



GOVERNMENT OF INDIA
MINISTRY OF STATISTICS AND PROGRAMME IMPLEMENTATION



NATIONAL STATISTICAL OFFICE (NSO)
FIELD OPERATIONS DIVISION (FOD)
ZONAL OFFICE, LUCKNOW

INTERNSHIP REPORT
WOMEN IN THE INDIAN LABOR FORCE: PLFS ANALYSIS
(9th MAY 2025 – 4th JULY 2025)

SUBMITTED TO

Government of India
Ministry of Statistics & Programme Implementation
National Sample Survey Office
Field Operations Division (FOD)
Zonal Office, Lucknow

SUBMITTED BY

ADEEBA YUSUF
MSc. Statistics
Indian Institute of Technology,
Kanpur (IIT Kanpur)

PREFACE

The internship opportunity that I had at National Statistical Office (NSO), Field Operations division had been an enriching experience for me. I chose this internship to gain real-world experience and hands-on practice in a professional setting. This opportunity provided me with valuable practical knowledge personal growth and professional development. Throughout my internship, I had the privilege of working alongside talented and dedicated professional who generously shared their expertise and guided me in navigating the intricacies of the industry. This exposure has introduced me to useful resources and diverse professionals in my field. This internship allowed me to study and become acquainted with the Official Statistics system in India, including data collection, processing, analysis, publication, and dissemination. It also provided insight into the Indian Statistical Service and Subordinate Statistical Service.

This report reflects my firsthand experience working with the National Sample Survey Office (Field Operations Division) at Lucknow over two months. The preparation of this report was facilitated by interactions with officials and a supportive work environment.

ACKNOWLEDGEMENT

I would like to express my heartfelt gratitude to Shri Manoj Kumar Sir, Deputy Director General, Zonal office, NSO (FOD), Lucknow for granting me the opportunity to undertake an organization with this esteemed organization.

I would also like to extend my sincere gratitude to Shri. Purushottam Verma sir, Director, Shri. Mohammad Tayyab sir, Deputy Director and Smt. Shikha Rai ma'am, Assistant Director for their continuous guidance throughout this internship and giving us their valuable time. Their expertise and encouragement have been instrumental in shaping my understanding of the field.

I am also thankful to the Senior Statistical Officers, Shri. Rupesh Sinha sir (coordination section), Smt. Sonika Rastogi ma'am, Smt. Pooja Singh ma'am, Shri. Ashish Saxena sir, Shri. Vinod Kumar Yadav sir and JSOs and other officers for their complete guidance in various schemes and scrutiny works and generously shared their knowledge, guidance, and support during my internship.

I am overwhelmed to express my gratitude to the entire NSO team for creating a conducive and inclusive environment that fostered learning and skill development. The exposure to real-world projects and challenges has been invaluable, and I am grateful for the trust and responsibility vested in me throughout this journey. This experience has been immensely rewarding and has contributed significantly to my personal and professional growth.

Lastly, I would like to acknowledge my family and friends for their unwavering support and encouragement, without which this internship would not have been possible.

I am honored to have been part of NSO, and I will carry the experiences gained here as a stepping stone towards a promising future.

Yours sincerely,

ADEEBA YUSUF

Table of Contents

About MOSPI	05-10
Household Consumption Expenditure Survey (HCES)	11-12
Annual Survey of Unorganized sector Enterprises (ASUSE)	13-14
Time Use Survey (TUS)	15-16
Price Statistics Survey (PSS)	17-18
Annual Survey of Industries(ASI)	19-20
Periodic Labor Force Survey (PLFS)	21-27
Analysis of Female LFPR	27-30
Future prediction of female LFPR using polynomial model	30-32
State wise comparison of FLFPR	32-37
Wage differences among genders	38-40
Conclusion	41
Experience	42
Bibliography	43

Ministry of Statistics and Programme Implementation

The Ministry of Statistics and Programme Implementation came into existence as an Independent Ministry on 15 October, 1999 after the merger of the Department of Statistics and the Department of Programme Implementation. The Ministry has two wings, one relating to Statistics and the other Programme Implementation.

