

Inter-Relationship of Socio-Economic and Socio-Religious Factors of Female Employment in Rural India: An Empirical Study

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Abstract: An interesting pattern and trajectory of development emerges from the study of the numerous aspects and nuances of Employment behaviour of Female Workers in the various Quinquennial Employment-Unemployment Survey (EUS) rounds of National Sample Survey Office (NSSO). The general trend which gets highlighted is that employment levels of women workers are decreasing persistently over the consecutive rounds. In view of this fact the latest Employment-Unemployment Survey (EUS) data published by NSSO has been explored to study the effect of socio-economic and socio-religious determinants of Female Work Force Participation Rate (FWFPR) on the labour supply decision of female workers (age 15-59 years). Working with the unit level data of the 68th (2011-12) Round of NSSO, logistic regression methods have been used, as in such cases the model does not always make distributional assumptions on the predictors which can be both continuous and discrete. Results show that socio-religious factors are more important than socio-economic factors in determining the work participation of female workers. Most important is the kind of work that women are engaged in which determines the effect of these factors.

Keywords: Gender, Employment, Rural, Landownership, Socio-religious groups, Female Work-Force Participation.

JEL Classification: J16, J21, J22, J23.

I. INTRODUCTION

Employment is essential for poverty reduction and for empowering women. However, it will serve the purpose only if it provides women an opportunity to improve their well-being by being well paid and capability enhancing. But if it is low-paying and distress driven then it only increases a woman's drudgery. The picture that emerges from a study of the work profile of women in rural India in recent years strengthens this conjecture (Srivastava and Srivastava, 2010). A lot has been studied about the different determinants of female labour supply process in the Indian Economy along a single axis. Nothing has been said in depth about the inter-relationship of the determinants. Ownership of land being a historically important indicator of wealth of the households and hence a socio-economic determinant, especially in rural India, warrants a detailed study as to its effects on the labour supply decisions of the women workers. With this background my study has explored the latest Employment-Unemployment Survey (EUS) data published by NSSO to analyse the inter-relationship of socio-economic and socio-religious factors on the decision of women to participate in workforce.

II. LITERATURE REVIEW

The literature on female labour supply or participation can be reviewed in terms of both Theoretical predictions and Empirical findings. Labourforce or Workforce participation is usually regarded as an issue of labour supply, highlighting the decision to participate in paid labour market activities or to remain inactive (Chaudhary, Verick, 2014). Research that studies the causes of and variables affecting female labour participation rates have recently become popular. Using employment data from the quinquennial rounds of the National Sample Survey (NSS), a number of papers/reports have

examined the employment situation in India (for instance, Dev 2002, Ghose 2004, Masood and Ahmad 2009, Srivastava and Srivastava 2010, Majumder 2011, Mehrotra et al 2012, Shaw 2013). A major conclusion from these studies is the fact that there has been a marked slowdown in employment growth in the post reform period and that this slowdown is more marked for female employment, both in urban as well as rural areas. Labour Force Participation Rates (LFPR) and Work Force Participation Rates (WFPR) for females in India lags considerably behind the 'norm' for developing countries. There is also a yawning gap in LFPR and WFPR among women residing in urban and rural areas. All of these studies provide an insight into a neglected area – the female labour supply process in India. But none of them deal with the inter-relationship of wealth ownership of the households and the decision of female labour supply. This study has tried to focus on this aspect. Wealth being a stock concept, its availability with the households should affect the decision of the family to send their women folk to work. This would be applicable not only for the current generation but for future as well as the past generations also. So there would be an intergenerational aspect to this particular determinant of female labour supply. For the present study I have looked at the effect on the present generation of women workers and thus considered only the 68th round (2011-12) unit level data set. The marked decline in female labour force participation exhibited in the latest EUS (68th Round, 2011-12) of NSSO is a disturbing fact warranting closer introspection. The labour force participation rate for women aged 15 years and above fell by 10.1 percentage points as compared with the previous round, corresponding to 22.6 million fewer women in labour force in 2010 than in 2005 (ILO research Paper No.10, 2014). Rangarajan et al (2014) mention in their study of the 68th round of NSSO (2011-12), that for the first time in the history of the Indian Labour market, the share of employment in the farm sector fell to below 50%. Around 29 million female workers withdrew from agriculture between 2004-05 and 2011-12. There is a significant difference in the level and nature of the decline in participation rate of female workers in rural and urban areas. As the change in the employment scene of female workers was more prominent in rural than urban areas and given the fact that more than 80% of all female workers are in rural areas, it is important to examine more closely the pattern of changes in the participation rate in the rural sector of the Indian economy.

