



An Assessment of Changing Socio-economic Profile of Women in the Northeastern States of India

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Abstract:

This paper aims to explore the socio-economic profile of women in the northeastern states of India for the years 2005-06 and 2015-16 using primarily NFHS-3 and NFHS-4 data. Multiple parameters are considered, namely literacy rates, sex ratio, women's health (general as well as reproductive), participation in the labour force, participation in the political domain, and incidence of crime against women. The performance of northeast states on various parameters vis-à-vis the all-India performance is ascertained using the number of parameters in which the state has performed better than the all-India figure. Mizoram and Sikkim perform better than the national average in a maximum number of parameters followed by Meghalaya and Manipur. The women empowerment index, women's health index, and women's status index are constructed for the states. The women's status index is found to have a positive correlation with per capita income, male literacy rate, and household prosperity index, while caste/tribe and religious composition do not have a significant correlation with the status of women. An improvement in women's social, economic as well as political status can be facilitated by improved economic growth and also through positive changes in social norms.

Keywords: Northeastern states, India, Status of women, Socio-economic profile, National Family Health Surveys

1. Introduction

The northeastern region of India comprises eight states, namely Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. The region consists of an area of 262,230 square kilometres, almost 8 percent of India's total land mass. The total population of Northeast India is 46 million constituting 3.8% of India's total population. The hilly states in the region like Arunachal Pradesh, Meghalaya, Mizoram, and Nagaland are predominantly inhabited by tribal people with diversity even within the tribal groups. While the region is generally considered as lagging in terms of growth in per capita income, women are perceived to be enjoying a higher status in the North Eastern Region of the country in comparison with the status of women in several parts of India. There are studies like Garg and Nath (2008) that hail the northeast region for better status of women. According to these studies, in matriarchal societies, women control land holding and have more say in matters related to family, economy and society. However, most literature confirms presence of deep-rooted culture of patriarchy in the region (see Krishna 2004, Boungpui 2014, Brara 2017). Almost all the communities in northeast India are patrilineal, that is where descent is traced from father to son except for the state of Meghalaya, where the Khasis, Jaintias and the Garos follow the matrilineal system where descent is traced from mother to the daughter. Although women in the region participate in economic responsibilities along with men, they are denied equal rights to property and inheritance by their customary laws. The practice of bride-price also exists in number of communities in northeast India where the bridegroom has to pay certain amount of money to the girl's parent to compensate the girl's family for their loss of an economically active member (see Krishna 2004, Boungpui 2014). Gupta et al (2013) confirm gender discrimination even among the Khasi community of Meghalaya particularly in health and decision

making. Ellena and Nongkynrih (2017) find women in relatively better position in matrilineal societies as compared to patrilineal communities. Studies also explore specific issues relating to gender inequality and discrimination in the northeast (Mahanta and Nayak 2013; Gupta and Yesudian, 2006), preference for daughters and contraceptive use in matrilineal tribal societies (Narzary and Sharma, 2013), and the nutritional status of children in northeast India (Rao et al, 2004).

This paper aims to explore the socio-economic profile of women in the northeastern states of India and the status that they are accorded in society. Multiple parameters are considered such as literacy rates, sex-ratio, women's health (general as well as reproductive), participation in the labour force, participation in the political domain, and incidence of crime against women. It attempts to highlight heterogeneities across the states on various parameters and to assess whether the northeast region constitutes a relatively more egalitarian society for women in comparison to other parts of India.

The paper is arranged as follows. Section 2 discusses methodology, data, and data sources. Section 3 provides a brief demographic and economic overview of the region. The findings related to status of women are presented in Section 4. Section 5 presents the ranking of the states based on their overall performance on various parameters and Section 6 concludes and sums up the discussion.

1. Methodology and Data Sources

The demographic and economic profile of the northeastern states is constructed in terms of following:

- a. Total Population, composition of population in terms of religion and caste (Source: 2011 Population Census)
- b. Per-capita state domestic product (Source: National Health Profile)
- c. Access to facilities like electricity and sanitation (Source: National Family Health Surveys NFHS-3 & NFHS-4 conducted in the year 2005-06 and 2015-16 respectively) and drinking water within premises (Source: Population Census, 2011)

The parameters for constructing socio-economic profile of women are grouped as follows:

- a. General factors: sex-ratio, literacy rates and gender gaps therein, women married before the age of 18 years (Source: NFHS-3 and NFHS-4).
- b. Health: Two aspects of health are considered. The general health standards of women include percentage of women with low body mass index and percentage of women with anemia and access to clean cooking fuel (Source: NFHS-3 and NFHS-4). To determine the status of reproductive health of women, parameters included are: women using hygienic methods during menstrual period, total fertility rate, use of family planning methods, percentage of institutional births, child-bearing in the age 15-18 years and outcome of pregnancies (Source: NFHS-3 and NFHS-4).
- c. Women's autonomy: as measured by participation in household decisions, and women facing spousal violence, as well as women ownership of property, having a mobile phone, and having a bank account (Source: NFHS-3 and NFHS-4).
- d. Participation in the labour force is measured by female workforce participation rates (Source: Women and Men, 2015).
- e. Participation in State Assemblies is measured by the percentage of females in elected representatives in state legislative assemblies (Source: Women and Men, 2015)
- f. Incidence of crime against women (Source: Women and Men, 2015)

2. The North Eastern States- An Overview

A brief demographic and economic profile of the states is presented as follows.

2.1 Demographic profile

According to 2011 Population Census, Assam is the most populous state in the region and is home to 68% of population in the northeast region followed by Tripura (8%). The state with smallest population is Sikkim (1.33%) (Table 1).

The composition of population in terms of religion is presented in Table 2. The Christian population constitutes a sizeable proportion in the states of Mizoram (92%), Nagaland (89%), Meghalaya (77%) and Arunachal (41%). Assam and Manipur have 32.5% and 10.1% of their population as Muslims. The percentage of Hindus in Tripura is 84.4%, Assam 63.8%, Manipur 46% and Arunachal 26.3%. Sikkim has 30.8% of its population as Buddhist followed by Arunachal Pradesh (18.2%).

Table 1: Population in Northeastern states, 2011

	Population	Percent share in India's population	Percent share in North East
Arunachal	1,383,727	0.11	3.02
Assam	31,205,576	2.59	68.18
Manipur	2,855,794	0	6.24
Meghalaya	2,966,889	0.25	6.48
Mizoram	1,097,206	0.09	2.4
Nagaland	1,978,502	0.16	4.32
Sikkim	610,577	0.05	1.33
Tripura	3,673,917	0.3	8.03
India	1,210,854,977		

Source: 2011 Population Census

Table 2: Composition of population in terms of religion

State	Hindu	Muslim	Christian	Sikh	Buddhist	Jain	Others	Total
Arunachal	26.3	2.3	41	0.1	12.1	0	18.2	100
Assam	63.8	32.5	3.3	0	0.2	0	0	99.8
Manipur	46	10.1	31.2	0	0	0	12.6	99.9
Meghalaya	11.1	5.1	77	0	0.1	0.1	6.6	100
Mizoram	0.9	0.7	91.8	0	6.4	0	0.1	99.9
Nagaland	7.3	3.4	89	0	0.1	0	0.1	99.9
Sikkim	58.5	1.4	9.1	0	30.8	0	0.1	99.9
Tripura	84.4	7.3	4.6	0	3.7	0	0	100
India	79.8	14.23	2.3	1.72	0.7	0.37	0.9	

Source: 2011 Population Census

The composition of population in terms of caste is presented in Table 3. The states with sizeable percentage of tribal population are Mizoram (96%), Nagaland (89.3%), Meghalaya (88%), Arunachal (72.5%), Sikkim (36.9%) and Tripura (30.5%).

Table 3: Caste Composition of Population, 2011

	SC	ST	OBC	Others	Don't know	Total
Arunachal	7	72.5	4.9	14.7	0.8	100
Assam	11	12.6	27	48.4	0.9	100
Manipur	6	30.4	18.1	43.7	1.8	100
Meghalaya	3.4	88	0.8	7.4	0.3	100
Mizoram	1.1	96	2	0.5	0.4	100
Nagaland	5.2	89.3	0.8	4.3	0.1	100
Sikkim	5.6	36.9	32	25.3	0.1	100
Tripura	21.2	30.5	17.8	30.4	0.1	100

Source: 2011 Population Census

2.2 Economic Profile

The level of development and standards of living of the states can be gauged by per-capita state domestic product and command over facilities such as electricity, sanitation and availability of water within the household premises.

The per capita net state domestic product is highest in Sikkim and lowest in Assam for the year 2014-15. Five out of eight states- Assam, Manipur, Meghalaya, Sikkim, Nagaland and Tripura- have per capita NSDP lower than all-India level.

Table 4: Per capita NSDP at current prices (in rupees)

	2014-15	2015-16
Arunachal	1,10,793	1,22,466
Assam	52,895	60,526
Manipur	53,187	55,603
Meghalaya	64,638	70,693
Mizoram	1,03,049	1,14,524
Nagaland	78,367	83,621
Sikkim	2,14,148	2,33,954
Tripura	71,666	Na
India	86,454	94,130

Source: National Health Profile, 2018

The access of households to electricity, sanitation and drinking water are presented in Table 5. At all-India level, 67.9% of households had access to electricity in 2005-06 which increased to 88.2% in 2015-16. The percentage of households having access to electricity has increased in all the northeastern states. In 2015-16, the states with highest percentage of such households is Sikkim (99.4%) followed by Nagaland (97%). Assam (78.2%) has lowest access to electricity in the region and also it has access to electricity lower than the all-India level.

The percentage of households with improved sanitation facility has gone up from 29.1% in 2005-06 to 48.4% in 2015-16 at all-India level. In 2015-16, Sikkim (88.2%) has highest percentage of households with sanitation facility in the region whereas Assam has lowest access to sanitation (47.7%).

The percentage of households with drinking water available in the household premises itself was 46.6% for all-India with Assam (54.8%) having highest percentage in the region and Manipur (15.5%) the lowest.

Table 5: Percentage of households with access to electricity, improved sanitation and drinking water within premises

State	Percentage of households with access to electricity		Percentage of households with access to improved sanitation		Percentage of households with availability of drinking water within the premises
	NFHS-3 (2005-6)	NFHS-4 (2015-16)	NFHS-3 (2005-6)	NFHS-4 (2015-16)	Census 2011
Arunachal	76.9	88.7	39.6	61.3	41.1
Assam	38.1	78.2	30.7	47.7	54.8
Manipur	87	92.4	30.2	49.9	15.5
Meghalaya	70.4	91.4	37.6	60.3	24.1
Mizoram	92.4	95.9	75.5	83.3	31.2
Nagaland	82.9	97	46.5	75.1	29.3

Sikkim	92.2	99.4	60.7	88.2	52.6
Tripura	68.8	92.7	51.5	61.3	37.1
India	67.9	88.2	29.1	48.4	46.6

Source: NFHS-3 and NFHS-4, Population Census 2011

3. Socio-economic status of women

The status of women in a society can be judged from a set of parameters ranging from sex-ratio of population, capabilities, freedom and participation in economic and political domain.