The Statistics Wing called the National Statistical Office (NSO) consists of:

- a) The Central Statistical Office (CSO)
- b) The Data Informatics & Innovation Division (DIID) and
- c) The National Sample Survey Office (NSSO).

The Programme Implementation Wing has three Divisions, namely

- a) Twenty Point Programme
- b) Infrastructure Monitoring and Project Monitoring and
- c) Member of Parliament Local Area Development Scheme.

Besides these two wings, there is National Statistical Commission created through a Resolution of Government of India (MOSPI) and one autonomous Institute, viz., Indian Statistical Institute declared as an institute of National importance by an Act of Parliament.

The Ministry of Statistics and Programme Implementation attaches considerable importance to coverage and quality aspects of statistics released in the country. The statistics released are based on administrative sources, surveys and censuses conducted by the center and State Governments and non-official sources and studies. The Ministry compiles data sets based on current data, after applying standard statistical techniques and extensive scrutiny and supervision.

The Ministries officials have been associated with international agencies on the development of methodologies, particularly in the areas of national accounts, informal sector statistics, large-scale sample surveys, conduct of censuses, service sector statistics, non-observed economy, social sector statistics, environmental statistics and classifications.

National Statistical office

National Statistics office (NSO) acts as the nodal agency for planned development of the statistical system in the country, lays down and maintains norms and standards in the field of statistics, involving concepts and definitions, methodology of data collection, processing of data and dissemination of results. It coordinates the statistical work in respect of the Ministries/Departments of the Government of India and State Statistical Bureaus (SSBs), advises the Ministries/Departments of the Government of India on statistical methodology and on statistical analysis of data. It prepares national accounts as well as publishes annual estimates of national product, government and private consumption expenditure, capital formation, savings, estimates of capital stock and consumption of fixed capital, as also the state level gross capital formation of supra-regional sectors and prepares comparable estimates of State Domestic Product (SDP) at current prices. It is also responsible for the release of the Index of Industrial Production (IIP) every month in the form of 'quick estimates' and conducts various large scale all-India sample surveys to provide statistical information to assess and evaluate the changes in the growth, composition and structure of the sector.

NSO also assist the other ministries by examining the survey reports from the technical angle and evaluating the sampling design including survey feasibility studies in respect of surveys conducted by the National Sample Survey Organizations and other Central Ministries and Departments.

NSO is responsible for dissemination of statistical information on various aspects through a number of publications distributed to Government, semi-Government, or private data users/agencies; and disseminates data, on request, to the United Nations agencies like the UNSD, the ESCAP, the ILO and other international agencies.

Programme Implementation Wing

Programme implementation (PI) wing monitors the Twenty Point Programme (TPP). A package of programmes comprising schemes relating to poverty alleviation, employment generation, education and health etc. called Twenty Point Programme (TPP-86), has been in operation since 1975. This programme was restructured in 1982, 1986 and again in 2006. The restructured programme known as Twenty Point Programme (TPP)-2006, became operational with effect from 1st April, 2007. The Programme is meant to give a thrust to schemes relating to poverty alleviation, employment generation in rural areas, housing, education, family welfare & health, protection of environment and many other schemes having a bearing on the quality of life, especially in rural areas.

It also monitors the performance of the country's 11 key infrastructure sectors, viz., Power, Coal, Steel, Railways, Telecommunications, Ports, Fertilizers, Cement, Petroleum & Natural Gas, Roads and Civil Aviation (IPMD).

The monitoring of all Central Sector Projects costing ₹150 crore and above is carried out by Programme implementation wing. Additionally, the implementation of the Members of Parliament Local Area Development Scheme (MPLADS) is also monitored by it.

The Administration Division, among other responsibilities, functions as the Cadre Controlling Authority for managing the Indian Statistical Service (ISS) and the Subordinate Statistical Service (SSS), overseeing matters such as training, career progression, and manpower planning. Furthermore, it serves as the nodal Ministry for the Indian Statistical Institute (ISI), ensuring its operations are in accordance with the provisions of the Indian Statistical Institute Act, 1959.

