

Trends and Pattern of Female Work Participation in Non - Agricultural Activities and Levels of Development in India

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Abstract: *Female work participation (FWP) is an essential indicator of women's economic empowerment and is also reflected in women's society at home and beyond. For the balanced development of a country or region, the talent and potential of every citizen, regardless of sex, region or caste, is essential. As per the 2011 census, compared to the 14.68 reported in the 2001 Census, the proportion of major female workers in the overall female population stood at 25.5 percent. The percentage of women employed in the household industry and other workers, respectively, were at 2.95 and 47.20 at the All - India level. Such a result is a significant concern to all the stakeholders of the state, especially the policymakers. The present paper, therefore, attempts to analyze the trends and patterns of Female work participation in Non - agricultural activities since 1981. Moreover, an attempt has also been made to identify the relationship between a selected development variable of development among the states of India. The state has been taken as the smallest unit of the study. The study utilizes published data obtained from the Census of India and other statistical records at the state level. Some standard statistical techniques are used in the present study. The general picture that emerged from this discussion is a gradual increase of female workers in the non - agricultural sector from the north - central to south - eastern parts of the country.*

Keywords: Work Participation; Non - agricultural activities, Levels of Development, Correlation Coefficient, z - score.

1. Introduction

One of the country's largest population groups is that which participates in the workforce. It is taking part in economic production and planning on a multilateral basis. It details human resources, including how they are used and to what extent. Work participation refers to the economic activities in which workers are differentiated. The varied physio - culture and social - economic backgrounds of the region encourage the people to involve in various types of work, and no single component of the workforce operates in isolation. Still, in each part of the region, diverse cultural groups are involved in several jobs depending upon the available resource, which exhibits regional variation in work participation.

It is an impotent indicator of the region's economic structure. Numerous socioeconomic and demographic parameters of the population are influenced by the level of work or unemployment. The study of work participation is typically thought of as the population's contribution to the supply of workers for services and goods utilized by the economy.

A large proportion of female workers directly engaged in economic activity plays a significant role in development. given that women make up about 50% of the workforce, their participation in the workforce is vital to the economic success of a country. In addition, women's employment rates relative to men's are a key factor in determining their social standing. For women to improve their quality of life and standard of living, they must participate in the workforce. Half of the participants are female. However, only one - fourth of them work in non - agricultural industries. Therefore, it is crucial to assess the volume and type of labor performed by women in India.

In light of the above facts, an attempt has been made to study the "Trends and Pattern of Female Work Participation in Non - Agricultural Activities and Levels of Development in India.

2. Aims and Objectives

The present study has been undertaken with the following objectives:

- 1) To analyze the trends of female work participation in non - agricultural sectors, 1981 - 2011;
- 2) To examine the geographical patterns of regional disparities and
- 3) To find out the relationship between Female non - agricultural participation and levels of development.

3. Database and Methodology

The study is mainly based on the secondary sources of data obtained from the Office of the Registrar General of India and Census Commissioner, Government of India, New Delhi. The state has been used as the analytical unit. The following 20 indicators were chosen for the development indices after carefully assessing their significance in determining the country's level of development.

The study is based on a set of 17 indicators including Percentage of Population Growth; Decadal Population Growth; Percentage of Rural Population; Sex Ratio; Percentage of Literacy Rate; Percentage of Male Literacy Rate; Percentage of Female Literacy Rate; Population Density; Percentage of Urban Population; Per Capita Income; Life Expectancy; Birth Rate; Gross Enrolment Ratio; Number of Factories; Number of Government Hospitals in Rural & Urban Areas (Including CHCS); Teacher to Student Ratio

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(Primary); No. of Bed Hospital; Percentage of Scheduled Caste Population; Intensity of Cropping.

For analysis of the data ‘z’ score or Standard Score, the Additive Model has been used to drive at the levels of development. This is a very simple calculation but is the most appropriate in its result. For the ‘z’ score, Smith (1979) has given a formula:

$$Z_{ij} = \frac{X_{ij} - X_i}{\delta X_j}$$

where,

Z_{ij}= standardized value of the variable I in state j

X_{ij} = actual value of variable I in state j

X_i = mean value of the variable i in all state

δ X_j= Standard Deviation (δ) of variables in all states.

