INDIAN JOURNAL OF POPULATION AND DEVELOPMENT ISSN: 2583-4827; Volume 3(1), January 2023: 127-148

Inter-District Variation in the Prevalence of Girl Child Marriage in Madhya Pradesh, India

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Abstract

This paper analyses the inter-district variation in the prevalence of girl child marriage in Madhya Pradesh, which is one of those states of India where the prevalence of girl child marriage remains high. The paper reveals that the prevalence of girl child marriages varies widely across the districts and there are districts where the prevalence has increased, instead decreased, over time. The districts of the state can be classified into seven groups having different prevalence of girl child marriage and the distinguishing characteristics of the different groups are different in terms of education of women, fertility, and social class composition of the population. The paper recommends that a decentralised district-based approach should be adopted for ending girl child marriages in Madhya Pradesh.

Introduction

Marriage is an important pillar of the family institution in the Indian society, although it is not a new thing that the patriarchy system is the soul of this pillar, which resides in its centre. In simple words, all decisions in the family are taken from the perspective of masculine mentality, irrespective of whether the decision is taken either by men or women. An implication of this masculine mentality is the practice of marriage, especially of girls, at a young age or girl child marriage. Girl child marriage is an age-old practice in India that has both social and religious sanction and that cuts across all sections of the Indian society. Although, efforts to prevent child marriage in general and girl child marriage in particular, in India date back to 1929 when the Child Marriage Restraint Act, popularly known as the Sharda Act was enacted in the country (Government of India, 1929). The 1929 Child Marriage Restraint Act which prohibited marriage of girls younger than 15 years of age and marriage of boys younger than 18 years of age was reformulated and enacted in 2006 as Prohibition of Child Marriages Act 2006 which prohibits marriage of girls younger than 18 years of age and marriage of boys younger than 21 years of age (Government of India, 2006). However, despite these legal provisions, all evidence suggests that girl child marriage remains a major social evil in India.

There are many reasons behind the persistence of marriage of children, especially girls, in India. It is well-known that girls, in the traditional Indian social system is generally considered as a burden on her parents and the family, and, therefore, the commonly prevailing attitude is to get the girl married as early as possible. An important consideration in this attitude is the dowry compulsion associated with the marriage of girls in India. The demand for a younger bride by the in-laws also creates an incentive for the parents and the families to marry the girl as earliest as possible. Child marriage is also an easy way out for parents who want their children to accept their choice of the partner (Government of India, 2008). Another compulsive factor in favour of marriage of girls during childhood is the protection of the girl from a range of hazards including sexual exploitation, especially when the parents, the family of the girl, the society, even the state, is unable to guarantee such protection. It has also been argued that marrying girls during their childhood protect them from unwanted male attention and promiscuity. Marriage of the girl before she attains puberty is also seen as the way to ensure the chastity and the virginity of the bride. Young brides are also get easily adjusted in the new family environment after marriage.

The United Nations defines a marriage before 18 years of age as a child marriage (Koski et al, 2017). This definition, however, is ambiguous, especially when marriage is a process comprising of different steps, in which situation it is difficult to decide which point in the process corresponds to the age at marriage. In the Indian social tradition, for example, the ritual of marriage is usually different from the ritual of the consummation of marriage and, before the ritual of the consummation of marriage, there is no cohabitation as the married girl goes to her in-laws only after the consummation of marriage. There is a generally a time gap between the ritual of marriage and the ritual of the consummation of marriage and the younger the age of the girl at the ritual of marriage the longer the period between the ritual of marriage and the ritual of the consummation of marriage. Factors that influence the time of the ritual of marriage are primarily economic, social, and cultural but not biological whereas factors that influence the time of the ritual of the consummation of marriage are primarily biological; the rural of the consummation of marriage takes place only when the girl has achieved a certain age. Since cohabitation does not start before the consummation of marriage, the age of the girl or the boy is hardly a consideration in the organizing the ritual of marriage whereas it is a primary consideration in the organisation of the ritual of the consummation of marriage. Deciding the age at marriage, therefore, is a complex issue.