National Sample Survey Office (NSSO)

The **National Sample Survey Office (NSSO)** is a crucial wing of the **National Statistical Office (NSO)**. It plays a central role in India's statistical system by designing and executing large-scale sample surveys that gather vital socio-economic data from across the country. These surveys form the empirical foundation for evidence-based policymaking, academic research, and economic planning. To ensure the efficiency, accuracy, and reliability of this vast data collection operation, the NSSO is organized into four major divisions, each with distinct responsibilities and interdependent functions.

Survey Design and Research Division (SDRD)

The **SDRD** is at the heart of the NSSO's technical and methodological expertise. Its primary function is to develop robust survey methodologies and statistical designs tailored to the objectives of various socio-economic surveys. This division formulates the **sampling design**, determines the **sample size**, and prepares **survey schedules and questionnaires** based on thorough research and pilot testing.

It undertakes pilot studies to assess the feasibility and effectiveness of survey instruments and sampling methods, ensuring they are capable of capturing complex and nuanced data in diverse field conditions. Additionally, the SDRD performs regular research to improve survey techniques, evaluate alternative methodologies, and adopt international best practices. Its work ensures that the surveys are both statistically sound and contextually appropriate, capturing a true reflection of ground realities.

This division also collaborates with subject-matter experts, ministries, and academic institutions to revise and upgrade survey content in line with evolving data needs. By ensuring methodological rigor, the SDRD lays the foundation for the credibility and utility of NSSO's data products.

Data Processing Division (DPD)

Once the field data is collected, it is transferred to the Data Processing Division (DPD), which is responsible for converting raw data into usable datasets through a comprehensive and meticulous process. This division handles data entry, validation, editing, tabulation, and processing.

It ensures that errors and inconsistencies in data are identified and corrected using a series of checks and logical validations. By applying automated data cleaning techniques and advanced statistical tools, the DPD plays a key role in maintaining data quality and integrity. The division also develops software tools and customized IT solutions to streamline data processing and reduce turnaround time.

Moreover, the DPD is responsible for preparing final datasets and statistical tables, which are then used for publication and further analysis. Its work supports the timely release of survey results and ensures that the processed data is consistent, reliable, and fit for use by policymakers, researchers, and government bodies.

Coordination and Publication Division (CPD)

The Coordination and Publication Division (CPD) acts as a bridge between the different divisions of NSSO and ensures the smooth execution and dissemination of survey outcomes. This division coordinates the various stages of survey operations, including scheduling, logistics, inter-divisional communication, and stakeholder engagement.

A core responsibility of the CPD is the publication and dissemination of survey findings. It manages the preparation of survey reports, analytical articles, data briefs, and statistical compendiums. These outputs are released through both print and digital platforms, ensuring widespread accessibility. The CPD ensures that survey results are released in a timely, transparent, and structured manner, aligning with the broader goal of enhancing data transparency and public accountability.

The division also plays an important role in capacity building, communication, and outreach, helping other government departments and users understand and utilize NSSO's data. It liaises

with national and international organizations to uphold NSSO's reputation as a reliable source of official statistics and promotes data literacy among end users.

Field Operations Division (FOD)

The Field Operations Division (FOD) is the operational backbone of the NSSO. It is tasked with managing and executing the fieldwork component of all surveys conducted under NSSO's purview. With a widespread infrastructure comprising regional, sub-regional, and field offices across the country, the FOD ensures comprehensive geographic coverage and inclusivity in the data collection process.

The division is responsible for recruiting, training, and deploying field investigators and supervisors who physically collect data from households, enterprises, institutions, and individuals. These trained personnel follow rigorous data collection protocols, adhering to the sampling designs and schedules laid out by the SDRD. They use both traditional and modern tools, including digital devices and computer-assisted personal interviewing (CAPI) systems, to enhance the accuracy and efficiency of field surveys.