3.1 General factors

The general factors include sex-ratio, literacy rates and gender gaps therein and percentage of women married before the age of 18 years. Societies with positive attitude towards women tend to have favourable sex-ratio, minimum gender gaps in literacy, high female literacy rates and a delayed age of marriage. The graphs reflect the performance to each northeastern state relative to all-India performance and the figures have been arranged as per ranking in 2015-16.

Sex-ratio: The number of females per thousand males was less than 1000 in three states in 2005-6 as well as 2015-16, namely Arunachal Pradesh, Nagaland and Sikkim. Sex ratio improved in Arunachal Pradesh, Mizoram and Sikkim while other states experienced deterioration in sex ratio between the years 2005-06 to 2015-16 (Figure 1). Sikkim, Arunachal Pradesh and Nagaland lag behind national average in 2015-16.

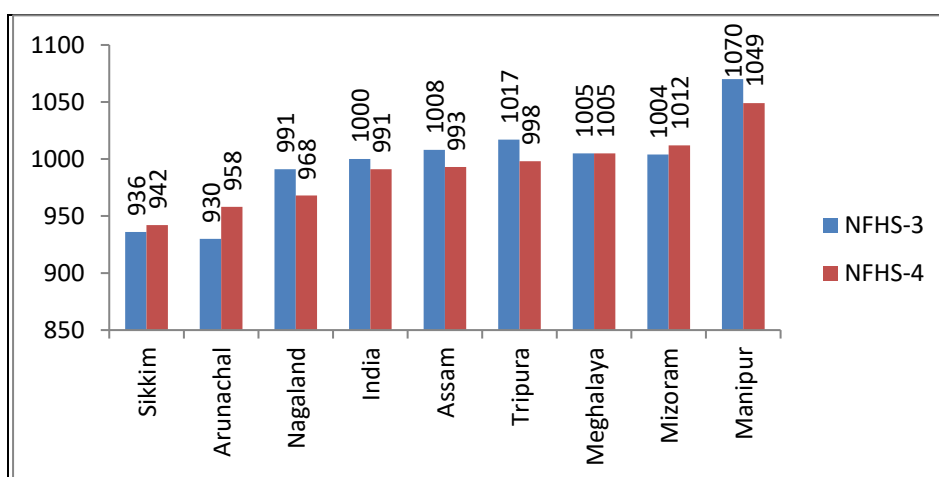


Figure 1: Sex Ratio for population (Source: NFHS-3 (2005-6) and NFHS-4 (2015-16))

3.2 Literacy rates

The literacy rates at the all-India level increased from 55.1% to 68.4% for females and 78.1% to 85.7% for males from 2005-06 to 2015-16. Except for Arunachal Pradesh, all other states have female literacy rates greater than the all-India figure in both years. The performance of northeastern states in literacy is comparable to all-India performance (see Figure 2A). However, several studies have pointed out the trend of high dropouts in this region. Das (2013) finds dropout rates of the states of the North East higher than the all-India average for 2010. Sharma (2019) ranks the northeastern states based on a composite educational development index and finds that Sikkim performs better than other states. Arunachal Pradesh and Assam are found to have the lowest ranking in the region. The study finds that the performance of many states of northeastern region is not satisfactory if compared with other states and efforts are needed to improve the overall quality of primary education.

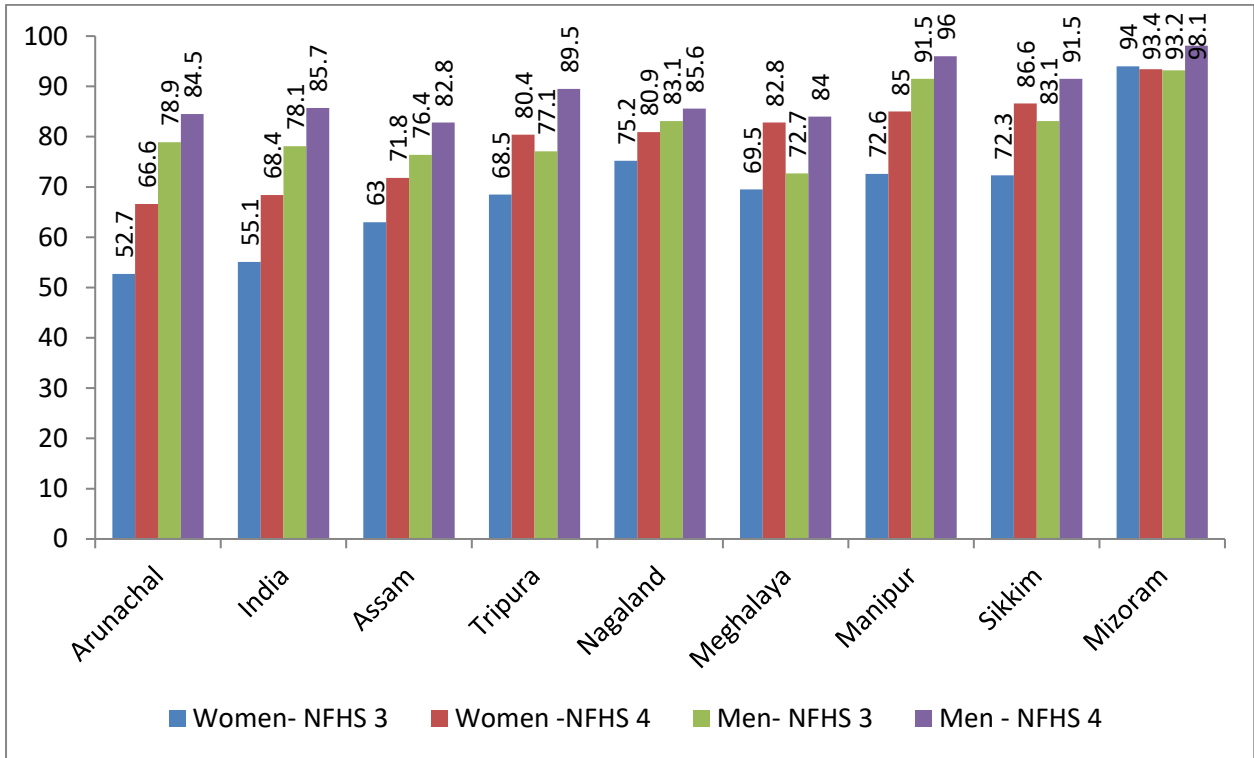


Figure 2A: Literacy rates among men and women (age 15 years and above)

(Source: National Family Health Surveys 3 and 4)

The gender gap in literacy, measured by difference between male and female literacy rates (Figure 2B), is found to be higher in Arunachal Pradesh (17.9) in comparison to the all-India figure of 17.3 in 2015-16, while all other states have smaller gender gap as per NFHS-4. The gap has reduced from 2005-6 to 2015-16 in all northeastern states except Mizoram as well as for India as a whole.

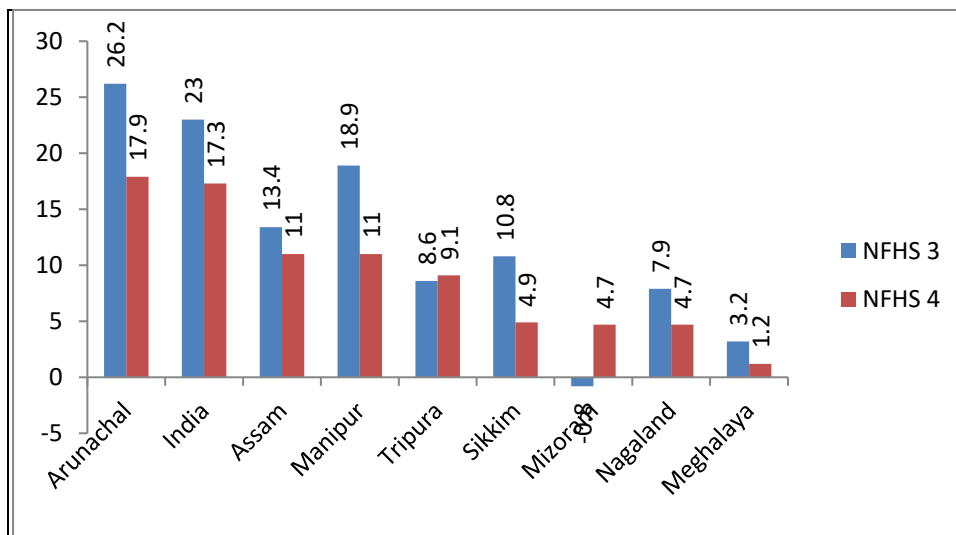


Figure 2B: Gender gap in literacy

(Source: National Family Health Surveys 3 and 4)

The percentage of women with more than ten years of schooling (Figure 2C) increased from 22.3% in 2005-06 to 35.7% in 2015-16 for India as a whole. The percentage of such women increased in all northeastern states during this time period. Tripura, Assam, Arunachal, Nagaland and Meghalaya lag behind the national average in 2015-16. Manipur has the highest number of women with atleast ten years of schooling at 45.9% in 2015-16.

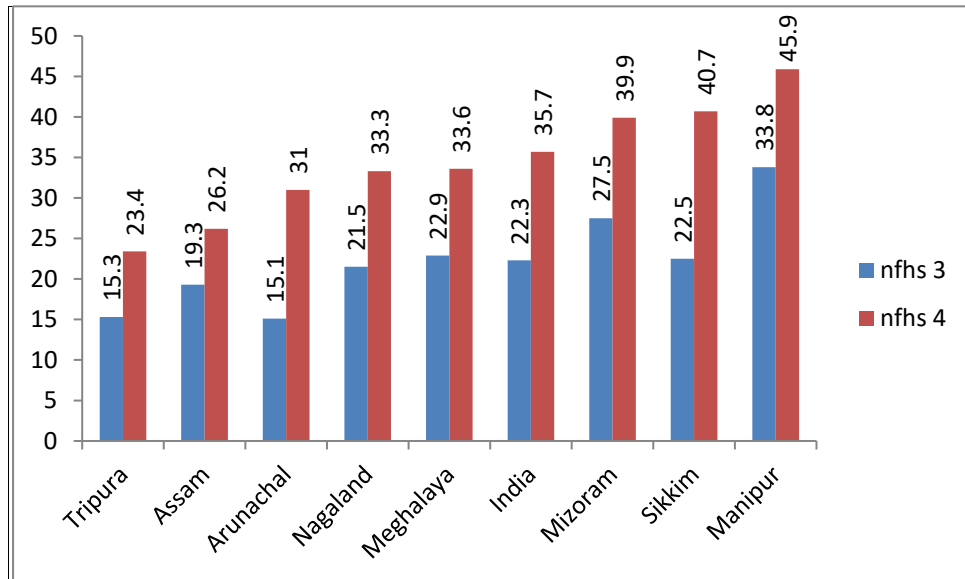


Figure 2C: Percentage of women with more than 10 years of schooling

(Source: National Family Health Surveys 3 and 4)

Percentage of women married before attaining age of 18 years: In 2005-06, 42% of women in Arunachal Pradesh and 41.6% in Tripura were married before attaining the age of 18 years. The corresponding all-India figure was 47.4% (Figure 3). There has been a decline in the trend of early marriages for all-India as well as for all northeastern states from NFHS-3 to NFHS-4. However, even in 2015-16, more than 30% women get married before the age of 18 years in Assam and Tripura (the all-India figure being 26.8%).