III. RESEARCH OBJECTIVE

To make an attempt to fill in the existent gaps in the literature this study has the following objectives:

- i) To present a disaggregated analysis of female employment across class, caste and religious identities in rural India
- ii) Investigate the causal relationship between socio-economic and socio-religious determinants with female work force participation.
- iii) Establish the effectiveness of intersectionality in determining female work force participation.

IV. DATA, SAMPLE AND METHOD

Unit level records for the 68th Round (2011-12) have been used in this study. Sample set considered in this paper is working age women in rural areas, i.e women in the age group 15-59 years. The Employment-Unemployment Surveys of NSSO are primary indicators of labourforce and workforce at National and State levels. These are used for planning, policy formulation, decision support and as input for further statistical exercises by various government organisations, academicians, researchers and scholars. The main objective of these surveys, conducted at periodic interval is to get estimates of level parameters of various employment and unemployment characteristics at National and State level. NSS surveys on employment and unemployment with large sample size of households have been conducted quinquennially from the 27th Round (October' 1972- September'1973) onwards. The latest, i.e, the 68th Round (July'2011-June'2012) is the ninth quinquennial round in the series.

NSSO employs three different methods of determining the activity status of the persons. The first method identifies the Usual Principal Activity Status (called 'Usual Principal Status', UPS) of a person by using a reference period of 365 days preceding the date of survey. A person is considered as being in the Work Force if he/she is gainfully employed for a major part of the preceding 365 days. The second method considers a reference period of one week and the third method considers each day of the week. The analysis in this paper is based mainly on Usual Principal Status (UPS) data. NSSO surveys implicitly recognise the fact that UPS data provide information on a wider range of employment-related characteristics of persons. However, one drawback of this data is that it may not always be completely accurate as the recall period for the respondents is too long.

A total of 12,737 First Stage Units (7,469 villages and 5,268 urban blocks) were surveyed by NSSO in the 68th round (2011-12) at the all-India level for canvassing the Employment and Unemployment Schedule; Schedule 10 (based on which we have structured the model). The number of households surveyed was 1,01,724 (59,700 in rural areas and 42,024 in urban areas) and number of persons surveyed was 4,56,999 (2,80,763 in rural areas and 1,76,236 in urban areas). For considering Work-Participation of Female Workers (in the age group of 15-59 years) in the Usual Principal Activity Status we have arranged the data in the following manner :

- Usual Principal Activity Status code 81(as per NSSO schedule) has not been taken into consideration as that will give us the Labour Force estimate but we are considering Work-Force participation only.
- Usual Principal Activity Status code 91(attending educational institutions) has been considered 'out of labour force'(as per NSSO directive),
- Usual Principal Activity Status codes 92,93,94,95,97,99 have not been taken into consideration as they do not enable us to define work-participation as gainful employment. {These codes describe activities which are not remunerable or done for gainful purposes}
- An observation needs to be made here: Although Upa21 defines unpaid family worker yet we have considered it in Work Participation because of the fact that as landownership increases there is a greater representation of working age women in the family who work as unpaid family labour. Most of the unpaid agricultural (on owned farms) or non-agricultural (in own household enterprise) work is done by female workers of the household. Taking Upa21 into consideration or leaving it out of the definition of Work Participation changes the econometric results for the different socio-religious groups.