The FOD also monitors field operations closely to ensure timely data collection, adherence to quality standards, and immediate redressal of any field-level issues. It provides real-time feedback to improve survey implementation and ensure uniformity across diverse survey environments. This division plays a critical role in upholding the credibility, reliability, and representativeness of NSSO data by minimizing non-sampling errors and maintaining field discipline

Household Consumption Expenditure Survey (HCES)

The Household Consumption Expenditure Survey (HCES) is designed to collect information on consumption and expenditure of the households on goods and services. It helps to understand the consumption and expenditure pattern, standard of living and well-being of the households. HCES collects detailed information on the consumption patterns and expenditure of households. It provides insights into how households allocate their spending across various goods and services. This data is crucial for understanding living standards, poverty levels, and the impact of price changes on consumption.

The primary objective of the HCES is to gather data on the quantity and value of consumption of goods and services by households. This data plays a critical role in:

- Estimating poverty and inequality levels.
- Understanding the standard of living of different population groups.
- Providing the basis for updating the Consumer Price Index (CPI) weights.
- Informing economic and social policy formulation at both central and state levels.
- Estimating national accounts aggregates, such as the Private Final Consumption Expenditure (PFCE) in GDP.

The consumption basket of items is divided into three broad categories, namely,

- (i) Food items,
- (ii) Consumables and Services items, and
- (iii) Durable goods

The Household Consumption Expenditure Survey is generally conducted every **five years** as part of the **National Sample Survey (NSS)** rounds. The first such survey was conducted in **1950-51**, and since then, it has become a cornerstone of socio-economic data collection in India. There was no published HCES data from the **75th round (2017-18)** due to concerns about data quality and representativeness. The next major survey was conducted in **2022-23**, and the results were released in **June 2024**, after more than a decade-long gap.

Thereafter, three separate questionnaires, namely, Questionnaire: FDQ, Questionnaire: CSQ and Questionnaire: DGQ covering the three categories is designed and canvassed in the selected households in three separate monthly visits in a quarter. Another questionnaire, viz., Questionnaire: HCQ has been used to collect information on household characteristics and demographic particulars of the members of the households. All possible six sequencing of the three questionnaires are used in the survey to eliminate any bias due to adoption of any particular sequencing of the questionnaires.

A multistage stratified sampling design, considering villages/urban blocks as the first stage units is used in the survey. The households are the ultimate stage units. Simple Random Sampling Without Replacement (SRSWOR) method is used for selecting the sample. A total of 18 households with proportional representation from three groups formed on the basis of (i) land possessed in rural areas and (ii) possession of car in urban areas as on the date of the survey have been selected in each sample village/urban block.

It then calculates Monthly Per Capita Consumption Expenditure (MPCE) at national level as well as at the state level.

The HCES is conducted through a nationally representative sample, covering both rural and urban areas across all states and union territories. A stratified multistage sampling design is used:

- In rural areas, villages serve as the first-stage units (FSUs), and households as the ultimate-stage units (USUs).
- In urban areas, urban blocks are the FSUs.

Annual Survey of Unorganized Sector Enterprises (ASUSE)

The role of unincorporated enterprises in the Indian economy is very important and accordingly, a need was felt to design an annual survey covering the unincorporated non-agricultural enterprises of the country. This necessitated NSSO to develop the idea of Annual Survey of Unincorporated Sector Enterprises (ASUSE) for exclusively measuring various economic and operational characteristics of unincorporated nonagricultural establishments in manufacturing, trade and other services sector (excluding construction). ASUSE gathers data on the unorganized sector, which includes small and informal enterprises. The survey covers aspects such as business performance, employment levels, and financial conditions. It helps in assessing the contribution of the unorganized sector to the economy and understanding its challenges.

In Indian economy, unincorporated sector is important because of the existence of large number of establishments in this sector and the magnitude of employment it provides, besides its contribution to Gross Domestic Product of the country. Broadly, this unincorporated sector also covers the informal sector enterprises. The necessity for comprehensive data pertaining to unincorporated sector including informal sector for planning and policy formulations needs no emphasis.

ASUSE is an integrated survey capturing economic and operational characteristics of unincorporated non-agricultural enterprises in manufacturing, trade and other services sectors (excluding construction) in order to supplement the corporate sector data. This helps in compilation of National Accounts Statistics. It also helps in meeting the requirements of different Ministries, such as, Ministry of Micro, Small and Medium Enterprises (MSME), Ministry of Textile, Ministry of Labour and Employment, etc., organizations and users, in general.