The correlation coefficient between female works in non - agricultural activities and levels of development has been computed based on Karl Pearson’s correlation coefficient (r) method.

The positive values relating to the state’s score show a high level of development and negative values a low level of development. The correlation coefficient between Female work participation in non - agricultural sectors and levels of development has been computed based on Karl Pearson’s correlation coefficient (r) method.

4. Study Area

India, or Bharat, takes up most of the South Asian continent. The Greek term "into"—the region close to the Indos—is where the word "India" got its start (Lambert, 1960). The Romans pronounced the river Indus, and India is the nation that lies beyond it.

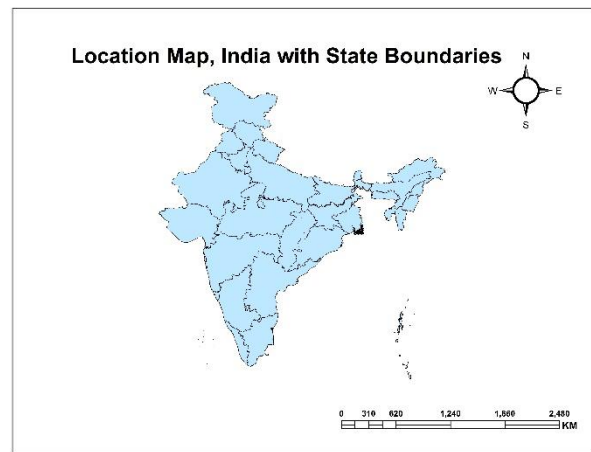


Figure 1: Location map of India, 2011

India is located between latitudes 8°4' and 37°6' in the northern hemisphere and 68°7' and 97°25' in the eastern hemisphere. India controls a total geological area of 32, 87, 263 sq. km., or around 0.57% of the earth's surface and 2.4% of the entire land hemisphere. The state's fundamental component is its population. India has a total population of 1210.19 million, or 17.5% of the world's population, as of 2011. India is the second largest country in the world India, after China. The density of India is 382, according to the 2011 census. The sex ratio is 943; the literacy rate is 74%.

5. Results and discussion

Trends of Female Work Participation in Non - Agricultural Sectors in India (1981 - 2011)

In India and its States, the proportion of women actively seeking employment has been fluctuating. According to Table 1, the country's participation rate in non - agricultural work increased from 29.7% in 1981 to 41.6% in 2001 and then rose again to 45.5% in 2011. The percentage of male non - agricultural workers has risen steadily between 1981 and 2011, from 33.7% to 50.1% in 2011, indicating a 16.4% point improvement in the nation. From 17.8% in 1981 to 34.9% in 2011, female employment in non - agricultural sectors has expanded dramatically.

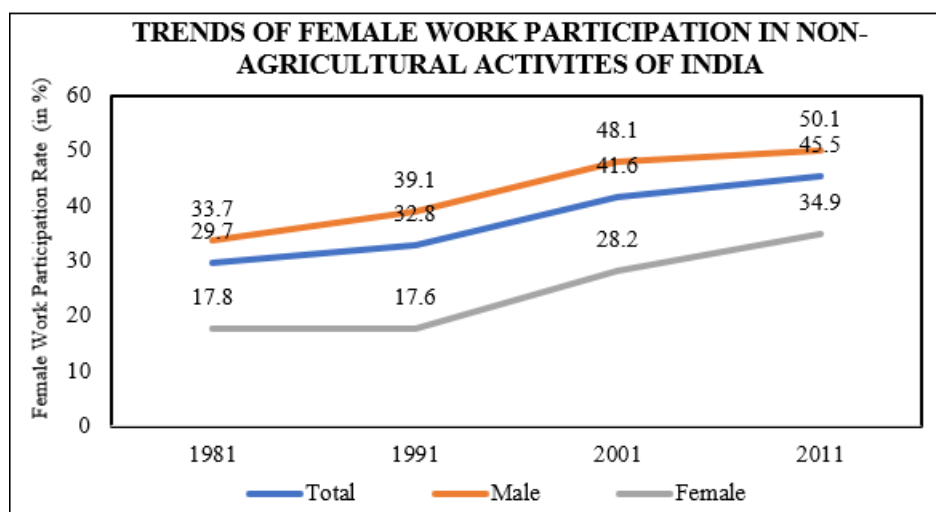


Figure 2: Trends of female work participation in non - agriculture activities of India