During the fifth (2019-2021) round of the National Family Health Survey in India, all women aged 15-49 years were asked about their age at the first cohabitation. Cohabitation included living together after marriage and living with partner without marriage. Based on the response to this question, the proportion of women aged 20-24 years who reported that they first cohabited before reaching 18 years of age is calculated. This proportion has been taken as the prevalence of girl child marriage in the present analysis. The National Policy on Children also defines a person as child who has not yet completed 18 years of age (Government of India,) while the Prohibition of Child Marriage Act 2006 legally prohibits marriage of any female below 18 years of age and marriage of any male before 21 years of age. The Act, however, does not distinguish between the age of the girl or the boy at the time of the ritual of marriage and the time of the ritual of the consummation of marriage that is so common in the Indian social tradition and culture.

This paper has two objectives. The first objective is to analyse the variation and trend in the prevalence of girl child marriage in India across states and Union Territories of India and across districts of Madhya Pradesh, one of the states of India on the basis of the data available through the fourth (2015-2016) and fifth (2019-2021) rounds of the National Family Health Survey. The second objective of the paper, on the other hand, is to analyse the inter-district variation in the prevalence of child marriage and to identify district-specific factors that are responsible for inter-district variation in the prevalence of girl child marriage in Madhya Pradesh. The analysis is expected to help in formulating a district-based approach of ending the social evil of girl child marriage in the state. The available evidence suggests that the prevalence of the girl child marriage is quite pervasive in the state, although the prevalence has decreased over time.

Source of Data

The paper is based on the information about the age at first cohabitation collected from all women aged 15-49 years during the fourth (2015-2016) and the fifth (2019-2021) round of the National Family Health Survey. This information is available for all states and Union Territories of the country and for all districts of Madhya Pradesh as they existed at the time of the respective surveys. At the time of the fourth (2015-2016) round of the survey, there were 50 districts in the state but the number of districts in the state increased to 51 at the time of the fifth (2019-2021) round of the survey as the erstwhile district of Shajapur at the time of the fourth round of the Survey was divided into Agar Malwa and Shajapur districts at the time of the fifth round of the Survey. The National Family Health Survey Programme has been instituted by the Government of India, Ministry of Health, and Family Welfare in 1992 and is executed by the International Institute for Population Sciences, Mumbai to provide estimates of a range of population and health related indicators. The information available from the survey is based on the interaction with a statistically representative sample of households in each district covering both rural and urban areas. Technical details about the National Family Health Survey including the methodology adopted for the selection of the sample of the households for the survey are given elsewhere and not repeated here (Government of India, 2022). In each district, around 900-1100 households were selected in a statistically representative manner. The National Family Health Survey is currently the only source in India that provides the information related to the practice of child marriage at the district level.

Methods

The prevalence of girl child marriage is calculated as the proportion of women aged 20-24 years who were got married before reaching 18 years of age, the legal minimum age at marriage for females in the country. Estimates of the prevalence of the girl child marriage are available for all states and Union Territories of the country and for all districts based on the information collected at the fourth and the fifth round of the National Family Health Survey. We have used district level estimates of the prevalence of girl child marriage in Madhya Pradesh in the present analysis. The classification modelling approach (Han, Kamber, Pei, 2012; Tan, Steinbach, Kumar, 2006) has been used to group the districts by the prevalence of girl child marriage taking into consideration inter-district variation in factors that influence the prevalence of girl child marriage. Classification modelling involves classifying districts on the basis of a set of factors influencing the marriage of girls and then analysing the distribution of the prevalence of girl child marriage in different groups of districts so identified. The classification and regression tree (CRT) technique (Brieman, et al, 1984) has been applied for the purpose. The CRT is a nonparametric method that divides districts into mutually exclusive yet exhaustive groups in such a manner that group homogeneity with respect to the dependent variable is the maximum. The technique sorts districts into mutually exclusive yet exhaustive groups based on the independent variable that causes the most effective split. The process is repeated till either the perfect similarity is achieved or the stopping criterion is met (Ambalavanan et al, 2006; Lemon et al, 2003). A group in which all districts have the same value of the of the classification or dependent variable is termed as "pure." If a group is not "pure," then the impurity within the group can be measured. We have used the Gini coefficient of impurity in the present analysis. If the dependent variable is a categorical one, then the method provides the distribution of the dependent variable across districts in each group. If the dependent variable is continuous, then the method gives estimates of the arithmetic mean and standard deviation of the dependent variable in each group of districts.

