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WITHDRAWAL OF WOMEN FROM WORK IN RURAL INDIA:

Trends, Causes and Policy Implications

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Abstract

One of the major policy concerns in recent years has been the decline in the number of women workers in the Indian labour market. The 'education' and 'income' effect hypotheses for such decline are generally advocated for such a decline. Such analyses, however, are limited in their focus. This paper attempts to fill up this gap by exclusively focusing on rural women. Using the NSSO data for the years 2004-05 and 2011-12 and Periodic Labour Force Survey data for the year 2017-18, it observes a widespread decline in rural women's work participation rates (WPRs) across their different social groups, income strata and states in the country albeit at a significantly varying rate. While the major decline in women WPRs in the age group of 15-24 years has been in favour of education, it has been largely in favour of 'domestic works' in the other age groups. The major decline in women workforce is observed in the case of those as not-literates, 'unpaid family labour' in agriculture and 'casual wage labour' both in farm and non-farm sectors. This is largely due to contraction in self-employment and casual wage works both in farm and non-farm sectors, more so during the recent period. This paper finds a positive impact of rising household income on women's WPRs. While education emerges as a significant predictor of women joining the workforce, its iteration with their social groups shows differing impact of similar level of education on different caste groups. It offers inputs for policy measures to be aimed at providing decent livelihoods in rural areas on a big scale, with a strong focus on reducing caste and gender disparities.

Keywords: Women Work Participation, Rural Labour, Quality of Employment, Income Effect, Policy Implications.

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I. INTRODUCTION

The decline in the work participation of women for almost the past one-and-half decade despite a higher economic growth is a paradox in the Indian labour market. This is particularly observed in rural areas of the country. Along with the rise in population, the number of rural women withdrawing from the workforce has declined by about 3.1 per cent per annum whereas the number of their male counterparts increased marginally by 1.1 per cent during 2004-05 to 2017-18. It is argued that bridging the gender gap could result in a significant increase in national income (IMF, 2018). Women's contribution to gross domestic product is very low in India (18 per cent) as compared to countries like China (41 per cent), Vietnam (40 per cent), Japan (33 per cent), and Sri Lanka (29 per cent) (Mckinsey Global Institute, 2018). According to one estimate, the GDP of India would increase by 43 per cent if women had the same work participation rate (WPR) as of men (Oxfam, 2017). A review of recent literature finds four important reasons for the declining WPRs of women, i.e. rising enrolment/retention in secondary and tertiary education, improvement in household income, lack of remunerative employment opportunities (Neff et al. 2012; Rangarajan et al. 2011; Dasgupta and Verick, 2016; Verick and Choudhary 2016; Rustagi, 2017), and an interplay of various socio-cultural, economic and religious factors particularly in rural areas of the country (Verick and Choudhary 2016; Rustagi, 2017). Neff et al. (2012) argue that while education can be an explanatory factor in rural areas for the decline in women's workforce participation rates (WPRs), it does not hold true for urban areas. Rather, they found a significant piece of evidence for the decline in women WPR due to improvement in household incomes, suggesting reduction in distress-induced WPRs. Due to lack of employment opportunities, women often do not look for work, which is also termed as the 'discouraged worker effect' (Dasgupta and Verick, 2016). This situation is thus different from the one in which women tend to leave the labour market due to rise in their household incomes. The literature also suggests how gender inequality distorts the economy through various restrictions in their participation in labour market (Esteve-Volart, 2004). It can adversely affect the economic growth through increasing fertility (Cavalcanti and Tavares, 2007). The general perception about women's work and its non-recording in recent years has also been cited as yet another reason for low WPRs among women (Kabeer, 2012; Hirway 2014; Swaminathan, 2015; Ghosh, 2017; Desai and Joshi, 2019). It is also argued that official statistics such as Population Census and NSSO do not capture the work of women due to their restricted definition of work, which excludes care work at home. Rapid mechanisation in agriculture is yet another important reason that led to a decline in demand for women labour (Mehrotra and Parida, 2017). Also, there are few studies (Desai et al., 2018; Mondal et al., 2018; Sarkar et al., 2019), which find a positive impact of MGNREGS on women's participation in wage work in villages, especially where its implementation was strong.

Alongside this trajectory of explaining the decline in women's WPRs, there is yet another strand of argument. It questions whether a rise in women's WPRs be treated as a positive development, particularly in situations where they are double burdened with the care work along with their participation in informal sector activities that are characterised as low earnings, low productivity, lack of fixed tenure, lack of social security and physical conditions of work (Papola and Sharma, 1999). It is therefore important to reflect on whether the declining female work participation rates is a positive or negative development, particularly in the context of United Nations SDGs 1, 2 and 8. Also, there is scanty literature explaining demand-side factors and structural constraints in the expansion of remunerative employment opportunities outside agriculture in rural areas, which act as an important reason for the withdrawal/low participation of rural women. More so, women's low levels of education and skill training severely affect their employability as well as mobility.

This paper attempts to examine these arguments in detail by analysing the trends in declining female participation in labour market, particularly experienced since 2004-05 onwards, along with examining the magnitude of withdrawal across different employment statuses, industry groups, socio-religious categories and regions. While doing so, it also examines the education and income substitution hypotheses in the context of women's decision to participate in work with the help of logistic regression. It observes that while increasing the participation of young women in education explains the decline in their WPRs, it is largely due to lack of remunerative employment opportunities in the case of elderly women. These women have also withdrawn from participating in free collection of goods for domestic uses. The income effect hypothesis of female withdrawal from the labour market partially holds true after attaining a certain threshold at the topmost income quintile. Women from marginalised social groups, particularly SCs and STs, are less likely to be inactive compared to their counterparts among higher castes (Olsen and Mehta, 2006). In fact, reduced workforce participation among rural women from marginalised groups with increased incomes may hold only if the household crosses a minimum threshold level of income (Olsen and Mehta, 2006).

The paper uses NSSO unit-level data on employment and unemployment for the years 2004-05 and 2011-12, and Periodic Labour Force Survey by National Statistical Office for the year 2017-18. It uses principal as well as subsidiary activity status (UPSS) of the population as defined in NSSO/PLFS rounds. The socio-religious categories of the population used here are Scheduled Tribe (ST), Scheduled Caste (SC), Other Backward Classes-Hindu (OBC-H), Others-Hindu (OH), Muslims and Other Religious Minorities excluding Muslims (ORM). ST and SC exclude Muslims and ORM. The population group considered here is in the age group of 15 years and above. The paper is divided into five sections.

II. TRENDS IN RURAL WOMEN'S PARTICIPATION IN LABOUR MARKETS

The labour force includes employed as well as unemployed persons of the population. Traditionally, proportionately more men and women are in the labour force in rural areas as compared to urban areas in a developing country like India. This has been largely due to the employment-intensive nature of agriculture and higher participation of rural women in various economic activities. During 2017-18, over half of the rural population in the age group of 15 years and above is either working or searching employment (unemployed). The corresponding figure for the urban population is comparatively smaller (47.6 per cent). Gender-wise, nearly one-fourth of the female population in rural areas and about one-fifth in urban areas of the country constitute its labour force in 2017-18. Similarly, less than one-fourth of the female population in rural India constitutes the workforce in 2017-18, which is almost one-third as compared to their male counterparts. Thus, the gender disparity in participation in labour market is significant both in rural and urban areas.

There has been a declining trend in labour force participation rates (LFPRs) as well as work force participation rates (WPRs) in rural India, particularly since 2004-05. It has been more pronounced among women (Table 1). For the first time, the absolute number of women in the workforce decreased in rural India (about 19.9 million) between 2004-05 and 2011-12, and another 20.5 million during 2011-12 to 2017-18. With the rapid decline in female participation in labour market, gender disparities widened rapidly, more specifically in rural areas (Kannan and Ravindran, 2019). This obviously attracted the attention of researchers and policymakers.

Table 1: Gender-wise Trends in LFPRs and WPRs in Rural India (15 years+)

	1983	1993-94	2004-05	2011-12	2017-18
LFPRs					
Female	51.1	48.6	49.4	35.8	24.6
Male	88.9	87.6	85.9	81.3	76.4
Person	70.1	68.4	67.7	58.7	50.7
WPRs					
Female	50.7	48.2	48.5	35.2	23.5
Male	87.7	86.3	84.6	80.0	72.0
Person	69.3	67.5	66.6	57.8	48.1

Source: PLFS (2017) and NSSO rounds on employment and unemployment (various years).