Source: Census of India, 1981, 1991, 2001, and 2011

Between 1991 and 2001, there was a noticeable trend toward labour that was categorized as marginal. The effects of economic liberalization are apparent in the policies supporting the growth of non - agricultural industries, which are reflected in a substantial increase in non - agricultural employment between 2001 and 2011. In other words, most new jobs created since the implementation of liberalization policies in 1991 have been marginal ones, and women are disproportionately represented among those in marginal jobs. It is also a result of the many adjustments made to the definition and idea of workers from census to census.

Regional distribution of main female non - agricultural work participation, 2011.

With a maximum percentage of 2.37 score in Chandigarh and the lowest percentage of - 1.09 score in Chhattisgarh, the regional distribution of female principal non - agricultural employees from 2001 - 2011 is vast, with an average of 34.9% across the country. The score of women working in the primary non - agricultural occupations in each state and UT can be divided into below - 0.50, between - 0.50 and 0.50, and over 0.50. (Table 2).

Table 1: z - scores of States, 2011

S. No.	Category	Score	States	% of total states
1	Low	< - 0.5	Chhattisgarh, Rajasthan, Bihar, Himachal Pradesh, Jharkhand, Madhya Pradesh, Odisha, Nagaland, Uttarakhand, Uttar Pradesh, Andhra Pradesh, Arunachal Pradesh (12)	34.3
2	Medium	- 0.5 to 0.5	Gujarat, Tripura, Maharashtra, Meghalaya, Manipur, Sikkim, Assam, Haryana, Mizoram, Dadar & Nagar Haveli, Karnataka, West Bengal, Tamil Nadu (13)	37.1
3	High	>0.5	Lakshadweep, Punjab, Kerala, Andaman & Nicobar Islands, Jammu & Kashmir, Puducherry, Goa, Daman & Diu, NCT of Delhi, Chandigarh (10)	28.6

We find that the states/UT under the first grade 0.50 score and over are dispersed and distributed across the nation and fail to form a significant region when we look at the three steps mentioned above separately. Only ten states (including UT) are classified as medium and concentrated in two areas.

Mizoram, Assam, Sikkim, and Manipur. In the north - central and western areas of the country, a continuously significant part comprises almost fifty percent of states and the U. S. territory that receive a shallow percentage grade (< - 0.50%).

The southern region of India, which includes Tamil Nadu and Karnataka, has one part that is relatively large in size, and the north - eastern region, consists of the states of West Bengal,

The general picture that emerged from this discussion is a gradual increase of female workers in the non - agricultural sector from the north - central to south - eastern parts of the country.