We have taken into consideration seven factors that inter-district variation in which may have bearings on inter-district variation in the prevalence of girl child marriage. The first factor that we have considered is the degree of urbanisation or the proportion of the urban population to the population of the district following the definition of the urban area adopted at the 2011 population census. It is well-known that the practice of girl child marriage is different in the rural areas as compared to the urban areas because of a number of reasons so that the rural-urban composition of the population of the district is argued to have a strong bearing on the prevalence of girl child marriage in the district. At the nation al level, the prevalence of the prevalence of girl child marriage is found to be higher in the rural areas as compared to that in the urban areas because of many social, economic and cultural factors which suggests that the prevalence of girl child marriage should be lower in those districts of the state where the proportion of the urban population is high as compared to districts where the proportion of the urban population is low. The second factor that we have considered in the present analysis is the income per capita of the district measured in terms of the gross domestic output per capita. Income per capita is an indicator of the standard of living of the people, the higher the income per capita the higher the standard of living. It has been found that the income per capita varies widely across the districts of the state. It is argued that the prevalence of child marriage is high in the poor population as compared to the prevalence in the rich or the affluent population. This means that the prevalence of the girl child marriage should be high in districts where the income per capita is low as compared to districts where the income per capita is high.

The third factor that has been assumed to have an impact on the prevalence of girl child marriage is the male-female balance in the population or the sex ratio of the population measured in terms of the number of females for every 1000 males. The male-female balance in the population has implications for the marriage market for girls which has an impact on the age at marriage, especially of females. In India, the marriage market is narrow because of many considerations so that, it is conjectured that the inter-district variation in the male-female balance in the population, measured in terms of the number of females for every 1000 males has an impact on the inter-district variation in the prevalence of girl child marriage.

The next two factors that we have considered in the present analysis are related to the social class composition of the population measured in terms of the proportion of Scheduled Castes and the proportion of Scheduled Tribes in the district. It is well-known that the cultural and social norms, traditions, and practices related to marriage are different in different social classes and these differences have persisted over time. As such, it is conjectured that inter-district variation in the proportion of the Scheduled Castes population and inter-district variation in the proportion of the Scheduled Castes population has implications for the inter-district variation in the prevalence of girl child marriage.

The last two factors that we have considered in the present analysis are related to the characteristics of the women – the highest level of education attained by the women and her fertility. The relationship of education and age at marriage is well-known. The higher the level of education of females the higher the female age at marriage. As such, we argue that the higher the proportion of women aged 20-24 years with at least 10 years of schooling in the district the lower the prevalence of girl child marriage in the district.

Finally, the level of fertility in the district has been measured in terms of the proportion of third and higher order births in the district during the five years preceding the survey, the higher this proportion the higher the fertility in the district. It is well-known that the level of fertility and the female age at marriage are closely related so that inter-district variation in the proportion of third and higher order births are assumed to be related with the inter-district variation in the prevalence of the girl child marriage.

Girl Child Marriage in India

The evidence available from the National Family Health Survey suggests that the prevalence of girl child marriage in India remains quite pervasive and is a cause of concern from both population and development perspectives. According to the latest (2019-2021) round of the National Family Health Survey, more than 23 per cent of women aged 20-24 years reported that they were got married before reaching 18 years of age, the legal minimum age of marriage for females in India. This proportion has, however, decreased from almost 27 per cent in 2015-2016 (Government of India, 2022). Among different states and Union Territories of the country, the prevalence of girl child marriage varies from more than 41 per cent in West Bengal to just around 1 per cent in Lakshadweep. In addition to West Bengal, there are two states/Union Territories – Bihar and Tripura – where the prevalence of girl child marriage is at least 40 per cent. On the other hand, the prevalence of girl child marriage is found to be less than 10 per cent in 12 states and Union Territories of the country (Figure 1).

The evidence available from the National Family Health Survey also suggest that the prevalence of girl child marriage has not decreased in all states and Union Territories of the country during 2015-2021. There are five states and Union Territories - Goa, Punjab, Chandigarh, National Capital Territory of Delhi, and Manipur – where the prevalence of girl child marriage has increased during 2015-2021 as revealed through the fourth and the fifth round of the National Family Health Survey. If the evidence available from the National Family Health Survey is any indication, then ending child marriage, especially, girl child marriage, remains an elusive dream in India. At the age when a child should hold a pen or a pencil or should go to school for its cognitive development, a substantial proportion of children, especially girls, in India, are engrossed in the worries of fulfilling the responsibilities of the family and face the brunt of becoming pregnant and mother at a tender age.

