# BARRIER TO FEMALE WORKFORCE PARTICIPATION IN

RAJASTHAN, INDIA

#### ACKNOWLEDGEMENT

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We got to learn a lot from this project about the Barriers of the female workforce participation rate in India as well as our chosen state Gujarat. We would also like to thank our college principal Dr. Inderjeet Sir for the constant support.

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# INTRODUCTION

Major transformations are observed in Indian economy like rise in education for both men and women, improved access to electricity, piped water and cooking gas. Labour is an essential factor of production that contributes to development. The total number of workers in labour supply is highly affected by the behaviour of women with their dual responsibilities of home maker and worker. In an economy like India both economic and socio- cultural factors determine the level of female employment. Growth in economy should have increased participation of women in paid work but there has been a decline in women work force participation, especially in rural areas. If we talk about labour force participation rate for the whole country, according to data provided by PLFS 19-20, in rural areas, male accounts for 56.3% and women accounts for 24.7%. In urban areas, situation is worse for women as female LFPR is 18.5% while male LFPR is still around 57%.

If we study about women's labour force participation in state of Rajasthan, Females constitute about (48.14%) half of the total population in Rajasthan and play a very significant role in the state economy. The total labour force participation in age group: 15-59 in state of Rajasthan is 60.4%. Male LFPR being 80% and female LFPR being 40.5%. If we take into account sector wise than male LFPR stands at 80.3% and female at 47.8% in rural areas and 79.1% and 20.1% respectively in urban areas. Urban Female workers are less in numbers but mostly working in occupations like household industry workers and other workers where wages are comparatively higher than rural females engaged as agricultural labourers. The trend and structure of the female work participation has attracted attention over the past few decades in the world and from the past few years in India is also an effective in Rajasthan to highlight the real situation of women participation, whether they are empowering with their raising level of work participation.

Rajasthan offers an interesting paradox of social advancement and economic stagnation. Women in the state in spite of enjoying better status and position compared to other parts of the country have lower levels of participation in economic activity. There are various determinants to estimate women's labour force participation. These mainly include areas such as education, unemployment, wage and number of young children in the household. This study broadly aims to take a fresh look at the current situation of women's work in Rajasthan. Determinants that will be used to analyse female workforce participation rate are gender wise, sector wise, social, religion etc.

# **CONCEPTS**

**Activity Status:** The activity status of a person is determined on the basis of the activities pursued by the person during a specified reference period.

## Working (or employed)

#### **Self-employed**

- 11 worked in household enterprises (self-employed) as own-account worker
- 12 worked in household enterprises (self-employed) as an employer
- 21 worked in household enterprises (self-employed) as helper

#### Regular wage/ salaried employee

31 - worked as regular wage/salaried employee

#### Casual labour

- 41 worked as casual labour in public works other than MGNREG public works
- 42 worked as casual labour in Mahatma Gandhi NREG public works 51 worked as casual labour in other types of works
- 61 did not work owing to sickness though there was work in household enterprise
- 62 did not work owing to other reasons though there was work in household enterprise
- 71 did not work owing to sickness but had regular salaried/wage employment
- 72 did not work owing to other reasons but had regular salaried/wage employment.

CODES from 81 to 99 ranges from not working/available for work to neither working nor available for work categories. (Not necessary)

**Usual Status:** The activity status determined on the basis of the reference period of the last 365 days preceding the date of survey, is known as the usual activity status of the person.

**Current Weekly Status (CWS):** The activity status determined on the basis of a reference period of the last 7 days preceding the date of survey is known as the Current Weekly Status (CWS) of the person.

#### LABOUR FORCE & WORK FORCE

**Labour Force** includes both 'employed' and 'unemployed' persons. It refers to the number of persons actually working or willing to work.

It is measured in terms of the number of persons (not in terms of person-days), size of labour force increases or decreases only when the number of persons actually working or willing to work increases or decreases.

The labour force participation rate (LFPR) is defined as the percentage of persons in the labour force among the persons in the population.

$$LFPR = \left(\frac{NO.OF \ EMPLOYED + NO. \ OF \ UNEMPLOYED}{TOTAL \ POULATION}\right) * 100$$

**Work Force** Includes only employed persons. It refers to the number of persons actually working and does not account for those who are willing to work. It is a measurement of actual labour force.

It is measured in terms of the number of persons (not in terms of person-days), size of labour force increases or decreases only when the number of persons actually working or willing to work increases or decreases.