This decline in women's WPRs in rural India is seen across all age groups, but much higher among youth (aged 15-24 years), which has been largely in favour of education (Kapsos, Silberman, & Bourmpoula, 2014). The WPRs of women in this age group dipped from nearly 36 per cent in 2004-05 to about 9 per cent in 2017-18, recording an annual decline of over 8 per cent. The next highest decline is seen among rural women in the age group of 25-29 years. In the next important working age group, 30-59 years, female WPRs declined significantly, recording an annual decline of about 2 per cent during the period (Table 2).

Table 2: Age Group-wise Female WPRs in Rural India

	WPRs (%)			CAGR (%)		
Age group	2004-05	2011-12	2017-18	2004-05/ 2011-12	2011-12/ 2017-18	2004-05/ 2017-18
15-24	36.1	21.3	9.2	-6.2	-10.7	-8.3
25-29	51.0	35.5	23.5	-3.4	-4.6	-4.0
15-29	41.0	25.8	13.6	-5.1	-7.8	-6.4
30-59	59.3	45.3	33.8	-1.6	-2.1	-1.8
60+	25.3	21.2	11.7	0.3	-5.3	-2.3
Total	48.1	35.1	23.5	-2.6	-3.8	-3.1

Source: PLFS (2017) and NSSO (2004 & 2011).

Regional Trends in WPRs among Rural Women

The WPRs of rural women vary significantly across different states—ranging between a highest of 53 per cent in Chhattisgarh to a lowest 3.8 per cent in Bihar in 2017-18 (Table 3). There are at least six states at the bottom tail, namely Bihar, Assam, Punjab, Haryana, Uttar Pradesh and Jharkhand, where female WPRs have reached less than 15 per cent, irrespective of their economic development. A declining trend in female WPR is widespread across states except for Jammu & Kashmir during the period 2004-05 and 2017-18. However, the rate of decline varies significantly. Bihar with the lowest WPR in 2017-18, witnessed the highest rate of annual decline of over 10 per cent in the number of women as workers since 2004-05. This is a puzzling trend as Bihar's economy

is largely dependent on agriculture. Punjab, Haryana, Uttarakhand and Gujarat experienced an annual decline of over 6 per cent in the number of women workers since 2004-05, placing them among states with very low female WPRs in the country. In fact, the annual rate of decline in the number of women workers deepened substantially in Punjab, Uttarakhand, Uttar Pradesh, Odisha, Rajasthan and Andhra Pradesh in the recent period, 2011-12/2017-18. In Punjab and Uttarakhand, the annual rate of decline was highest over 10 per cent. States like Uttarakhand is unique in the sense that female WPR in its neighbouring state Himachal Pradesh with similar geographical conditions were almost the same in 2004-05, and did not decline much over the years. The explanation for such sharp decline in female WPRs in rural Uttarakhand is largely attributed to a large migration of entire households from its hill regions in recent decades and considerable abandoning of agriculture as a source of livelihood (Mamgain and Reddy, 2017). The other typology of states with significantly differing rates of withdrawal from the rural labour market is of tribal population-dominated states of Chhattisgarh, Jharkhand and Odisha. The number of women workers in rural Chhattisgarh witnessed a marginal growth over the years, the same declined at an accelerated pace in Odisha and Jharkhand. The complex reasons for such trends are to be examined in relation to acceleration in migration, declining agricultural activities and increased participation in education in Odisha and Jharkhand.

Yet another broad trend is of deceleration in the annual rate of decline in the numbers of rural women workers in states like Kerala, Karnataka and Madhya Pradesh during the recent period 2011-12/2017-18. In fact, in Madhya Pradesh, the number of women workers increased annually by over 3 per cent during 2011-12/2017-18, which is the highest in the country. This could be possible due to several measures to improve the farm sector in the state in recent years, resulting in the acceleration of growth in agriculture and allied activities in the state. Overall, the trend in the withdrawal of rural women from work since 2004-05 does not show a definite relation with the economic progress of the states, suggesting several other factors responsible for the withdrawal of women from the rural labour market. It is generally argued that regions with higher per capita income have relatively higher female WPRs as economic growth not only creates employment opportunities but also brings socio-economic mobility (World Bank, 2010). This is, however, not seen in the case of female WPRs in rural India, particularly in the recent period.

Table 3: Regional Pattern of Female WPRs and Growth in Number of Female Workers, Rural

		CAGR		
State	WPR, 2017-18	2004-05/2011-12	2011-12/2017-18	2004-05/2017-18
Chhattisgarh	52.8	0.9	1.0	0.9
Himachal Pradesh	50.0	2.0	-2.9	-0.3
Andhra Pradesh*	43.7	-1.1	-3.4	-2.2
Maharashtra	36.7	-1.5	-2.9	-2.2
Tamil Nadu	36.7	-1.2	-1.9	-1.5
Madhya Pradesh	34.9	-3.9	3.3	-0.7
Jammu& Kashmir	30.5	0.8	1.3	1.0
Rajasthan	30.4	-0.1	-5.5	-2.6
Karnataka	27.2	-5.5	-3.5	-4.6
Gujarat	21.6	-5.2	-6.7	-5.9
Kerala	20.8	-6.9	-2.2	-4.8
West Bengal	19.5	1.6	-1.6	0.1
Odisha	18.9	-2.3	-6.9	-4.4
Uttarakhand	18.8	-3.6	-10.3	-6.7
Jharkhand	15.1	-4.6	-7.5	-6.0
Uttar Pradesh	14.0	-2.6	-7.2	-4.8
Haryana	13.2	-8.0	-6.4	-7.3
Punjab	12.5	-3.4	-12.2	-7.6
Assam	10.6	-5.9	-5.0	-5.5
Bihar	3.8	-11.0	-9.5	-10.3
Total	23.7	-2.6	-3.8	-3.1

Note: Andhra Pradesh includes Telangana.

Source: NSSO (2004) & PLFS (2017).

With such a widespread decline in women's participation, particularly in rural labour markets, albeit at significantly varying scale across social groups and states, the question remains as to whether this decrease reflects the improving economic condition leading to the withdrawal of women worker or reduced employment opportunities in the male-dominated labour market. The welcoming aspect of this downward trend is increasing participation of youth in education and preference for leisure among old age. Surprisingly, a decline of 26 percentage points in women WPRs in the 30-59 years age group entails a complex story which is rather not as simple as to explain in terms of income effect of higher economic growth. There are complex sets of factors that explain such decline, as would be explained in subsequent sections. Before analysing such arguments, let us first examine where rural women are engaging themselves in recent years.

III. WHERE WOMEN ARE GOING FROM RURAL LABOUR MARKETS?

The disaggregation of rural women population by their usual principal activity statuses into 10 broad categories reveals how women have withdrawn largely from working as unpaid family workers and casual labour in favour of attending domestic duties and educational institutions. The share of those working as unpaid family labour and casual wage labour among women population reduced to half from about 29 per cent in 2004-05 to 18.8 per cent in 2011-12 and 14.5 per cent in 2017-18. In absolute terms, about 10.8 million rural women stopped working as unpaid family labour between 2004-05 and 2011-12, and another 0.6 million during 2011-12 to 2017-18 (Table 4). In the case of casual wage labour, about 6.2 million rural women discontinued working as casual wage labour between 2004-05 and 2011-12, and another 2.7 million between 2011-12 and 2017-18. They have also withdrawn substantially from activities related to free collection of goods (vegetables, roots, firewood, cattle-feed, etc.), sewing, tailoring, weaving, etc., for household use along with domestic duties largely in favour of 'only domestic activities'. A marginal rise in their share in salaried jobs is yet another distinguishing feature in recent years. Accordingly, the pace of withdrawal from the workforce among rural women was comparatively very high between 2004-05 and 2011-1 as compared to the subsequent period of 2011-12 and 2017-18.

