taken by the government has been challenged by
number of Scholars who feel that the socio-economic conditions
of society are more important than law in influencing the
age at marriage.

There have been many studies examining the impact of
socio-economic and demographic factors on age at marriage.
However, most of them are state level studies. In the
context of significant regional variations in India, a state
is too large unit of a study for making generalisation.

Village level study may give a better picture of age at marriage, but they are handicapped of the fact that they can not cover major regional variations and it also requires the huge primary data collection which is rather time consuming and expensive. So, to bridge the gap between state level studies and village level studies, there is a need for district level studies while focussing upon the influence of difference socio-economic and demographic factors on age at marriage.

In this study therefore an attempt has been made with the main objective of examining the regional variations in the relative contribution of the different socio-economic and demographic determinants of age at marriage. For this purpose two representative states have been chosen as areas of study. Rajasthan representing states which have lower mean age at marriage and Tamil Nadu representing states which have higher mean age at marriage are those two. There are about 26 districts in Rajasthan and 14 districts in Tamil Nadu.

In order to examine the effect of socio-economic and demographic factors on age at marriage, about sixteen independent variables representing education, religion, caste(Scheduled Caste and Scheduled Tribe), level of urbanisation, work participation rate, sex ratio and

child woman ratio have been derieved for males and females of both the states separately.

Data for these variables have been collected from respective social Cultural Tables and General Population Tables provided by the census of India, 1971 for both Rajasthan and Tamil Nadu.

However, data on mean age at marriage have been borrowed from Goyal, Institute of Economic Growth, Delhi. To examine the inter correlation between each pair of independent variable and dependent variable, four 17 x17 Zero-Order Correlation Coefficient Matrices have been worked out for females and males of both Rajasthan and Tamil Nadu. To identify the relative contribution of each independent variable in determining age at marriage, Stepwise Regression Analysis have been worked out for both males and females of Rajasthan and Tamil Nadu respectively.

The entire analysis has been carried out in six chapters. The first chapter gives the Introduction which also includes review of relevant literature and the second chapter includes Methodology. The third chapter highlights the district level variations in the mean age at marriage for males and females of both the States. Fourth and fifth chapters examine the inter correlation between the

independent variables and dependent variable and also the relative contributibn of these variables in determining age at marriage for both male and female separately. And the sixth chapter gives the summary and conclusion.

District level variations in the mean age at marriage:

A striking differences between Rajasthan and Tamil Nadu were noticed with regard to the distribution of the male and female mean age at marriages at the district level. The minimum male mean age at marriage found in Dharmapuri district (24.64) of Tamil Nadu was more than the maximum male mean age at marriage found in Jaisalmer district (24.04) of Rajasthan. This was found to be true in the case of females also. The minimum female mean age at marriage found in Dharmapuri district (19.63)of Tamil Nadu was more than the maximum female mean age at marriage found in Jalore district (17.17) of Rajasthan. The mean age at marriage was found higher in those districts which are situated at the extreme southern side adjoining to Kerala and was found lower in northern side of Tamil Nadu. In Rajasthan, highest mean age at marriage was found in the extreme western part (Barmer district and Jaisalmer district) and very low mean age at marriage was found in the eastern part of Rajasthan.

Correlation between age at marriage and its determinants:

While analysing the correlation between age at marriage and its determinants, interesting results have emerged and they have been briefed as follows:

Literacy had a significant positive correlation with male as well as female age at marriages as far as Tamil Nadu is concerned. In the case of Rajasthan, literacy did not show a significant relationship with either male or female mean age at marriages. Thus, the hypothesis 1.a. i.e. higher the literacy, higher the age at marriage, was accepted for Tamil Nadu and rejected for Rajasthan. Analysing the correlation between age at marriage and different levels of literacy, it was found that lower literacy level had significant negative correlation and the other two higher literacy levels had significant positive correlation with male age at marriage in Tamil Nadu. None of the levels of female literacy had any significant correlation with female age at marriage in Rajasthan. Thus, the hypothesis 1.b. i.e. higher the levels of literacy, higher the age at marriage, was accepted for males of Tamil Nadu and rejected for females of Tamil Nadu and also for both males and females of Rajasthan.