Worker Population Ratio (WPR) is the percentage of persons employed among the persons in the population.

$$WPR = \left(\frac{NO.OF\ EMPLOYED}{TOTAL\ POULATION}\right) * 100$$

# Determinants of Female Labour Force Participation in Rajasthan, India

**AGE** (A) = Age of the female respondent, 15-59 age group taken in our case. (*DISCRETE VARIABLE*)

**MARITAL STATUS** (**M**) = Marital Status of the female respondent. (*CATEGORICAL VARIABLE*)

- 1 = "Never Married"
- 2 = "Currently Married"
- 3 = "Widowed/ Divorced/Separated"

**SECTOR** (**M**) = Sector where the female respondent resides in. (*DUMMY VARIABLE*)

- 0 = "URBAN"
- 1 = "RURAL"

**RELIGION** (**R**) = Religion of the Female interviewed. (*CATEGORICAL VARIABLE*)

- 1 = "HINDU"
- 2 = "ISLAM"
- 3 = "OTHERS"

**SOCIAL GROUPS** (**SC**) = Social Group to which the female respondent belong. (*CATEGORICAL VARIABLE*)

- 1 = "ST/SC"
- 2 = "OBC"
- 3 = "UNRESERVED"

**EDUCATION** (**E**) = Schooling done in Years. (*DISCRETE VARIABLE*)

- 0 = "Not literate"
- 2 = "Literate up to primary"
- 3 = "Middle"
- 4 = "Secondary"
- 5 = "Higher secondary/Diploma"
- 6 = "Graduate and above"

**MPCE** = Monthly Per Capita Expenditure: Household Consumer Expenditure over a period of 30 days divided by Household size.

(CONTINUOUS VARIABLE into Categorial Variable)

- 1 = "Lowest Quintile"
- 2 = "Second Quintile"
- 3 = "Third Quintile"
- 4 = "Fourth Quintile"
- 5 = "Highest Quintile"

**CHILDREN** (**C**) = No. of children (below 5 years) present in the family. (**DISCRETE VARIABLE**)

**INFANTS** (I) = No. of children younger than 5 years including pregnancies (*DISCRETE VARIABLE*)

**F-SIZE** (**FS**) = Size of family OR number of family members including respondent (*DISCRETE VARIABLE*)

**NATIONAL INDUSTRY CLASSIFICATION (NIC)** = Which of the following industry the female is working in.

(CATEGORICAL VARIABLE)

- 1 = "Agriculture"
- 2 ="Industry"
- 3 = "Services"

**NATIONAL CLASSIFICATION OF OCCUPATION (NCO)** = A industry-based classification which shows in which type of industry the Female respondent is working. *(CATEGORICAL VARIABLE)* 

- 1 = "White collar"
- 2 ="Pink collar"
- 3 = "Blue collar"
- 4 = "Not classified by any occupation"

# Rajasthan V/s All-India FWPR: Descriptive Statistics

# **FWPR – On the Basis of SOCIAL GROUPS**

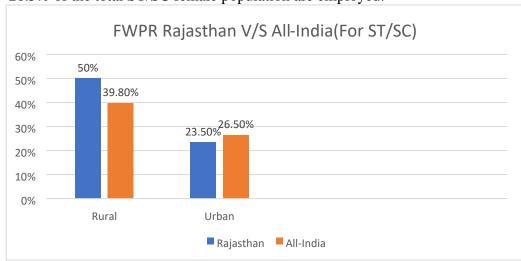
# Social Tribe/Social Caste (ST/SC) ~

#### Rural Sector ~

In the Rural sector of Rajasthan, 50% of the total ST/SC female population are employed. Whereas, while we consider the Rural sector of All-India, we see the number is 39.8%.

#### Urban Sector ~

If we see the Urban sector of Rajasthan, 23.5% of the total ST/SC female population are employed. When see the Urban Sector of All-India, we see that 26.5% of the total ST/SC female population are employed.



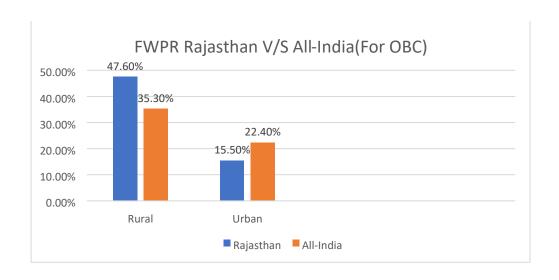
# Other Backward Classes (OBC) ~

# Rural Sector ~

In the Rural region of Rajasthan, 35.3% of the total female population (which are under OBC category) are employed. Whereas, 39.8% of the total OBC female population are employed in Rural region across India.