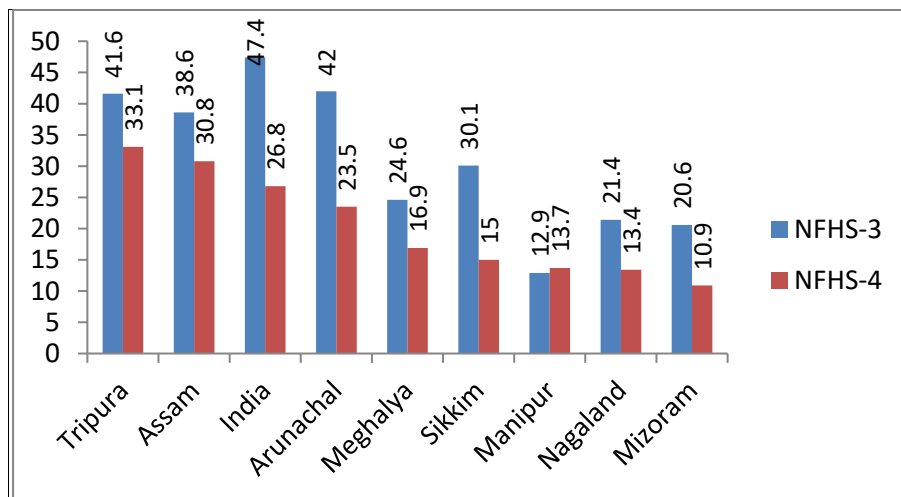


Figure 3: Percentage of women married before 18 years

(Source: National Family Health Surveys 3 and 4)

3.3 Women's General Health

The health status of women is hereby indicated by three parameters, namely body mass index, prevalence of anaemia and access to clean cooking fuel. The levels as well as changes therein over the period 2005-06 to 2015-16 are discussed below along with gender gaps.

Women with below-normal Body Mass Index: The percentage of women with low BMI has decreased from 35.5% in 2005-06 to 22.9% in 2015-16 at all-India level (Figure 4A). The corresponding percentages for men are 34.2% to 20.2%. All northeastern states except Assam (26.5% in 2005-06 and

25.7% in 2015-16) have proportion of women with low BMI smaller than all-India level. Figure 4B depicts the gender gap in below-normal body mass index measured by the difference between proportion of women and men with low BMI. The gender gap has increased at all-India level from 1.3 percentage points in NFHS-3 to 5 percentage points in NFHS-4. States that exhibit a rise in gender gap are Assam (from 0.9 percentage point in 2005-16 to 5 percentage point in 2015-16), Sikkim and Tripura. Manipur has a greater proportion of men with low BMI than women for both time-periods.

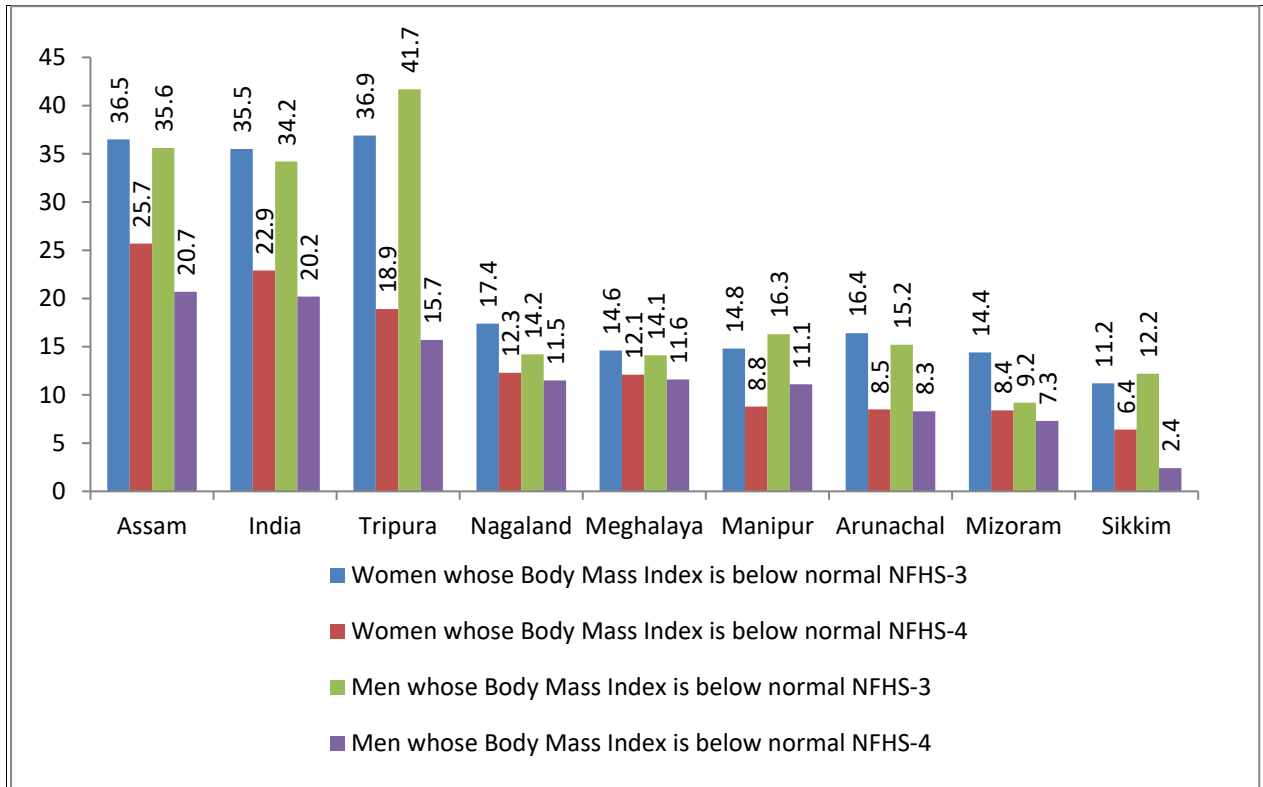


Figure 4A: Men and women whose body mass index is below normal

(Source: National Family Health Surveys 3 and 4)

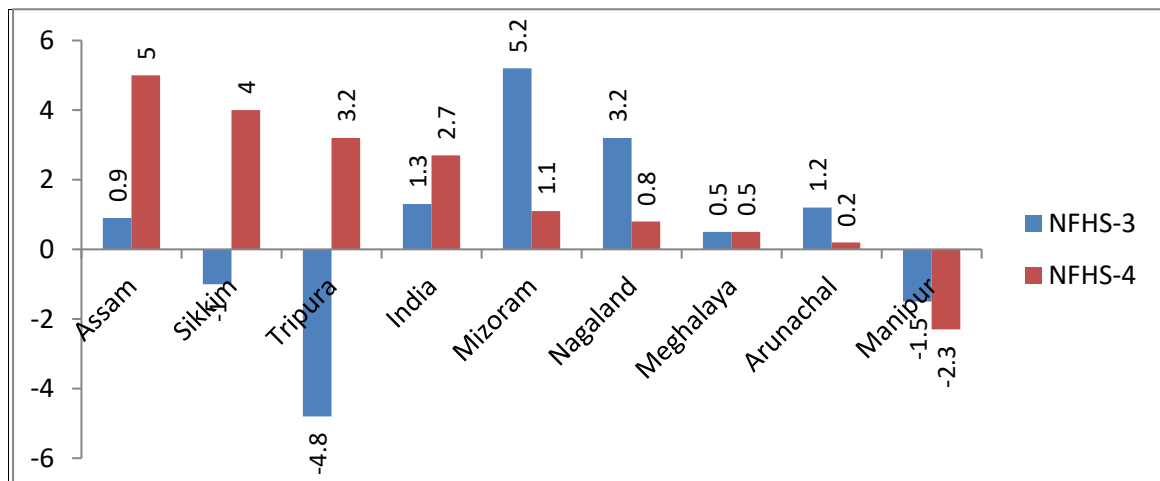


Figure 4B: Gender gap in below-normal body mass index

(Source: National Family Health Surveys 3 and 4)

Proportion of women in the age-group 15-49 years who are anemic: The percentage of women suffering from anemia has declined from 55.3% in 2005-06 to 53.1% in 2015-16 at all-India level as well as all NES except Meghalaya (increase from 46.2% in 2005-06 to 56.2% in 2015-16). The percentage of men age 15-49 years who are anemic declined from 24.2% in 2005-06 to 22.7% in 2015-16 for India. In 2005-

06, Assam (69.3%), Sikkim (59.5%) and Tripura (65.1%) have percentage of anemic women higher than all-India figure. In 2015-16, Meghalaya (56.2%) and Tripura (54.5%) have this percentage greater than all-India figure (Figure 5A). The figures for Nagaland are not available for 2005-06.

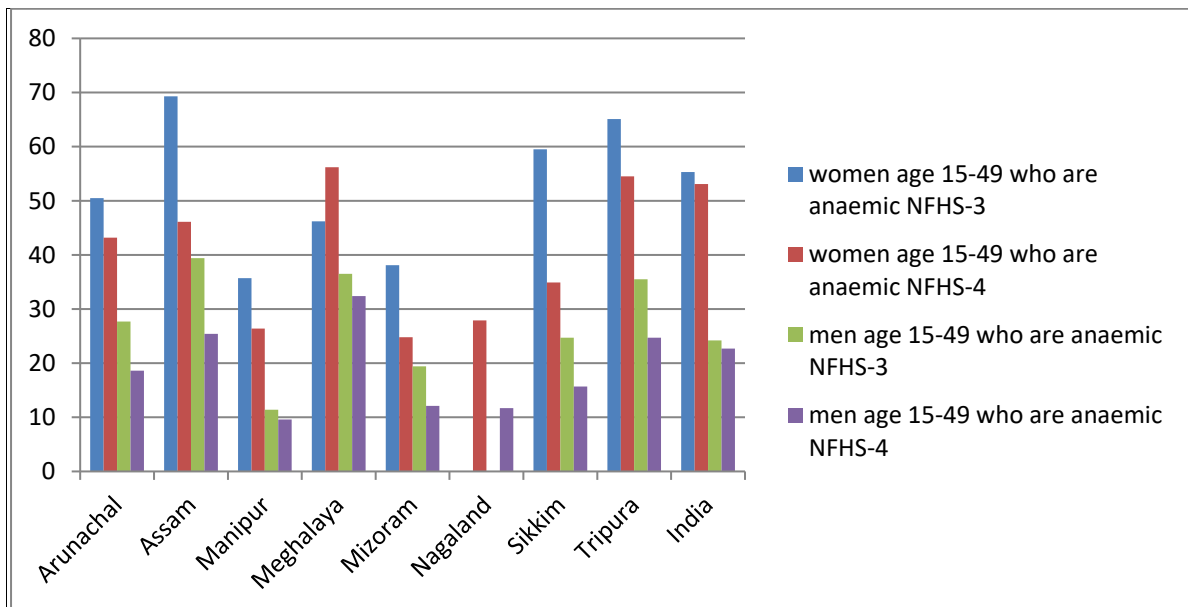


Figure 5A: Incidence of anemia

(Source: National Family Health Surveys 3 and 4)

The gender gap in prevalence of anemia has declined during this period at all-India level as well for most northeastern states except Arunachal (increase from 22.8 to 24.6) and Tripura (marginal increase from 29.6 to 29.8) and Meghalaya (increase from 9.7 to 23.8) (Figure 5B).