Madhya Pradesh ranks 8 amongst the 36 states and Union Territories of the country in terms of the prevalence of girl child marriage. The good sign, however, is that the prevalence of girl child marriage has decreased quite rapidly in the state during the period 2015-2021. During 2015-2016, more than 35 per cent of women aged 20-24 years in the state reported that they were married before reaching 18 years of age. This proportion has decreased to 23 per cent during 2019-2021. Within Madhya Pradesh, this proportion varies widely across its constituent districts. The National Family Health Survey 2019-2021 indicates that, within Madhya Pradesh, the proportion of women aged 20-24 years who were married before reaching 18 years of age varies from 46 per cent in district Rajgarh to less than 5 per cent in district Balaghat. District Rajgarh is the only district where the proportion of women aged 20-24 years who were married before reaching 18 years of age is more than 40 per cent whereas there are only two districts – Balaghat and Jabalpur – where this proportion is less than 10 per cent. In 10 districts of the state, the prevalence of girl child marriage appears to be very high as 30-40 per cent women aged 20-24 years in these districts reported that they were married before reaching 18 years of age (Figure 2).





Figure 1: Prevalence of child marriage in states and Union Territories of India. Source: Author



Figure 2: Inter-district variation in the prevalence of child marriage in Madhya Pradesh. Source: Author

<figure><figure>

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Figure 3: Change in the prevalence of girl child marriage in districts of Madhya Pradesh between 2015-2016 and 2019-2021. Source: Author

The trend in the prevalence of girl child marriage also varies across the districts of Madhya Pradesh. The decrease in the prevalence of girl child marriage has been the most marked in district Satna where the prevalence of girl child marriage decreased from 36 per cent to 13 per cent between 2015-2016 and 2019-2021 according to the National Family Health Survey. In Sidhi and Vidisha districts also, the prevalence of girl child marriage decreased by more than 20 per cent between 2015-2016 and 2019-2021. On the other hand, there are four districts – Indore, Morena, Rajgarh, and Sheopur – where the prevalence of girl child marriage appears to have increased between 2015-2016 and 2019-2021 and the increase in the prevalence has been guite sharp in Rajgarh and Sheopur districts (Figure 3). At the same time, there has been virtually no change in the prevalence of girl child marriage in Betul, Bhopal, Guna, Hoshangabad, Neemuch and Shivpuri districts. The inter-district variation in both the level and the trend in the girl child marriage suggests that the change in the prevalence of girl child marriage is influenced by district-specific factors but very little is currently known about these factors. It is obvious from the information available through the National Family Health Survey that there is no common prescription for ending girl child marriage in the state. Rather, a decentralised district-based approach must be institutionalised as the first step towards ending the practice of girl child marriage in the state. This approach must

give due consideration to district-specific factors that influence the prevalence of girl child marriage in the district.

The relationship between the inter-district variation in the prevalence of girl child marriage and inter-district variation in the seven factors or variables that have an influence on the prevalence of the girl child marriage is depicted in figures 4 through 10. These figures reveal how inter-district variation in different independent variables is related to the inter-district variation in the prevalence of child marriage. It is evident from these figures that the higher the degree of urbanisation in the district the lower the prevalence of girl child marriage. On the other hand, inter-district variation in the proportion of Scheduled Tribes population does not appear to have any impact on the inter-district variation in the prevalence of girl child marriage. However, inter-district variation in the proportion of Scheduled Castes population has an impact on the prevalence of girl child marriage and the higher the proportion of the Scheduled Castes population the higher the prevalence of girl child marriage. Similarly, the higher the per capita income and the higher the population sex ratio measured in terms of females per 1000 males the lower the prevalence of girl child marriage in the district. It is also clear from these figures that inter-district variation in the proportion of females having at least 10 years of schooling is strongly related to the inter-district variation in the prevalence of girl child marriage and the higher the proportion of women with at least 10 years of schooling the lower the prevalence of the girl child marriage. Similarly, the inter-district variation in the proportion of third and higher order births is also related to the inter-district variation in the prevalence of girl child marriage and the higher the level of fertility the higher prevalence of the girl child marriage.



