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SPATIO-TEMPORAL VARIATIONS OF NUPTIALITY STATUS: A COMPARATIVE SOCIO-DEMOGRAPHIC ANALYSIS OF RURAL AND URBAN AREAS OF EAG STATES, INDIA

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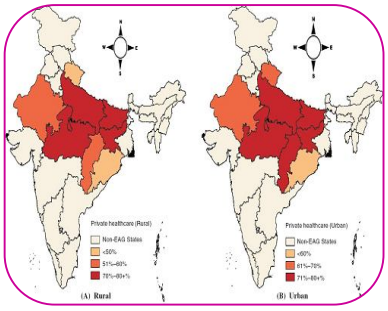

ABSTRACT

This paper examines the marriage patterns of EAG (Empowered Action Groups) states in India using 2001 and 2011 Census data of India. The work concentrates on nuptiality pattern, age at first marriage (Singulate mean age) for both of male-female and type of residence i.e. rural and urban areas.Itwas observed that the mean age at first marriage in EAG states is 22.5 years as per 2011 Census of India which is less than the national average of 23.14 years and the mean value of 24.37 years and 20.5 years for male and female respectively. The study also found that there is a wide gender gap of age at first marriage 3.87 years i.e. nearly about 3.95 years in urban areas where as near about 3.76 years in rural areas, which is less than the urban areas. The study secondary data collected from Census of India 2001 and 2011 and Hajnal's Singulate Mean Age at Marriage (SMAM) was used to analyze nuptial status based on the data collected.

KEYWORDS : *Crude Marriage Rate, General Marriage Rate, Probability of marriage, Singulate Mean Age at Marriage.*

1.1 INTRODUCTION:

Birth, marriage and death are the standard trio key events in most people's live (Badiger & Krishnaswamy, 1999). But only marriage is a matter of choice.Sometimes, many girls and boys got married with family member choice without expressing their views on partner choice. The assumption is that once a girl is married, she has become a woman even if she is only 10 or 12 years. Likewise, where a boy is made to marry, he is now a man andmust put away naive acts. While marriageable age is generally on the rise, early marriage- marriage ofchildren and adolescents below the age of 18 years are still widely practised (UNICEF, 2001) in developed and underdevelop countries.Nuptial behaviour is an important aspect of family life (Allendorf et al., 2012). The nuptiality patterns are much more diverse from region to region (Tukiran et al., 2017). In Asian countries, the extreme cases are found in Afghanistan and Bangladesh, where 54 per cent and 51 per cent of girls respectively are married by the age of 18 years (World Marriage Patterns, 2000). Whereas, in Nepal, the average age of first marriage is 19 years (UN, 1991 qtd in De Silva, 1997), however, 7per cent of girls are married before they are 10 years old and 40 per cent by the time they are 15 years old. InChina, the proportion of early marriages fell by 35 per cent in the 1970's, but raised from 13 per cent in 1979 to 18per cent in 1987.In India marriages are not only universal but take place in advance age. Although, there are enactment's to prevent the practice of early marriages in India, a lot of marriages do take place below the marriageable ages (Pathak, 1980). The marriageable age mostly depends on social class, level of education, employment status, religion, ethnic group, family background etc. (Goswami, 2012). So, the problem of early marriagein India is very complicated in nature (Pandey, 1984; 1996). Therising literacy

among women has opened new avenues as well as challenges; their participation in the present society is fast changing. This change affects matrimonial relations and as well as nuptiality pattern (Hussain, 1983). The objectives of this study are finding out the chances of getting married (probability) in different age group and also to find out the mean age at first marriage by age, sex composition and area of residence among EAG states and compare to national level.