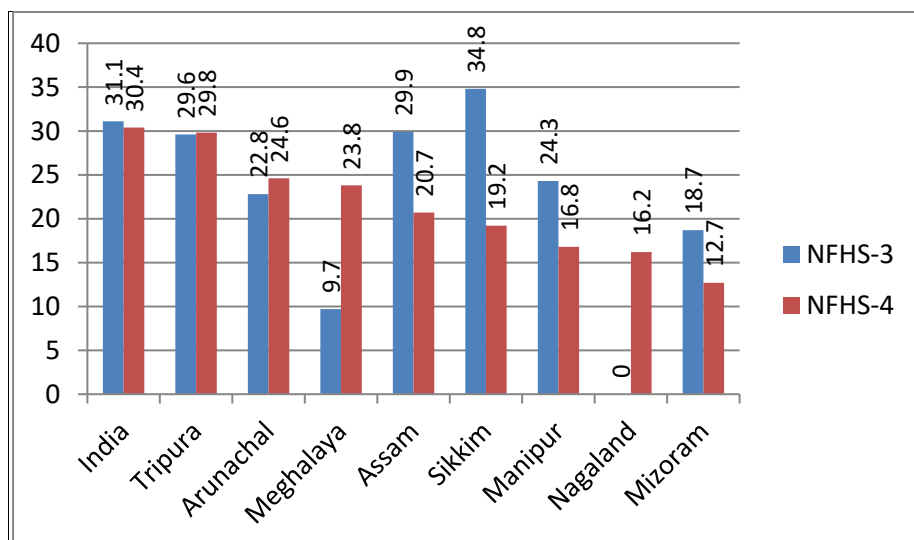


Figure 5B: Gender gap in incidence of anemia

(Source: National Family Health Surveys 3 and 4)

Access to clean cooking fuel: The type of cooking fuel used impacts women's health. Unclean cooking fuel causes respiratory problems especially among females (see Mishra, Retherford and Smith, 1999). In 2015-16, the percentage of households with clean cooking fuel is highest in Mizoram (66%) and lowest in Meghalaya (21%) (Figure 6). While the use of clean cooking fuel in Assam, Manipur, Meghalaya, Nagaland and Tripura is lower than all-India figure (43.8%), the states of Arunachal Pradesh, Mizoram and Sikkim have greater access to clean fuel in comparison to the all-India figure.

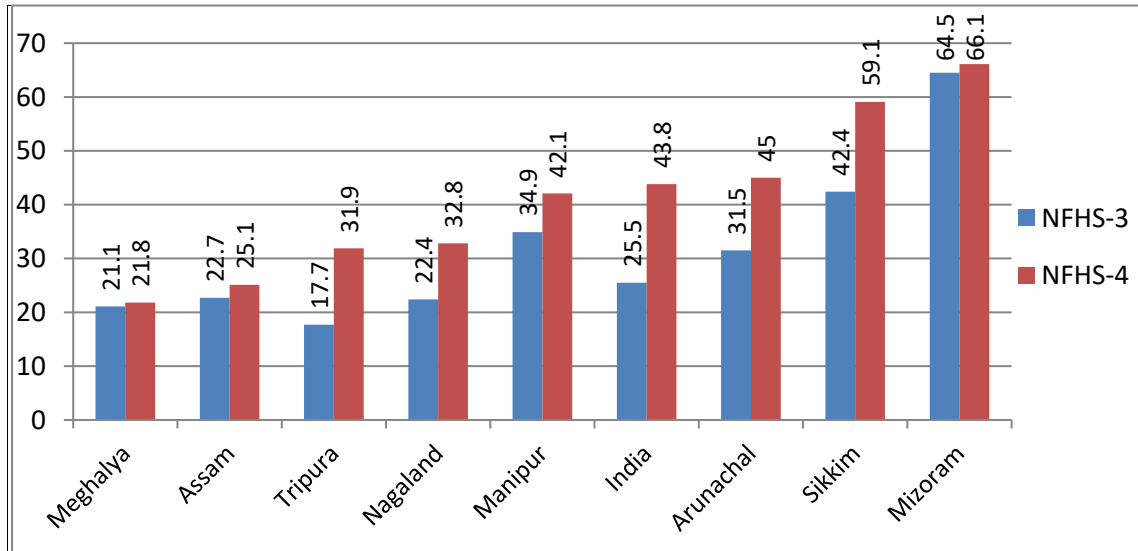


Figure 6: Percentage of households with clean cooking fuel

(Source: National Family Health Surveys 3 and 4)

3.4 Women's Reproductive Health

The reproductive health of women is being gauged by following parameters, namely whether women use hygienic methods during menstruation, percentage of women 15-19 years who have begun child-bearing, total fertility rate, use of family planning methods, pregnancy outcome, percentage of institutional births and percentage of mothers who had full ante-natal care. The relative performance of northeastern states on the parameters is discussed as follows:

Women age 15-24 years who use hygienic methods of protection during their menstrual period:¹ Locally prepared napkins, sanitary napkins and tampons are considered as hygienic methods. 57.6% of women use hygienic methods of protection at all-India level in 2015-16 (Figure 7). Assam (44.8%) and Tripura (43.5%) lag behind national average. Among northeastern states, Mizoram has the highest percentage of 93.4% of women using safe methods during menstruation.

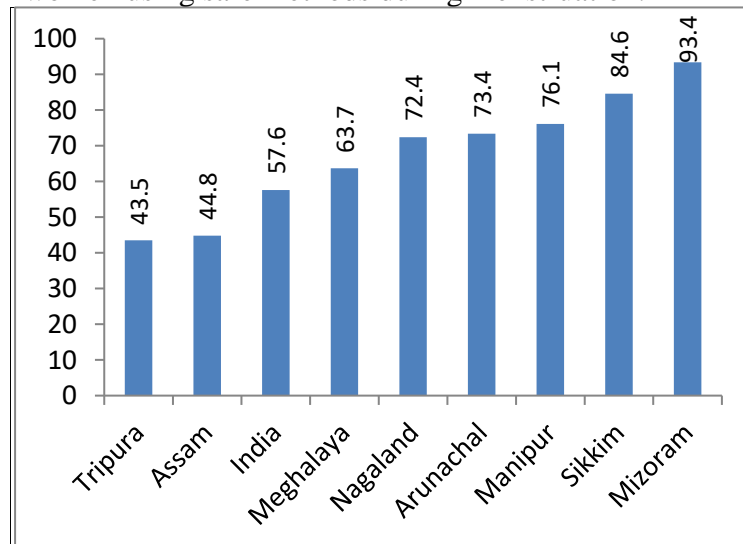


Figure 7: Percentage of women who use hygienic methods of protection during their menstrual period, NFHS-4

(Source: National Family Health Survey 4)

Percentage of women 15-19 years who have begun child-bearing:

¹ This data was not collected in NFHS-3.

As against 7.9% at all-India level, the states of Tripura (18.8%), Assam (13.6%), Arunachal (10.5%) and Meghalaya (8.6%) have greater proportion of women in the age-group 15-19 years who have already begun their reproductive role of child-bearing (Figure 8). This is in conjunction with the fact that these states also have greater incidence of women getting married before 18 years.

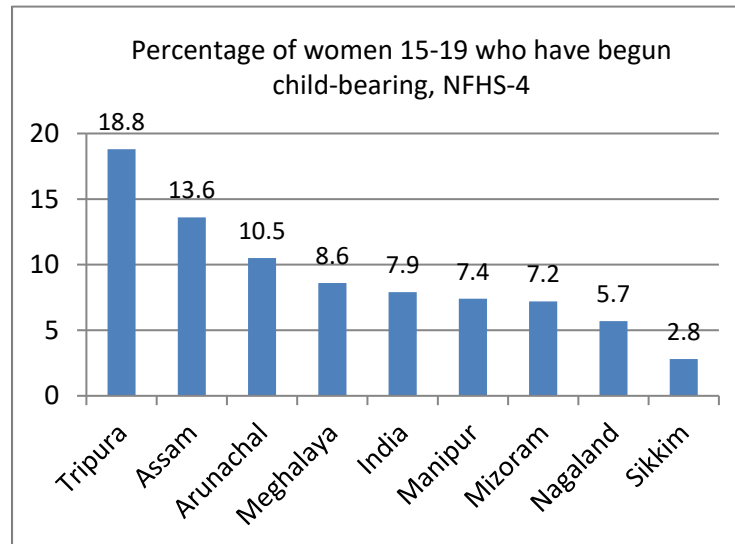


Figure 8: Percentage of women 15-19 who have begun child-bearing, NFHS-4

Total Fertility Rate: The all-India TFR declined from 2.7 in 2005-06 to 2.2 in 2015-16 (Figure 9). The states of Arunachal Pradesh (3), Manipur (2.8), Meghalaya (3.8), Mizoram (2.9), Nagaland (3.7) have TFR more than all-India figure in 2005-06. Although TFR declined in all states during this period, Manipur (2.6), Meghalaya (3), Mizoram (2.3) and Nagaland (2.7) have TFR still above all-India level (2.2) in 2015-16.

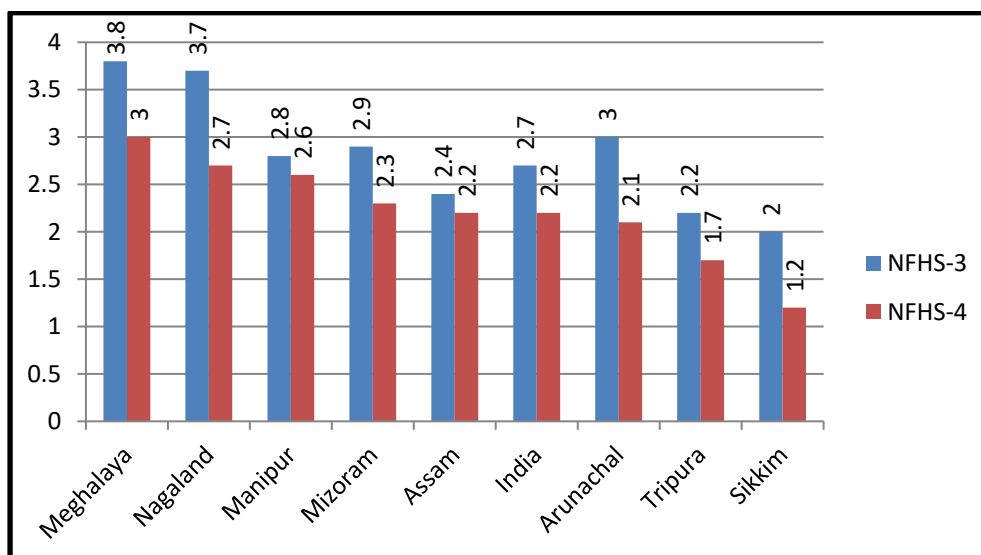


Figure 9: Total Fertility Rate

(Source: National Family Health Surveys 3 and 4)

Use of family planning methods: Family planning methods are necessary to achieve twin objectives of limiting fertility rate as well as to maintain reproductive health of women. The NFHS data exhibits a trend of decline in the use of family planning methods (Figure 10). At all-India, the percentage of women using family planning has fallen from 56.3% in 2005-06 to 53.5% in 2015-16. The decline in the use of family planning methods has been 25 percentage points in Manipur and Mizoram, 11 in Arunachal

Pradesh and Mizoram, 4 in Assam and 3.2 in Nagaland as against a 2.8 for all-India necessitating further research.

