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# Gender Disparity in Work participation: An InterState Study 

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#### Abstract

As per Census 2011, among 121 Crore persons in India, $48.5 \%$ are females of the total population, but their work participation is only 15.2 percent in comparison to 43.84 participation of male ,which shows the high disparity in work participation. Economic development required the equal participation of female in economic activities. Booz (2012) estimates, for example, that if female employment rates were to match male rates in the United States, overall GDP would rise by 5\%. In Japan, such initiatives could increase GDP by 9\%. This paper is an attempt to analyze the gender disparity in work participation. Gender disparity has been calculated using the Sopher Disparity Index (DI). The results show that each state has a high gender disparity, due to patriarchal mindset, unsafe work environment, and unequal job opportunities, etc. This study is based on the secondary data. This paper provide an insight about the female work participation in different states of India. The findings suggests that a significant difference undoubtedly, exist between male and female work participation in inter-states.


Keywords: Disparities, Work Participation, Inter-States

## Introduction

Women make an important contribution to the agricultural economy through the supply of labour in the cultivation. Where the structure of agriculture is becoming more commercialised, women's role and economic status are changing. As economy shift from agriculture to manufacturing and service sector, women work participation starts decline due to lack of work opportunities and lack of training for female. Booz \& co. (2012) estimates, for example, that if female employment rates were to match male rates in the United States, overall GDP would rise by $5 \%$. In Japan, such initiatives could increase GDP by $9 \%$.

## Review of Literature

Leela Gulati (1975) examine the relationship between economic and demographic factors and female work participation. Nitin N. Mundhe at al. 2017) investigate the tehsil-wise disparity of rural -urban literacy In Pune District during 2001 to 2011. There is significant variation in rural-urban literacy rate and male-female literacy rate in Pune district. Monserrat Bustelo (at al.) (2019) The labour force participation of women is lower than the labour force participation of men. This empirical regularity is particularly acute in Latin America and the Caribbean (LAC). We estimate the model on the micro data of five LAC countries. We find that both a childcare policy and a policy increasing women's productivity generate a positive impact on female participation and significant increases in GDP per capita. M. M. Dadi (1974) attempts to examine the sources of inter-State differentials in work force participation rates. The inter-State (city) variations in the rates are explained in terms of two sources: (i) work force tendencies reflected in socio-economic factors and (ii) age-structure and sex composition of the population. The study reveals that the labour participation is negatively related with economic development. Sonalde desai \& Omkar josjhi (2019) observed the Paradox that substantial decline in women's work participation rates (WPRs), particularly for
women using data from National Sample Surveys and India Human Development Surveys for 2004-2005 and 2011-2012 and finds that: (1) Decline in rural women's work participation recorded by National Sample Surveys may be overstated; (2) supply factors explain a relatively small proportion of the decline in women's work participation rates; (3) public policies such as improvement and transportation facilities and MGNREGS that enhance work opportunities for women are associated with increased participation by women in the work force. Shailendra Kushawaha and V.N. Sharma (2019) analysis, the gender disparity in work participation, block-level gender disparity has been calculated using the Crude Work Participation rate and Sopher Disparity Index (D). The results show that each block has a high gender disparity, and comparatively urban areas have higher gender disparity index than that of rural, due to patriarchal mindset, unsafe work environment, and unequal job opportunities, etc.

## Significance of Study

This study is significant for the states to make policies for equal participation of female in country's economic and social development. In recent time women play an important role in economic development of a country because women is nearly half population in any country.

## Objectives of Research paper

1. To identify the Inter-State Disparity in Female Work Participation.
2. To suggest the policy implications to increase the Female Work Participation.

## Methodology of the Study

To achieve the above mention objectives Sopher's disparity index has been used to examine the inter-states disparity in female work participation for the period 2001 and 2011. The disparity index (DI) is calculated by the following formula:

$$
\text { DI }=\log (\mathrm{X} 2 / \mathrm{X} 1)+\log (100-\mathrm{X} 1) /(100-\mathrm{X} 2)
$$

Where,
DI= Disparity Index
$\mathrm{X} 2=$ Male Work participation
$\mathrm{X} 1=$ Female Work participation
Where, X2 > X1
If $\mathrm{X} 2=\mathrm{X} 1$


According to Sopher, in the case of perfect equality i.e. no disparity, the value of DI will be zero and a high value of DI means higher is the level of disparity similarly a low value of DI means low disparity between the variables. Generally, Sopher's disparity index is useful in measuring the relative disparity.