#### Urban Sector ~

For Urban sector of Rajasthan, 15.5% of the total female population are employed. On the other hand, 26.5% of the total female population are are employed in Urban-All India



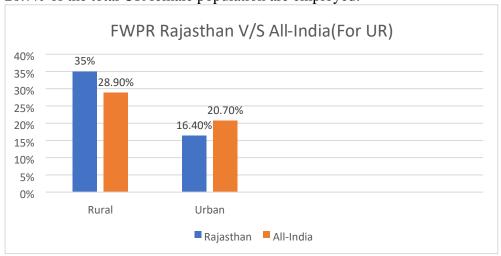
# <u>Unreserved (UR)</u> ~

#### Rural Sector ~

For Rural sector of Rajasthan, out of all the UR female population, 33% are employed. Whereas, while we consider the Rural sector of All-India, we see that 28.9% of the total UR female population are employed.

#### Urban Sector ~

For Urban sector of Rajasthan, 23.5% of the total UR female population are employed. When we talk about the Rural region all across India, we see that 20.7% of the total UR female population are employed.



# **FWPR – On the Basis of MPCE**

# **Lowest Quintile:**

Under the Lowest Quantile MPCE(0-21,000rs),

For Rajasthan, where the MPCE is under 21,000Rs, the Work-Force Participation Rate of the Female is 33.5%

For All over India, if we consider Lowest Quintile, the Work-Force Participation Rate of the Female is 27.3%

# **Second Quintile:**

Under the Second Quantile MPCE (21,001-42,000rs),

For Rajasthan, where the MPCE is between 21,001 - 42,000rs, the WorkForce Participation Rate of the Female is 35.7%

For All over India, if we consider Lowest Quintile, the Work-Force Participation Rate of the Female is 27.4%

# **Third Quintile:**

Under the Lowest Quantile MPCE (42,001-63,000rs),

For Rajasthan, where the MPCE is between 42,001 - 63,000rs, the WorkForce Participation Rate of the Female is 34.9%.

For All over India, if we consider Lowest Quintile, the Work-Force Participation Rate of the Female is 29.6%

# **Fourth Quintile:**

Under the Lowest Quantile MPCE (63,001-84,000rs),

For Rajasthan, where the MPCE is between 63,001-84,000rs, the Work-Force Participation Rate of the Female is 36.1%

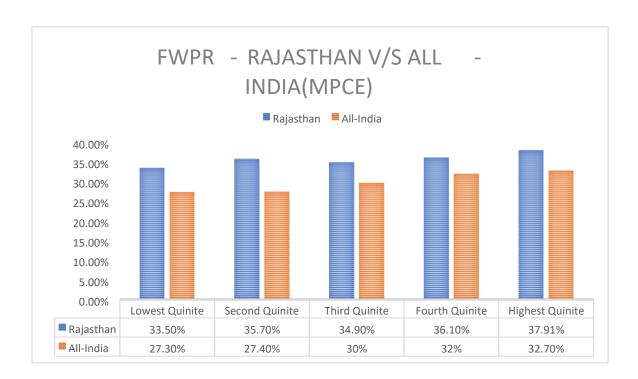
For All over India, if we consider Lowest Quintile, the Work-Force Participation Rate of the Female is 32.0%

# **Highest Quintile:**

Under the Lowest Quantile MPCE (84,001-1,05,000rs),

For Rajasthan, where the MPCE is between 84,001-1,05,000rs, the WorkForce Participation Rate of the Female is 37.9%

For All over India, if we consider Lowest Quintile, the Work-Force Participation Rate of the Female is 32.7%



#### **FWPR – On the Basis of Marital Status**

# **Never Got Married** ~

Rajasthan: Out of the total Female Population who never got married, 9% of them are under Work-Force of the state.

All-India: If we take a look at the India level, we can see that 15.5% of the Females out of total Female Population who never got married are under the Work-Force

#### **Currently Married ~**

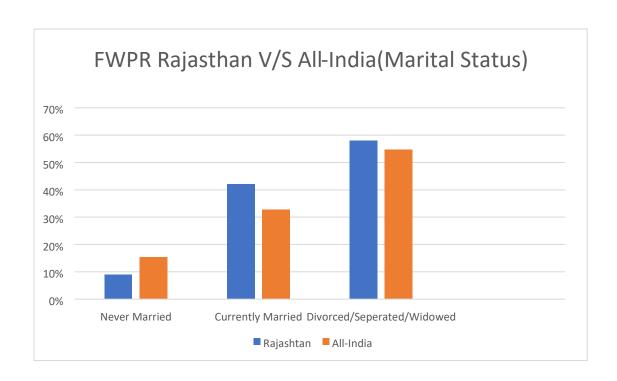
Rajasthan: The Female Work-Force Participation Rate of the Females who are currently married is at 42%

All-India: At the National level, 32.8% of the Total Female Population who are currently married are under the Work-Force.