Work-Participation= Usual Principal Activity Status (11+12+21+31+41+51)

Final size of the dataset= 90230(observations). Over this data set describing and testing of the hypotheses is done using the Binary Logit framework.

V. DISCUSSION AND ANALYSIS

We carry out statistical analysis of the available data set to see the participation of female workers that emerges from the different Land-ownership classes.

Table 1: Percentage distribution of female workers (15-59 years) from different land-ownership classes in Usual Principal Activity Status, without home based work (Upa21)

USUAL PRINCIPAL ACTIVITY STATUS OF FEMALE WORKERS (15-59 years)						
Land Classes	Upa11	Upa12	Upa31	Upa41	Upa51	Upa91
Landless	14.66	0.86	28.28	1.38	8.28	46.55
Marginal Landowner	19.86	0.84	16.48	0.75	15.77	46.31
Small Landowner	30.61	1.15	11.68	0.47	7.36	48.73
Large Landowner	23	1.62	20.34	0.33	7.03	47.68

Source: Constructed by authors from unit level data of the 68th round.

Note: LandCategory \rightarrow 0.000hctrs=landless, 0.001-0.40hctrs= marginal landowners, 0.41-2.00hctrs=small landowners, >2.00hctrs = large landowners

Usual Principal Activity Status; Worked in h.h. enterprise (self-employed): own account worker=upa11, employer=upa12, worked as a helper in h.h enterprise(unpaid family worker)=upa21, Worked as regular salaried/ wage employee =upa31, Worked as casual wage labour: in public works =upa41, In other types of work =upa51; Attended educational institution =upa91

Table 2: Percentage distribution of female workers (15-59 years) from different land-ownership classes in Usual Principal Activity Status, with home based work (Upa21)

USUAL PRINCIPAL ACTIVITY STATUS OF FEMALE WORKERS (15-59 years)							
			Activity Status(UPS)				
Land Classes	upa11	upa12	upa21	upa31	upa41	upa51	upa91
Landless	16.54	0	6.02	15.79	3.01	13.53	45.11
Marginal Landowner	18.74	0.51	5.13	10.5	1.12	21.25	42.73
Small Landowner	27.09	0.99	14.79	8.74	0.45	6.79	41.14
Large Landowner	25.31	1.85	17.93	8.75	0.38	4.99	40.8

Source and Note: Same as Table 1

Table 1 and Table 2 give a picture of the different principal activity statuses of rural women workers emerging from the various land ownership classes. It is clear that a majority of women from all the landownership classes are attending educational institutions. So the decline in female workforce participation during 2011-12, in the rural regions may be due to the fact that a majority of women are pursuing education. Now to examine the causal relation between land-ownership classes and female work-force participation we perform econometric exercises. The importance of intersectionality in studying female labour supply decisions has been utilised. Introduction of the interaction terms brings in the concept of 'Intersectionality'(Crenshaw,1989) in our study. It enables us to consider three dimensional axes at one point of time. Our axes of observation are; a) landownership class and b) socio-religious group and c) interaction terms. The extent of female participation in the labour market is determined in India by a nexus of class/caste heirarchy and norms of patriarchal ideology. In an hierarchical society based on patrilineal-patrilocal families, the location of the family in the caste/class hierarchy would determine the level and forms of female work participation (Bardhan, 1985). This observation encouraged a look into the behaviour of female work-participation of the different socio-religious groups in India. These groups have been constructed on the basis of NSSO classification, which gives us the position of the household in the socio-religious ladder. Interaction of these socio-religious groups and land ownership has given us the position of the household in the class or socio-economic ladder. A study of the impact of these interaction terms on the work participation of female workers has enabled us to make certain conclusions about the behaviour of female labour supply. It has provided an insight into the employment aspects of women workers belonging to various land ownership classes of the different socio-religious groups. The need for such a study was felt as there are differences in inheritance and ownership legislations among the various social and religious groups in India.

VI. ECONOMETRIC SPECIFICATION

Model and Variables:

We have extracted data from the 68th Round (2011-12) of NSSO. Household Level and Person Level data has been used.