1.2 REVIEW OF THE LITERATURE:

The studies of population dynamics, marriage and its dissolution are found to be important factors in determining fertility levels in most of the societies. The significant decline in Crude Birth Rate (CBR) of Sri Lanka was also partly due to changes in age at marriage (Kadi, 1987). For instance, in Sri Lanka, the average age at first marriage is25 years, compared to 19 years in neighboring India. In theIndian state of Rajasthan it was found on a survey on 5000 women in 1993 that 56 per cent got married before the age of 15, years, while17 per cent were married beforethey were 10 years (Burton, 1998). A survey conduct in 1998 in MadhyaPradesh found out that nearly 14 per cent ofgirl's were married within the age group of 10-14 years (Carron, 2000). Early marriage accelerates a woman's reproductive span; as a result it contributes to large family size, especially in the absence of contraception (World Bank 1999). Apart from family size being reduced through reduced exposure to pregnancy risk (Baldwin, 1971). Pregnancies that occur 'too early', when a woman's physique is not completely mature (Opara, 2017), constitute an extreme risk to the survival and future health of both mother and child (UNICEF, 1990). Shryock (1973) has identified some important factor which influences Crude Marriage rate and as well as the General Marriage rate. He argued that, when the population of both sexes is included in the base, the rate tends to be lower than a birth or death rate because only one event is tallied in the numerator for both the bride and the groom. According to Ridley and Sheps (1966) age at marriage affects fertility by changing the fertility schedule and family building pattern. Thus due to its combined effect through several routes, age at marriage can be termed the best single predictor of fertility. Jones (1978) also provides several examples from South-East Asia where rising age at marriage has played an important role in major fertility declines. Goode's (1963) modernization theory explains the impact of industrialization on marriage patterns. According to him, expansion of educational opportunities, changes in work force and occupational activities, and urbanization are the most important 'modern forces'. In the process of modernization individuals with higher social status (more education, modern occupational roles etc.) want more freedom and thus tend to marry later in life. Dixon (1971) in her sociological framework emphasized the effect of social institutions, such asthe family system and marriage norms and customs as well as warfare which may affect the age-sex composition of the targeted population.

1.3 STUDY AREA:

EAG states includeBihar, Jharkhand, Orissa, Madhya Pradesh, Uttar Pradesh, Uttarakhand and Rajasthan, formerly known as BIMARU states. In 1980's, economist Ashis Bose coined the term 'BIMARU'. It is derived from a Hindi word *'Bimar'* which literary means sick. The most common characteristics of the demographic features of the EAG states is its high fertility rate, high maternal mortality rate, high infant mortality rate, high population growth and low literacy level.

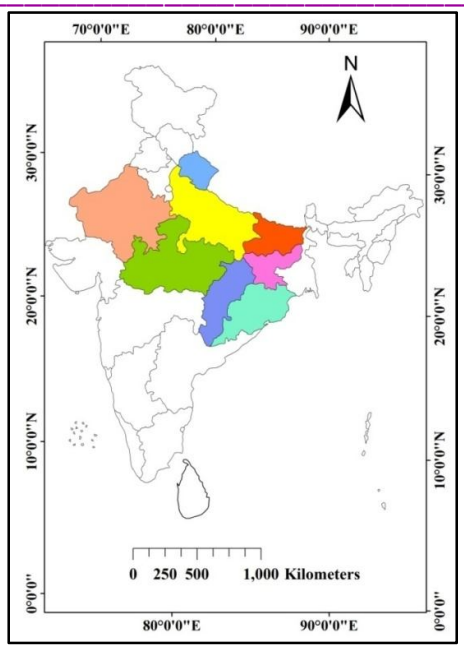

Figure 1: ***Location Map of the Study Area***

1.4 METHODOLOGY:

The present study is based upon secondary data sources, which are collected from the demographic Census data of India, 2001and 2011. For the purpose of the study, the following methodologies have been executed. Various measures like Crude Marriage Rate (CMR), General Marriage Rate (GMR) has been used to indicate the present marital condition. CMR and GMR has been calculated using the following formula:

CMR=$\frac{M}{P} * 1000$ Where, M =the total number of marriages among residents in an area during the year. P=the total number of person living in the area during the year.	**GMR=**$\frac{m}{p+15} * 1000$ Where, M= the total number of marriage among residents in an area during the year. $P+_{15+}$=Total number of marriage at age 15 yrs and older in the area during the year.

The nuptiality table has been constructed to find out the probability of getting marriage for each age group. The table comprises four columns corresponding to the following four variables:

- Exact age x starting at age 10 years which has been considered here as the minimum age at marriage. Many censuses in other countries also start at age 15 years and 15 years is chosen as marriageable age for constructed nuptial status. But in the study area, marriages before age 15 years (especially in rural females) have been observed. So, the marriageable age of this regionhas been calculated based on 10 - 14 age group.
- The number of single people at exact age group x represented by Cx.
- The number of first marriages in the age group x and x+5, represented by m(x, x+5).