Figure 4: Prevalence of girl child marriage and degree of urbanisation in the district. Source: Author

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Figure 5: Prevalence of girl child marriage and Scheduled Tribes population. Source: Author



Figure 6: Prevalence of girl child marriage and Scheduled Castes population. Source: Author

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Figure 7: Prevalence of girl child marriage and per capita income. Source: Author



Figure 8: Prevalence of girl child marriage and population sex ratio. Source: Author

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Figure 9: Prevalence of girl child marriage and education of women. Source: Author



Figure 10: Prevalence of girl child marriage and fertility. Source: Author

Classification of Districts

Results of the classification modelling exercise are presented in table 1. The exercise suggests that the districts of the state can be classified into seven groups and the average prevalence of girl child marriage in the seven groups is different. The largest group comprises of 11 districts. The unweighted average prevalence of girl child marriage in this group of districts is estimated to be 33.06 ± 5.80 which is the highest amongst the seven groups identified in the present analysis. This group of districts is characterised by very low level of education of women and very low proportion of the Scheduled Tribes population in the district. On the other hand, smallest group comprises of 4 districts and the unweighted average prevalence of girl child marriage in this group is estimated to be 8.23 ± 3.07 which is the lowest amongst the seven groups of districts. This group of districts is characterised by high level of education of women and low level of fertility as is reflected through the proportion of third and higher order births.

Table 1 shows how inter-district variation in for variables – level of education of women, proportion of Scheduled Tribes population, level of fertility and sex ratio of the population – influences inter-district variation in the prevalence of girl child marriage. For example, there are 13 districts where both level of education of women and proportion of third and higher order births is high. In 8 of these 13 districts, there are less than or equal to 990 females for every 1000 males whereas in 5 districts, there are more than 990 females for every 1000 males. This difference in the sex ratio has a telling impact on the prevalence of girl child marriage in the two groups of districts as may be seen from the table. Similarly, in districts where around 26 per cent of women have at least 10 years of schooling, there is marked difference in the prevalence of girl child marriage in those districts where the proportion of Scheduled Tribes population is less than or equal to around 12 per cent as compared to those districts where the proportion of the Scheduled Tribes population is more than 12 per cent. The same is true for those districts where less than 25 per cent of women have at least 10 years of schooling.

The classification modelling exercise also suggests that the inter-district variation in the proportion of women having at least 10 years of schooling is the most important in deciding the inter-district variation in the prevalence of girl child marriage followed by the inter-district variation in the proportion of the Scheduled Tribes population, the inter-district variation in the proportion of third and higher order births. On the other hand, inter-district variation in the propulation sex ratio is important in characterising the inter-district variation in the prevalence of girl child marriage in only those districts where the level of fertility is high. By contrast, inter-district variation in the proportion of the Scheduled Castes population, and inter-district variation in the proportion of the Scheduled Castes population has not been found to have a substantial influence on the inter-district variation in the prevalence of girl child marriage.

Node	Education	lucation Fertility Scheduled Sex ratio Prevalence of g Tribes (Pe		Prevalence of gi	girl child marriage er cent)			
	Women aged 20-24	Proportion	Proportion	Females per	Mean	SD		
	years having at least	of 3 rd and	of Scheduled	1000 males				
	10 years of schooling	higher	Tribes					
	(Per cent)	order births	population					
		(Per cent)	(Per cent)					
0	All	All	All	All	23.0140	9.28681	50	
1	<= 30.15	All	All	All	27.4970	7.37337	33	
2	> 30.15	All	All	All	14.3118	5.78618	17	
3	<= 25.70	All	All	All	31.0556	6.16319	18	
4	> 25.70 <= 30.15	All	All	All	23.2267	6.50554	15	
5	> 30.15	<= 1.60	All	All	8.2250	3.07069	4	Terminal node
6	> 30.15	> 1.60	All	All	16.1846	5.11205	13	
7	<= 25.70	All	<=19.30	All	33.0636	5.79643	11	Terminal node
8	<= 25.70	All	> 19.30	All	27.9000	5.71110	7	Terminal node
9	> 25.70	All	<= 12.40	All	17.9714	4.45672	7	Terminal node
10	> 25.70	All	> 12.40	All	27.8250	3.97950	8	Terminal node
11	> 30.15	> 1.60	All	<= 990	18.5625	5.14724	8	Terminal node
12	> 30.15	> 1.60	All	> 990	12.3800	1.62234	5	Terminal node

Table 1: Results of the modelling exercise.