Total no.of observations= 4,56,999 individuals.

This includes both males and females in rural as well as urban areas. For the purpose of this specific study we have only considered females and then our data set reduces to 2,23,195 persons. As we are looking into the employment behaviour of female workers so the data set consists of working age females in the age group 15-59 years. Now the data set consists of 1,42,776 persons. After making adjustments for work-force participation of female workers in rural areas the final data-set is 90,230 persons.

Dependent Variable: {P(1,0)} is a categorical one, with binary outcome, where participation is either in workforce or not.

Independent Variables:

1) Land Ownership: Is a categorical variable where the classes considered are :

L1 = Landless Households (landownership 0.000 hectares), (yes=1; no=0)

L2 = Marginal Landowners (ownership 0.001-0.40 hectares), (yes=1; no=0)

L3 = Small Landowners (ownership 0.41-2.00 hectares), (yes=1; no=0)

L4 = Large Landowners (ownership >2.00 hectares), (yes=1;no=0)

2) Socio-Religious Groups : NSSO disaggregates data on the basis of social groups and religions. Land ownership and inheritance norms being varied among the different social groups and religions, we have created the following socio-religious groups to get a detailed picture of the behaviour of workforce participation.

a) Hindu-Others(H-O) , (yes=1; no=0)

b) Hindu-SC(H-SC), (yes=1; no=0)

c) Hindu-ST(H-ST), (yes=1; no=0)

d) Muslims(M), (yes=1; no=0)

e) Other-Religions(Othr-Relgns), (yes=1; no=0) [Includes Christianity-3,Sikhism-4, Jainism-5, Buddhism-6, Zoroastrianism-7, Others-9]

3) Sector: Landownership as a wealth indicator has a very important role in rural areas but it may not be so in urban areas. This has been seen by considering sector as a categorical variable in the following manner.

Sec1=rural, (yes=1; no=0)

Sec2=urban, (yes=1; no=0)

Interaction Terms:

To get a better picture of the work-force participation behaviour of the socio-religious groups in particular, we have created interaction terms of landownership and the socio religious groups in the following manner:

Lasrg11= Hindu-Others who are landless

Lasrg12= Hindu-SCs who are landless

Lasrg13= Hindu-STs who are landless

Lasrg14= Muslims who are landless

Lasrg15= Other-Religions who are landless

Lasrg21= Hindu-Others who are marginal landowners

Lasrg22= Hindu-SCs who are marginal landowners

Lasrg23= Hindu-STs who are marginal landowners

Lasrg24= Muslims who are marginal landowners

Lasrg25= Other-Religions who are marginal landowners

Lasrg31= Hindu-Others who are small landowners

Lasrg32= Hindu-SCs who are small landowners

Lasrg33= Hindu-STs who are small landowners

Lasrg34= Muslims who are small landowners

Lasrg35= Other-religions who are small landowners

Lasrg41= Hindu-Others who are large landowners

Lasrg42= Hindu-SCs who are large landowners

Lasrg43= Hindu-STs who are large landowners

Lasrg44= Muslims who are large landowners

Lasrg45= Other-Religions who are large landowners.

The Model can be expressed as follows:

$$\text{Logit } x = \alpha_0 + \sum_{i=1}^k \alpha_i Y_i$$

Where x is the probability that an individual participates in workforce;

$$\text{Logit } x = \ln\left(\frac{x}{1-x}\right)$$

$\{Y_i\}(i=1,2,\dots,k)$ are the predictor variables, α_0 is the intercept and α_i s are the regression co-efficients.