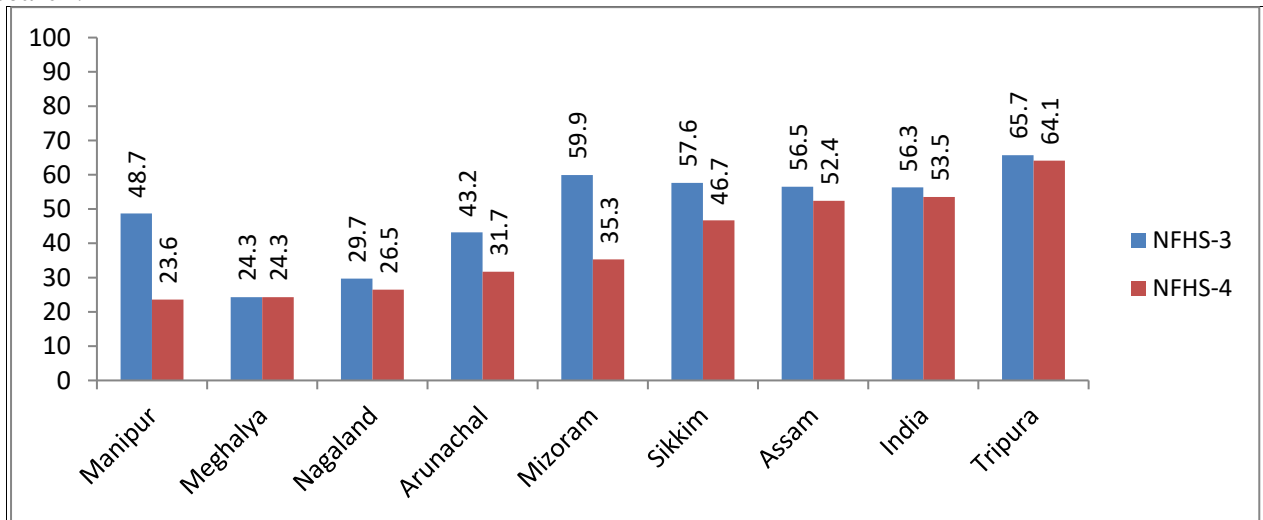


Figure 10: Percentage of currently married women 15-49 years using family planning methods (Source: National Family Health Surveys 3 and 4)

Pregnancy outcome: The outcome of a pregnancy can be live birth, abortion, miscarriage or still birth. These outcomes are presented in Table 11. The rate of abortion is higher than the national figure of 3.4% in Manipur (10.8%), Assam (5.5%), Tripura (5.1%) and Arunachal (4%). The percentage of miscarriages is higher than all-India figure of 5.7% in Manipur (10%) and Tripura (7.7%). A possible explanation for low contraceptive use as well as low TFR may lie in high rates of abortions and miscarriages.

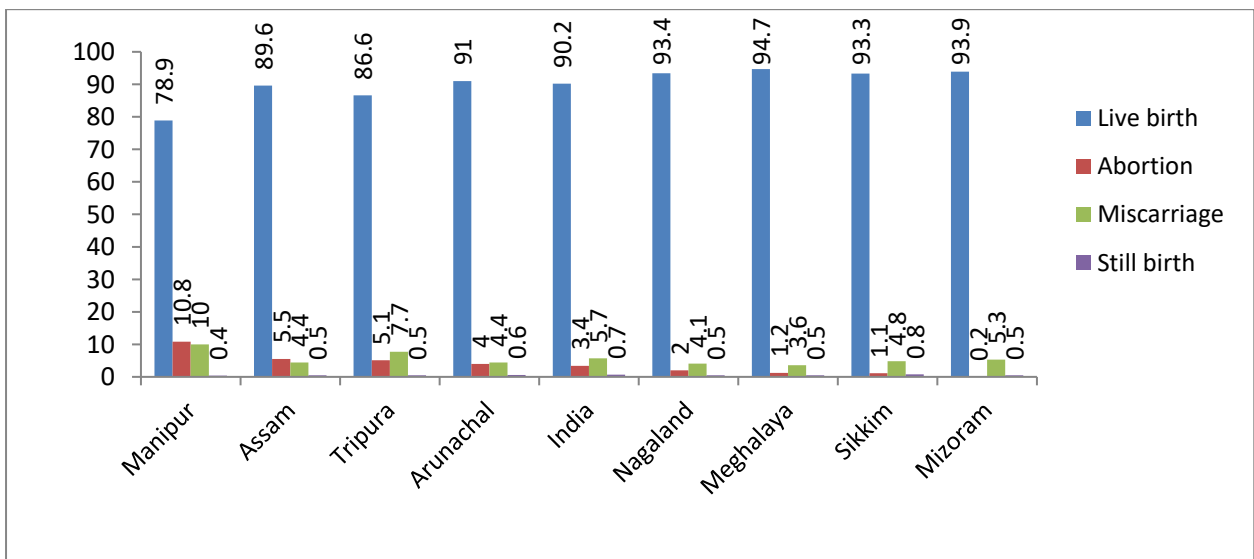


Figure 11: Pregnancy outcomes (NFHS-4)

Institutional births: The all-India percentage of births taking place in public or private hospitals is 38.7% in 2005-06 which went up to 78.9% in 2015-16 (Figure 12). The percentage of institutional births in Mizoram (79.7%), Sikkim (94.7%) and Tripura (79.9%) are higher than all-India figure for 2015-16. On the other hand, Arunachal (52.2%), Assam (70.6%), Manipur (69.1%), Meghalaya (51.4%) and Nagaland (32.8%) have relatively lower percentage of institutional births in 2015-16 that put both mother and child's health at risk.

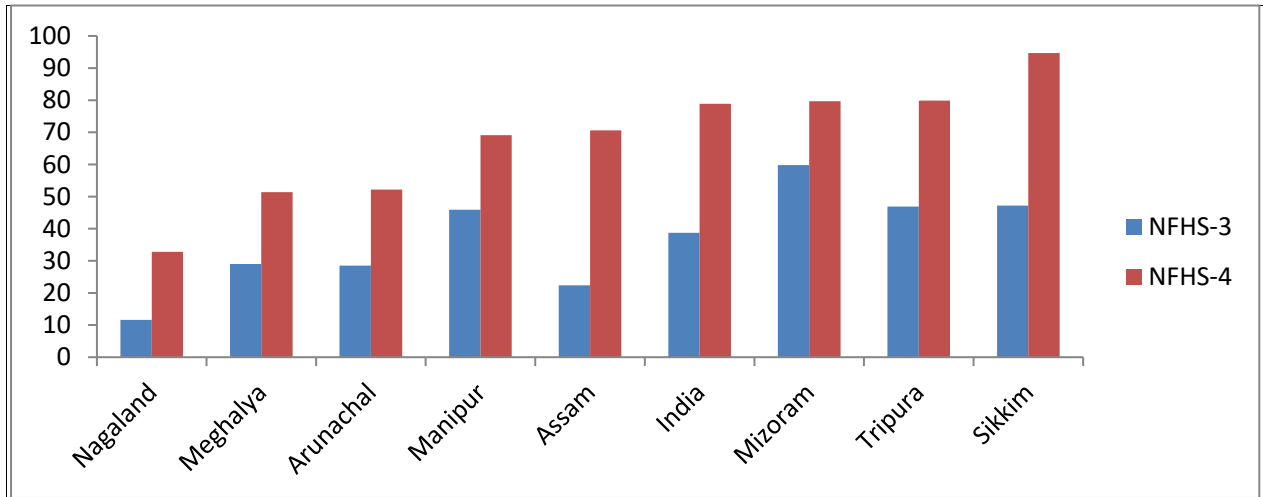


Figure 12: Institutional births

(Source: National Family Health Surveys 3 and 4)

Mothers who had full ante-natal care (maternity care for last birth in 5 years before the survey): At all-India level, 11.6% mothers had full ante-natal care in 2005-06 that increased to 21% in 2015-16 (Figure 13). The states of Manipur (33.9%), Meghalaya (23.5%), Mizoram (38.3%) and Sikkim (39%) perform better than all-India figures in 2015.16. This percentage is extremely low in Arunachal Pradesh (3.5%), Nagaland (2.4%) and Tripura (7.6%) in 2015-16. Lack of ante-natal care puts mother as well as child at risk.

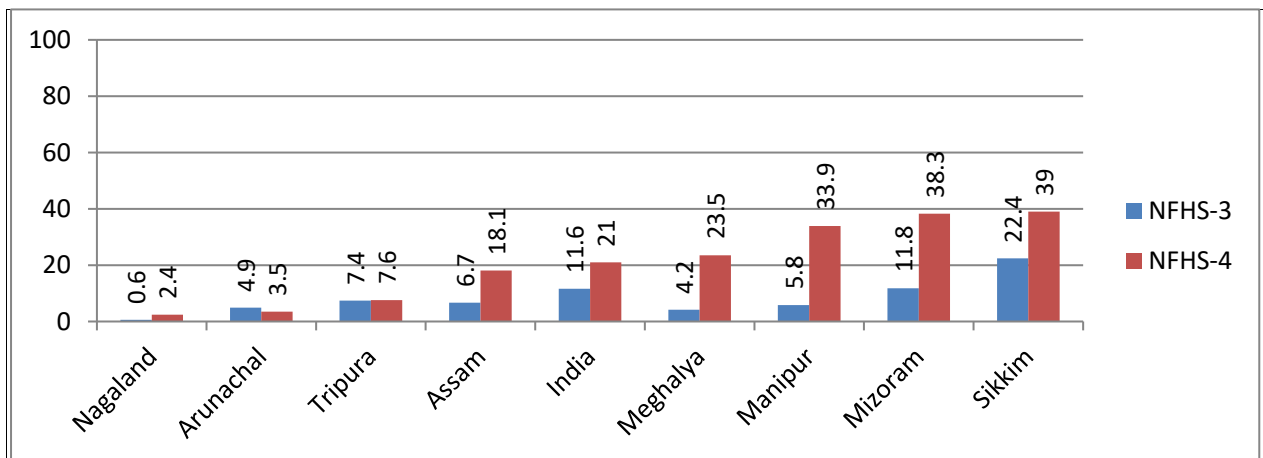


Figure 13: Mothers who had full ante-natal care (maternity care for last birth in 5 years before the survey)

(Source: National Family Health Surveys 3 and 4)

3.5 Women's Autonomy

Das (2013) finds that there are restrictions on mobility of women in some states and the percentage of women who are allowed to go alone to three places (market, health facility, and outside the community) is less in Assam, Meghalaya and Nagaland. Women's autonomy can be indicated by whether they experience spousal violence, whether women own a house and/or land and whether they have a bank/savings account that they themselves use.