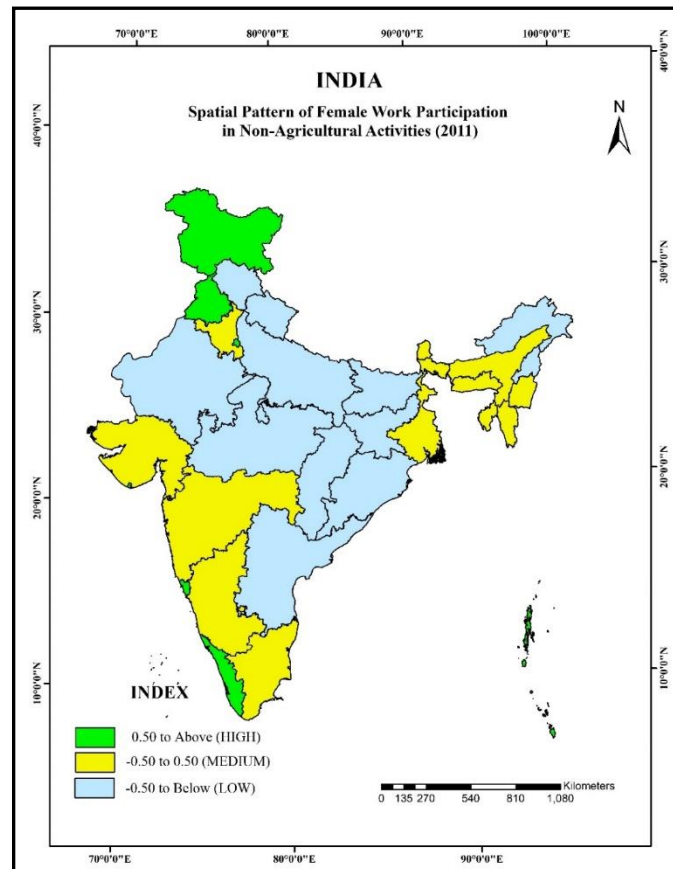


Figure 3: The Simple Correlation between Female Non - Agricultural Work Participation and Independent Variables

Correlation between female non - agricultural work participation and various variables

In the present investigation, relationships have been sought between female non - agricultural work participation and nineteen development variables of the states/UTs of India. Table - 3 reveals that six variables out of nineteen are significant at a confidence level of 99%, though the actual magnitudes of their coefficients are different. X_1 (Female Literacy Rate, $r=0.577$), X_2 (Male Literacy Rate, $r=0.542$), X_3 (Literacy Rate, $r=0.578$), X_9 (Percentage of Urban Population, $r=0.828$), X_4 (Sex Ratio, $r=-0.441$) and X_{11} (Birth Rate, $r=-0.525$) are found to have a direct relationship with female non - agricultural work participation (Y_1). The variables X_{11} (Birth Rate, $r=-0.525$) and X_4 (Sex Ratio, $r=-0.441$) have a significant inverse relationship with Y_1 . The critical variables well above the stipulated acceptable 95% confidence level are X_5 , X_7 , X_{10} , and X_{17} . Only two variables, i. e., X_5 (Percentage of Rural Population and X_7 (Percentage of population growth), have an inverse relationship with Y_1 .

Table 2: Results of Correlation (r) between Female Non - Agricultural Workers (Main) and other Selected Variables, India.

S. No.	Name of the indicator	Correlation (r)
1.	X_1 Percentage of Female Literacy Rate	0.577***
2.	X_2 Percentage of Male Literacy Rate	0.542***
3.	X_3 Percentage of Literacy Rate	0.578***
4.	X_4 Sex Ratio	- 0.441**
5.	X_5 Percentage of Rural Population	- 0.375*
6.	X_6 Decadal Population Growth	0.109
7.	X_7 Percentage of Population Growth	- 0.359*
8.	X_8 Population Density	- 0.188
9.	X_9 Percentage of Urban Population	0.828***
10.	X_{10} Life Expectancy	0.419*
11.	X_{11} Birth Rate	- 0.525**
12.	X_{12} Gross Enrolment Ratio	- 0.150
13.	X_{13} Number of Government Hospitals in Rural & Urban Areas (Including CHCS)	- 0.010
14.	X_{14} No. of Bed Hospital	- 0.109
15.	X_{15} Percentage of Scheduled Caste Population	- 0.109
16.	X_{16} Intensity of Cropping	- 0.243
17.	X_{17} Per Capita Income	0.426*
18.	X_{18} Number of Factories	- 0.175
19.	X_{19} Teacher / Student Ratio (Primary)	0.154

* Significant at 95% level; ** Significant at 99% level; *** Significant at 99.99% level

This explanation leads to the conclusion that Birth rate, Sex - ratio, rural population, and population growth are the chief determinants, but the magnitudes of their effects are dissimilar.

In light of the above discussion, an effort should be made to develop less developed areas so that they may come up at par with developed regions and the concept of planning with social justice proves successful. The remaining variables are negatively associated with Y_1 , but there are insignificant.

6. Conclusion

The female non - agricultural workers improved from 17.82% to 34.9% in India. The general picture that emerged from this

discussion is that there is a gradual increase of female primary workers in the non - agricultural sector from the north - central to south - eastern parts of the country. The statistical analysis concludes that Birth rate, Sex ratio, rural population, and population growth are the chief determinants, but the magnitudes of their effects are dissimilar.

In light of the above discussion, the effort should be made for the development of less developed areas so that they may come up at par with developed areas, and the concept of planning with social justice proves successfully.

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