



Female Workforce Participation in Bihar: Looking at Recent Data

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Abstract: This research looks into the trends and determinants of female labour force participation (FLFP) in Bihar using the data from National Sample Survey Office (NSSO) and the Periodic Labour Force Survey (PLFS). Looking at the trends historically, FLFP in Bihar which has traditionally been very low is seems to experience rise and fall at different times. Analysis of the 61st (2004-05) and 68th (2011-12) rounds of NSSO's FLFP studies shows a decline owing to increasing household incomes, greater female enrolment in education due to the mid-day meal and Kanya Utthan Yojna, and deteriorating quality of available jobs. However, PLFS data for 2017-18 to 2022-23 shows a steady increase in participation, especially in rural areas, due to better educational infrastructure and state-sponsored initiatives such as Jeevika, self-help groups, and the increased recognition of the previously unpaid workforce as formally counted labour. However, these increases have not been sufficient to bridge the gap with the national averages of FLFP. The state continues to grapple with the gender pay gap, inadequate formal employment opportunities, and entrenched socio-cultural norms. The paper suggests that greater progress can be made through more comprehensive policies for skill training and other governance changes aimed at women's employment. Examining these trends in the context of national patterns allow us to understand what more can be done in the policy frameworks to empower women in the agrarian society.

1. Introduction

About two thousand years ago, the position of women in Hindu society was cogently enunciated in the 'Laws of Manu'. This book states that "a woman should never be independent. Her father has authority over her in childhood, her husband has authority over her in youth, and in old age, her son has authority over her" (Nayyar, 1987). While there has been some change in the status of women in post-independence India, this has been limited only to those who have had opportunities for education and employment in the urban areas.

The labour force plays a crucial role in shaping the economic landscape, and women's participation in the labour force is essential for gender equality and development. Understanding the dynamics of the female labour force is essential for researchers, policymakers, and other stakeholders to address the challenges they face when coming up with and participating in the labour force. The study is based on participation in Bihar's female labour force. The NSSO has released several rounds of Employment-Unemployment Surveys (EUS) from 1977 to 2012. This paper has analysed NSSO data of the 61st and 68th rounds, which shows the declining participation of the labour force. They have argued that the continuous NSSO data from 1977-78 to 2011-12 (68th round) has shown a sharp decline in female labour force participation. NSSO has released the PLFS data in the 2017-18 for the first time. Few papers have analysed the trend, which has changed and increased since then. This paper also basically gives an idea about both NSSO and PLFS data. There is no clear evidence of why the trend changed when the PLFS data was released.

Before delving into this document, it is essential to be acquainted with certain elements that assist a reader in comprehending the content more effectively. **Activity status:** It is the activity situation in which a person was discovered during a specified reference period with respect to the person's involvement in economic and non-economic activities. According to this, a person could be in one or a combination of the following three broad activity statuses during the reference period: (i) working or being involved in economic activity (work), (ii) being inactive in economic activity (work) but either making concrete efforts to seek 'work' or being ready for 'work' if 'work' is available and (iii) being inactive in any economic activity (work) and also not ready for 'work'. Typical activity level: The customary activity level pertains to the activity level of an individual during the prior days leading up to the survey date. The primary occupation in which a person dedicated a significant amount of time (main time standard) during the 365 days leading up to the survey date was deemed the typical principal activity status of the individual. To determine the customary primary occupation of an individual, he/she was initially classified as part of the workforce or not in the reference period based on the main time parameter. Individuals, hence determined as not part of the labour force, were classified as 'neither employed nor ready for work'. For individuals in the workforce, the extensive employment status of either 'employed' or 'unemployed but actively looking for and/or able to work' was once again determined based on the significant amount of time spent in the workforce during the days before the survey date. Within the extensive activity status so determined, the specific activity status category of a person engaging in more than one such activity was ascertained once more based on the "relatively extensive time spent" criterion. Secondary economic activity status: The typical primary status of an individual was established as the status in which the individual devoted a substantial amount of time (time criterion) within the 365 days leading up to the survey date. Such individuals may have

also engaged, in addition to their typical primary position, in some financial endeavour for 30 days or more within the days leading up to the survey date. The condition in which such economic activity was carried out during the period of 365 days prior to the survey date was the secondary economic activity status of the individual. In the event of numerous subordinate economic pursuits, the primary activity and position determined by the "relatively long time spent" standard was considered. It may be observed that involvement in tasks in a secondary role may stem from the two following scenarios.

(Dadi, 1974) argues that a woman's gainful employment depends on their husband's earnings. If their husband works and earns enough or they belong to rich families, then wives are involved in housekeeping. (Gulati, 1975) work shows that, according to the census of 1961, the female participation rate for the scheduled caste was 34.35%, for the scheduled tribes, was 51.96 and for the non-scheduled population, 27.95%. In the 1920s, the Indian census instructions stated that a servant who worked as a cook in his or her employer's home and received wages would be considered economically active. However, a housewife would not be treated as economically active even if she worked much more than a paid servant by cooking for the family or looking after the household (Agarwal, 1985). A study by (Rangarajan & Iyer Kaul, 2011) shows that many of the labour force opted out between 2004-05 and 2009-10 due to several government schemes launched at that time. Schemes like mid-day meals, Sarv Shiksha Abhiyan, MGNREGA, and the right to education have contributed to the sharp decline of the labour force. An anomaly also found that the economy was increasing at the rate of 8.6%, but a lack of employment was there. Due to that, the labour force also decreased. Women face lots of challenges when they step out from home and go to work outside in the field. Women do a and they are being discriminated against; due to this gender and wage gap discrimination, they opt out of the labour force.

In the last few years, the state of Bihar has undergone several improvements in education, infrastructure and employment opportunities. Few research works have been produced looking at the participation of the female workforce in Bihar. According to NSSO data, the study has shown that it has declined over the years. However, the trend changed when the PLFS (Periodic Labour Force Survey) was released in 2017-18, and studies were very limited. So, this study aims to fill the research gap and to give valuable insights into female labour force participation.