It was found that the correlation between proportion of Hindu population and age at marriage was significantly

negative. It was found to be true for both males and females of Tamil Nadu, and for Rajasthan also it was true but only for males. The second hypothesis i.e. higher the proportion of Hindu population, lower the mean age at marriage fully accepted for Tamil Nadu and for Rajasthan it was accepted only for males.

A significant negative correlation was found between age at marriage and Scheduled Castes and Scheduled Tribe population. It was true for both males and females of Tamil Nadu and not so far Rajasthan. The third hypothesis i.e. higher the proportion of SC/ST, lower the mean age at marriages thus was fully accepted for Tamil Nadu and fully rejected for Rajasthan.

The relationship between the proportion of urban population and mean age at marriage was observed to be statistically insignificant for males and females of both Tamil Nadu and Rajasthan. The four th hypothesis was fully rejected.

A significant negative correlation was observed between male age at marriage and male workers in Tamil Nadu. For Rajasthan, the correlation was statistically insignificant. As far as female age at marriage is concerned, the negative relationship was statistically significant only in Rajasthan

and not so in Tamil Nadu.   Thus, the hypothesis 5.a. i.e.
higher the proportion of worker, lower the mean age at
marriage, was accepted for males of Tamil Nadu and females
of Rajasthan and rejected for females of Tamil Nadu and
males of Rajasthan. However, the correlation between
age at marriage and workers engaged in primary sector,
secondary sector, tertiary sector and other works is not
clear enough.   Thus, the hypothesis 5.b. i.e.'higher
the proportion of population engaged in secondary sector,
tertiary sector and other workes, higher the age at
marriage' was not validated.   The correlation between
sex ratio and female mean age at marriage was found to
be statistically insignificant.   Thus, the sixth hypothesis
i.e. higher the sex ratio, higher the female mean age
at marriage' was not validated for both the states.

The correlation between child woman ratio and mean
age at marriage was observed to be statistically insignificant
for males and females of Tamil Nadu and is statistically
significant for females of Rajasthan.   The seventh hypothesis
i.e. higher the child woman ratio, higher the age at marriage'
was rejected for Tamil Nadu and accepted only for females
of Rajasthan.

Determinants of age at marriage:

The relative contribution  of the determinants in

explaining age at marriage, as investigated through stepwise regression analysis, is as below.

Previous studies as discussed in the first chapter have identified literacy as the most dominant factor in determining age at marriage. But, it has been found true only to a marginal extent in this study. Literacy emerged with positive effect as the most dominant factor only for males of Tamil Nadu. In the case of Rajasthan, surprisingly, literacy emerged as the third dominant factor with significant negative effect for males. The effect of literacy on female age at marriage was found statistically insignificant for both the states. When the total literacy was divided into three levels and analysed the effect of literacy at each level on age at marriage, except for Tamil Nadu where the proportion of males studied up to matriculation level showed significant positive effect as expected, none of the categories of levels of literacy showed the significant positive effect in any of the states. The main reason for such differences in the impact of literacy on age at marriage could be attributed to the fact that the percentage of **female literates to total** females is only 26.86 whereas for males it is 51.77 per cent in Tamil Nadu.

The reason for literacy not being able to emerge

as the dominant factor in Rajasthan may be due to the
less percentage of male and female literates (28.74%
and 8.46% respectively).

Next to literacy which had emerged as the most
dominant factor only for males of Tamil Nadu, proportion
of Hindu population emerged as the dominant factor.
It emerg d as the most dominant factor for males of
Rajasthan and for females of Tamil Nadu. It also
emerged as one of the dominant factors for females of
Rajasthan. This may be again due to less percentage
of literates. Coming to the other two religions -
Christians and Muslims, it was found that except the
proportion of male Muslims in Tamil Nadu which showed
significant positive effect neither in Rajasthan nor
in Tamil Nadu these religions had any significant effect
on age at marriage.

The proportion of SC/ST also did not show a significant
effect on age at marriage except for Tamil Nadu where it
showed a significant negative effect on female age at
marriage.

The contribution of urban population in explaining
age at marriage was found to be insignificant for males
and females of both the states.