# **Divorced/Separated/Widowed** ~

Rajasthan: Out of the total Female Population who are under this category (Divorced/Separated/Widowed), 58% of them are under Work-Force of the state.

All-India: Analysing the data for the entire country, we came to know that 54.7% out of the total Female Population under category (Divorced/Separated/Widowed) are contributing to the F-WPR of the country.



# **Regression Model Analysis**

# **Model Specification:**

Association between status of women employment and each of the socio-economic variables can be analysed. However, the dependent variable (working status or employment participation of women) may be influenced by a number of factors simultaneously. To examine such relationships between a dependent variable and a set of independent variables, multiple regression analysis can be utilised. However, the dependent variable in this study is a dichotomous variable generated from responses to the question: "Why do some women work and others do not?" and the independent variables consist of numeric, categorical and dummy variables. A major problem associated with the use of multiple regression is that the predicted values do not necessarily lie in the range 0 to 1, and therefore cannot be interpreted as probability. Given the nature of the dependent variable, Y, which takes value Y=1 if the respondent (female) is in the workforce; and takes value Y=0 if the female is not in the workforce, the two models, Probit and Logit models, can be used. Both of these models provide a prediction for the probability that female with a given set of characteristics is in employment/workforce. However, since logistic model is easier to understand and uses a standard form of analysis, logistic regression model is used in this study.

# **Model of Logistic Regression:**

In the logistic model with more than one independent variable, the model can be written as

Prob [A female in workforce] =

$$P[y=1] = \frac{e^z}{1+e^z} = \frac{1}{1+e^{-z}}$$

Where Z is a linear function of the explanatory variables. If  $X_1$ ,  $X_2$ ,..... $X_k$  represent various characteristics of the household and female respondent, then "Z" equation would be as follows:

$$Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k$$

 $X_i = i^{th}$  Explanatory Variables.

 $\beta_i$  = Parameters of the model

Under this model, the probability that a female with a given set of characteristics, is not in workforce is given by:

$$P[Y = 0] = 1 - P[Y=1]$$

$$= \frac{e^z}{1 + e^{-z}} = \frac{1}{1 + e^{-z}}$$

# **Selection and notations of the variables:**

Dependent Variable

Employment = 1 {if the female is working = 0 otherwise}

#### Explanatory Variables/Regressors:

- Sector
- Education level
- HH with children
- Social Groups
- Marital Status
- Religion

Determinants like NCO, NIC can also be used in the regression model. But for the current model, we have excluded them. In case, we need to study their effects, we can make a MODEL-II.

# Fitting the regression model:

In SPSS, with the help of regression analysis tool we fit on a regression model on the collected data of PLFS (19-20).

$$Z = \beta_1(S) + \beta_2(M) + \beta_3(E) + \beta_4(C) + \beta_5(G) + \beta_6(M) + \beta_7(R)$$

#### • Sector:

employed	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Sector : base Rural	1						
Urban	0.221	0.017	-19.19	0	0.189	0.258	***

Women from rural sector are more likely to be employed as they have to take up jobs in order to meet ends and fulfil their family needs. Urban women are 0.22 times likely to be employed as they are in a better financial condition and tend to look after their family and not take up a job.

#### • Education Status of Female:

employed	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Literate upto prim~y	0.72	0.063	-3.73	0	0.606	0.856	***
Middle	0.466	0.05	-7.16	0	0.378	0.574	***
Secondary	0.514	0.07	-4.9	0	0.394	0.671	***
Higher secondary/	0.438	0.064	-5.67	0	0.329	0.582	***
Graduate and above	0.583	0.087	-3.63	0.082	0.435	0.78	*
: base No tech edu	1	•					

Education status follows an unusual pattern. Illiterate women are more likely to be employed than women who have completed education up to primary, middle, secondary, higher secondary and graduation levels by 0.72, 0.466, 0.514, 0.438, 0.583 times respectively. This unusual trend may be present due to the fact that illiterate women mostly come from the backward sections of society and they take up menial jobs in order to survive. As women reach a higher level of education, the probability of them being employed falls and then rises.

# • Age of children:

employed	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
: base No childre~s	1						
HH with children u~s	0.701	0.05	-4.99	0	0.609	0.806	**

Women with no children are bound to have more chances of getting employed as they do not have the responsibility of looking after children and can focus on their jobs better while those women who have children are 0.701 times less likely to be employed than women without children as they have to look after the children. It is difficult to manage both their jobs and personal life which leads to less employment amongst women with children.