1.1 Theoretical Discussion on Missing Labour Force

Migration is one of the problems of Bihar, exclusively that of the male population, and it is embedded in the lives and life choices of the people. It is not a livelihood but a way of life in Bihar. They go to other parts of the country, such as Punjab, Haryana, Maharashtra, and Assam. Apart from contributing to the growth of other parts of the country, they also face backlash from the states like Maharashtra and Assam (Datta, 2011). The main reason behind the female migration was marriage, and for male migration, that was work and employment. When male migrates from their native place, they work as double swords for their wives. The absence of a husband may give freedom, but simultaneously, there are greater economic disadvantages if remittances are irregular. The problems faced by the women in the absence of male relatives could be illness, shortage of food and medicines, childcare and indebtedness. One thing that has been witnessed is that in Bihar and Uttar Pradesh, when male migrant come back, they help their wives with household chores like cooking, cleaning, etc, as they do the same in the city while living away from home. One reason behind the migration could be the desire to improve the lives of their families. In rural societies, migration is not just about remittances but also the new ideas and attitudes to a rural society. (Datta, 2011) found that the most preferred destination for migrants was Delhi. Other common destinations for migrants from Bihar were Mumbai in Maharashtra, Gurgaon, Noida from Delhi NCR, Surat from Gujrat, Kolkata and Siliguri from West Bengal and some of the places in Jharkhand and Punjab. When male members migrate, female members are included in the household's decision-making, managing money, and doing the agricultural tasks. However, these things increase the burden of work on women after the male members migrate. It has also been found that caste plays a crucial role when male members migrate. Women from the 'Kumri' caste manage the work on the farms and also pay labourers where, whereas women from the 'Brahmin' caste only look after their children. There were very few restrictions on women belonging to a lower caste. As if they want to go out from their tola they do not ask from anyone. In the Rajput family, they go out for the religious activity or to visit their relatives. So, from the above instances, we can conclude that the migration of male members impacts people from different castes and classes differently.

Why did people withdraw from the labour force? There could be several reasons behind opting out from the labour force. In the 66th round of the NSSO survey, around 707 million people opted out of work. Around 44% of the people opted out of the labour force to study. Schemes like 'Sarv Siksha Abhiyaan', Mid-day meal and the right to education seemed to work (Ghosh & Mukhopadhyay, 1984). The ageing population is withdrawing from the labour market, which is growing at 7% CAGR from 2004-05 to 2009-10. Another large number of women also withdraw from the labour market to attend domestic duties, which may result from increased family income. But this segment of people could be productive if government interventions through the policy push would be there.

1.2 Objective of the study

The main objective of this study is to understand the trend of female WPR in Bihar and compare it to the national trends. Also, the key determinants of female labour force participation in Bihar will be identified using the PLFS and NSSO data. Another to understand why female labour force participation declined till 2011-12 and what led to a change in trend when the PLFS data was released in 2017. This paper will also try to explain the status of employment and the shift from casual and salaried workers to self-employed workers. Various factors have contributed to the decline, such as educational attainment among women, increased family income, various government schemes like mid-day meals and Sarv Siksha Abhiyaan, some social norms, and a lack of opportunities for women to work. Gender discrimination and wage disparity also played a crucial role in this decline of female labour force participation. This study will delve into these reasons and provide a comprehensive understanding of the socio-economic landscape influencing women's participation. However, a shift was observed when the PLFS data was released in 2017. This paper will use data and literature to explore the factors that have changed the trend. In conclusion, this study aims to provide a detailed analysis of female labour force participation in Bihar, comparing it with national trends and identifying key determinants. After examining the decline in female LFPR until 2011-12 and the subsequent changes observed in 2017, the study will offer valuable insights into the factors influencing women's participation in the labour market.

1.3 Research methodology of the study

The study's source is the two rounds of NSSO household data from the 'Employment -Unemployment Survey (EUS)', which covers various dimensions of employment and unemployment. The household data of the last two rounds of NSSO and PLFS data from 2017-18 to 2022-23 of employment and unemployment are used. I have extracted the data with the help of MS Excel. The age group I have taken for the analysis of NSSO is the all-age group. For PLFS data, I have divided the age group into four sub-sections. These are 15-29 years, 15-59 years, 15 and above and 0+ (for all ages) years.

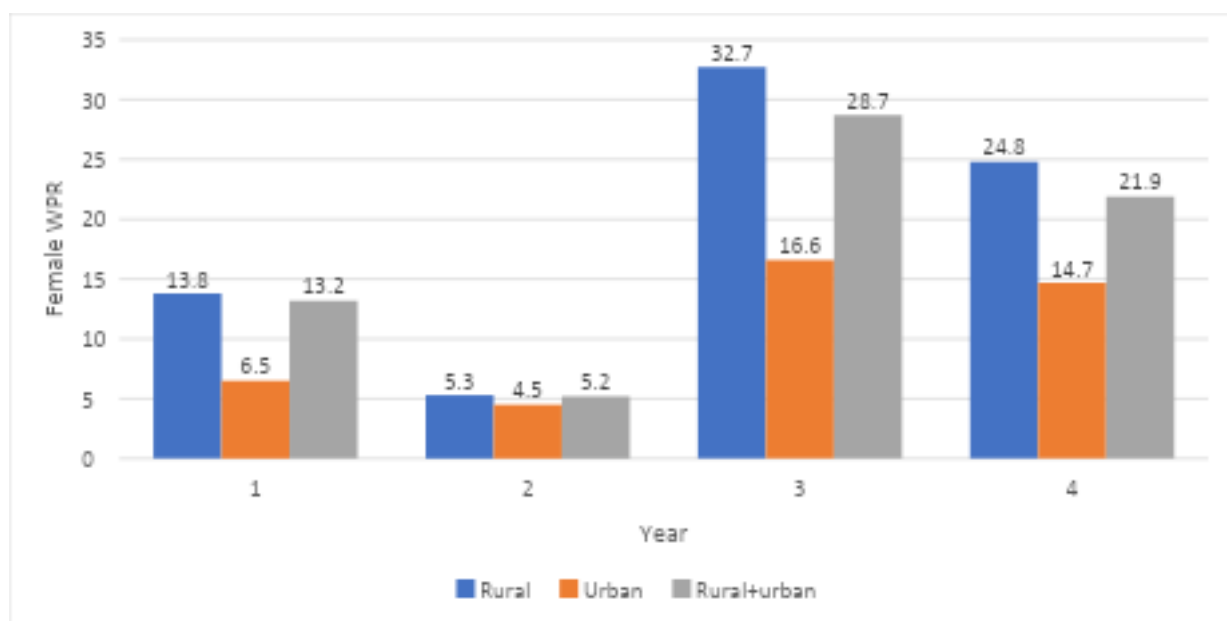
So, the aim of this paper is to understand both the Employment-unemployment Survey (EUS) data and PLFS data to identify Bihar and India's female WPR (Workforce participation Rate) Trends. The analysis will give insights into them and will help policymakers make an informed decision.