## Source of Data

The present study based on the secondary data obtained mainly from the publication of Statistical Abstract of Haryana, Census of India and Office of Registrar General, India. The present study covered the period of 2001 and 2011.

## Selection of Study Area

The present study is based on the inter-states disparities in female work participation. In 2011, as per the last published National Sample Survey Office (NSSO) survey, the Workforce Participation Rate (proportion of labour force employed) at an all India level was $25.5 \%$ for females and $53.3 \%$ for males (MoSPI 2012). There is wide disparities in male and female work participation rate in different states of India. Therefore, the researcher choose the states for the present study.

## Data Interstation

Women work participation in the labour force in India is challenging because women work participation is depend on many social, economic, cultural and demographic factors like their marital status, number of children, age of children, caste, religion, lack of education, labour market discrimination, transportation facilities and crime rate are also effect. Women do unpaid care of their family members. Further male member of the family (father, brother, husband or in laws) impose many restriction on female's movement. And generally they decide what type of job female should take up. All these constraints effect the labour force participation of female and forcing them remain out of the labour force.

Table 1
Inter-State Disparity in Female Work Participation (FWP)

|  | 2001 |  |  | 2011 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Country/ <br> States | Male | Female | Disparity Index | Male | Female | Disparity Index | Net Change in FWP |
| India | 45.13 | 14.67 | 0.68 | 43.84 | 15.2 | 0.64 | -0.04 |
| Andhra Pradesh | $50,5$ | $25.44$ | $0.48$ | 50.56 | 27.47 | 0.43 | -0.04 |
| Aruranchal Pradesh | $46.11$ | 28.5 | 0.33 | 42.18 | $26.52$ | $0.31$ | -0.03 |
| Assam | 42.45 | 9.82 | 0.83 | 44.13 | 10.82 | 0.81 | -0.02 |
| Bihar | 40.49 | 8.91 | 0.84 | 31.82 | 8.21 | 0.72 | -0.12 |
| Chhattisgarh | 45.28 | 22.31 | 0.46 | 43.62 | 20.8 | 0.47 | $+0.01$ |
| Goa | 47.58 | 14.89 | 0.72 | 48.29 | 16.55 | 0.67 | $-0.04$ |
| Gujrat | 51.09 | 14.6 | 0.79 | 52.61 | 13.12 | 0.87 | $+0.08$ |
| Haryana | 43.41 | 13.38 | 0.70 | 43.43 | 9.74 | 0.85 | $+0.16$ |
| Himachal Pradesh | 43.18 | 21.09 | 0.45 | $41.33$ | $18.43$ | $0.49$ | +0.04 |
| Jammu Kashmir $\quad \&$ | $41.54$ | 7.98 | $0.91$ | 34.72 | $5.73$ | $0.94$ | +0.03 |
| Jharkhand | 36.98 | $10.05$ | 0.72 | 30.92 | 9.87 | 0.61 | -0.11 |
| Karnataka | 51.66 | 21.07 | 0.60 | 52.8 | 23.39 | 0.56 | -0.04 |
| Kerala | 41.77 | 10.85 | 0.77 | 44.8 | 12.37 | 0.76 | -0.01 |
| Madhya Pradesh | 44.7 | 17.46 | 0.58 | 43.5 | 18.11 | 0.54 | -0.04 |
| Maharashtra | 48.44 | 22.23 | 0.52 | 51.49 | 25.44 | 0.49 | -0.02 |
| Manipur | 39.27 | 21.39 | 0.38 | 42.98 | 23.47 | 0.39 | +0.01 |
| Meghalaya | 41.3 | 23.74 | 0.35 | 39.25 | 22.78 | 0.34 | -0.01 |
| Mizoram | 49.1 | 31.91 | 0.31 | 47.41 | 28 | 0.37 | +0.05 |
| Nagaland | 40.57 | 29.61 | 0.21 | 43.16 | 31.34 | 0.22 | +0.01 |
| Odisha | 42.9 | 8.73 | 0.90 | 41.46 | 9.21 | 0.84 | -0.05 |
| Punjab | 49.49 | 12.39 | 0.84 | 49.62 | 9.05 | 0.91 | +0.07 |
| Rajasthan | 43.65 | 16.97 | 0.58 | 42.88 | 17.62 | 0.55 | -0.03 |