The disaggregation by age group shows that withdrawal from work among rural women was largely associated with their increased participation in education in the age group of 15-29 years—their share as students more than doubled during 2004-05 and 2017-18. Over 88 per cent of youth women, who would have been working, shifted to education over the period 2004-05 to 2017-18. This is definitely a positive shift. A maximum shift in favour of education is seen during 2004-05 and 2011-12, which thereafter slowed down in the subsequent period. Women in the age-group of 30-59 years withdrew from work overwhelmingly in favour of domestic duties. A substantive number among them, however, withdrew from participating in other economic activities which they were carrying along with their traditional domestic chores. This trend is generally attributed to the growing use of purchased vegetables, cooking gas and readymade garments among rural households with improvements in household income, saving time of their women in rural India during the recent period. The non-recording of women's work in recent years has also been cited as yet another reason for low WPR among women (Hirway, 2014).

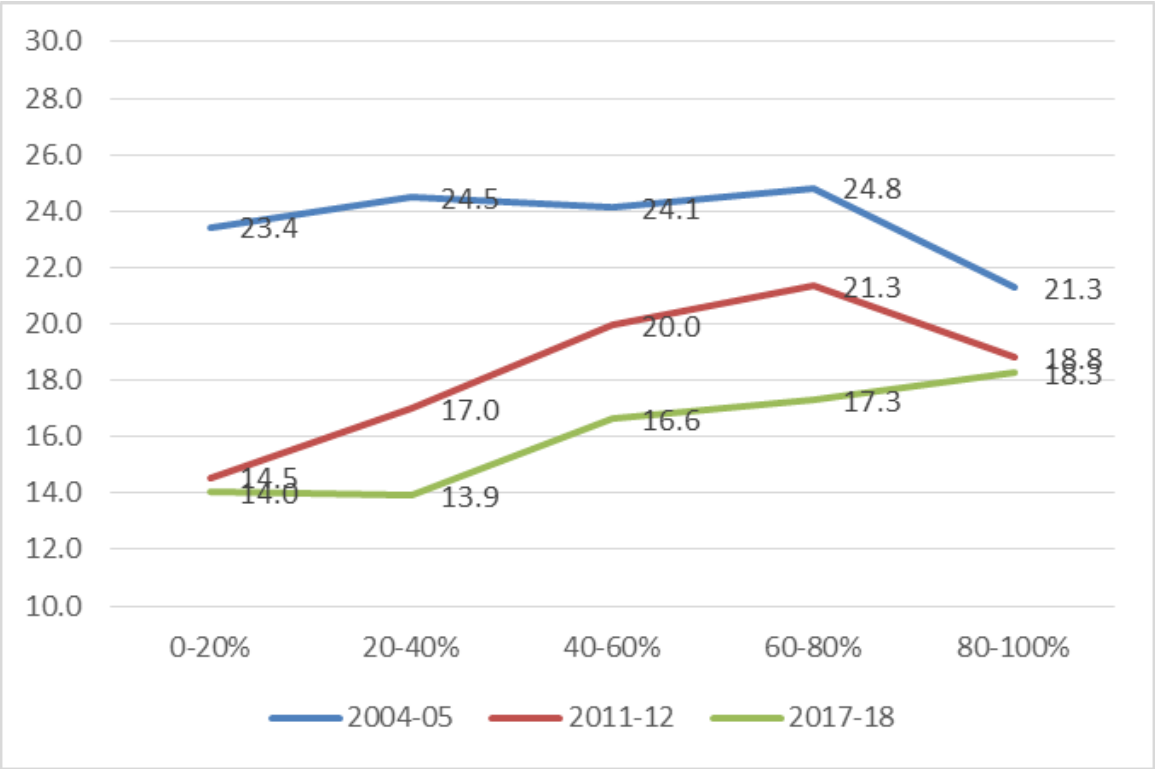
Table 4: Usual Principal Activity Status, 15 Years & Above Population (%)

Activity	15+yrs		15-29 years		30-59 years		Decrease/Increase (15 years & above) (in lakh)		
	2005	2018	2005	2018	2005	2018	2005-12	2012-18	2005-18
Own account worker	5.2	3.7	2.8	1.8	7.2	5.3	-11.1	7.0	-4.1
Unpaid family worker	14.9	7.6	12.4	4.6	18.3	10.9	-107.8	-6.1	-113.9
Regular salaried/ wage employ	1.7	2.5	1.5	1.6	2.2	3.6	9.6	31.8	41.4
Casual wage labour: public	0.0	0.3	0.0	0.1	0.1	0.5	10.1	0.6	10.7
Casual wage labour: other	13.7	6.5	11.7	3.6	17.0	9.5	-79.8	-40.6	-120.4
Unemployed	1.1	1.0	2.1	2.2	0.6	0.3	-9.4	13.8	4.5
Attended educa-tional institution	5.2	10.4	13.1	28.3	0.0	0.1	119.9	102.8	222.7
Attended domestic duties only	25.8	42.2	28.4	40.6	24.0	45.2	92.7	692.5	785.2
Attended domestic duties and was also engaged in free collection of goods and services	26.4	18.5	26.6	16.1	28.7	21.7	316.5	-349.1	-32.6
Others (including begging, prostitution	5.9	7.3	1.2	1.2	1.8	2.7	16.9	83.2	100.1
Total	100	100	100	100	100	100	357.7	535.9	893.6

Source: PLFS (2017) and NSSO (2004).

It will be interesting to look into the relative shift in the activity statuses of the women population belonging to the lowest income quintile (< 20%) group. Two distinct patterns emerge here between 2004-05 and 2011-12—a highest rate of withdrawal (about 9 percentage points) from WPR accompanied by a highest rise (6.6 percentage points) in the share of women attending educational institutions in the lowest income quintile as compared to other higher-income quintile groups. In the subsequent period, the pace of withdrawal of women from the workforce almost stagnated in the lowest income quintile households, the same continued to decline in higher-income quintile households. Such a pattern in women's WPRs has changed the generally inverted 'U' shaped curve to a rising straight line across different income group households in 2017-18 (Figure 1), depicting a positive impact on women's work participation with rising household income. In other words, a rise in women's WPRs tends to contribute to household income. Thus, the withdrawal seems to be largely due to choosing education in lieu of work in lowest income quintiles and choosing leisure in higher-income quintiles.

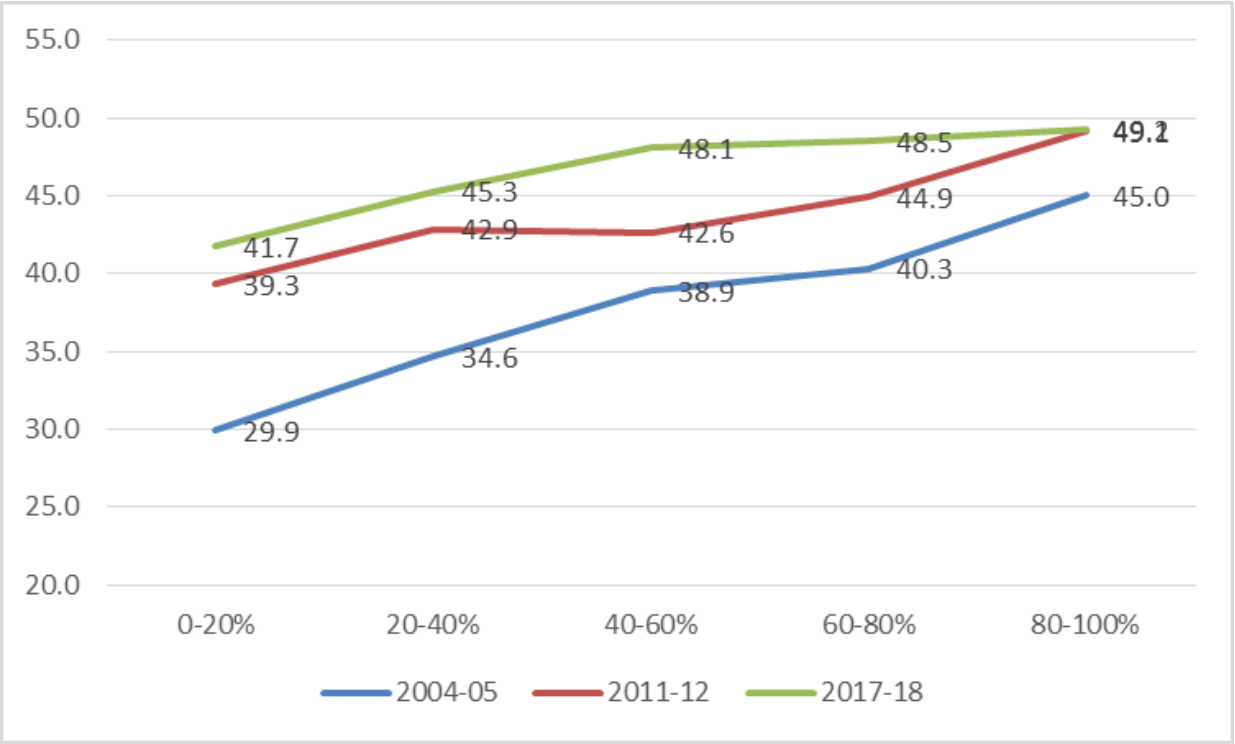
Figure 1: Quintile-wise Trends in Women WPRs (%)



Source: Based on NSSO (2004-05 & 2011-12) & PLFS data (2017-18).