Ever-married women who have ever experienced spousal violence

In 2005-06, the percentage of women who have ever experienced spousal violence is higher in Arunachal (38.8%), Assam (39.5%), Manipur (43.8%) and Tripura (44.1%) compared to all-India percentage of 37.2% (Figure 14). In 2015-16, all northeast states except Manipur (53.1%) report lesser spousal violence

than all-India figure (31.1%). A disturbing trend a rise in spousal violence is reported by Manipur (from 43.8% in 2005-06 to 53.1% in 2015-16) and Meghalaya (from 12.8% to 28.7%).

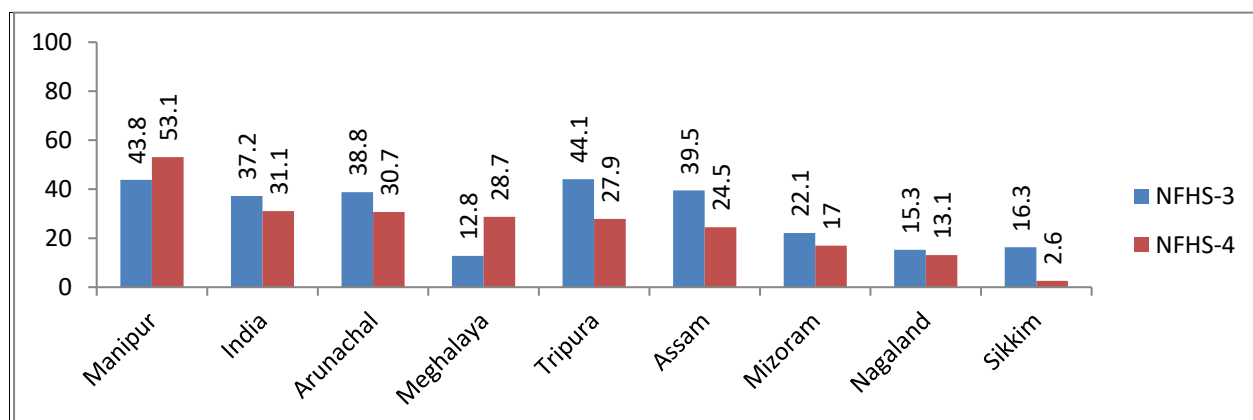


Figure 14: percentage of women who have suffered spousal violence

(Source: National Family Health Surveys 3 and 4)

Women owning a house and/or land (alone or jointly with others)

In 2015-16, highest percentage of women owning property is reported by 70% of women in Manipur (70%) followed by Arunachal (59.7%) and Meghalaya (57.3%), only 19.6% of women own property in Mizoram followed by Sikkim (24.8%). At all-India level, 38.4% of women own property in 2015-16 (Figure 15).

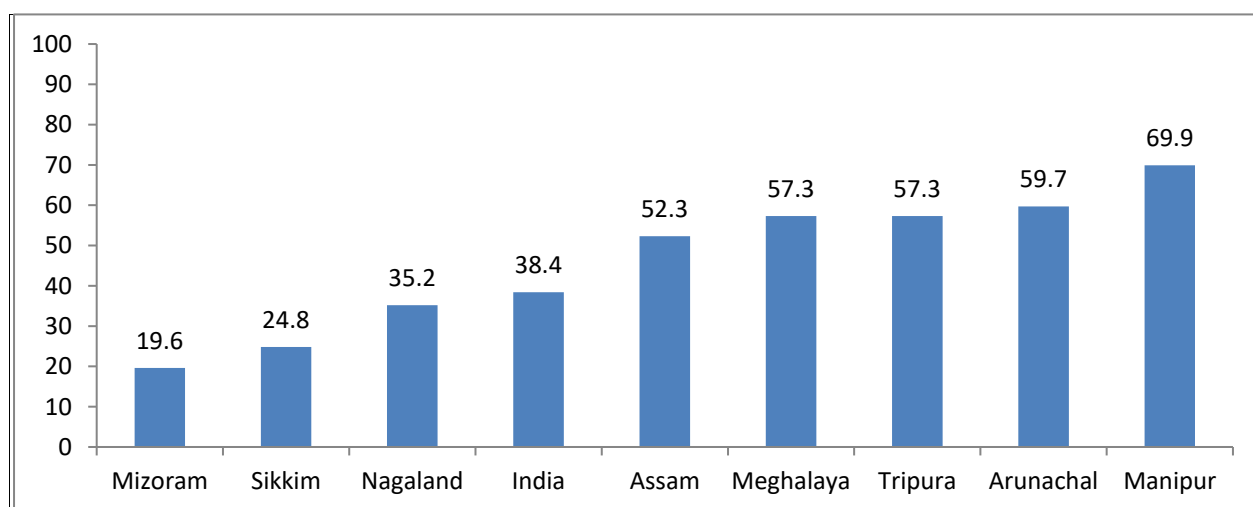


Figure 15: Women owning a house and/or land (alone or jointly with others), NFHS-4

Women having a bank/savings account that they themselves use

There seems to be a good progress on financial penetration in the northeastern states as well as at all-India level (Figure 16). The percentage of women with bank/savings account that they have control over increased from 15.1% in 2005-06 to 53% in 2015-16 for India. The states of Manipur (8%), Mizoram (8.1%), Assam (11.7%) and Nagaland (7.4%) lagged behind all-India figures in 2005-06 whereas in 2015-16, the percentage of such women is lower than national figure in Assam (45.4%), Manipur (34.8%) and Nagaland (38.8%).

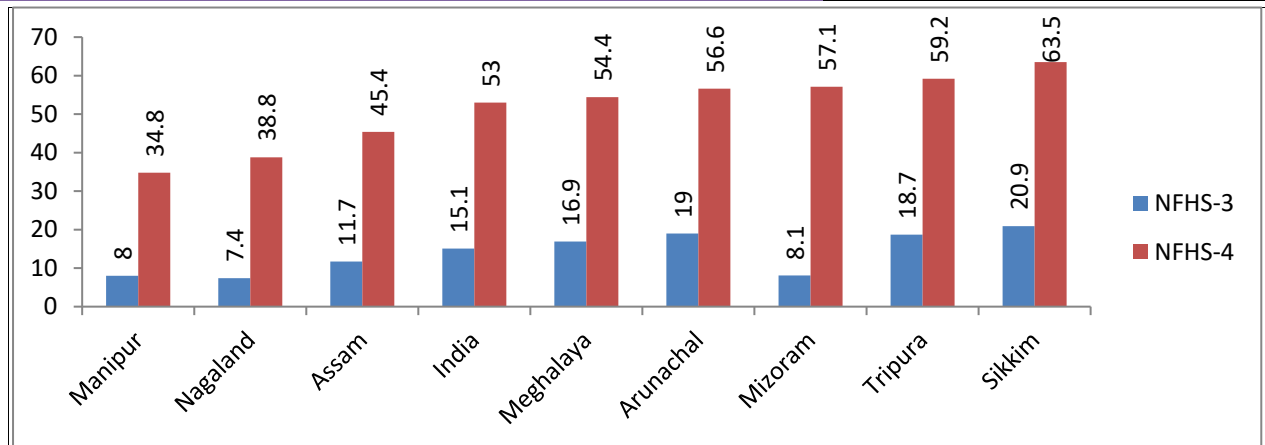


Figure 16: Women who have bank account that they themselves use

(Source: National Family Health Surveys 3 and 4)

3.6 Women's participation in economic activities

Greater participation in labour market indicates greater mobility of women and greater freedom available to them. In 2015-16, female workforce participation rate is 24% for all-India (Figure 17). Five out of eight states have female participation rates higher than national figure, namely Arunachal (24.2%), Manipur (41.8%), Meghalaya (35.2%), Mizoram (34.5%) and Nagaland (28.1%). Sikkim (19.8%), Tripura (17.6%) and Assam (14.8%) have relatively lower female workforce participation rates.

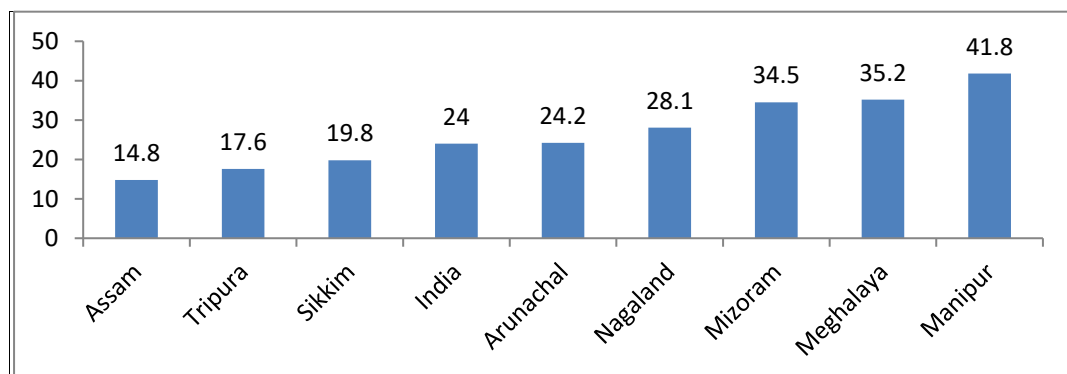


Figure 17: Percentage of women currently employed, NFHS-4

3.7 Incidence of crime against women

The percentages of crime against women to total crime within states for the year 2015 are presented in Figure 18. 4% of total crimes at all-India level are against women. All northeastern states have crime rate against women higher than all-India level. The highest rate of crime against women is reported in Tripura (26%), Assam (22%) and Arunachal (12%).