Table 3: Odds ratios explaining female participation

Women Workers(15-59years)		
	Model1	
Land-Classes	Wfpr (with UPA21)	Wfpr (without UPA21)
Landless	Ref	Ref
Marginal LandOwner	0.99(0.08)	0.99(0.08)
Small LandOwner	1.04(0.08)	0.88(0.07)
Large LandOwner	1.07(0.01)	0.94(0.07)
Urban	Ref	Ref
Rural	0.88(0.01)***	0.95(0.01)***
	Model2	
Socio-religious grps		
Hindu-Others	Ref	Ref
Hindu-SCs	1.06(0.02)	1.09(0.02)***
Hindu-STs	1.21(0.03)***	1.16(0.03)***
Muslims	0.79(0.01)***	0.082(0.01)***
Other-Religions	0.88(0.01)***	0.88(0.01)***
Urban	Ref	Ref
Rural	0.89(0.01)***	0.99(0.01)
	Model3	
Interaction Terms		
<i>Hindu-Others</i>		
Landless	Ref	Ref
Marginal	1.02(0.08)	1.01(0.08)
Small	1.08(0.08)	0.93(0.08)
Large	1.12(0.08)	0.96(0.08)
<i>Hindu-SCs</i>		
Landless	Ref	Ref
Marginal	1.07(0.09)	1.11(0.09)
Small	1.11(0.09)	1.02(0.09)
Large	1.04(0.09)	0.95(0.09)
<i>Hindu-STs</i>		
Landless	Ref	Ref
Marginal	1.30(0.12)***	1.32(0.12)***

Small	1.2(0.09)	1.01(0.09)
Large	1.30(0.10)	1.00(0.10)
Muslims		
Landless	Ref	Ref
Marginal	0.85(0.07)**	0.82(0.07)**
Small	0.77(0.06)***	0.69(0.06)***
Large	0.95(0.08)	0.89(0.08)
Other-Religions		
Landless	Ref	Ref
Marginal	0.93(0.07)	0.90(0.07)
Small	0.96(0.07)***	0.88(0.07)***
Large	0.93(0.08)	0.87(0.08)*
Sector		
Urban	Ref	Ref
Rural	0.89(0.01)*	0.9(0.01)**

Ref. implies reference category; *** implies significance at 1%, ** implies significance at 5%, * implies significance at 10% level. The figures given in the parenthesis are the robust standard errors. Source: NSSO 68th Round, 2011-12.

VI. RESULTS

We now explore the results (Table 3) of the micro decision making process as evident from the binary choice model. Our model uses land (categorised as marginal, small and large), socio-religious groups (categorised as Hindu-Others, Hindu-SC, Hindu-ST, Muslims and Other Religions), interaction terms of land and socio-religious groups and sector (categorised as rural and urban) as the causal variables. Regressions are run with a rural/urban dummy.

Model 1

With landless households as reference category, women workers belonging to marginal landowning households have a lower probability of working. Those from small and large landowning have a greater probability of taking part in work force. There is no inverse relationship between land-ownership classes and female work-force participation. This is mainly due to the presence of Unpaid home based work (Upa21) because when we perform binary logit without including this kind of work in the definition of work participation we get a picture where there is an inverse relation between the two variables. We have presented the tables showing both the regression results. Although Landownership in itself is not a significant variable but it is assumed significance in Rural areas in comparison to Urban areas as shown by the regression results. Wealth ownership of the household does not have a statistically significant favourable effect on the labour supply decision of women workers. As the ownership of land increases there is a lower probability of women workers working when we do not consider the 'unpaid work'(Upa21) done by women workers, but once this work is taken into consideration we notice that work force participation increases with increase in land ownership size. Asset ownership laws are varied among the different socio-religious groups in our country and they also vary according to the states or regions. To study the impact of such differences we have studied female work-participation behaviour among the various socio-religious groups.

Model 2

We consider Hindu-Others (including OBCs) as the reference category for the next section of study involving socio-religious groups. Women workers from Hindu-SC and Hindu-ST households have a greater probability of working. This result seems quite plausible, given the fact that such households being supposedly under-privileged and in the minority group may not be able to afford the luxury of sending their working age women to educational institutes. The opportunity cost of not working may be too high as a result of which they are forced to join the workforce. Muslim women workers (considering Mus-STs, Mus-SCs, Mus-Others and Mus-OBCs) have a lower probability for work-participation. One point needs to be mentioned here, i.e we have not taken into account 'unpaid domestic work (Upa92, Upa93). So we are not sure as of now, whether the decline in work-participation is actually been channelled towards educational attainment or towards domestic work. For that we need to perform Multinomial Logit or Probit and break work-participation into 'paid

work' and 'unpaid work' to get a disaggregated picture. Among the 'Other-Religions' socio-religious group also we find that there is a lower probability of women workers taking part in work-force. Socio-religious groups are significant factors in determining the behaviour of female work participation. The responses do not vary very much between rural and urban areas.