Geographically, ASUSE covers the rural and urban areas of whole of India (except the villages in Andaman and Nicobar Islands, which are difficult to access). Sector-wise, this survey captures unincorporated non-agricultural establishments belonging to three sectors viz., Manufacturing, Trade and Other Services. Ownership-wise, unincorporated non-agricultural establishments pertaining to proprietorship, partnership (excluding Limited Liability Partnerships), Self-Help Groups (SHG), co-operatives, societies/trusts etc. have been covered in ASUSE.

The survey is conducted following a multi-stage stratified sampling scheme, where first stage units (FSUs) are census villages in rural and UFS (Urban Frame Survey) blocks in urban areas. The ultimate stage units (USUs) are establishments for both the sectors. In case of large FSUs, one intermediate stage of sampling is done in the form of hamlet-groups in rural and subblocks in urban.

Time Use Survey (TUS)

Time Use Survey (TUS) provides a framework for measuring time dispositions by the population on different activities. It is an important source of information about the activities that are performed by the population and the time duration for which such activities are performed. One distinguishing feature of the Time Use Survey from other household surveys is that it can capture time disposition on different aspects of human activities, be it paid, unpaid or other activities with such details which is not possible in other surveys.

India is among the few countries, including Australia, Japan, the Republic of Korea, New Zealand, USA and China that conduct the National Time Use Survey to analyze how people allocate their time to various daily activities. The primary objective of the Survey is to measure the participation of men and women in paid and unpaid activities. TUS is an important source of information on the time spent in unpaid caregiving activities, volunteer work, and unpaid domestic service-producing activities of the household members. It also provides information on time spent on learning, socializing, leisure activities, self-care activities, etc., by the household members.

The National Statistics Office (NSO), MoSPI conducted the first all-India Time Use Survey during January – December 2019. The present TUS conducted during January – December 2024 is the second such All-India Survey.

In TUS, 2024, respondents were asked about their activities performed in the designated time slots of 30 minutes and the same was recorded against the corresponding slot. In case of multiple activities in a time slot, a maximum of three activities which were performed for 10 minutes or more, were recorded. Information on time use was collected for persons aged 6 years and above with a reference period of 24 hours.

In this survey data on time use was collected through CAPI (Computer-Assisted Personal Interviews). Information on time use was collected with a reference period of 24 hours

starting from 4:00 AM on the day before the date of the interview to 4:00 AM on the day of the interview

Major Indicators:

- **PARTICIPATION RATE:** Participation rate in a day in any activity is calculated as the percentage of persons performing that activity during the day.
- **AVERAGE TIME SPENT IN A DAY PER PARTICIPANT:** The average time spent in a day per participant for any activity is calculated by considering those who participated in the activity. Estimates of average time in a day in different activities derived by considering only the participants in the activities are referred to as average time spent in a day per participant.
- **AVERAGE TIME SPENT IN A DAY PER PERSON:** The average time spent in a day per person for any activity is calculated by considering all the persons irrespective of whether they participated in the activity or not. By this approach, the distribution of the total time of 1440 minutes of a day per person in different activities is derived.

TUS collects data on how individuals allocate their time across different activities, such as work, household chores, and leisure. It provides valuable insights into daily routines, work-life balance, and the distribution of unpaid labor. This data is useful for understanding socio economic patterns and making informed policy decisions.

Price Statistics survey

The Price Statistics Survey (PSS) is a key statistical operation conducted under the aegis of the National Statistical Office (NSO) to collect data on the prices of goods and services consumed by households and used in production. These surveys form the backbone of India's official price indices, such as the Consumer Price Index (CPI) and the Wholesale Price Index (WPI), which are crucial for measuring inflation, guiding monetary policy, and determining cost-of-living adjustments.