Source: Author



Figure 11: The classification of districts by the prevalence of girl child marriage. Source: Author

Figure 11 shows the classification tree that depicts how districts of the state are grouped in terms of the prevailing level of the education of women, fertility, share of the Scheduled Tribes population and the population sex ratio in the context of the prevalence of girl child marriage. The distribution of the 7 groups of districts or Terminal Nodes identified through the classification modelling exercise is shown in figure 12. It is clear from the figure that, except for the districts included in Node 5, majority of the districts of other Nodes or groups are geographically clustered with only a few exceptions.

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Figure 12: Groups of districts identified through the classification modelling exercise. Source: Author

Discussion and Conclusions

Madhya Pradesh is one of those states of India where the prevalence of girl child marriage remains unacceptably high, and this prevalence varies widely across the districts of the state. In district Rajgarh of the state, the prevalence of girl child marriage is exceptionally high whereas in district Balaghat, it is exceptionally low. The paper reveals that the most important factor in explaining the inter-district variation in the prevalence of girl child marriage is the inter-district variation in the education of women as measured in terms of women aged 20-24 years having at least 10 years of schooling followed by inter-district variation in the level of fertility as measured in terms of the proportion of third and higher order births during five years prior to the survey. On the other hand, inter-district variation in the degree of urbanisation in the measured in terms of the proportion of urban population to the total population and inter-district variation in the income per capita measured in terms of the gross domestic product per capita have not been found to be very relevant as far as the inter-district variation in the prevalence of girl child marriage in the state is concerned.

The analysis presented here suggests that legal provisions to end child marriage, especially of girls may not be effective in the absence of other development efforts in ending the social evil of child marriage. Any strategy towards ending child

marriage, especially girl child marriage must focus on universalising women education and in regulating fertility. All the four districts where the prevalence of girl child marriage is found to be less than 10 per cent are those districts where the proportion of women having at least 10 years of schooling is high and the proportion of third and higher order births low. The analysis also reveals that inter-district variation in the prevalence of girl child marriage is also influenced by the inter-district variation in the social class composition of the population measured in terms of the proportion of the Scheduled Tribes population. The analysis suggests that a decentralised district-based approach should be adopted for ending girl child marriages in Madhya Pradesh. There is a need of identifying district-specific factors that have strong bearings on the prevalence of girl child marriage. Identifying and addressing these factors is important in preventing child marriages.

Ending child marriages, especially of girls, is a priority from both demographic and development perspectives. Girls married during their childhood face many social, health and economic disadvantages. Although, the available data do not conclude that marriage during childhood causes these adverse outcomes, yet the association between marriage during childhood, poverty and low educational attainment is well established (Miller and Lester, 2003). Girls married during childhood have been found to show symptoms of sexual abuse and post-traumatic stress such as hopelessness, helplessness, and severe depression (Lal, 2015). Marriage during childhood reduces the likelihood of girls completing secondary school by 4 to 6 per cent and, associated with school dropout, it reduces the lifetime earning potential of a girl by 9 per cent. Marriage during childhood reduces the ability of girls to access economic resources and perpetuates their oppression. They have less decision-making and bargaining power in the family and face a higher risk of domestic and intimate partner violence. Marriage during childhood is commonly associated with child birth at an early age, which leads to high maternal mortality (Das, 2018).

Given the implications of child marriage to both demography and development, ending child marriage, especially of girls, must be a priority development agenda and a development-based strategy should be adopted to end child marriage rather than forced implementation of legal provisions. Given the very strong interdistrict variation in the prevalence of girl child marriage, this strategy must follow a decentralised district-based approach that considers the local level factors of girl child marriage.

References

Ambalavanan N, Carlo WA, Shankaran S, Ban CM, Emrich SL, Higgins RD, Tyson JE, O'Shea TM, Laptook AR, Ehrenkranz RA, Donovan EF, Waleh MC, Goldberg RN, Das A, National Institute of Child Health and Human Development Neonatal Research Network (2006) Predicting outcomes of neonates diagnosed with hypoxemic-ischemic encephalopathy. *Pediatrics* 118(5): 2084–2093.