2. Trends and Determinants of Female Workforce Participation in Bihar and India

2.1 Analysis of NSSO Data

When Nitish Kumar became chief minister and came into power in Bihar, his government implemented various programmes related to girls' education after 2005 and before 2011. For example, Balika Cycle Yojna and Mukhyamantri Kanya Utthan Yojna, under which girls' children were given bicycles and monetary incentives. In addition, the Right of Children to Free and Compulsory Education Act, 2009 increased the number of girl children's enrolment in educational institutions. Further, this has increased the number of enrolments in primary, secondary and higher secondary levels (Pandey, 2023). It clearly shows that the various state government schemes led to an increase in the enrollment of girl children. Due to this reason, many of the females started leaving the labour force to join educational institutes. That could be the reason for the declining female WPR during that period. In India (Rangarajan & Iyer Kaul, 2011), a study found that many of the workforce opted out of the labour force due to several government schemes between 2004-05 and 2009-10. Schemes like mid-day meals, Sarv Shiksha Abhiyan, and the right to education have contributed to the sharp decline of the labour force. Because most of them had left the workforce and joined the school. Another reason could be that the low wages in the unorganised sector left them with no choice but to study and improve their skills. NSS data also shows that the ageing population could be another factor in declining Labour force participation.

Figure-1 Female Workforce Participation Rate (Usual Status) Rates (in per cent) of India and Bihar



Source: NSSO 61st and 68th rounds

Note: The 61st round was conducted in 2004-2005, and the 68th round in 2011-2012

In 2004-05, when the population and economy were growing at 8.6% per cent, labour force participation was declining. It is difficult to explain, but the lack of additional employment was one of the reasons. As before, from 1999 to 2000 to 2004-05, around 60 million jobs were created against the 1 million jobs during 2004-05 to 2009-10. Also, he found a significant shift in the labour force from the primary sector to the secondary and tertiary sectors. Increasing rural income could be another reason they have devoted themselves to domestic work. (Naidu, 2016) study shows that Maharashtra, Kerala, Tamil Nadu, and West Bengal have significantly higher WPR than any other state. In these states, the predominant crop is rice, which is labour-intensive. Females exclusively work in delicate operations like transplanting. There, they hardly found any male workers. Women play another important role in weeding, harvesting, threshing, and many other jobs. States like Punjab and Haryana mainly grow wheat and millet; the WPR is also very low in rural areas and mainly in agricultural areas. She also explains that the WPR of females is low due to the adverse sex ratio of females in the workforce.

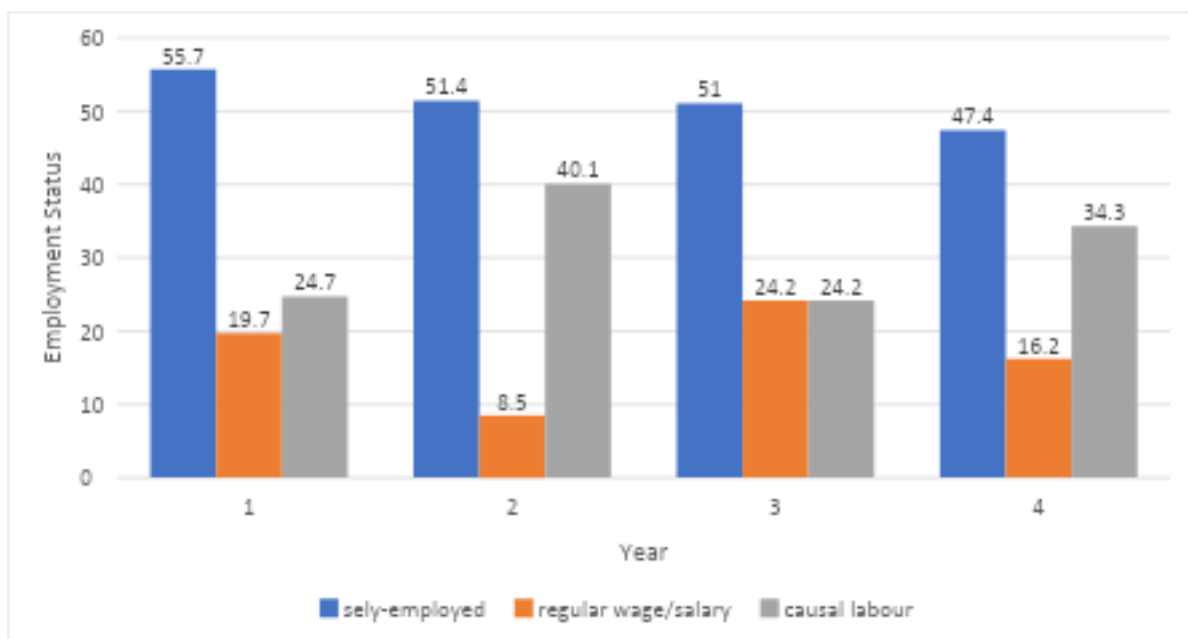
(Rangarajan & Iyer Kaul, 2011) study found that many of the workforce opted out of the labour force due to several government schemes between 2004-05 and 2009-10. Schemes like mid-day meals, Sarv Shiksha Abhiyan, MGNREGA, and the right to education have contributed to the sharp decline of the labour force. Because most of them had left the workforce and joined the school. Several of them also left agriculture and joined as workers in the MGNREGA schemes of the central government. Another