- The probability of nuptiality, which measures the probability or risk of an individual of age group x getting married between the exact ages x and x+5, represented by $_5$nx and generally expressed per thousand (%o).

This study utilizes the Hinjal's methods (1953) to find out the Mean Age of Marriage or Singulated Mean Age. While studying the nuptiality of a population depend on census data, this study try to analyze either the proportion married until a definite age or Singulate Mean Age at Marriage (SMAM) of the population from the proportion of singles. Apparently, the indicator has period perspectives of estimating nuptiality. On the other hand, this studyanalyze the actual age at which men and women are married by deriving the average age of marriage, which has a cohort perspective of data analysis. Due to prevalence of early marriageable age this study use 10 years for both male and female, this has been taken lowest age for marriage whereas in Hinjal's method (1953) 15 years had been considered for SMAM. The formula is given below

$$SMAM=[\sum_{i=5}^{50} nSx - Sk(k)]/1\text{-}SK$$

Where, nSx= proportion of single in the age group x to x+n, k=is the upper limit of the age under which marriage occurs (50years), SK= proportion of single at age k.

2. RESULTS AND DISCUSSIONS:

2.1 Crude Marriage Rate (CMR)& General Marriage Rate (GMR):

The index very commonly used to analyse the incidence of marriage is the Crude Marriage Rate. CMR is the total number of marriage among the population in an area during the year. Some of the factors that influence the variation in the rate of crude marriage are: (1) the proportion of marriageable population, (2) the proportion of those who have previously married, (3) economic status of the particular region, (4) provisions for the dissolution of marriage contract and (5) moves regarding to remarriage (Shryock, et al., 1973). The states like Chhattisgarh and Rajasthan have significantly higher crude marriage rate whereas the states like Uttarakhand, Uttar Pradesh and Bihar have the substantially lower crude marriage rate in 2001.Whereas in 2011, Jharkhand and Chhattisgarh were the highest in terms of CMR.

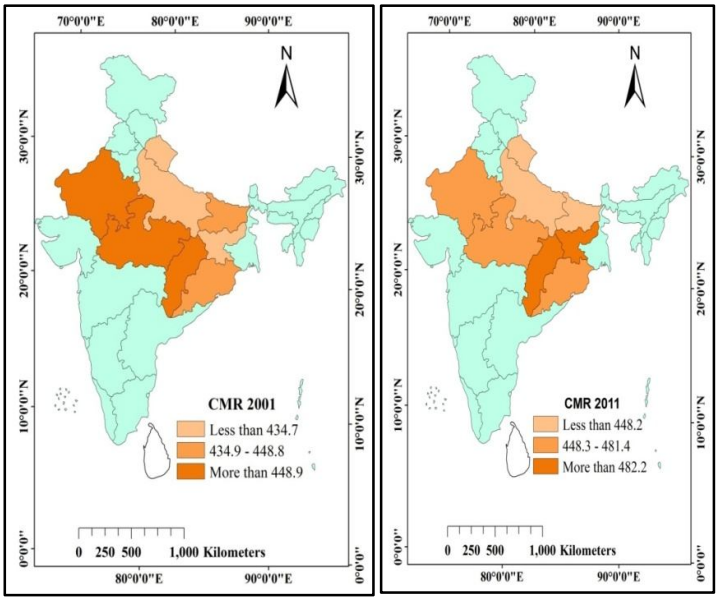

Figure2: *Crude Marriage Rate in 2001 & 2011*

Although the CMR is used as a measure of the relative frequency of marriages in the same area over a relatively short period of time and for international comparisons, however, it does not take into account the variation between areas in marriageable population which may be derived from the marital status and age distribution of the population. The general marriage rate is the number of marriages per 1000 persons aged 15 years and above. It has been found that (Figure 3) a higher general marriage rate is found in Rajasthan and Bihar followed by Chhattisgarh, Uttar Pradesh and Madhya Pradesh whereas the states like Orissa andUttarakhand have substantially lower general marriage rate in 2001. It has been noticeable that the higher general marriage rate has not change in 2011. The states like Uttar Pradesh, Orissa, Chhattisgarh and Uttarakhand have significantly lower general marriage rate in 2011.