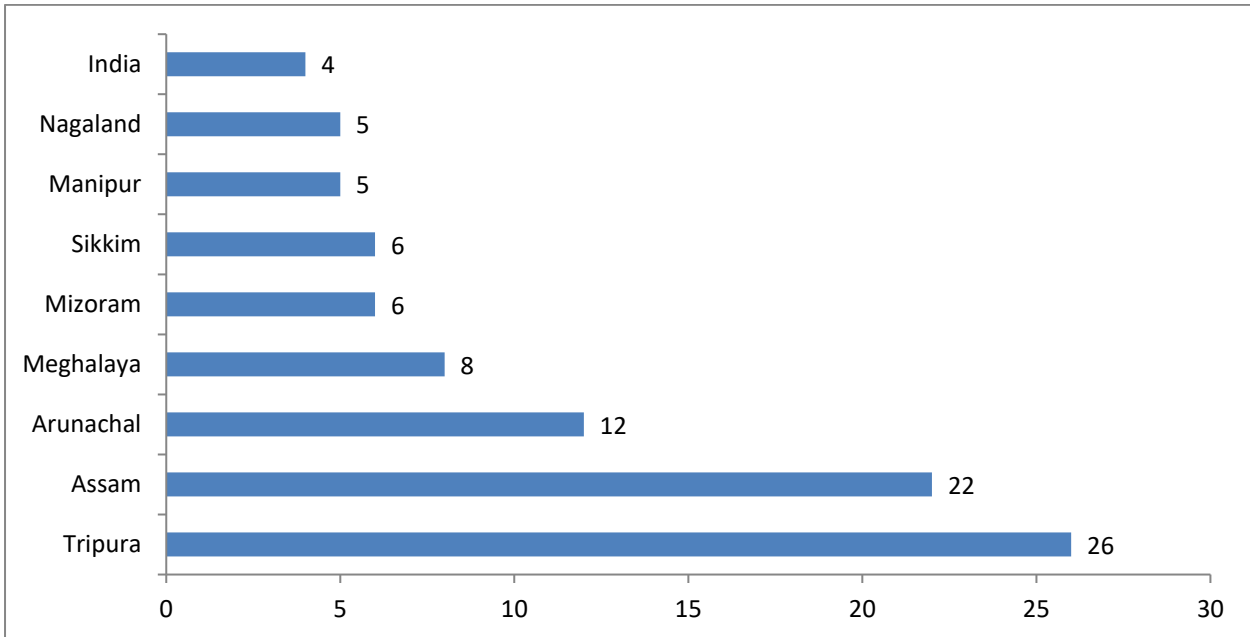


Figure 18: Percentage of crime against women to total crime within state, 2015

(Source: Women and Men, 2016)

3.8 Women as political representatives

Traditionally, the region has lower presence in public institutions of decision-making. The percentage of women as elected representatives in State Assemblies for the year 2015 is presented in Figure 19. As against 9% of women elected representatives at all-India level, except Sikkim that has same proportion of women representatives in its Assembly, all other northeastern states have lower women representation in State Assemblies. Mizoram and Nagaland have no women representation in their Assemblies.

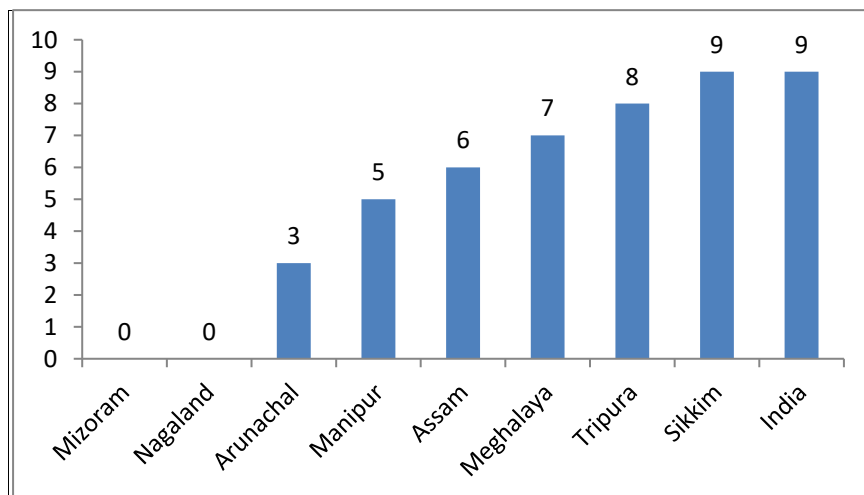


Figure 19: Women's participation in State Assemblies, 2015

(Source: Women and Men, 2016)

4. Comparative Performance of northeastern states

We begin by constructing the Household Prosperity Index by taking following four parameters—percentage of households having access to clean cooking fuel, electricity, safe drinking water and sanitation facility – and allocating equal weights to all (Table 6 and Figure 20). In 2005-06, Mizoram was the best performer in this index followed by Sikkim and Arunachal Pradesh. In 2015-16, Sikkim has the highest prosperity index followed by Mizoram and Nagaland. Assam has the least index score in both the time periods.

Table 6: Household Prosperity Index, NFHS-3 and NFHS-4

State	NFHS-3		NFHS-4		Change in rank
	Index	States' Rank	Index	States' Rank	
Arunachal Pradesh	0.552	3	0.544	4	-1
Assam	0.184	8	0.207	8	No change
Manipur	0.317	6	0.296	7	-1
Meghalaya	0.29	7	0.351	6	+1
Mizoram	1	1	0.901	2	-1
Nagaland	0.403	5	0.627	3	+2
Sikkim	0.743	2	0.960	1	-1
Tripura	0.441	4	0.516	5	-1

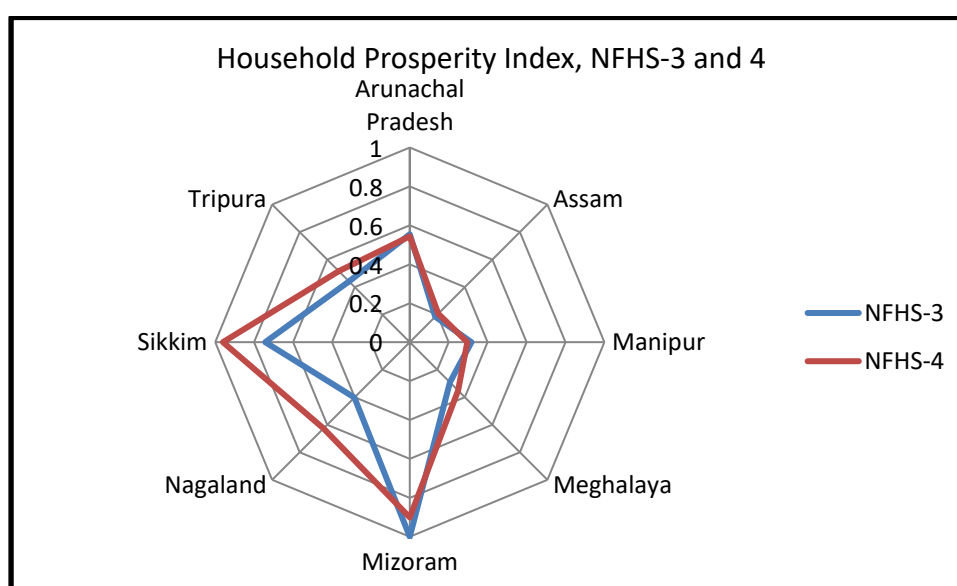


Figure 20: Household Prosperity Index, NFHS-3 and 4

We now discuss the performance of states on various parameters vis-à-vis the all-India performance. Table 7 lists the 21 parameters and performance of each state relative to the national performance for the year 2015-16. If the state performs better in a parameter than the all-India performance, an asterisk is indicated against it. The number of parameters in which the state has performed better than the all-India figure is totaled up and this sum is then used to rank the states.

Table 7: A comparative performance of states on various parameters, 2015-16

Sr.	Parameter	Arunachal	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Sikkim	Tripura	Total
1	Sex ratio		*	*	*	*			*	5
2A	Female Literacy rate		*	*	*	*	*	*	*	7
2B	Gender gap in literacy rate		*	*	*	*	*	*	*	7
2C	Women with 10 or more years of schooling			*		*		*		3
3	Women married before 18 years	*		*	*	*	*	*		6
4	Women with low BMI	*		*	*	*	*	*	*	7
5	Women with anemia	*	*	*		*	*	*		6

6	Access to clean cooking fuel	*				*		*		3
7	Women using hygienic methods of protection during menstruation	*		*	*	*	*	*		6
8	Women with childbearing at less than 18 years			*		*	*	*		4
9	TFR	*	*					*	*	4
10	Use of contraceptives								*	1
11	Rate of abortion				*	*	*	*		4
12	Percentage of institutional births					*		*	*	3
13	Mothers who have full ante-natal care			*	*	*		*		4
14	Prevalence of spousal violence	*	*		*	*	*	*	*	7
15	Women owning land / house	*	*	*	*				*	5
16	Women having bank account that they operate	*			*	*		*	*	5
17	Female workforce participation rate	*		*	*	*	*			5
18	Rate of crime against women									0
19	Elected women representatives in State Assembly							*		1
	Total number of parameters on which state is doing better than all-India	10	7	12	12	16	10	16	10	

Mizoram and Sikkim perform better than the national average in 16 out of 21 parameters followed by Meghalaya and Manipur with better performance in 12 parameters. Arunachal Pradesh, Nagaland and Tripura share third rank as they exhibit better performance in 10 parameters. Assam, which is lagging behind national average in most of the parameters, occupies the last rank. The ranking of the northeast states is presented in Table 8.

Table 8: Ranking of northeastern states on status of women

Rank	States	Score
1 st	Mizoram, Sikkim	16/21
2 nd	Meghalaya, Manipur	12/21
3 rd	Arunachal Pradesh, Nagaland, Tripura	10/21
4 th	Assam	7/21

We now discuss the three indices, namely Women Empowerment Index, Women Health Status and Women Status index. The Women Empowerment Index is constructed by allocating equal weights to each of the six parameters, namely sex ratio of total population (females per 1000 males), female literacy rate, percentage of women having a bank or savings account that they use themselves, percentage of ever-married women who have experienced spousal violence, percentage of women with ten or more years of schooling, percentage of currently married women who usually participate in household decisions. The state-wise index, ranking and change therein are presented in Table 9 and Figure 21. In 2005-06, Mizoram, Meghalaya and Sikkim occupy the first three places while Assam, Arunachal Pradesh and Tripura are bottom performers. In 2015-16, Mizoram continues to occupy the first rank followed by Sikkim, and Manipur. The last three ranks are occupied by Tripura, Arunachal Pradesh and Assam. While the empowerment index has improved in states of Manipur, Mizoram, Sikkim and Tripura; the index has deteriorated in Arunachal Pradesh, Assam, Meghalaya and Nagaland.