#### • Social Group:

employed	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Social Group: base~ST	1						
SC	0.545	0.063	-5.29	0	0.435	0.682	***
OBC	0.575	0.061	-5.18	0	0.467	0.709	***
OTHERS	0.413	0.052	-7.08	0	0.323	0.527	***

ST women find employment opportunities easier than other social groups like SC and OBC. SC and OBC women are 0.545 and 0.575 times less likely to be employed than ST women respectively as per the regression results obtained. Others are 0.413 times likely to get employed.

#### • Marital Status:

employed	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
: base Never maried	1						
Currently married	4.135	0.522	11.27	0	3.228	5.296	
Single	5.27	1.192	8.37	0	3.802	8/605	

Married women are 4.135 times more likely to be employed than women who've never been married while widowed/divorced women are 5.27 times more likely to be employed than never-married women. This may be due to them having to work to make ends meet as they've lost a breadwinner in the family and have to take up various jobs.

#### • Religion:

employed	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
: base HINDU	1						
MUSLIM	0.595	0.081	-3.81	0	0.456	0.777	***
OTHERS	0.795	0.162	-1.13	0.26	0.533	1.186	

Muslim women are less likely to be employed than Hindu women by 0.595 times while women from other religions such as Sikhism, Jainism, etc. are 0.795 times more likely to be employed than Hindu Women. Muslim Women may face discrimination based on their religion which leads to employers not employing them over other candidates from other religions.

The low and declining female labour force participation rate in India despite strong growth over the past decade is puzzling and stands out among emerging markets. At the same time, greater economic participation of women can be a source of inclusive growth and wellbeing. Assessing determinants of the labour force participation of women in India can open important policy insights. This paper first describes key employment trends in India by gender. Then the potential determinants of female labour force participation are identified based on literature, basic statistics and econometric techniques. Given the large regional differences in India, the analysis is also conducted by region and between rural and urban areas. In contrast to other BRIICs or OECD countries, education and incomes are negatively correlated with female labour for participation in India. Apart from the lack of jobs, social and cultural factors keep women outside the labour force.

# **Constraints In Female Workforce Participation**

- a) Stereotyping In Society: India's societal norms are such that women are expected to take the responsibility for family care and childcare. This stereotype is a critical barrier to women's labour force participation.
  Due to this, women are in constant conflict over-allotment of time for work and life is a war of attrition for them.
- b) Digital Divide: In India in 2019, internet users were 67% male and 33% female, and this gap is even bigger in rural areas.
  This divide can become a barrier for women to access critical education, health, and financial services or to achieve success in activities or sectors that are becoming more digitized.
- c) Technological Disruption: Women hold most of the administrative and data-processing roles that artificial intelligence and other technologies threaten to usurp. As routine jobs become automated, the pressure on women will intensify and they will experience higher unemployment rates.
- d) Lack of Gender-Related Data: Globally, major gaps in gendered data and the lack of trend data make it hard to monitor progress.
   In India, too, significant gaps in data on the girl child prevent a systematic longitudinal assessment of the lives of girls.

# **Way Forward**

A report by McKinsey Global Institute suggests that if women participated in the Indian economy at the level men do, annual GDP could be increased by 60% above its projected GDP by 2025. Given this, governments at all levels, civil society, and the citizenry should take adequate measures to ensure gender equality.

- a) Full-Time Child Care: The Integrated Child Development Scheme provides some support, but it is not a full-time child care solution.
- However, the "Sangini Centres" of Self Employed Women's Association (SEWA) provide full-day child care for 0-5-year-olds, including nutrition, health, and child care.
- Thus, similar centres should be significantly expanded.
- **b) Bridging Digital Divide:** To address this, partnerships between the public and private sectors will be most effective.
- Actions will need to address the affordability of phones and computers, female digital literacy and its social context, and inadequate technical content dedicated to women and girls.
- **c)Flexible Working:** The pandemic-induced remote working scenario has taught the corporate world that seamless work-life integration is possible not only for women but for male professionals as well.
- Even as India Industries adds more diversity and inclusion initiatives such as increased
  maternity leave, mandatory paternity leave, the right to and choice of work for women
  depends greatly on organizations continuing the practice of flexible working.
- **d)Fiscal Incentives:** Women have a higher elasticity of labour supply than men (their labour supply is more responsive to their take-home wages) lower income taxes for women can incentivize their participation.
- **e**)Encouraging Women Entrepreneurship: Creating job opportunities is the need of the hour. However, encouraging more women to become entrepreneurs will provide a long-term solution.

By creating jobs, fuelling innovation, and furthering investment in health and education, entrepreneurship among women could transform India's economy and society

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