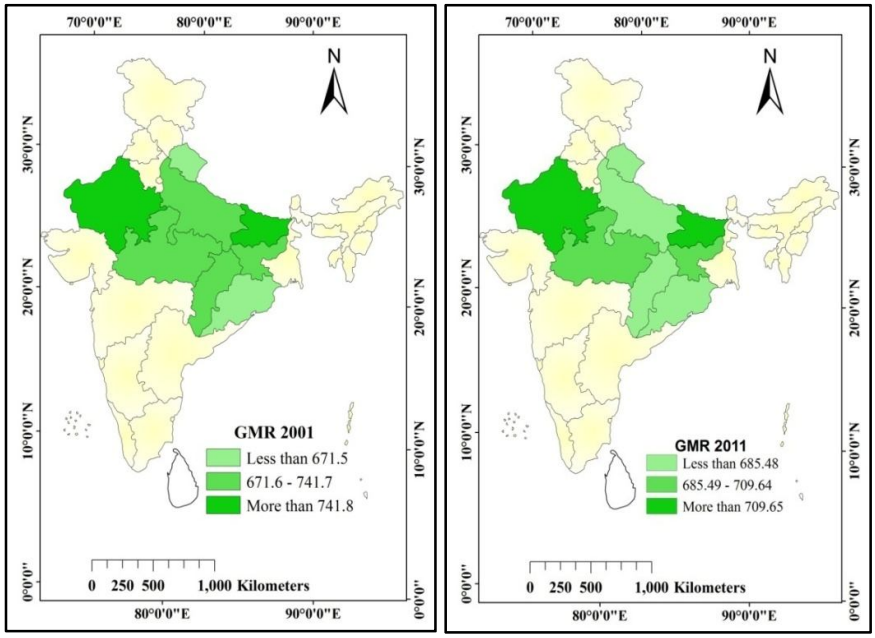

Figure 3: ***General Marriage Rate in 2001 & 2011***

2.2 Probability of marriage in EAG states:

The probability curves in Figure 4&5, indicate the probability to get married among the singulated population by age group and sex, the figures illustrate how young females tend to be when they enter into marriage. In EAG states, it is observed that though the minimum legal age for marriage for females is 15 years and 18 years for female, however, a sizable number of marriages do take place below the minimum legal age, therefore, the analysis of the data begins with 10 years age. The results in figure 5 reveals that for the age group 10–14 years, the probability of getting married for females is 202‰, this is more than thrice times that of males 56‰ in 2011, while in 2001 it was 307‰ for females and 78‰ for males. From the age of 15 to 19, the chances of getting married are still higher among females is (680‰) than among males (324‰) in 2011, while in 2001 it was 765‰ for females and 408‰ for males. In the age group 25 - 29, the chances of getting married for male and female are same. However, after 30 years the chances are higher for males than for females, although this drops again in the last age group 45–49 years.