| Sikkim | 50.8 | 26.3 | 0.46 | 49.68 | 24.31 | 0.49 | +0.03 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | ---: |
| Tamil Nadu | 51.92 | 24.04 | 0.53 | 52.47 | 24.94 | 0.52 | -0.01 |
| Tripura | 45.19 | 10.93 | 0.83 | 47.37 | 10.51 | 0.88 | +0.06 |
| Uttar Pradesh | 39.21 | 6.36 | 0.98 | 35.82 | 7.57 | 0.83 | -0.14 |
| Uttrakhand | 37.89 | 16.41 | 0.49 | 40.3 | 16.16 | 0.54 | +0.05 |
| West Bengal | 47.01 | 9.12 | 0.95 | 46.31 | 9.01 | 0.94 | -0.01 |

Source: Author's Calculation
Table 2
Classification of States on Disparity Index Value

| Sr. <br> No. | Classification of Disparity index | Value of Disparity Index | States in 2001 | States in 2011 |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Very Low | below $0.20$ | - | - |
| 2 | Low | 0.21-0.40 | Nagaland <br> Mizoram <br> Meghalaya <br> Manipur <br> Aruranchal Pradesh | Nagaland <br> Mizoram <br> Meghalaya <br> Manipur <br> Aruranchal Pradesh |
| 3 | Medium | 0.41-0.60 | Uttrakhand <br> Tamil Nadu <br> Sikkim <br> Rajasthan <br> Maharashtra <br> Karnataka <br> Himachal Pradesh <br> Chhattisgarh | Uttrakhand <br> Tamil Nadu <br> Sikkim <br> Rajasthan <br> Maharashtra <br> Madhya Pradesh, <br> Karnataka <br> Himachal Pradesh <br> Chhattisgarh <br> Andhra Pradesh |
| 4 | High | $0.61-0.80$ | Kerala <br> Jharkhand <br> Haryana <br> Gujrat <br> Goa | Jharkhand, <br> Goa, <br> Bihar |
| 5 | Very High | $\begin{aligned} & \hline \text { above } \\ & 0.80 \end{aligned}$ | West Bengal Uttar Pradesh <br> Tripura <br> Punjab <br> Odisha, <br> Jammu \& Kashmir <br> Bihar <br> Assam | West Bengal <br> Uttar Pradesh <br> Tripura <br> Punjab <br> Odisha <br> Kerala <br> Jammu \& Kashmir Haryana <br> Gujrat <br> Assam |

Source: Author's Calculation
There are five groups have been identified for female work participation in different states of India on the disparity index as given above in Table 2.