reason could be that the low wages in the unorganised sector left them with no choice but to study and improve their skills. NSS data also shows that the ageing population could be another factor in declining Labour force participation. (Hafeez & Ahmad, 2002) analyses that according to neoclassical economists, education is the key determinant for women to enter into the labour market. The higher the education level, the greater the women's participation in the labour market. Other factors like house income, age, and family size also matter. Their study used a sample size of married women with at least 10 years of schooling. They found that about 50% of the women working in the labour market and 50% were involved in household activities. In the joint family, it has been found that they reduce the pressure of household chores so that they can go out and do work outside. So, a female from a joint family is more likely to engage in the labour force than those who live in a small or nuclear family. Empirical data shows that an increase in household income reduces the probability of women's participation in the labour force. So, the estimation shows that females belonging to rich families are less likely to participate in the labour force. The regression results show that women in rural areas are less likely to get jobs in the formal sector. Because of the unavailability of formal jobs and good education in rural areas. At first, in rural areas, it is difficult to get an education, and even if they get, it is less likely to get into the job sector. So, the rural women who were married and had 10 years of education had a negative impact on the labour force.

(Ghosh & Mukhopadhyay, 1984) studies show that Maharashtra, Kerala, Tamil Nadu, and West Bengal have significantly higher WPR than any other state. In these states, the predominant crop is rice, which is labour-intensive. Females exclusively work in delicate operations like transplanting. There, they hardly found any male workers. Women play another important role in weeding, harvesting, threshing, and many other jobs. States like Punjab and Haryana mainly grow wheat and millet; the WPR is also very low in rural areas and mainly in agricultural areas. She also explains that the WPR of females is low due to the adverse sex ratio of females in the workforce. (Gulati, 1975) Studies show that on an individual level, the number of females decreases as the family income increases and the job opportunities for men increase; females prefer to withdraw from the labour force. The reason is that the kind of job that they do may not be attractive, whereas females who work in the high-income group may not withdraw because of good working conditions and job opportunities. Mainly, these women get higher education and better economic conditions at home. She also mentions that female participation among the scheduled castes and tribes is higher than the other non-scheduled populations. According to the census of 1961, the female participation rate for the scheduled caste was 34.35%, for the scheduled tribes was 51.96 and for the non-scheduled population, 27.95%. (Agarwal, 1985) talks about the census of 1971. The census excluded women from the labour force because the definition of work was limited to those who reported participating in economically productive work as their main activity. Thus, all the women whose main activity was to work as domestic workers and help their husbands in the field were not counted as workers. In the 1981 census, the concept of main and marginal workers emerged, depending on whether a person who had worked for a large part of the year (more than 183 days) was considered a main worker.

Most rural women perform tasks on their own farms and/or help in the process that produces the final output. Yet, more often than not, this work goes unrecorded. This is so because women perform both housework and productive work simultaneously or intermittently; hence, these two portions are indivisible. In such a situation, it is difficult for the enumerator to assess the nature and extent of productive work performed by the woman. Moreover, even the respondent cannot perceive that she has contributed to productive work. (Nayyar, 1987) study shows that based on the NSS Data of 1972-73, female participation has declined sharply in prosperous states where male earnings are high. A prosperous village in Punjab had a very low FPR. The prosperity of Punjab has increased due to the Green Revolution in the region.

Figure-2 Percentage distribution of workers in usual status (ps+ss) in employment Of India and Bihar (Rural+Urban)



Source: NSSO 61st and 68th rounds

Figure 2 shows that India and Bihar saw a decrease in the proportion of self-employed individuals from 2004-2005 to 2011-2012. This indicates a shift from self-employment. In Bihar, to increase the participation of females in the labour force, the government is offering programmes such as Jeevika, Mukhyamantri Mahila Udyami Yojna (Financial support for women's enterprises), and reservations for women in public institutions (Pandey, 2023). This could be why a shift from self-employment to a regular wage or salary. There was an increase in the proportion of people with regular wage/salary employment in India and Bihar. The increase

was more significant in Bihar, about 7.7%, than in India, 4.5%. This also explains how the Bihar government's schemes and programmes have worked. In India, especially in Bihar, the percentage of casual labourers decreased slightly. Compared to the national average of 0.5 percentage points, Bihar experienced a more dramatic reduction of 5.8 percentage points. This may indicate a move away from low-paying, unstable occupations and toward more solid career opportunities given by the Bihar government in the form of Jeevika. According to (Pandey, 2023), more than 20000 self-help groups (SHGs) consisting of two lakh women from the deprived section were created in the state during Nitish Kumar's first term from 2005 to 2010. The latest data shows that Bihar is India's first state to have more than 10 lakh women-led SHGs. In primary school, 2 lakh jobs were created, and 50% were reserved for women. In the panchayat, a 50% reserved quota is given to women. Another step the government took was to reserve 35% of seats for women in the Police and create a new battalion for women. The consequence of this is that more females are attending schools than males in Bihar.

(Klasen & Pieters, 2015) Analyses that rising education and increased white-collar employment should draw extra women into the labour force by increasing their income capability and lowering social stigma towards women's participation. However, growing household incomes may cause a withdrawal of females from the labour force due to the impact of income. They also found a strong conditional U-shaped relationship between education and labour force participation. That points out the social stigma for women with some education to work in low-skilled jobs. Highly educated women were less constrained by family circumstances. On the supply side, rising male income and education withdrew females from the labour force. On the demand side, the share of agriculture was decreasing, and the demand for labour was increasing in the manufacturing sector. Another thing is that in the current scenario, women's taste for higher education has increased because they see opportunities in IT services and businesses. According to the NSS survey data, the share of ever-married women in the age group of 20-24 years in urban areas was 96.5 per cent in 1987, and it decreased to 95.3 per cent in 2011. The reason states that it is due to increased higher education and postponement of marriage. Underreporting of women working in rural areas is one of the main reasons for the declining workforce. They work on farms but do not consider their work as work. Due to that, subsidiary activities were affected the most. NSS data shows that most highly educated women worked in public administration in 1987. Still, the share declined sharply and decreased to 50 per cent in 2011 due to a decline in public administration jobs.