As regards the share of rural women opting for domestic duties, it tends to increase with the rise in their household incomes (Rangarajan et al., 2011). This is also seen in Figure 3. While this broad pattern continued over the years under reference, the proportion of women opting for domestic work increased by a highest 9.4 percentage points in the case of those belonging to lowest income quintile between 2004-05 and 2011-12. In the subsequent period, 2011-12 and 2017-18, the pace of shift towards domestic work slowed down, ranging from the highest 5.5 percentage points in the mid-income quintile to the lowest 0.1 percentage point in the uppermost income quintile (Figure 2). Non-availability of work is one of the important factors resulting in a sharp rise in women's share in domestic work, particularly in the lowest income quintile of households. Yet another reason for opting in favour of domestic work, which is less explored, is the improved access to foodgrains through the public distribution system to lower income group households in recent years. This has reduced their vulnerability to food insecurity considerably and encouraged women to withdraw from participating in vulnerable casual wage work. The dependence on casual wage labour among women, which is proportionately more among lowest income quintile groups, tended to reduce significantly over the years - from 12.1 per cent in 2004-05 to 6.8 per cent in 2011-12 and further to 5.3 per cent in 2017-18. A substantive part of such withdrawal from casual work could have been induced due to a better public distribution system, which needs to be explored.

Figure 2: Quintile-wise % of Women Engaged in Domestic Duties



Source: Based on NSSO (2004-05 & 2011-12) & PLFS data (2017-18).

In the case of those engaged in domestic duties, there has been a shift to domestic duties from amongst those who were working in free collection of fodder, fuelwood and vegetables, etc., along with domestic duties during 2011-12 to 2017-18. Explanations for such a huge shift in the two sub-categories of domestic work is being questioned for the inability of the concept of work being used in NSSO/PLFS, which hardly captures the SNA-extended activities as work (Kabeer, 2006; Hirway, 2014; Ghosh, 2017). The sharp rise in domestic duties along with other gainful activities during the first period followed by the decline in the second period hints towards a statistical confusion in recording women's work. This has been across all income groups. The proportion of women who were categorised as Others (including begging, prostitution), substantially declined in the first period but remained almost the same in the later period, indicates the complexity in defining the women's activity. On the other hand, the Time Use Survey data show how women's participation in work (including SNA framework) is more than men. Capturing female work is further undermined by the growing use of contractual staff, who are generally not well trained unlike those of regular experienced workforce of NSSO, by the organisation over the years in the collection of employment and unemployment data. Without going into that debate, it appears that the withdrawal of women from the workforce tended to accelerate across all age-groups of rural women belonging to different income and social-groups and income strata, albeit at varying scale. Women, who have too many unpaid services to be performed at home, frequently do not enter the labour market. And even when some of them enter, they enter with the responsibility of domestic work on their shoulders (unlike

men), which does not provide a level playing field to men and women workers. In addition, the norms of patriarchy do not allow women to acquire equal education and health. The norms also put restrictions on their mobility, with the result that women overcrowd in low productivity stereotyped jobs.

The factors influencing the withdrawal of rural women from the labour market will be explained in the subsequent section.

Sectoral Pattern of Withdrawal

Which are the sectors from where rural women have mostly withdrawn is analysed in the following section. Agriculture is a predominant source of employment, engaging nearly three-fourth of the rural women workforce in 2017-18. This sector employs about 55.2 per cent of men workforce in rural India. Most of the withdrawal from work among women occurred in this sector, shedding away about 42 million women workers between 2004-05 and 2017-18. Manufacturing is the next sector shedding away 3.3 million women workers during the period. Their number in trade also declined by about 0.6 million during 2004-05/2017-18, whereas it increased in other services by 2.3 million, followed by transport, 0.8 million. The net withdrawal, thus, stood at 40.4 million during the period (Table 5). Construction is the sector which added a highest 4.7 million employment for rural women between 2004-05 and 2011-12 but shed away 2.24 million women workers during 2011-12/2017-18. Due to shrinkage in employment opportunities in construction and manufacturing sectors during 2011-12/2017-18, the average annual rate of net decline in women employment was much higher at 3.8 per cent during the period. A fairly high growth in transport and other services, accounting for about one-tenth of women employment, could not help significantly in off-setting the decline in women employment. This explains the extent of surplus labour in agriculture and shrinkages in remunerative employment opportunities outside agriculture, thereby forcing a large number of women to opt-out of the labour force. It also merits mention here that a highest 48.8 per cent of women workers in agriculture work as unpaid family labour and another 33.8 per cent as casual wage labour. Most of the withdrawal of women workers from agriculture thereby occurred in the case of those working as unpaid family labour and casual wage labour (about 4.5 per cent annual decline during 2004-05/2017-18). Almost all jobs in the construction sector, employing about 5.3 per cent women workers, are casual wage labour, which also experienced a sizeable decline. A sizeable contraction in women employment in the rural non-farm sector (about 2.3 per cent) during 2011-12/2017-18, thus, contradicts earlier findings of rising sectoral reallocation of women with a rise in their share as subsidiary status workers in the non-farm sector (Chand et al., 2017; Thomas, 2020). By juxtaposing sectoral patterns of decline in women employment with income quintiles, it emerges clearly that lack of employment opportunities, rather than income effect is causing the withdrawal of females from the labour market.

Table 5: Sectoral Changes in Women Employment (in lakh)

Industry	Absolute increase/decrease (in lakhs)			CAGR	
	2005-2012	2012-2018	2005-2018	2005-2012	2012-2018
Agriculture	-243.5	-175.6	-419.1	-3.9	-4.3
Mining & quarrying	-0.5	-1.6	-2.1	-2.4	-12.0
Manufacturing	-4.9	-28.2	-33.1	-0.7	-5.9
Electricity, water, etc.	0.5	-0.4	0.1	26.1	-15.1
Construction	47.4	-22.4	25.0	20.7	-6.8
Trade	-5.9	-0.1	-6.0	-3.1	0.0
Transport	4.4	3.4	7.8	18.8	7.6
Financial services	0.4	0.7	1.0	6.6	8.9
Other services	3.2	19.6	22.8	1.0	5.7
Total	-199.0	-204.5	-403.5	-2.6	-3.8

Source: NSSO (2004) & PLFS (2017)

Withdrawal by Employment Statuses

Literature suggests that women have traditionally been engaged in self-employment, mostly as unpaid disguised workers confining to the informal sector (Breman 1996; Papola, 1981; Rustagi, 2017). A highest 39 per cent of rural women workers worked as unpaid family labour and another one-third as casual labour in 2017-18. Most of these two categories of women workers work in agriculture and allied activities. They witnessed a highest withdrawal from the workforce - 23.1 million as unpaid family labour in agriculture and 15.3 million as agricultural casual labour, registering an annual decline of over 4.5 per cent during 2004-05/2017-18. About 3 per cent of women workers work as unpaid family labour in the non-farm sector, whose number declined by 3.2 million during 2004-05/2017-18, registering a highest annual decline of over 6.3 per cent during the period. As is well known, the percentage of self-employed among women workers is quite less as compared to men--about 12 per cent in agriculture and another 7.1 per cent in the non-agriculture sector in 2017-18. Among them, about 4.3 million left the workforce, mainly during the recent period, 2011-12/2017-18 (Table 6). While the construction sector acted as a source of employment to rural women by adding 4.74 million jobs, mainly as casual wage labour during 2004-05/2011-12, it shed away 2.24 million jobs in the subsequent period—registering an annual decline of 6.8 per cent. Amidst such widespread decline in women employment, their number increased by 3.94 million since 2004-05 in regular salaried jobs in rural India, which mainly occurred from 2011-12 to 2017-18 with the expansion of services including low paid domestic services (Table 6).