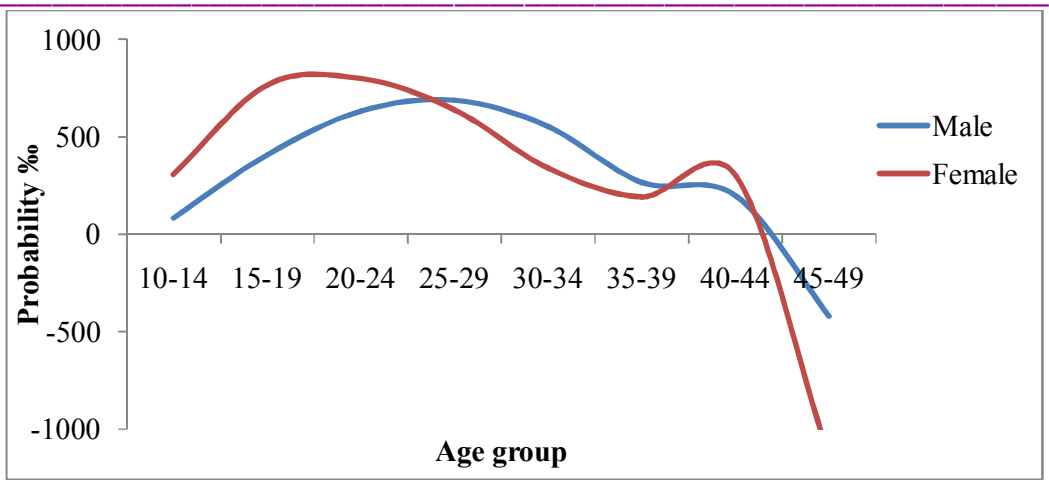

Figure 4: ***Probability (‰) of getting married by sex and age group in 2001***

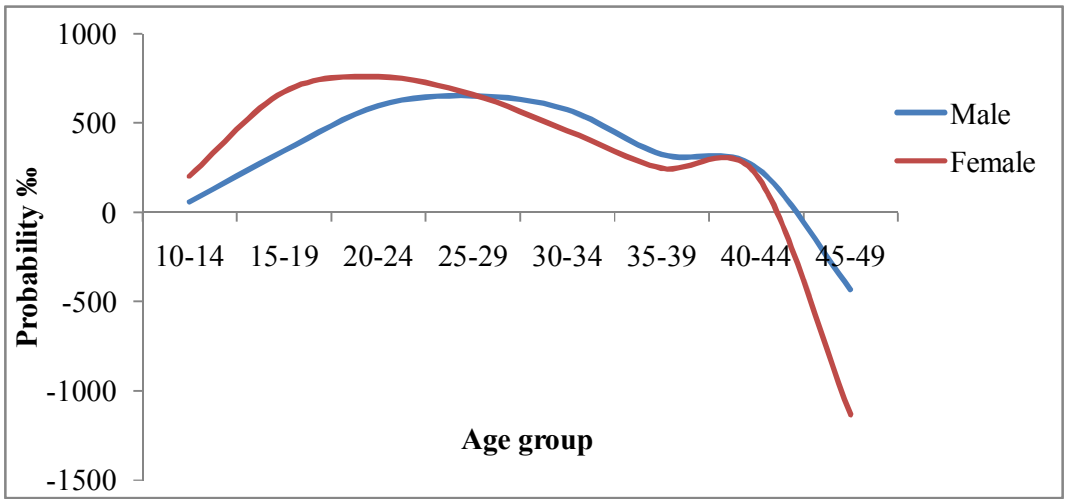

Figure 5: ***Probability (‰) of getting married by sex and age group in 2011***

It is obvious that the probability of getting married not only varies in gender it also differ from place of residence i.e., rural and urban areas. The difference is particularly marked for the age group 10 – 14 years, in which almost 3.28 per cent of the rural peoples are already married, while this percentage is 1.86 percent for urban counterparts. Figure 6&7, present the probability to get married, the results in 2011 reveals that for the age group 10–14 years, the probability of getting married in rural area is 127‰, this is more than that of urban only 72‰.While in 2001 it was 211‰ in rural areas as against 82‰ in urban areas. From the age group 15 – 19 years, the chances of getting married are still higher rural areas (530‰) than in urban areas (370‰) in 2011 while in 2001 it was 632‰ in rural areas and 331‰ in urban areas. Rural people usually get married earlier than their urban counterparts. In rural areas parents gave out their children in marriage after the completion of their secondary education and asked to take responsibility of their household activities.