2.2 Unemployed Women and Economic Implications

In the 1990s, some important things emerged about women's unemployment in India. More Women joined the workforce, mainly in cities, showing a shift toward more women working. The increase happened mostly in short-term jobs in the informal city sector, where they liked hiring ladies. Even though there were fewer jobs for rural women from 1987 to 1993, Urban females still struggled with high unemployment. Also, more urban females got regular jobs, moving away from working for themselves, but it didn't always mean better pay or conditions.

(Remesh, 2010) Ramesh found that women's job stability was low because of societal pressures, childcare duties, and unpaid caregiving work. They mentioned that a big part of why more women worked was thanks to unpaid caregiving work that often doesn't get counted officially, showing how society doesn't see all that women do for the economy. They said getting new skills could help with job issues but wouldn't fix the bigger problems and limits that affect women. They said social policies focused too much on old-fashioned ideas about families instead of helping with what women need at work. Their report also talked about fewer rural Women working, which is troubling. More young city Women might be working now, but there isn't enough proof to support that claim. They said we need to rethink how we see what work is – especially unpaid caregiving work – and start giving more thought to giving benefits to workers who are moms.

(Chowdhury, 2011) looked into how fewer urban and rural women are joining the job market now. Many reasons were given, like being stuck in old ways, more education for Women making them pickier about jobs, not enough jobs available, and how the 2008 money issues hit industries hard that had many lady workers. They argued that fewer ladies are working now because there aren't enough new jobs, especially in fields where they usually work. They disagreed with saying it's all because of education since there's a broader problem with not enough new jobs and barriers for Women. They said it's crucial we grow non-farming jobs – especially in cities – so we need plans to help Ladies get quality learning and training, have good workplaces and deal with unfair treatment based on gender so they get a fair shot at work opportunities!

(Remesh, 2010) stress the lack of significant job creation as a key reason for decreased employment. This is especially true for jobs outside of agriculture, which is for women's work. Amitabh claims that despite growth in the industry, the economy's ability to provide jobs remained low. u's study of data from 2004-05 to 2009-10 indicates a slowdown in the growth of non-agricultural jobs, particularly for. The transition from a manufacturing-focused economy to one centred on services has led to a drop in manufacturing jobs, where many women typically worked. The rise of the informal sector, known for low pay and unstable working conditions, hasn't made up for the loss of formal sector jobs. Babu points out the negative impact of the global financial crisis on industries that rely on exports and hire many women. This resulted in job cuts and more women leaving the labour market. Amitabh Kundu highlights social limitations and biased family structures as factors limiting women's workforce involvement. These obstacles include traditional gender roles, duties like childcare, and bias at work. Both reports criticise the lack of effective policies to tackle the specific challenges that women encounter at work - not having solid plans to overcome social barriers and improve job prospects for women - focusing only on developing skills when addressing broader issues like limited job opportunities and structural hurdles doesn't make much sense.

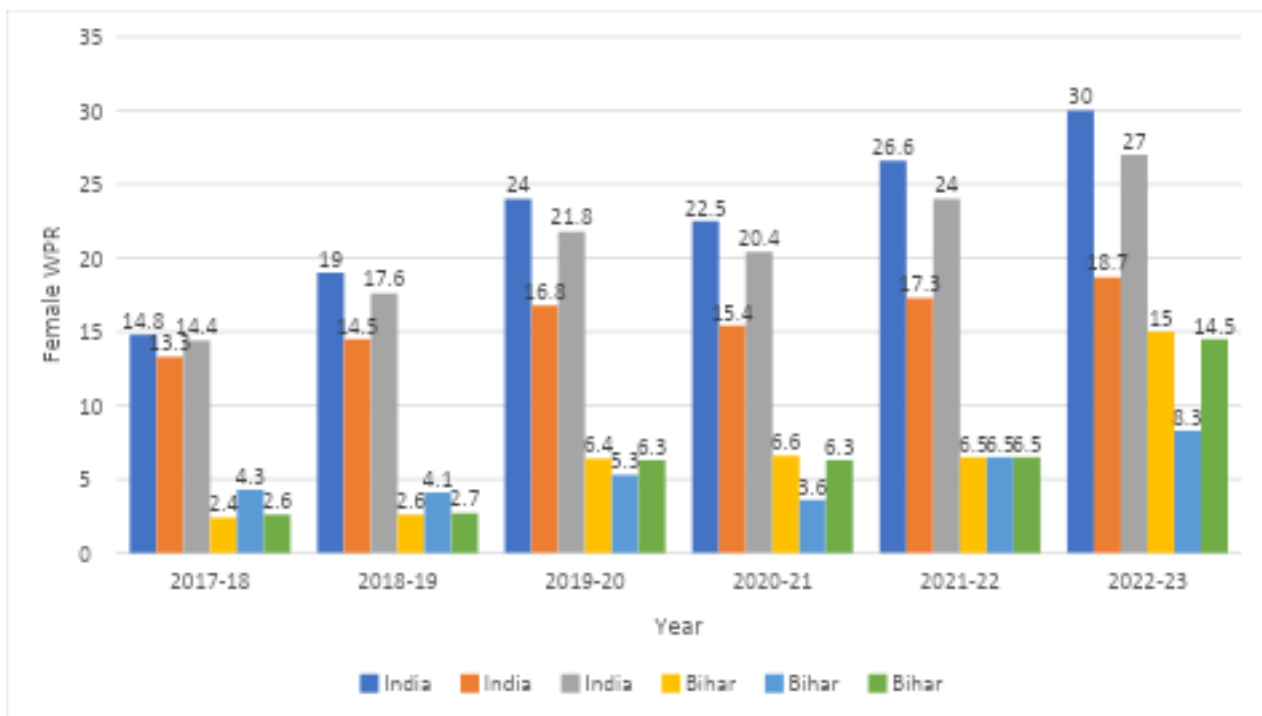
Analysis of NSSO data on women joining the workforce in Bihar and India shows a big drop in employment for women from 2004-2005 to 2011-2012. Bihar's decline was even bigger than the country's average. This change happened through various government programs, like the Bal Cycle Yojna & Mukhyamantri Kanya Utthan Yojna, encouraging girls to focus on education instead of working. Low wages in unorganised sectors and better incomes in rural areas also made many women choose household work over low-paying jobs.