Table 6: Withdrawals of Women Workers by their Status and Sector of Employment

	Absolute decline/increase (in lakh)			CAGR		
Status/sector	2005-2012	2012-2018	2005-2018	2005-2012	2012-2018	2005-2018
Self-employed-agriculture	-15.4	-22.6	-38.0	-1.7	-3.5	-2.6
Self-employed-non-agri	7.2	-11.9	-4.7	1.6	-3.2	-0.6
Unpaid family labour-agriculture	-141.2	-89.3	-230.5	-4.5	-4.5	-4.5
Unpaid family labour-non-agri	-16.9	-15.1	-32.0	-5.0	-7.8	-6.3
Regular	9.4	29.9	39.3	2.8	7.6	5.0
Casual-Agriculture	-86.7	-66.3	-153.0	-4.0	-4.8	-4.4
Casual-Non-agriculture	44.5	-29.2	15.3	11.2	-6.8	2.5
Total	-199.1	-204.5	-403.6	-2.6	-3.8	-3.1

Source: NSSO (2004, 2011) and PLFS (2017).

Socio-religious Pattern of Withdrawal

The number of ST and SC women is disproportionately high in the rural women workforce as compared to their population. This is seen in their higher WPRs as compared to others. They constitute about 40 per cent of women workers in rural areas in 2017-18. Their share in casual labour is disproportionately high at 53.1 per cent. The phenomenon of withdrawal from the labour market among rural women was widespread irrespective of their socio-religious groups. However, the annual rate of withdrawal was lowest among STs (-1.4 per cent), followed by Muslims during 2004-05/2017-18 (Table 7). For the remaining socio-religious groups, the annual rate of decline was about 3.5 per cent during the period. As is seen earlier, the rate of withdrawal was mainly from agriculture sector, which is seen for all socio-religious groups except STs. This continued with varying rate during two sub-periods, i.e. 2004-05/2011-12 and 2011-12/2017-18. The rate of withdrawal from agriculture during these two sub-periods accelerated in the case of Hindu OBC (OBC-H) (from 3.8 per cent to 5.2 per cent) and Muslim (2.7 per cent to 6.9 per cent). On the other hand, the rate of withdrawal from agriculture decelerated for women from upper caste Hindus (HC) (5.3 per cent to 3.6 per cent) and other religious minorities (ORM) (6.5 per cent to 3.9 per cent).

Table 7: Women Workers Withdrawing from Workforce by their Socio-religious Group

Socio-religious group	% share of workers, 2017	Job losses, 2004-17 (in lakh)	CAGR		
			2005-2012	2012-17	2005-2018
ST	18.2	-28.7	-0.8	-2.1	-1.4
SC	21.4	-89.9	-2.6	-3.9	-3.2
OBC-H	37.6	-174.6	-2.7	-4.4	-3.5
HC	14.6	-70.0	-4.4	-2.6	-3.6
Muslims	6.6	-23.7	-0.2	-5.9	-2.8
Other RM	5.9	-28.0	-4.8	-2.0	-3.5
Total	100	-403.5	-2.6	-3.8	-3.1

Source: NSSO (2004-05 & 2011-12) & PLFS (2017-18).

A decline in women employment in agriculture sector was partly offset by a sizeable annual growth of about 3 per cent in rural non-farm employment during 2004-05/2011-12, which is largely driven by a phenomenal growth in casual wage employment in the construction sector. The rate of growth during the period ranged from a highest 7.8 per cent for SC women to 2.1 per cent for ORM. It has been negative (-1.0 per cent) only for upper caste Hindu women. In the subsequent period, 2011-12/2017-18, employment opportunities in the rural non-farm sector declined for all except those belonging to ORM (+2.6 per cent) and upper caste Hindu women (+0.7 per cent). Women belonging to these two relatively better-off socio-religious groups are benefitted from the rise in regular employment opportunities in rural areas largely due to their better educational attainments. In brief, employment opportunities in the rural non-farm sector squeezed largely due to contraction in construction, manufacturing and trade sub-sectors during 2011-12/2017-18, in which women from ST, SC and OBC communities mainly worked as casual labour. The dynamics of gender-caste related discrimination in the rural labour market and its consequence on withdrawals from the labour market are not explained here, which require a separate study.

Education Level-wise Withdrawals

Women workers in rural areas face serious challenges in terms of their abysmally lower educational attainments. Over half of them are 'not literate' in 2017-18, whereas only about four per cent are graduates. Their educational levels are significantly lower as compared to men workers. Over 38.9 million 'not literate' rural women workers left participating in the labour market, accounting for about 96.3 per cent of net withdrawals in female employment during 2004-05 and 2017-18. Other 6.5 million women workers with up to primary level education dropped from participating in the labour market during the period (Table 8). Contrary to this pattern, employment opportunities for women with graduate level education and those with senior secondary education increased annually by about 8.3 per cent and about 5 per cent, respectively, during the period under reference, raising their share substantively in total women employment in rural India. In brief, rural women with lower educational attainments suffered mostly from their withdrawals from the labour market.

Table 8: Rural Women Workers by their Educational Level, 2004-05 and 2017-18

Level of education	% share		Absolute number (in lakh)		
	2005	2018	2005	2018	CAGR %
Illiterate	66.5	51.3	796	407	-5.0
Up to Primary	18.5	19.5	219	154	-2.7
Middle	8.7	13.8	104	110	0.4
Secondary	3.6	6.8	43	54	1.8

Level of education	% share		Absolute number (in lakh)		
	2005	2018	2005	2018	CAGR %
Senior Secondary	1.4	4.0	17	32	5.0
Diploma	0.5	0.65	6	5	-1.4
Graduate and above	0.9	3.9	11	31	8.3
Total	100	100	1197	793	-3.1

Source: NSSO (2004) and PLFS (2017)

Across the states, few interesting patterns emerge. First, not-literate women and also those with primary level education suffered from the highest rate of withdrawal from work in all states. It has been highest in Bihar, Uttarakhand, Haryana, Punjab and Kerala, respectively, (nearly 10 per cent per annum during 2004-05 and 2017-18). The least decline is seen in Jammu & Kashmir (-0.5 per cent), followed by Chhattisgarh, West Bengal and Madhya Pradesh (Table 9). Women with school level education (middle and secondary) experienced an increase in their number in employment in majority of the states, with Chhattisgarh experiencing a highest growth (11.5 per cent), followed by Madhya Pradesh (8.7 per cent) and West Bengal (6.0 per cent). There are at least eight states, namely Punjab, Kerala, Gujarat, Haryana, Karnataka, Assam, Uttarakhand and Bihar which experienced a decline in the number of women as workers with middle and secondary education. On the other side, the number of women workers with graduate level education increased in all states — annual growth ranging from a lowest 2.7 per cent in Himachal Pradesh to a highest 15.3 per cent in Rajasthan. It merits mention here that states with over two-thirds of women still 'not literate' in 2017-18, are mostly those which also recorded a very high annual growth in employment of graduate women. There is not clearly visible relation between the income levels of the state and the ratio of illiterate in their women workforce. For example, Gujarat with a comparatively high ranking in per capita income has a very high (over 72 per cent) proportion of 'not literate' rural women workforce, whereas that in case of Kerala is lowest 23 per cent with its moderate per capita income. These broad patterns reconfirm the importance of education in improving the employability of women by helping them to access non-farm employment (Mehrotra and Parida, 2017).