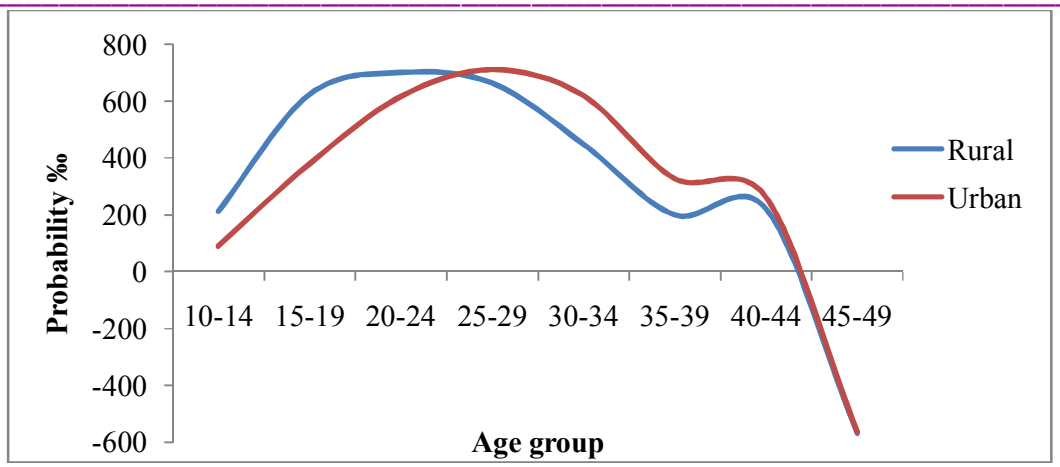

Figure 6: ***Probability (‰) of getting married by age group and area of residence in 2001***

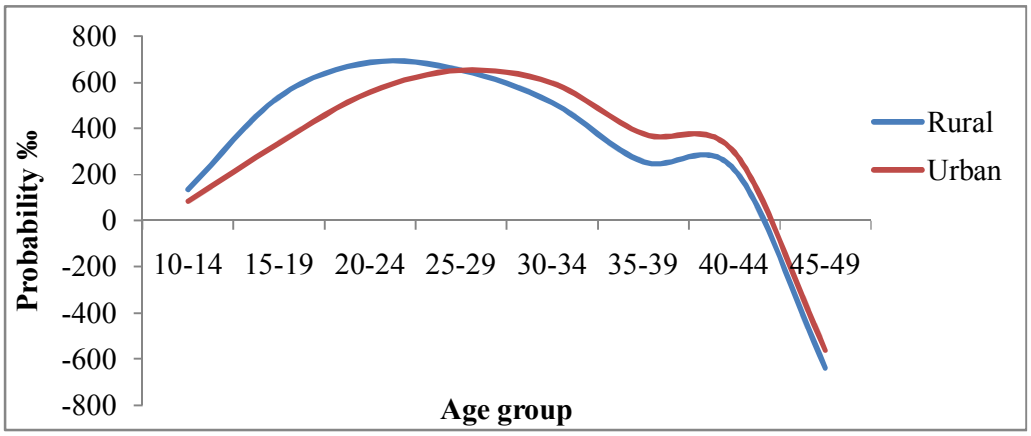

Figure 7: ***Probability (‰) of getting married by age group and area of residence in 2011***

2.4 Mean Age at first Marriage (Singulate Mean Age):

The mean age at first marriage is one of the most important indicators in nuptiality analysis. It is calculatedcircuitously from the proportion of single people in a given population. In this discussion, we use the Hajnal's (1953) Singulate Mean Age at first marriage to find out nuptial status with the census data.

2.4.1 Age at first marriage by sex:

Across India, the differences in the mean age at first marriage were different among the states. At the national level, the mean age at first marriage is 23.5 years in 2011, while it was 22.4 years in 2001. The mean age at first marriage of EAG states is22.5 years, this is lower than the national level in 2011, while it was 21.4 years in 2001(Table 1).The states like Orissa and Uttarakhand have significantly higher mean age at marriage than the national average in both decades, while states like Bihar and Rajasthan have substantially lower age at first marriage. Among the EAG states, there is a slowlyincreasingof age at first marriagedue to improvement of literacy rate in recent decades.

Table 1:Comparative changes in Age at first Marriage of EAG states

	Age at first marriage		Decadal change
	2001	2011	
India	**22.456**	**23.1434**	**0.69**

EAG States	**21.42**	**22.50**	**1.08**
Bihar	20.81	21.81	0.99
Jharkhand	21.88	22.48	0.60
Orissa	24.07	24.40	0.33
Chhattisgarh	21.85	22.91	1.06
Uttar Pradesh	21.43	22.78	1.34
Uttarakhand	23.19	23.99	0.80
Madhya Pradesh	21.02	22.28	1.26
Rajasthan	20.11	21.29	1.18