- Brieman L, Friedman JH, Olshen RA, Stone CJ (1984) *Classification and Regression Trees*. Boca Raton, CRC Press.
- Das N (2018) The economics of child marriage. Times of India,
- Government of India (2006) The Prohibition of Child Marriage Act 2006. New Delhi,
- Government of India (2013) *The National Policy for Children, 2013*. New Delhi, Ministry of Women and Child Development.
- Government of India (2022) *National Family Health Survey (NFHS-5) 2019-21. India Report.* Mumbai, International Institute for Population Sciences and ICF.
- Han J, Kamber M, Pei J (2012) Data Mining: Concepts and Techniques. Amsterdam, Elsevier.
- Koski A, Clark S, Nandi A (2017) Has child marriage declined in sub-Saharan Africa? An analysis of trends in 31 countries. *Population and Development Review* 43(1): 7-29.
- Lemon SC, Roy J, Clark MA, Friedmann PD, Rakowski W (2003) Classification and regression tree analysis in public health: Methodological review and comparison with logistic regression. *Annals of Behavioral Medicine* 26(3): 172–181.
- Tan P-N, Steinbach M, Kumar V (2006) *Introduction to Data Mining*. New Delhi, Pearson Education.

District	Women aged 2		
	were married be	Change	
	years of age		
	(Per cent)		
	2015-2016	2019-2021	
Agar Malwa	na	35.6	na
Alirajpur	37.1	30.7	-6.4
Anuppur	27.3	18.6	-8.7
Ashoknagar	33.2	29.7	-3.5
Balaghat	8.6	4.4	-4.2
Barwani	42.2	29.6	-12.6
Betul	12.5	11.2	-1.3
Bhind	31.7	25.1	-6.6
Bhopal	13.1	11.3	-1.8
Burhanpur	24.7	17.8	-6.9
Chhatarpur	43.5	39.2	-4.4
Chhindwara	16.3	11.6	-4.7
Damoh	39.9	28.6	-11.3
Datia	37.1	27.7	-9.4
Dewas	36.1	28.1	-8.0
Dhar	30.1	26.5	-3.6
Dindori	34.9	21.1	-13.8
Guna	29.8	28.1	-1.7
Gwalior	19.4	11.8	-7.6
Harda	24.3	10.0	-14.3
Hoshangabad	18.4	16.7	-1.7
Indore	20.7	21.7	1.0
Jabalpur	13.9	7.2	-6.7
Jhabua	54.0	36.5	-17.5
Katni	25.5	17.2	-8.3
Khandwa (East Nimar)	17.6	10.8	-6.8
Khargone (West Nimar)	24.0	13.3	-10.7
Mandla	27.3	15.0	-12.3
Mandsaur	48.2	34.8	-13.4
Morena	27.0	27.8	0.8
Narsimhapur	27.4	19.6	-7.8
Neemuch	31.8	29.3	-2.5
Panna	32.9	22.8	-10.1
Raisen	28.1	12.6	-15.5
Raigarh	38.2	46.0	7.8
Ratlam	46.2	31.3	-14.9
Rewa	33.6	28.2	-5.4
	22.0		5

Table 2: Inter-district variation in the proportion (per cent) of women aged 20-24 years who reported that they were married before reaching 18 years of age.

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District	Women aged 2		
	were married be	Change	
	years		
	(Per		
	2015-2016	2019-2021	
Sagar	38.6	21.4	-17.2
Satna	36.1	12.9	-23.2
Sehore	31.5	21.7	-9.8
Seoni	16.3	11.2	-5.1
Shahdol	35.4	27.5	-7.9
Shajapur	35.2	24.4	-10.8
Sheopur	29.6	39.5	9.9
Shivpuri	34.0	32.5	-1.5
Sidhi	45.7	23.0	-22.7
Singrauli	34.9	24.7	-10.2
Tikamgarh	47.2	32.6	-14.6
Ujjain	41.0	33.4	-7.7
Umaria	37.3	21.2	-16.1
Vidisha	43.5	22.8	-20.7

Source: Government of India (2022)