Table 9: Regional Pattern in Education-specific Growth of Women Employment in Rural India

State	% share of women workers having education (2017-18)		CAGR 2005-18			
	Up to primary	Graduate and above	Up to primary	Middle and secondary school level	Graduate and above	Total
Rajasthan	87.8	2.3	-3.2	1.6	15.3	-2.6
Madhya Pradesh	84.3	1.1	-1.6	8.7	10.6	-0.7
Andhra Pradesh	79.1	2.0	-5.8	0.2	3.6	-4.8
Odisha	76.8	2.3	-5.5	0.3	9.7	-4.4
Karnataka	75.2	4.5	-5.4	-2.4	10.0	-4.6
West Bengal	73.3	3.3	-1.4	6.0	13.2	0.2
Uttar Pradesh	72.5	7.2	-6.4	1.7	14.8	-4.7
Jharkhand	72.2	1.6	-7.5	3.7	4.2	-5.9
Gujarat	72.1	2.7	-6.9	-2.8	5.0	-5.9
Chhattisgarh	71.6	1.0	-1.0	11.5	7.4	0.8
Bihar	66.9	7.0	-12.2	-0.3	15.1	-10.1
Tamil Nadu	66.2	6.0	-3.1	2.3	11.2	-1.5
Jammu & Kashmir	62.4	4.7	-0.5	3.8	12.6	1.0
Maharashtra	58.8	2.3	-4.1	1.6	3.8	-2.2
Haryana	56.7	11.4	-9.8	-2.8	10.9	-7.2
Punjab	55.3	13.9	-9.4	-6.5	8.8	-7.6
Assam	50.1	8.9	-8.1	-2.0	13.2	-5.5
Uttarakhand	47.7	7.7	-9.9	-1.9	3.1	-6.8
Himachal Pradesh	44.6	5.0	-3.4	3.9	2.7	-0.3
Kerala	23.1	16.1	-9.4	-3.7	3.9	-4.7
Total	70.8	3.9	-4.5	1.3	8.5	-3.1

Source: NSSO (2004) and PLFS (2017).

IV. LIKELIHOOD OF PARTICIPATION IN WORK

After analysing the patterns in withdrawals of rural women (15 years and above) from the workforce in the previous section, this section examines the determinants of their participation in work with the help of the logit model. The probability (Pit) of woman *i* in year *t* being employed is estimated using a binary logit model, which is estimated separately for each year.

$$\text{Probability (Work participation)} = F(X, U)$$

where F is the standard normal cumulative distribution function. A vector X*it* consisting of (i) personal characteristics such as age, education, marital status, (ii) household characteristics such as consumption quintile, caste/religion, sex ratio, number of children below six years and (iii) locational factor such as region/state of residence. The logit model is calculated separately for three periods, i.e. 2004-05, 2011-12 and 2017-18 to explain the determinants and changes therein. The variables such as age, number of children below six years and sex are continuous. The remaining variables are categorical. The interaction of education and social group is the consideration to examine the impact of different levels of education among social groups.

We assume that women's work participation decisions are taken independently and do not depend on their male counterpart within the household, that is, joint utility maximisation does not exist. Furthermore, the problem of endogeneity may exist between income quintile and occupation background. The interpretation of the results would be subject to this consideration.

The explanatory variables in equation (1) are all measured using the NSSO survey data covering the latest three rounds- 61st round (2004-05), 68th round (2011-12) and periodic labour force survey (2017-18). At the household level, marriage effect, cultural restrictions on married women (Sudarshan and Bhattacharya, 2009) and motherhood penalty including childcare responsibilities (Hegewisch and Gornick 2011) are important factors specifically affecting women's work participation. Marital status and number of children are included to capture family obligations that are likely to negatively affect female work participation. Social group, religion and occupation are proxies for attitudes towards women's work. Members of a scheduled caste or tribe (SC/ST) are expected to be more likely to work, as these are the lowest social classes in India, in which there is a high opportunity cost withdrawing women from the labour force. In a similar fashion, Muslims might be assumed to work more due to their economic backwardness. However, previous studies have found that Muslim women in India have lower work participation rates than women of other religions (Das and Desai, 2003), possibly due to cultural factor. We, therefore, include dummy variables indicating whether the woman is Hindu (the reference category), Muslim or other religious minority. Finally, we control for age and own education level of respondent. Age and education may positively affect the chance of joining the workforce. Sex ratio within the household is also used as a

covariate, wherein a higher number of women in the household may reduce the burden of household activities on working women and hence improve work participation. Regions are included to control locational factors and states are clubbed into five different regions. The northern region includes Jammu & Kashmir, Himachal Pradesh, Punjab, Chandigarh, Uttarakhand, Haryana, Delhi, Rajasthan and Uttar Pradesh; the eastern region combines the states of Bihar, West Bengal, Jharkhand and Odisha; the southern region covers Andhra Pradesh including Telangana, Karnataka, Kerala and Tamil Nadu; the western region comprises Chhattisgarh, Madhya Pradesh, Gujarat, Goa and Maharashtra; and the north-east consists of Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Meghalaya and Assam.

Estimation Results

Impact of personal characteristics

The likelihood of rural women joining the workforce significantly improves with the rise in their age after controlling other variables. It is natural as, with the expansion of education, a growing number of women in the age-group of 15-24 years are attending educational institutions. The rise in the value of odds ratios during 2004-05/2017-18 establishes an increasing likelihood of aged women to join the workforce. However, the odds ratio for age square remained the same indicating that the rate at which the probability improves with age has not changed significantly. It is generally argued that the chances of women joining the work are higher in larger size households. It is rather found to be the opposite. With the rise in nuclear families even in rural India, this finding is important from the perspective of child care and burden of other domestic chores. Women from smaller/nuclear families tend to face a problem of 'time poverty' as they not only have to go out for work but also have to engage in various care works in their households. This pattern remained unchanged over the years.

The odd of joining the workforce is 3.1 times higher among divorced women than the unmarried and about 1.8 times higher among the widows than unmarried women. There is no significant difference in the likelihood of married women joining the work as compared to unmarried ones. This also means that the vulnerability arising due to loss of their husband forces women to opt for work, more so in the case of those who are divorced/separated. The scheme of widow pension definitely helps women to reduce their economic vulnerability, as can be seen in the relative differences in odds ratio of joining work between divorced women and widow. A rise in the values of odds ratio in the case of divorced women indicates their rising compulsions to go for work over the years in the absence of any social protection schemes such as that for the widow. A rise in the odds ratio for widows over the period also indicates that despite the window pensions being in place, possibly due to their inadequate coverage and amount.

Education is an important endowment factor that helps women in entering into the labour market and determines their earnings (Shultz, 1994; Desai and Joshi, 2019). Here, we have attempted to understand the educational attainment along with the caste effect on the probability of rural women joining the workforce. The ST women with below primary education are considered as a reference category. It emerges clearly that the probability of women joining the workforce takes vaguely a 'U' shape curve—being higher for those with below primary and higher education as compared to those with school education. This broad pattern is true across different social groups. However, caste emerges as a significant factor in determining the likelihood of participation of women in work.

The odds of joining the workforce among those with below primary level education and belonging to SC, OBC and Other social groups is lower by 34 per cent, 40 per cent and 44 per cent, respectively, as compared to their ST counterparts. Among those with school-level education, the odds of women joining the workforce is 54 per cent lower among OBC than not literate ST, followed by SC and Others (about 49 & 48 per cent, respectively) and STs (15 per cent). Similarly, the likelihood of rural women with higher education joining the workforce is significantly lower among all social groups except STs than the reference group of ST with below primary level of education. However, significant inter-caste differences are seen in the odds ratios of joining the workforce for those with higher education— probability being highest among STs, followed by Others, OBCs and least among SCs. The probability of joining the workforce has certainly improved over the years, particularly for those with higher education, though at a varying rate among different social groups. This suggests that chances of getting jobs, particularly regular salaried jobs in transport and other services have become much brighter for those with higher education despite a large withdrawal of rural women from the workforce in recent period. It also merits mention here that the rate of unemployment among highly educated women is highest as compared to others in rural areas. This also means that along with measures to improve the educational levels of women, efforts need to be made to expand employment opportunities outside the farm sector in a big way.

As far as the religious background is concerned, the odds of joining the workforce is 36 per cent higher among Hindus and other religious minorities than Muslims. The odds ratio has gradually reduced over time which shows reducing inter-religious group disparity in rural women's WPRs.