1. Group of very low disparity index (below 0.20)-There is no any state falls in this group. Very low Disparity means there is nearly equal participation of male and female in work opportunities and wages. But unfortunately no any states falls in this group.
2. Group of low disparity index (0.21-0.40) - As per the analysis in 2001, there were five North-Eastern states under this group like Nagaland (0.21), Mizoram (0.31), Meghalaya (0.35), Manipur (0.38), and Aruranchal Pradesh (0.33). In 2011, same states falls in this group like 2001. Only small variation was shown between 2001 and 2011 in these states.
3. Group of medium disparity index ( $\mathbf{0 . 4 1 - 0 . 6 0 )}$ - There was eight states observed in this group like Uttrakhand (0.49), Tamil Nadu (0.53), Sikkim (0.46), Rajasthan (0.58), Maharashtra (0.52), Karnataka (0.60), Himachal Pradesh (0.45), and Chhattisgarh (0.46) in 2001. But in 2011 there were ten states falls in this group like Uttrakhand (0.54), Tamil Nadu (0.52), Sikkim (0.49), Rajasthan (0.55), Maharashtra (0.49), Madhya Pradesh, Karnataka (0.56), Himachal Pradesh (0.49), and Chhattisgarh (0.47).
4. Group of high disparity index ( $\mathbf{( 0 . 6 1 - 0 . 8 0}$ ) - As per the analysis in 2001, there were five states were in this group like Kerala (0.77), Jharkhand (0.72), Haryana (0.70), Gujrat (0.79) and Goa (0.72). In 2011 Jharkhand ( 0.61 ), Goa ( 0.67 ) and Bihar ( 0.72 ) were falls in this group.
5. Group of very high disparity index (above $\mathbf{0 . 8 0}$ )- There were eight states observed in this group like West Bengal, Uttar Pradesh, Tripura, Punjab, Odisha, Jammu \& Kashmir, Bihar and Assam. There were ten states in this group In 2011 West Bengal, Uttar Pradesh ,Tripura, Punjab ,Odisha, Kerala, Jammu \& Kashmir ,Haryana ,Gujrat and Assam

Table 3
Percentage Classification of States on Disparity Index

| Classification of <br> Disparity index | Value of <br> Disparity <br> Index | States in <br> $\mathbf{2 0 0 1}$ | States in 2011 |
| :--- | :--- | :--- | :--- |
| Very Low | below 0.20 |  |  |
| Low | $0.21-0.40$ | $17.86 \%$ | $17.86 \%$ |
| Medium | $0.41-0.60$ | $28.57 \%$ | $35.71 \%$ |
| High | $0.61-0.80$ | $17.86 \%$ | $10.71 \%$ |
| Very High | above 0.80 | $28.57 \%$ | $35.71 \%$ |

Source: Author's Calculation
It can be observed that there is significant variation within states. In the group of low disparity only $17.86 \%$ states falls in 2001 as well as in 2011. It is found that equal percentage of states falls in medium and very high disparity group in 2001 and 2011. It is very unfortunate that 35.71 percent states are in very high disparity in female work participation.

Some states shows the decline in female labour force participation between 2001 and 2011, these are- Andhra Pradesh, Aruranchal Pradesh, Assam, Bihar, Goa, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Meghalaya, Odisha, Rajasthan, Uttar Pradesh and West Bengal

In this paper it is observed that highest disparity in Haryana and lowest in Nagaland. Haryana is one of the leading states in the country but there is huge disparities in female work participation.
"The creation of opportunities for women does not depend on a country's income level or economic growth rate ..." UNDP, Human Development Report, 1996, p. 35

Figure 1
The inter-states female work participation in 2001


Source: Statistical Abstract of Haryana
Figure 2
The inter-states female work participation in 2011


Source: Statistical Abstract of Haryana

## Conclusion

As economy shift from agriculture to manufacturing and service sector, women work participation starts decline due to lack of work opportunities and lack of training for female. This paper provide an insight about the female work participation in different states of India. There is huge disparities in the states of India in female work participation. It is observed that highest disparity in Haryana and lowest in Nagaland. There are eight states shows the very high disparities, like West Bengal, Uttar Pradesh, Tripura, Punjab, Odisha, Jammu \& Kashmir, Bihar and Assam. There are ten states in this group In 2011 West Bengal, Uttar Pradesh ,Tripura, Punjab ,Odisha, Kerala, Jammu \& Kashmir ,Haryana ,Gujrat and Assam.

## Policy Implications and Suggestions

Government and private institutions should provide the day care facilities for the infant children. Because Joint families fell substantially $\mathbf{1 9 . 1 \%}$ ( $\mathbf{3 . 6 9}$ crore) to $\mathbf{1 6 . 1 \%}$ ( $\mathbf{4}$ crore) across India. In rural areas, the dip was sharper - from $20.1 \%$ to $16.8 \%$ - than in urban India where it fell from $16.5 \%$ to $14.6 \%$.... A joint family can be of various compositions, including parents with married children. Agriculture inputs and training should be provided to the female applicants. Active participation of women is critical to agricultural prosperity, policy makers should ensure that women benefit equally from development efforts.

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