Source: Calculation based on Census data, 2001& 2011

2.4.2 Age at first Marriage by place of residence:

It is obvious that pattern of age at first marriage differ according to urban and rural residence. The urban people usually have new modes of action, new lifestyle andnew attitudes, different to those prevailing in rural areas. The highest difference of mean age at first marriage between rural and urban residence is found in Jharkhand with an average age of about 2.78 years in 2011; while in 2001 it was found in Madhya Pradesh with 3.26 years (Table 2). There is a clear difference between the urban population and rural residence with regard to nuptiality. Parents in rural areas arrange marriages of their girl children at an early age, where this is not the case of in the urban areas.In the rural parents normally thought that a girl child when marriedwill be a member of another family so they could not agree to educate themtheir male counterparts. Moreover, in rural areas the parents gave marriage of their sons after completion of their higher education and are asked to take full responsibility of their household which is very rare in urban areas.

Table 2: Spatio–Temporal changes of Age at first Marriage of EAG states

	2001			2011		
	Rural	Urban	Rural-Urban difference	Rural	Urban	Rural-Urban difference
India	**21.78**	**23.97**	**2.19**	**22.55**	**24.31**	**1.76**
Eag State	**20.77**	**23.65**	**2.87**	**21.95**	**24.26**	**2.32**
Bihar	20.44	23.63	**3.19**	21.48	24.04	**2.55**
Jharkhand	21.07	24.24	**3.17**	21.74	24.51	**2.78**
Orissa	23.76	25.61	**1.84**	24.14	25.55	**1.41**
Chhattisgarh	21.21	23.96	**2.75**	22.37	24.44	**2.07**
Uttar Pradesh	20.70	23.81	**3.12**	22.17	24.54	**2.37**
Uttarakhand	22.63	24.57	**1.95**	23.49	24.99	**1.51**
Madhya Pradesh	20.06	23.32	**3.26**	21.48	24.12	**2.64**
Rajasthan	19.37	22.19	**2.82**	20.66	22.99	**2.33**

Source: Calculation based on Census data, 2001& 2011

3. RELATION BETWEEN AGE AT FIRSTMARRIAGE AND SELECTED VARIABLES:

The marriageable age mostly depends on social class, level of education, employment, religion, ethnic group, family background etc. So, the problem of early marriage in India is complicated in nature.Table3, presents the relationship between age at first marriage, literacy rate, female literacy rate,

Human Development Index (HDI), Population backwardness Index (PBI), percentage of population Below Poverty Line (BPL).The age of females at marriage is another demographic variable which is influenced by the level of educational attainment. The result shows that there is a strong relationship between age at first marriage and female literacy rate. A clear-cut negative relationship found between age at marriage with PBI and PBL population.

Table 3:Correlations between Age at Marriage and selected variables

	Age at first marriage	Literacy rate	Female Literacy rate	HDI	PBI	% of BPL
Age at first marriage	1	.817*	.896**	.154	-.811*	-.791*
Literacy rate	.817*	1	.973**	.759*	-.859**	-.441
Female Literacy rate	.896**	.973**	1	.370	.035	-.290
Human Development Index (HDI)	.154	.759*	.370	1	-.392	-.437
Population Backwardness index (PBI)	-.811*	-.859**	.035	-.392	1	.772*
% of Below Poverty Line (BPL)	-.791*	-.441	-.290	-.437	.772*	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 8 presents the nature of relationship between literacy rate and age at first marriagein the EAG states in India. This study has shown that a positive and close relationship between age at first marriage and literacy rate which indicates the higher literacy rates stick out age at first marriage and the age at marriage will increase as the female literacy rate increases.