Impact of household characteristics

Whether occupational-income related typology of rural households based on their major source of income and income cohort (quintiles) have any effect on the likelihood of women joining the workforce can be deduced from Table 10. NSSO/PLFS categorises rural households into six based on the major source of income—self-employed in agriculture (SEA), self-employed in non-agriculture (SENA), regular salaried (RS), casual labour- agriculture-(CLA), casual labour-non-

agriculture (CLNA) and others (OS), without a single major source of income. In terms of mean per household expenditure, at the top are RS households, followed by OS, SENA, SEA, CLNA and CLA at the bottom. The reference category used here is CLA households. Due to change in the categorisation of households in 2011-12, we will only compare logit model results for the latest two rounds of data, i.e. 2011-12 and 2017-18. Some interesting features can be deduced. First, the probability of women joining the workforce is lower in SENA and OS while it is higher in SEA and CLA households. It is obvious due to the labour-intensive nature of agriculture, which despite witnessing the highest rate of annual withdrawal by women (over 4.3 per cent during 2011-12/2017-18), still employs 73 per cent of the total rural female workforce. This has been along with an absolute decline in employment opportunities in the rural non-farm sector during the period, largely in construction, manufacturing and trade. In the case of CLA, the odds of women participating in the workforce is 75 per cent higher than the reference category. Second, the odds ratio has increased for every household type with respect to the reference group CLNA. A higher increase in odds ratio is observed among SEA and CLA while the odds ratio for SENA increased marginally. This reiterates the withdrawal of workers from non-farm sector. This might reflect a deviation of workers from CLNA to low quality SENA and CLA. This is to note that the odds ratio for RS becomes statistically not significant. Increasing odds ratio for SEA possibly reflects the shift from non-agricultural sector to the agricultural activities among land owning households due to contraction of jobs in the construction and manufacturing sector.

We have tried the model with and without a variable, namely MPCE (monthly per capita consumption expenditure - as a proxy of income). The result shows the possibility of endogeneity between MPCE and MPCE quintile since the standard error reduces notably when MPCE is dropped. So, only the income quintile is considered in the analysis. Further, our results are not affected too much due to the endogeneity between MPCE quintile and occupational background. So, both covariates are included in the model. The reference category is the lowest income quintile (0-20 per cent). It emerges that the probability of women joining the workforce tends to improve with the increase in their household income group, which peaks at middle income (40-60 per cent) income quintile, and thereafter reduces for the top 40 per cent. This also broadly shows an inverted 'U' shaped relation between income and work participation, particularly in 2017-18 and 2011-12. The odds ratio has increased during 2004-05 and 2011-12 and has reduced in 2017-18. This means that the likelihood of women WPRs from relatively better off households has improved in 2011-12 but deteriorated in 2017-18 compared to the bottom 20 per cent household. This also substantiates the result by occupational household wherein the odds ratio turns out to be statistically not significant among RS and increases only marginally among SENA.

Apparently, a significant positive 'income effect' on female WPRs is seen across different income quintiles. This is in contrast to the earlier findings wherein household reliance on women's incomes may fall and more of their time is allocated to domestic activities and child care (Neff et al.,

2012). However, given the rate of reduction in the number of women workers in rural areas as unpaid workers and casual labour both in farm and non-farm sector across different income quintiles, this association is indicative of an employment crisis rather than an income effect.

In the gendered-division of labour, child care being largely a women's responsibility reduces their chances significantly to participate in work. This emerges clearly from the odds ratio for the number of children below 6 years in a family, indicating a rise in the child care responsibility in the family, which tends to significantly reduce the chances of women's participation in work. The gender ratio within a household also has a significant impact on the likelihood to participate in the labour market. The gender ratio is defined here as the ratio of the total female to male in the age group of 15 years and above in each household. With one unit improvement in female to male ratio within the household, the odds for women participation improves by 1.14 times. This also means that the domestic care burden gets reduced with more favourable gender ratio within a household, resulting in the increased likelihood of women to participate in work.

Locational impact

The probability of rural women joining the workforce is significantly lowest by about 2.3 times in the northern region as compared to the eastern region. Contrary to this, it is higher about 3.8 times in the southern region and 3.5 times in the western region as compared to the eastern region. Over the years, the probability of not participating in work has increased in the north-eastern and northern regions with respect to the eastern region, implying the escalation in the withdrawal of women from work in these two regions. Contrary to this, the likelihood of women joining work improved significantly in southern and western states as compared to the eastern region. These regional differences in women's WPRs, however, need a deeper analysis.

Table 10: Results of Logistic Regression of Work Participation, Rural Women, 15 yrs & above

WPR	2017		2011		2004	
	Coefficient	OR	Coefficient	OR	Coefficient	OR
Age	0.302*	1.354*	0.222*	1.249*	0.211*	1.24*
Age2	-0.004*	0.996*	-0.003*	0.997*	-0.003*	0.997*
Child (below 6 years)	-0.097*	0.907*	-0.022	0.978	-0.120*	0.887*
Sex Ratio	0.132*	1.141*	0.165*	1.179*	0.135*	1.14*
Ref: Never Married						
Currently married	0.054	1.06	0.252*	1.288*	-0.055**	1.06**
Widowed	0.584*	1.79*	0.331*	1.392*	-0.156**	0.856*
Divorced/separated	1.13*	3.08 *	0.833	2.300*	0.434*	1.54*

WPR	2017		2011		2004	
	Coefficient	OR	Coefficient	OR	Coefficient	OR
Ref: CLNA						
SEA	0.209	1.23*	0.051**	1.05**	-0.107*	0.898*
SENA	-0.108*	0.897*	-0.166*	0.847*	0.453*	1.57*
RS	0.047*	1.05	-0.174*	0.840*		
CLA	0.561*	1.75*	0.335*	1.39*	0.271*	1.31* (AL)
Others	-1.40 *	0.247*	-1.28*	0.278*	-0.471*	0.624*
Ref: Muslims						
Hindu	0.307*	1.36*	0.530*	1.70*	0.732*	2.98*
ORM	0.307*	1.36*	0.809*	2.24*	1.09*	2.97*
Ref: Illiterate & below primary ST						
Below Primary *SC	-0.439*	0.644*	-0.607*	0.545*	-0.831*	0.436*
Below Primary *OBC	-0.507*	0.602*	-0.697*	0.498*	-0.846*	0.429*
Below Primary *Others	-0.587*	0.556*	-0.805*	0.447*	-1.09*	0.337*
School *ST	-0.168*	0.845*	-0.278*	0.757*	-0.581*	0.559*
School *SC	-0.673*	0.510*	-0.788*	0.455*	-1.44*	0.236*
School *OBC	-0.774*	0.461*	-1.04*	0.353*	-1.46**	0.233*
School *Others	-0.649*	0.522*	-0.103*	0.357*	-1.55*	0.212*
HE *ST	0.682*	1.978*	-0.320*	0.726*	-0.266**	0.766
HE *SC	-0.514*	0.598*	-0.770*	0.463*	-1.398	0.249*
HE *OBC	-0.471*	0.624*	-0.896*	0.408*	-1.45*	0.235*
HE *Others	-0.250*	0.779*	-0.989*	0.372*	-1.49*	0.226*
Ref: East						
North	-0.829*	2.29*	-0.944*	2.57*	1.08*	2.96*
South	1.36*	3.88*	1.12*	3.05*	1.26*	3.53*
West	1.26*	3.54 *	1.00*	2.72*	1.31*	3.71*
NE	-0.394*	0.674*	0.400*	1.49*	0.343*	1.41*
UT	0.435*	1.55*	0.225*	1.25*	0.552*	1.74*
Ref: 0-20						
20-40	0.088*	1.09*	0.026	1.03	-0.080*	0.923*
40-60	0.070*	1.07*	0.086*	1.09*	-0.089*	0.915*
60-80	0.026	0.974 *	0.011	1.01	-0.073*	0.929*
80-100	-0.229*	0.795	-0.101*	0.904*	-0.199*	0.820**
_cons	-7.73*	0.0004*	-5.61*	0.004*	-4.41*	0.012*
Observation	88,013	88,013	93,654	93,654	1,24,510	1,24,497
Prob > chi2	0	0	0	0	0	0
Pseudo R2	0.158	0.158	0.117	0.117	0.151	0.151

Source: Based on NSSO (2004, 2011-12) and PLFS (2017-18) unit level data

Notes: *implies significant within 1 per cent level while ** denotes significant within 5 per cent level OR denotes odds ratio.