The decrease in women working is affected by different social and economic factors, like job availability, education levels, how much money households make, and family setups. Even though programs like MGNREGA offered other job options, they also led women to leave traditional farming jobs. Bihar's efforts to create self-help groups and policies that give women more chances in the public sector have helped move more women into stable, salaried positions. Still, overall, dropping female participation shows that more policy changes are needed to break down social and economic barriers, improve skills, and give fair job opportunities to women.

Trends and Determinants of Female Workforce Participation in Bihar and India: Insights from PLFS Data

In 2017, the first annual survey under the PLFS was carried out. The PLFS has received much criticism since the publication of the first yearly survey results, mostly about the data's veracity and the modified survey techniques used. There are several disadvantages to the PLFS system as it deviates from the purpose of capturing various dimensions of inequalities. There are a few differences between the EUS and PLFS surveys; we cannot compare the data. As the WPR of females declined till 2011-12, (Deshpande & Singh, 2021) investigated the causes of Indian women's diminishing involvement in the labour force. The authors used logistic regression analysis and descriptive statistics on a nationally representative data set. They discovered that although some women leave the workforce because they would rather work at home, others are forced out by prejudice and a lack of options. The report also emphasised the importance of giving women more education and skill development options to increase their involvement in the labour sector

Figure-3 Female Worker Population Ratio (WPR) (in per cent) according to usual status (ps+ss) for India and Bihar according to the PLFS data from 2017-18 to 2022-23.



Source: Various rounds of PLFS data

Note: In the above figure, PLFS data from 2017-18 to 2022-23 has been taken to analyse Female WPR.

Figure- 3 shows the female Workforce participation Rate (WPR) in India and Bihar from 2017-18 to 2022-23. The trend indicates significant improvements in employment opportunities, particularly in Bihar. According to the study "Trends and Determinants of Labour Force Participation in Bihar: Insights from data PLFS data 2021-22", significant socio-economic transformations in Bihar, including improvements in education infrastructure and employment opportunities, have impacted labour force participation (A. et al., 2023). In rural areas, a steady increase from 2.6% in 2018-19 to 15% in 2022-23. The sharp increase could be the programmes implemented by the Nitish Kumar government, and those who had enrolled themselves between 2005 and 2010 are now working and have become part of the labour force (Pandey, 2023). Access to education has improved due to the growth of schools and universities, especially in rural areas—higher rates of literacy and improved employability result from this. In the Urban areas, there is an increase of 4.3% in 2017-18 to 8.3% in 2022-23. This is a much smaller increase compared to the rural area. The reason could be that in rural areas, women also work in the agricultural field, but in urban areas, they mostly prefer to live at home if jobs are not available in the job market. Figure 3 also shows that Bihar's female WPR is much smaller than India's. Between 2017 and 2018, according to the figure, the female WPR of Bihar was 2.4%, whereas the national WPR of females was 14.8%. Data also shows the overall (Urban+Rural) increase in WPR from 2.6% in 2017-18 to 14.5%, and for India, it was from 14.4% in 2017-18 to 27% in 2022-23. Though there is a remarkable change in the FWPR to compete with the national average, the Bihar government has much to do with female enrolment in the job market. (K. Singh et al., 2019) found that women played an important role in agriculture as farmers and managers of farms, but they faced gender discrimination and got lower wages for their work. In a male-dominated society, the work of females gets nullified; also, they have been underrepresented in the development process.

Women play a multidimensional role in the sustainable development of the economy. They do each and every work related to the farm, from preparation to harvesting of crops. they also manage the dairy cattle, beekeeping, goat-rearing poultry, etc. The study also found a decline in women's agricultural sector due to increased literacy and engagement in government and private jobs. Ownership of land is another problem for them as they hold only 13.31 per cent of the total land holding of the state. Another thing