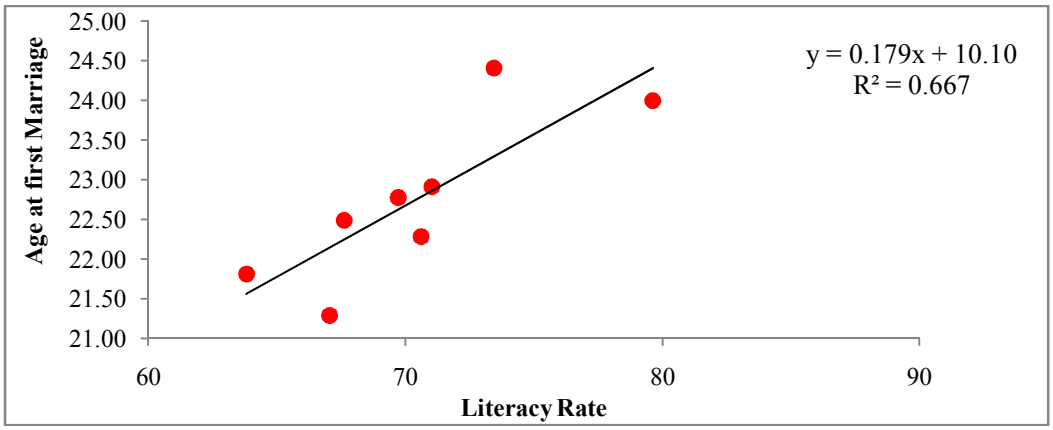

Figure 8: ***Relationship between Age at first Marriage and Literacy Rate***

Figure 9 presents the nature of relationship between female literacy rate and age at first marriagein the EAG states in India. This study has shown a close and positive relationship between age at first marriage

and female literacy rate which indicates age at marriage will increase as the female literacy rate increases. It focuses the importance of the femaleliteracy rate to increase mean age at first marriage.

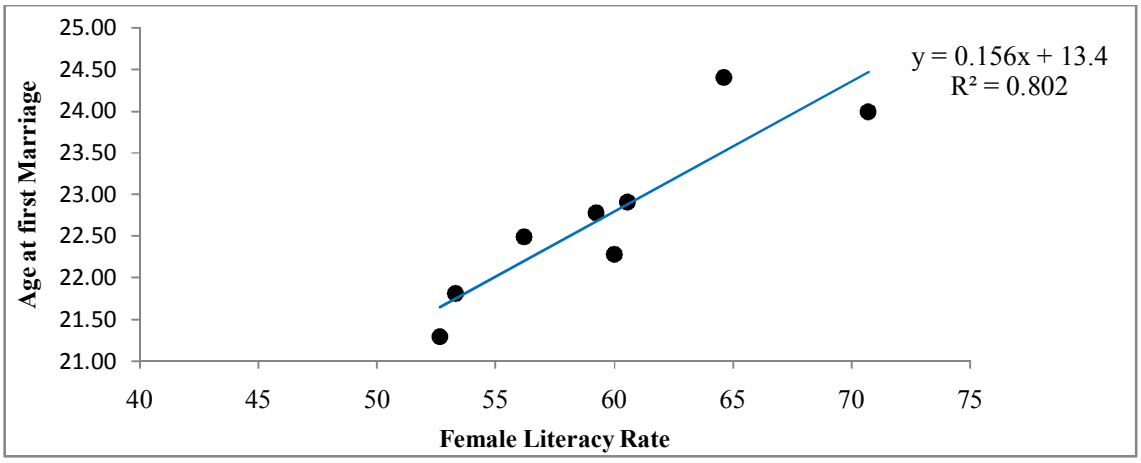

Figure 9: ***Relationship between Age at first Marriage and Female Literacy Rate***

4. RECOMMENDATIONS:

It has been established that the age at marriage increases with higher female literacy rates. So, to reduce the early marriage among females the literacy rate should be increased among females. The level of awareness about adverse effects of child marriage is low in rural areas compared to urban areas. So, common villagers should aware of it and increased awareness can stop the incidence of child marriage. The levels of backwardness and poverty have a direct impact on age at marriage. So, poverty eradication and high level of human development can reduce the child marriage. Awareness should be created on the negative effects of early marriage in the society.

5. CONCLUSION:

The study on nuptiality status is very important in contemporary society because it directly related to the maternal and new born health vulnerability when occurs at an early age. The study reveals that in EAG states of India the marriage before legal age and child marriage are common phenomena. The rate of child marriage is more in rural areas compared to urban areas of EAG states due to the low-level of literacy, poverty, low development index etc. The EAG states represent lower age at marriage compared to India. The high maternal and child mortality rates are common in all EAG states and these are because of high rate of child marriage and low-level of awareness. Higher female literacy rate, poverty eradication and increased awareness about adverse effects of child marriage can stop the child marriage in our society.

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