V. CONCLUSIONS AND POLICY IMPLICATIONS

The paper brings out select features of participation of women in work in rural India, which witnessed a major decline since 2004-05 till recently. Along with the falling WPRs, their number as workers declined more rapidly during the recent period, 2011-12/2017-18. The decline has been widespread across different social groups, income strata and states in the country at a significantly varying rate. While the major decline in women WPRs in the age group of 15-24 years has been in favour of education, it has been largely in favour of 'domestic works' in the other age groups. The major withdrawals from the workforce are observed in the case of those women working as 'unpaid family labour' in agriculture and 'casual wage labour' both in farm and non-farm sectors in rural India. A large proportion of women who were engaged in 'domestic duties but also engaged in free collection of goods for their household use' also shifted in favour of 'domestic work' only. This could have been partly due to measurement issues of women's work and partly due to the growing use of cooking gas facilitated by Ujjawala Yojana, purchased vegetables and readymade garments among rural households. Across income quintiles, the shape of women's WPRs changed from a traditional inverted 'U' shape in 2004-05 to a falling straight line, depicting a positive impact on women's work participation with rising household income.

It is observed that despite the large withdrawal of rural women workers from agriculture over the years, it still employs about three-fourths of them. While part of such withdrawals was off-set by about 3 per cent annual growth in employment opportunities in the rural non-farm sector, mainly due to surge in the construction sector during 2004-05/2011-12, the same could not sustain due to a sharp contraction in employment opportunities in construction, manufacturing and trade sub-sectors during 2011-12/2017-18, in which women from ST, SC and OBC communities mainly worked as casual labour. Amidst such a widespread decline in women employment, there has been an increase of about 3.9 million regular salaried employments for them. Women belonging to ORM and upper caste Hindu categories benefitted proportionately more by the rise in regular employment opportunities in rural areas largely due to their better educational attainments. The logistic regression results bring in several interesting aspects of the probability of rural women joining the workforce. These variable, however, do not capture the demand-side aspects of their participation in labour market due to limitations of available data at the household level. While education emerges as a significant predictor of joining workforce, its iteration with social groups of women shows differing impact of similar level of education on different caste groups. The probability of rural women joining the workforce has certainly improved over the years, particularly for those with higher education, though at a varying rate among different social groups. A higher likelihood of divorced/separated and widowed women joining work underscores the coverage of social protection for such women.

Household characteristics of rural women, such as source of income, income class and the number of children in the household have a significant impact on determining their likelihood of

participating in the labour market. Our results emanating from income quintile logistic regression clearly show the negative 'income effect' on women's WPRs as compared to those at the bottom 20 per cent income cohort, which tended to strengthened in recent years. In other words, improvement in women's education increases their participation in work while they tend to withdraw from participating in labour market when their income reaches a certain threshold level, i.e. towards the top two income quintiles. The withdrawal seems to be prominent among economically better off groups possibly due to their high affordability to wait for a better job.

Policy Implications

The decline in employment opportunities in India, particularly for rural women, needs immediate attention. The situation would have been worsened due to economic disruptions and related reverse migration during the COVID-19 pandemic, and the recovery may take some time (Mamgain, 2020). Since most of the withdrawal from the workforce happened among rural women working in agricultural sector and that too in the case of those with the lowest educational attainments including a large number of illiterates, the policymakers should keep in mind these facts while designing policies and programmes for promoting employment opportunities for women as well as men both in farm and non-sectors on a large scale, particularly for the post-COVID-19 period of faster recovery. The aim of policy should not but merely focus on enhancing participation of women in labour market but also to create opportunities for decent work that will, in turn, contribute to the economic empowerment of women. Recently, Reddy and Mamgain (2020) provide comprehensive policy suggestions for the faster recovery from COVID-19-related economic disruptions leading to the transformation of rural economy in a shorter span of time. For this transformation to happen in rural India, it is essential to provide (i) a range of quality infrastructure including education and health, (ii) good foundational education, (iii) skill training in the context of fast-changing skill demand landscapes, (iv) cluster-based approach of agriculture and MSME development, (v) increased financial support, (vi) branding of local products, (vii) adding to these products and services to value chains with ensured remunerative incomes, and (viii) institutional reforms including promoting equal rights.

There is a need to bring women out of the stereotyped low-quality jobs, in which they are overcrowded, by their frequent skilling and re-skilling, enabling them to get out of such jobs. This transformative journey would be much easier and faster, yet inclusive by augmenting the capacities and capabilities of local-level institutions such as PRIs on a sustained basis. This requires massive public investment through enhanced budgetary allocations at least over the next five years along with incentivising private investment to rural areas in a big way. While doing so, every care should be taken to create enabling environment by improving access to productive assets, creating human capabilities through access to quality education & training programmes for skill development,

expanding social protection programmes such as access to child care, maternity protection, flexible work & training schedules, and provision of safe and accessible transport, along with the promotion of a pattern of growth that creates decent job opportunities. Providing land rights to women for their economic empowerment is critical, whose implementation remains a major challenge in a patriarchal society like India (Oxfam, 2016). The land rights could be joint in the names of men and women, for which the registration fee should be waived off. Equally crucial is to ensure implementation of the Hindu Succession Amendment Act, 2005 for providing women with clear land titles and to monitor the performance of courts and bureaucrats on this front (Oxfam, 2016). This will enable many women farmers to access credit from formal institutions and subsidised inputs. SHGs can be promoted for land pooling and cooperative farming. To enable women access to land, leasing land through cooperatives or SHGs can be promoted as has been successful in the case of Kudumbashree in Kerala and Deccan Development Society in Telangana. The existing policies and programmes aimed to promote enterprise development, particularly among women and SCs/STs, need to be geared up in a mission mode with improved access to new labour-intensive technology at affordable costs, access to cheaper credit, improved product/service designs, quality controls, and fair marketing. Every care should be taken that well-intentioned policy initiative such as MUDRA loans scheme does not fall prey to weak design, implementation and monitoring. These measures will help in improving India's progress towards fulfilment of SDG-8 on decent employment, SDG-1 on end of poverty, SDG-5 on gender parity and SDG-10 on reduced inequalities, by 2030.

Finally, there is a need to improve the quality of labour force data – preferably with time use survey as current concept of work in NSSO/PLFS rounds on employment are too narrow, which hardly capture the unpaid work outside the production boundary that lies within the general production boundary. This unpaid work includes unpaid domestic services, unpaid care and voluntary services. Labour force surveys need to capture this category of unpaid work of women in labour statistics through time use methods.

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Shri S.R. Sankaran

S.R. Sankaran, a distinguished Civil Servant, is known for his commitments and actions for the upliftment of the poor and the marginalized. The seamless integrity between his life, ideas and work was the unique dimension of his personality. As a civil servant he took Constitution as a mandate and made every opportunity to put in practice the fundamental principles of equality, non-discrimination, justice and affirmative action in favour of the economically backward sections of the Indian society. He believed that his true vocation as a civil servant was to serve the people where the poor occupied the primacy of position. Within the poor his concern was about SCs and STs as they have been at the lowest rung of the social hierarchy, wallowing in chronic misery and deprivation and subjected to daily acts of injustice and indignity.

The transformative role that Sankaran as a civil servant played in the lives of the poor is exemplary to date. His deep understanding of the social environment of the poor is remarkable. In his view, the poor are typically unorganized, hard to reach, inarticulate and often visible by residing in periphery. Along with lack of access to land and other natural resources, lack of access to education makes them vulnerable to manipulation by adversaries leading them to internalize the ideology of dependence and submission. The conditions of poor can be compressed into five disabilities: (i) lack of access to land and employment, (ii) unfree labour, (iii) low wages, (iv) institutionalised discrimination, and (v) deprivation in social services. His work during his career and after retirement devoted to uplifting the poor by relieving them from such adversaries and organizing them. While working for the poor he had not only used his professional skills but also brought to bear on the problem of human touch and his impeccable moral values.

Sankaran was legendry civil servant, a crusader for social justice, a civil rights activist, a perceptive critic of development and public policy with extraordinary sensitivity, clarity, and above all, an epitome of compassion. A single social goal of his entire life's work was the reduction of contradiction between political and socio-economic inequality.

S.R.Sankaran Chair (Rural Labour)

S.R. Sankaran Chair (Rural Labour) is instituted at the National Institute of Rural Development and Panchayati Raj (NIRDPR), Hyderabad by the Ministry of Rural Development, Government of India with the objective of promoting research and constructive debates on issues that would enhance understanding and help in improving the world of work and the lives of rural labour. Collaborative research, seminars, workshops and policy dialogues involving institutions, organizations, policy makers and other stakeholders with similar objectives, and placing the results in the larger public domain through working papers, articles in learned journals, books and policy briefs are part of the activities set out for the Chair.

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