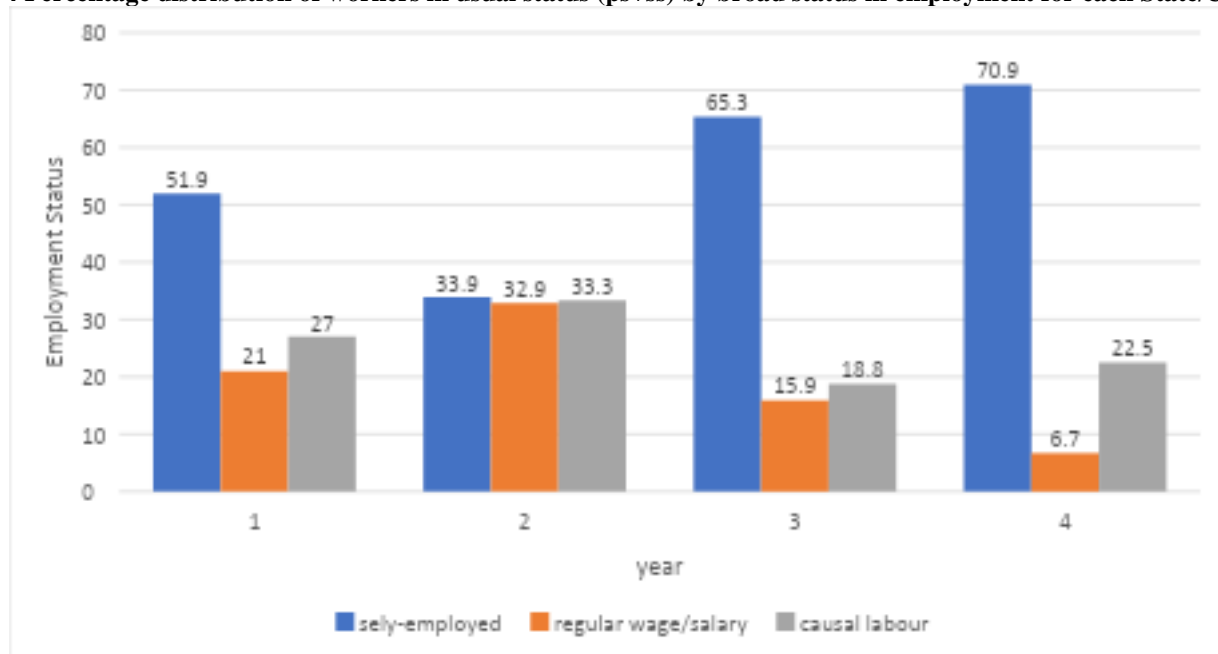
is wage disparity, as the Indian Labour Journal showed that women are paid 75% of men's wages in India. On average, a woman gets paid 34% less than a man. Improved household income spends more on higher education, including vocational and technical education (Santosh Mehrotra, 2017). Which further improve the percentage of female job seekers in non-agricultural sector. Beena Agarwal writes that when government schemes were given solely to men, women were affected worse in the African context. Women worked on the farm to cultivate subsistence food crops and also helped on the farm of their husbands. The cash that husbands get from cultivation is used only for their personal needs like food, clothes, inputs for their fields, etc., with little flow of money to their wives. Another thing she finds in the context of Africa is that men usually get the information on new inputs and training, but women don't.

A study by Dadi has shown that parents found that non-earning children are a burden on their income, so they wished to limit the number of children. The gainful employment of a woman largely depends on the earnings of their husband. This is the reason why wives of rich men are generally involved in housekeeping. Another thing is that modernisation needs skilled labour, and that keeps them at a disadvantaged place (Dadi, 1974). A study in Sudan showed that only 10% of the women were involved in labour because they had overlooked the women's work in agriculture and marketing, as well as tasks like fuel carrying, grain grinding, and oil extraction (Agarwal, 1985). In the 1920s, the Indian census instructions stated that a servant who worked as a cook in his or her employer's home and received wages would be considered economically active. However, a housewife would not be treated as economically active even if she worked much more than a paid servant by cooking for the family or looking after the household.

In six villages in Maharashtra and Andhra Pradesh, it was found that the village in Andhra Pradesh where irrigated paddy was cultivated had the highest FPR. Conversely, the two drought-prone villages in Sholapur had the lowest FPR. Additionally, a study in the West Godavari district of Andhra Pradesh revealed that the FPR in irrigated areas was lower compared to non-irrigated ones. This negative correlation between irrigation and FPR was also observed in a survey of two villages in North Bihar. Her study also demonstrated that the highest FPR was among the poorest who did not have land or buffalos (cattle). She also finds that when prosperity comes in the agriculture sector, some of the women withdraw from the labour market. Rice-growing states have high LFPR, but in the case of West Bengal, female participation was low. In Rajasthan, female participation was four times that of West Bengal. The reason is that in Bengal, men work on the farm, whereas in Rajasthan, women work there. Her study tells that women work only in those circumstances when necessity is there and when the male earnings are not enough to meet the basic needs. (Hirway, 2002.) explains that the women themselves often believe that their work is not that important to be recorded as work. So, it works as an underestimation of the workforce/labour force. In India, work is seasonal and uncertain.

("Trends and determinants of labour force participation in Bihar: insights from PLFS data 2021-22," 2023) conducted a study and found that the state has undergone significant socio-economic transformations, including improvements in education infrastructure and employment opportunities. These transformations have made a profound impact on labour force participation. After conducting the research, he analyses that policymakers should focus on enhancing the quality of education for girls and women through expanding schools, scholarships and awareness campaigns to reduce the general gap.

Figure-4 Percentage distribution of workers in usual status (ps+ss) by broad status in employment for each State/UT



Source: Various rounds of PLFS data

Note: In the above figure, PLFS data for 2017-18 and 2022-23 has been taken for the analysis of the Female employment status of India and Bihar.

In Figure 4, the percentage of **self-employed individuals** increased significantly from 51.9% in 2017-18 to 65.3% in 2022-23 in India. Meanwhile, in Bihar, the rate of self-employed individuals rose dramatically from 33.9% in 2017-18 to 70.9% in 2022-23. Economic initiatives like MGNREGA and Pradhan Mantri Mudra Yojana could be the reason for the increase in self-employed individuals (Rangarajan & Iyer Kaul, 2011). Another reason could be economic distress. After the COVID-19 pandemic, many people left their jobs and visited their native places. Now, they work on their farms, and women help their husbands with farm activities. They are also considered as the labour force (Ray, 2023). In **India**, the percentage of **regular wage/salary** earners decreased from 21% in 2017-18 to 15.9% in 2022-23, and in Bihar, the percentage of regular wage/salary earners dropped sharply

from 32.9% in 2017-18 to 6.7% in 2022-23. Figure 4 shows a shift from regular wage/salary to self-employed. The reason could be the lower wages for their work and gender discrimination in the job market. In addition to COVID-19, they preferred to go to their native places and work in the field rather than be in the city where jobs were stagnant (K. Singh et al., 2019). Sluggish economic growth in certain periods may have led to fewer formal employment opportunities.