Table 9: Women Empowerment Index, NFHS-3 and 4

State	NFHS-3		NFHS-4		Change in rank
	Women Empowerment Index	States' Rank in Women Empowerment Index	Women Empowerment Index	States' Rank in Women Empowerment Index	
Arunachal Pradesh	0.325	7	0.310	7	No change
Assam	0.338	6	0.293	8	-2
Manipur	0.565	4	0.596	3	+1
Meghalaya	0.618	2	0.538	4	-2
Mizoram	0.658	1	0.790	1	No change
Nagaland	0.538	5	0.527	5	No change
Sikkim	0.602	3	0.719	2	+1
Tripura	0.309	8	0.472	6	+2

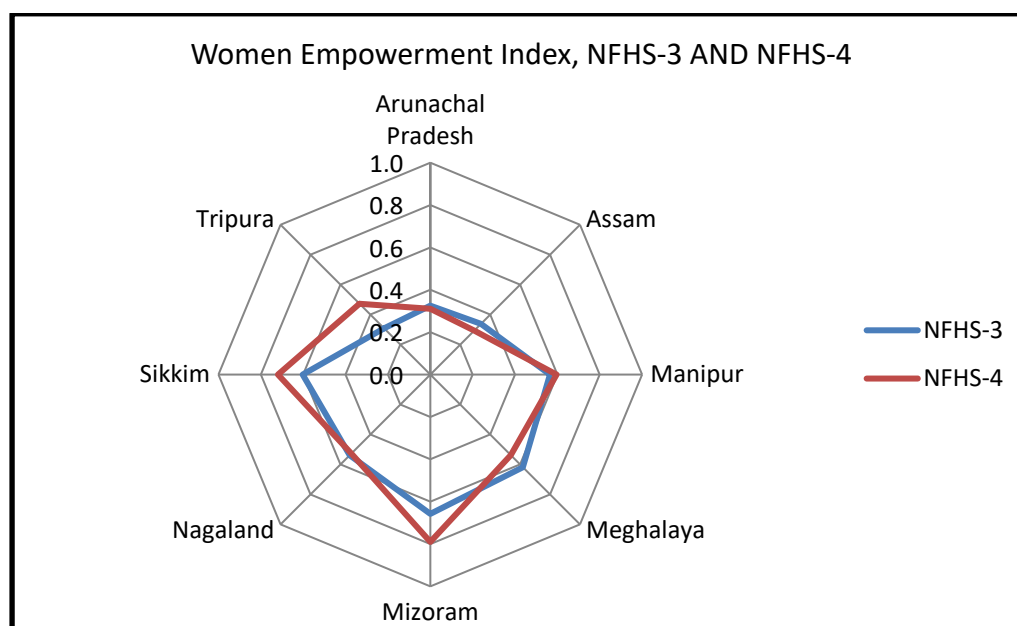


Figure 21: Women Empowerment Index, NFHS-3 and 4

We now present the results for Women Health Index that is constructed by allotting equal weights to each of the nine parameters, namely percentage of women age 20-24 years married before age 18 years, total fertility rate, percentage of women age 15-19 years who were already mothers or pregnant at the time of the survey, infant mortality rate, percentage of currently married women age 15-49 years using any modern method of family planning, percentage of mothers who had full antenatal care, percentage of institutional births, percentage of women whose body mass index (BMI) is below normal (BMI < 18.5 kg/m²) and percentage of women age 15-49 years who are anaemic (Table 10 and Figure 22).

In 2005-06, Mizoram, Sikkim and Manipur occupy the first three places whereas the bottom ranks are occupied by Arunachal Pradesh, Tripura and Assam. In 2015-16, Sikkim has the highest health index followed by Mizoram and Manipur while the Assam has the least index score. All states exhibit an improvement in the health index score between the two time-periods except Meghalaya and Nagaland.

Table 10: Women’s Health Index, NFHS-3 and NFHS-4

State	NFHS-3		NFHS-4		Change in rank
	Women Health index	State’s Rank in Women Health index	Women Health index	State’s Rank in Women Health index	
Arunachal Pradesh	0.336	6	0.404	4	+2
Assam	0.269	8	0.312	8	No change
Manipur	0.633	3	0.636	3	No change
Meghalaya	0.534	5	0.487	6	-1
Mizoram	0.719	1	0.769	2	-1
Nagaland	0.513	4	0.506	5	-1
Sikkim	0.667	2	0.814	1	+1
Tripura	0.327	7	0.444	7	No change

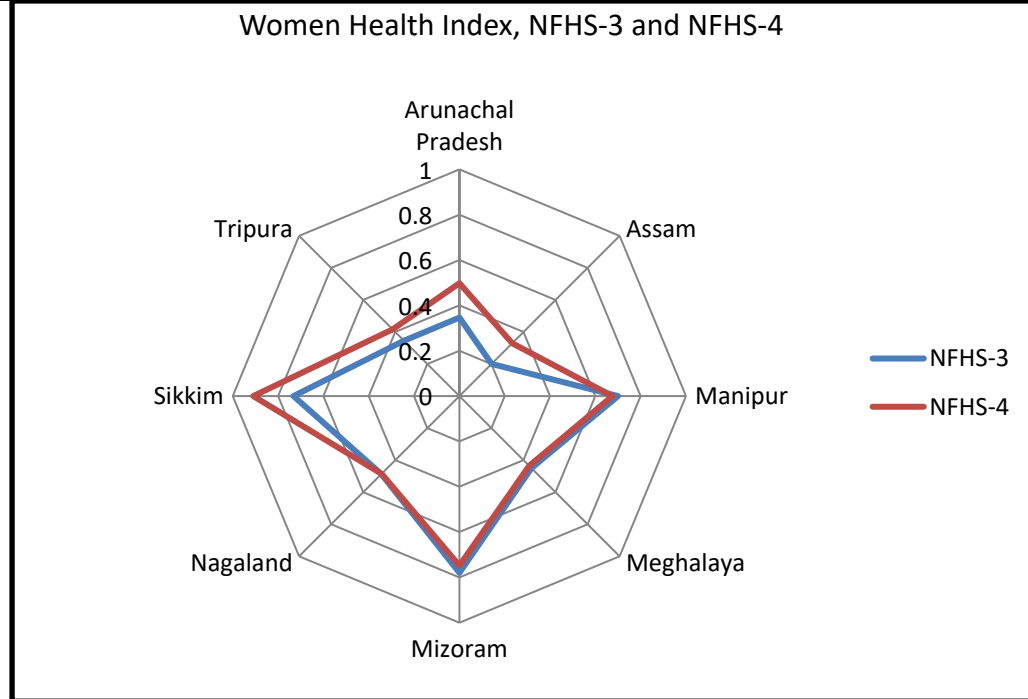


Figure 22: Women Health Index, NFHS-3 and 4

The two indices are then combined, using arithmetic mean, to get Women Status Index (Table 11 and Figure 23). We find that in 2005-06, Mizoram, Sikkim and Manipur occupy first, second and third place while Arunachal Pradesh, Tripura and Assam fill the last three ranks with Assam at the bottom. In 2015-16, Sikkim occupies the first rank followed by Mizoram and Manipur. Assam has the lowest index score for women status and is found to be the worst performer among the north east states. All states exhibit an improvement in the index between the two time periods except Meghalaya and Nagaland.

Table 11: Women Status Index, NFHS-3 and NFHS-4

State	NFHS-3		NFHS-4		Change in rank
	Women's Status Index	States' Rank	Women's Status Index	States' Rank	
Arunachal Pradesh	0.336	6	0.404	7	-1
Assam	0.269	8	0.312	8	No change
Manipur	0.633	3	0.636	3	No change
Meghalaya	0.534	4	0.487	5	-1
Mizoram	0.719	1	0.769	2	-1
Nagaland	0.513	5	0.506	4	+1
Sikkim	0.667	2	0.814	1	+1
Tripura	0.327	7	0.444	6	+1

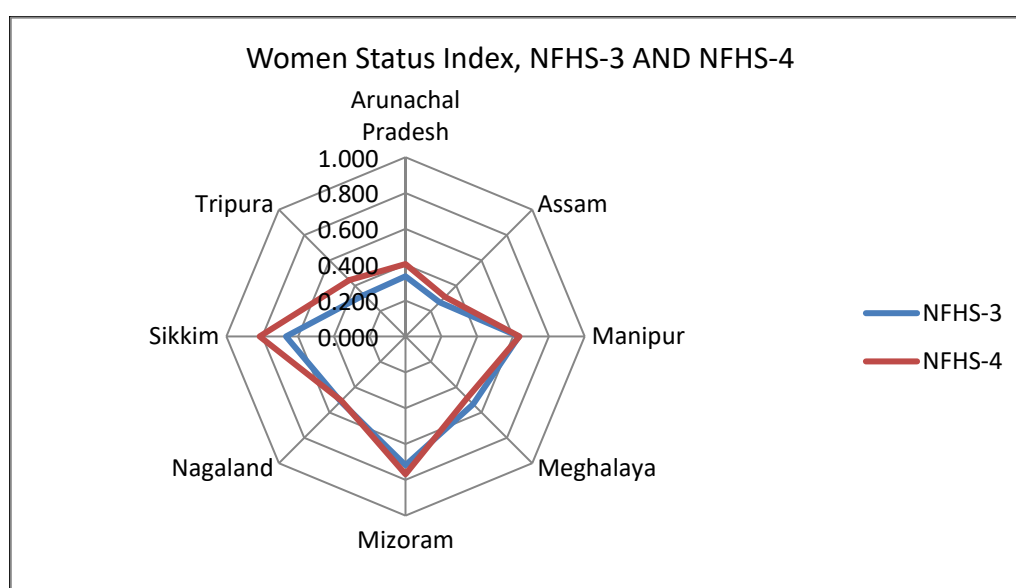


Figure 23: Women Status Index, NFHS-3 and 4

The ranking so obtained is compared with other studies that have ranked northeast states on various parameters. Das (2013) also finds diversity in performance of states in this region. It finds the status of women in the region to be comparatively better than the rest of the country only in some selected indicators and concludes that women enjoy a very low degree of freedom of movement and control in the North Eastern Region.

Nayak (2009) finds the Human Development Index (HDI) during 1981 to be the lowest in Arunachal Pradesh and highest in Manipur in 1981; the lowest in Arunachal Pradesh and highest in Mizoram in 1991. Nayak (2013) also points out that though the region achieved significant progress in literacy, the issues of rural-urban disparities and a high dropout remain and that health infrastructure was also inadequate in many states. Choudhary and Kumar (2021) find status of women in the northeastern women relatively higher as compared to that in the rest of India, still, gender discrimination persists especially in Assam and Manipur.

To ascertain whether or not the better status of women is positively correlated with economic growth and literacy, the correlations are computed for the women status index obtained by the state with state per capita income, male literacy rate, caste composition, and religion composition. These correlation coefficients and the corresponding p-values are presented in Table 11.

Table 11: Correlation coefficients of Women Status Index of states with different variables

Variable	Correlation coefficient	p-value
Per capita NSDP	0.64	0.0851*
Household prosperity index	0.76	0.0271**
Male literacy rate	0.81	0.0150**
Caste composition:		
Percentage of SC population	-0.50	0.2030
Percentage of ST population	0.21	0.6124
Religion composition		
Percentage of Hindu population	-0.22	0.5993
Percentage of Muslim population	-0.59	0.1199
Percentage of Christian population	0.22	0.5986
Percentage of Buddhist population	0.57	0.1419

*denotes significance at 10%, ** denote significance at 5% level

The status of the women index is observed to have a significant positive correlation with per capita income, male literacy rate, and household prosperity index. The caste/tribe and religious composition of states are not observed to have a significant correlation with women's status index.

5. Summing up and Conclusions

Northeast India is diverse not only in terms of cultures and languages but also in terms of the status of women. Women enjoy a better status in Mizoram and Sikkim. However, nearly 68% of the population in northeast India is concentrated in the state of Assam, whose performance on the majority of the parameters related to women, is far from satisfactory. It is important to identify and focus on the areas where the states, as a group, are under-performing. The majority of the northeast states have very low use of contraceptives, low institutional births, low usage of clean cooking fuel, and the proportion of elected women representatives is small. The findings also suggest a paradox of high literacy rates prevailing together with undesirable outcomes of low years of schooling for females, low use of contraceptives, and small presence of women in the political domain.

The status, freedom, and autonomy women enjoy in society may well be conditioned by customary traditions, and cultural inheritance of that society. An improved outcome in this regard would not be achieved unless there is a significant change in social norms that favour women's freedom and enhancement of their capabilities. Such changes can be facilitated by improved economic growth but also require a targeted intervention toward improving women's social, economic as well as political status.

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