Model 3

Our First model does not support the hypothesis of an inverse relationship between land-ownership classes and female work-force participation. In fact ownership of land is not a significant variable in determining the labour supply decision of women workers. Our Second model depicts that the relationship between socio-religious groups and FWPR is very strong yet different groups present different patterns. This led us to the concept of intersectionality by looking at the impact of the interaction of land and socio-religious groups on female work participation. Our results are as follows:

Considering landless workers as the reference category for all, the logistic regression results for Hindu-Others show that women workers belonging to marginal, small and large landownership households have a greater probability of working. Presence of land as a productive asset, which is a form of wealth, is not affecting work participation favourably, i.e. there is no inverse relationship between landownership and FWPR among this socio-religious group. This is again due to the presence of 'unpaid work (Upa21)' in the definition of work participation. Although we are not clear as yet, about the ownership rights of the available land with the households so we have assumed that the women workers have the same right to ownership as their male counterparts. For Hindu-SCs and Hindu-STs, the results show that women workers from marginal, small and large landowning households have a greater probability of working. Thus there is no inverse relation between land-ownership classes and FWPR. An increase in wealth is not affecting the work participation decision favourably. In fact, among Hindu-STs we see that there is a distress push. We now take a look at the logistic regression results of the socio-religious group Muslims. Here we have clubbed Muslim-ST, Muslim-SC, Muslim-Others and Muslim-OBC (on the basis of the religious and social-group classification of NSSO). Women workers belonging to marginal, small and large landowning households have a lower probability of working. There is a clear inverse relationship between landownership and workforce-participation. For the group 'Other-Religions', the results are mixed. They show that, women workers belonging to marginal and large land owning households have a lower probability of joining work force. Those from small land owning households have a greater probability of participating in work force. We see that in Rural areas there is a significantly higher probability of women workers participating in work. Thus Female Work Force Participation is higher in rural areas than in Urban areas.

VII. CONCLUSION

Our study tries to provide a glimpse of the female labour supply process as chronicled in the latest employment-unemployment survey of the NSSO (2011-12). There is no inverse relationship between landownership and female work participation rate, as seen clearly from the micro results when we consider the landownership classes only, including 'unpaid work' done by female workers. This result gets reversed and we see an inverse relation between the two variables when 'unpaid work' is not taken into consideration. Thus the socio-economic factor is not important in labour supply decisions of female workers. Results are mixed when we consider the interaction between landownership categories and socio-religious groups. Unambiguous and strong results are obtained for minorities like Muslims, Scheduled Castes and Scheduled Tribes. Affiliation to Socio-religious groups affect female work participation significantly, irrespective of rural or urban sector. A major gap in the existing literature is the limited attention paid to the question of Landownership as a wealth determinant and of Caste. Not much attention has been given to the question of caste or religion. Caste is important because of the increasing heterogeneity of the agricultural labour class. The lack of specific attention is not a limitation of only studies on women but it is a general problem with much of the literature on agrarian relations in India. So, it's very essential that we integrate these three elements of class, caste and gender, otherwise our understanding will remain partial (Duvvury, 1989).

It is also essential that policy makers move beyond the standard labour supply models and the set determinants of labour-force participation rates for women. It should be of more concern that women are able to access better quality of work. Policy initiatives should be undertaken for reducing inequality in the labour market which will in turn help in enhancing the generation of human capital and empowering women's participation in household-decision making process. Among the various mechanisms of reducing the inequality, one very important form is 'property rights' to women which can result in women's empowerment in decision making process (Agarwal, 1994).

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