The larger decrease in the female WPR is due to state governments' focus on educational initiatives like Balika Cycle Yojna and Mukhyamantri Kanya Utthan Yojna, which increased female enrolment in educational institutions. During this time, Bihar and India saw a noticeable change from self-employment to regular wage or salaried employment. Compared to India, where the percentage of regular wage/salary employment was 4.5%, Bihar experienced a notable growth of 7.7%. Several government initiatives in Bihar, including the Mukhyamantri Mahila Udyami Yojna and Jeevika, have helped to boost the number of women working. This change was also significantly influenced by establishing self-help groups (SHGs) and reservations for women in public institutions. According to PLFS data, female WPR in Bihar improved significantly between 2017-18 and 2022-2023; in rural regions, it increased from 2.6% to 15%, while in urban areas, it increased from 4.3% to 8.3%. Despite this improvement, Bihar's female WPR is still lower than the national average, highlighting the need for ongoing initiatives to increase female labour force participation. Both India and Bihar had a notable increase in the proportion of self-employed people, from 33.9% to 70.9%. Economic programs like the MGNREGA and Pradhan Mantri Mudra Yojna, along with the financial hardship brought on by the COVID-19 pandemic, are to blame for this change. Many individuals were forced to return to their hometowns and take up self-employment. While there has been some progress, data generally indicates that more needs to be done to enhance gender equality in the workforce and establish the conditions necessary for women in Bihar and other regions of India to participate lawfully in and benefit from economic growth.

Indicators suggest that in India, there is a higher gender gap in terms of economic participation and opportunities; India is placed abysmally low at 149 out of 153 countries. Both India and Bihar show the same trend of declining employment opportunities. However, the decline in rural areas is much sharper than in urban areas. WPR of married women with young children under 6 years was observed in Bihar, and it shows that if there are no young children in the household, then the participation rate of women in the labour force is higher in both rural and urban areas. Interestingly, having older parents or elderly members in the household increases the chance of women working in the labour market. 68th round of NSS data also shows that women live in the domestic realm due to compulsion. The reason behind this is that as the fertility rate has decreased so, they want to give a good quality education to their children. So they stay at home, which has been confirmed through the TUS (2019) survey (Sakshamaa, 2020). In India, on average, women spend 6 hours in domestic work, whereas in Bihar, they spend 8 hours in domestic work. It is disheartening that after giving so much of their time to domestic work, they get very little time to participate in paid/employment activities. Most of the time, rural areas go for caregiving, but in urban areas, they can outsource some of this work by hiring domestic help. PLFS data has been published for the first time during 2017-18. It has been widely criticised due to its modified data collection method. The data also deviates from capturing the various dimensions of inequalities, which is also one of the disadvantages. PLFS and EUS (Employment and Unemployment Survey) follow different criteria for selecting sample households (Gulati, 1975). Which is supposed to have a greater impact on data outcomes, particularly when examining socio-economic inequalities.

Conclusion

Among the most important conclusions are that, between 2004-05 and 2011-12, the percentage of women in the workforce decreased in both Bihar and India. The state governments' emphasis on educational programs like Mukhyamantri Kanya Utthan Yojna and Balika Cycle Yojna, which boosted the number of female students enrolled in educational institutions, is the reason for the greater decline in the female WPR. Bihar and India had a discernible shift from self-employment to regular paid or salaried work. In contrast, in India, the proportion of work with a regular wage or salary. Bihar saw a noteworthy increase of 7.7% in regular wage/salary employment compared to 4.5% in India. The Mukhyamantri Mahila Udyami Yojna and Jeevika, two government initiatives in Bihar, have increased the number of working women. The creation of self-help groups (SHGs) and reservations for women in public institutions also had a major impact on this shift. Female WPR in Bihar increased dramatically between 2017-18 and 2022-2023 (PLFS data), rising from 2.6% to 15% in rural areas and 4.3% to 8.3% in urban areas. Despite this gain, Bihar's female WPR is still lower than the national average, underscoring the necessity of further efforts to raise female labour force participation. The percentage of self-employed individuals increased considerably in Bihar and India, rising from 33.9% to 70.9%. This shift results from economic initiatives like the MGNREGA and Pradhan Mantri Mudra Yojna and the financial strain caused by the COVID-19 pandemic.

The trend till 2012 was that female labour force participation in Bihar and India was declining. The sharp decline was between 2004-05 and 2009-10 due to several government schemes (Rangarajan & Iyer Kaul, 2011). Some other historical contexts are that traditional roles and socio-cultural norms have shaped women's participation in the labour force. Studies such as those by (Dadi, 1974) and (Agarwal, 1985) underscore the influence of economic dependency and cultural expectations on women's work choices. For instance, women from richer households often engage less in paid work, focusing instead on household duties, which are viewed as their primary responsibility. States like Maharashtra, Kerala, Tamil Nadu, and West Bengal exhibit higher female labour force participation rates (WPR) due to labour-intensive agricultural practices, as noted in studies by (Gulati, 1975) and (Naidu, 2016). Later on, the sector shifted from the agriculture sector to the manufacturing sector and services sector. However, lower wages and lack of job opportunities for female workers have declined their number in the workforce. Studies by (Hafeez and Ahmad, 2002) and (Klasen & Pieters, 2015) highlight that higher education levels correlate positively with women's entry into the workforce. Education plays a crucial role in influencing the female labour force. However, after gaining education also, due to societal norms and market constraints for female workers, they do not get jobs. (PLFS, 2021-22) shows higher LFPR among younger women compared to rural areas, where agricultural demands and sociocultural norms still dominate.

The study's findings also show that after 2017, the trend of the female labour force changed and started increasing in Bihar and all over India, as shown by the PLFS data. One possible reason could be increased unpaid household workers who live in their homes and help their husbands on the farms (Ray, 2023). According to SNA (System of National Accounting), they are considered as the workforce and that will show the increased employment rate, so there would be low unemployment automatically. According to

PLFS data in Bihar, 37% in the number of 'unpaid workers' increased from 2017-18 to 2022-23, one of the categories under the self-employed. However, all over India, that has increased by 13.4% within the same period. Based on the NSSO and PLFS data, these findings could help policymakers and researchers formulate policies to overcome the challenges. It also has limitations as the data has been taken only from the last two rounds of NSSO and only focused on the female labour force. Due to limited time, it was impossible to analyse all rounds of NSSO. Another thing is that many socioeconomic factors are also not taken into account. This study is limited to females and cannot be generalised for everyone. Despite these limitations, this study makes an important contribution because it explains why the trend changed after the 2017 PLFS data was released.

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