In Tamil Nadu, the proportion of male working population showed a significant positive effect with male age at marriage while female working population did not show any effect with female age at marriage. However, in Rajasthan proportion of male and female working population had significant negative effect with male and female age at marriage respectively. This contradicting results may be due to the fact that the people of Tamil Nadu are relatively in a better positions in terms of their socio-economic conditions. This can be gauged from the fact that in Tamil Nadu apart from the prevailing high literacy rate, the proportion of population engaged in non-agricultural activities is higher (38.5% males and 23% females) than Rajasthan (24.4% males and 11.59% females).

Coming to the effect of demographic variables, sex ratio was found as one of the significant factors in determining age at marriage. It showed a significant negative effect for males and positive effect for females of Tamil Nadu. For Rajasthan, it showed a significant positive effect for females and for males it did not show a significant effect. It means that when the sex ratio is higher the male age at marriage will be lower and female age at marriage will be higher. However, this would be possible only in a tradiational society like Rajasthan.

States like Tamil Nadu where majority of the males are educated and aware of the consequences of early marriages, high sex ratio can not have negative effect on male age at marriage and that is why in Tamil Nadu, the male mean age at marriage remains higher.

The effect of child woman ratio was observed to be statistically significant only for females in Tamil Nadu. It means that when the number of children are more in a family the possibilities of females getting married at the early ages are more. However, this was not found true for females of Rajasthan. For males, child woman ratio did not show a significant effect in any of the states.

## Conclusions:

To conclude, it can be said that literacy which was considered by the previous studies as the most dominant factor in determining age at marriage, has been considered to be one of the determinants only to a marginal extent in this study. Of the different factors assumed to be the determinants of age at marriage, literacy has been the most dominant factors only for males of Tamil Nadu. For females of Tamil Nadu, the proportion of Hindu females is the dominant determinant. In Rajasthan, the most dominant

factor determining male age at marriage is the proportion
of Hindu males. For females also, the proportion of
Hindu females is one of the dominant factors. The most
dominant factor for females of Rajasthan has been
identified as the proportion of female workers which is
also one of the significant factors in determining male
age at marriage in Rajasthan. Another dominant determinant
of age at marriage is the sex ratio. It has a negative
effect for males of Tamil Nadu and positive effect for
females of both Tamil Nadu and Rajasthan. When ever
the proportion of literates is found less and failed to
emerge as the most dominant determinant of age at marriage,
religion especially the proportion of Hindu population
has emerged the most dominant factor and when ever the
proportion of Hindu population has failed to emerge
as the most dominant factor, the proportion of workers
has emerged the most dominant determinants of age at
marriage. This shows the order of importance of these
factors (literacy, religion, work participation rate)
in determining age at marriage. Besides, some of the
factors which have shown significant effect (positive/negative)
in one state have not been the same in the other. The
reason for such differences may be due to the differences
in the proportion of literates, proportion of Hindu
population, proportion of population engaged in primary

sector and sex ratio. In short, it can be contented that
the reason for the regional variations in the mean age at
marriage is mostly due to the differences in the socio-
economic and demographic conditions. Thus, for any change
in the age at marriage, efforts should be made to alter
the socio-economic and demographic conditions.

# APPENDIX - I

Details regarding the variables chosen in some of the studies while analysing the impact of socio-economic and demographic factors on age at marriage:

1. Subhash Chander Gulati (1969)

$Y$ - Age at marriage

$X_s$ - Literacy, Urbanisation, and Sex Ratio.

2. C.R.Malakar (1975)

$Y$ - Age at marriage

$X_s$ - Urbanisation, Literacy, Sex Ratio of Unmarried Population of marriageable age, and per capita income.

3. Ashok Mitra (1976)

$Y$ - Age at marriage

$X_s$ - Religion, Caste and Community, Occupational Status and Income or Level of Consumption, Educational level and level of firtility.

4. R.B. Chari (1977)

$Y$ - Female age at marriage.

$X_s$ - Religion, Caste, Rural Urban literacy.

5. N.Audinarayana (1985)

$Y$ - Age at marriage.

$X_s$ - Literacy, Labour force, Non-Agricultural occupations, Urban population, per capita income.

6. R.P.Goyal (1986)

$Y$ - Age at marriage

$X_s$ - Literacy, Urbanisation, Sex ratio, the size of labour force engaged in agriculture and the economic participation rates.

7. J.N.Srivastava (1986)

$Y$ - Female age at marriage

$X$ - Literacy status.

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