The primary aim of the Price Statistics Survey is to collect reliable, regular, and representative price data from different regions of the country to:

- Construct and update price indices such as CPI, WPI, and Producer Price Index (PPI).
- Monitor inflation trends at national and sub-national levels.
- Assess the impact of price changes on different consumer groups (e.g., rural/urban, industrial/agricultural).
- Feed into the computation of national accounts aggregates, particularly in the expenditure and income approaches of GDP estimation.
- Inform government decisions related to wages, pensions, subsidies, and fiscal policy.

Various type of price indices supported by PSS are:

- ☐ Consumer Price Index (CPI): CPI (Rural), CPI (Urban), and CPI (Combined) are constructed based on retail prices collected from select markets across the country.
- ☐ Wholesale Price Index (WPI): Compiled by the Office of the Economic Adviser, Ministry of Commerce and Industry, but relies on primary price data inputs collected by NSO.
- ☐ Index Numbers of Agricultural Prices, Producer Price Index (in development), and Price Indices for Services Sectors.

CPI measures the average change in prices paid by consumers for a basket of goods and services. It tracks inflation and helps in understanding the cost of living. CPI data is used for adjusting wages, pensions, and for economic policy-making. The Consumer Price Index (CPI) in India is a measure of the average change over time in the prices paid by consumers for a

basket of consumer goods and services. It is a key indicator of inflation and is used by the government and the Reserve Bank of India (RBI) to monitor price stability and formulate monetary policy. The CPI is compiled and released monthly by the Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation (MOSPI).

Key aspects of the Indian CPI:

- **Purpose:**

The CPI reflects the change in retail prices of goods and services consumed by households. It serves as a macroeconomic indicator of inflation, a tool for inflation targeting by governments and central banks, and as a deflator in national accounts.

- **Components:**

The CPI basket includes a wide range of items, categorized into groups like food and beverages, fuel and light, housing, clothing and footwear, and miscellaneous items.

- **Base Year:**

The CPI is calculated with a base year for comparison. The current base year is 2011, which is set to be revised to 2024.

- **Weighting:**

The CPI uses a weighting diagram based on household expenditure patterns to reflect the relative importance of different items in the consumption basket.

In addition to the general CPI, there are also specific CPI series for:

- **Industrial Workers (IW)**: Compiled by the Labour Bureau.
- **Agricultural Labourers/Rural Labourers**: Compiled by the Labour Bureau.
- **Urban Areas (UNME)**: Compiled by the CSO.

Revenue and Price Census (RPC) RPC collects data on revenue and pricing across different sectors. It provides insights into price trends and revenue generation in various industries. This information is useful for economic monitoring and for setting policies related to pricing and revenue management.

Annual Survey of Industries (ASI)

The industrial sector is one of the important sectors of the Indian economy and hence compilation of industrial statistics assumes a crucial importance, both for research and policy-making. The Annual Survey of Industries (ASI) is the principal source of Industrial Statistics in India. Till ASI 2009-10, the survey was conducted annually under the statutory provisions of the Collection of Statistics Act 1953 and Rules framed there under in 1959 except in the State of Jammu & Kashmir where it is conducted under the Jammu & Kashmir Collection of Statistics Act 1961 and Rules framed there under in 1964.

From ASI 2010-11 onwards, the survey is being conducted annually under the statutory provisions of the Collection of Statistics (COS) Act, 2008 and the rules framed there-under in 2011 except in the State of Jammu & Kashmir where it is being conducted under the J&K Collection of Statistics Act, 2010 and rules framed thereunder in 2012. The Collection of Statistics Act, 2008 has been amended in 2017 as Collection of Statistics (Amendment) Act, 2017 which extends the coverage to All India.

The ASI extends to the entire country. It covers all factories registered under Sections 2(m)(i) and 2(m)(ii) of the Factories Act, 1948, where the manufacturing process is defined under Section 2(k) of the said Act. The survey also covers Bidi and cigar manufacturing establishments registered under the Bidi and Cigar Workers (Conditions of Employment) Act 1966. All electricity undertakings engaged in generation, transmission and distribution of electricity, not registered with the Central Electricity Authority (CEA) are also covered under ASI. However, defence establishments, oil storage and distribution depots, departmental units such as railway workshops, RTC workshops, Govt. Mints, sanitary, water supply, gas storage etc. are excluded from the purview of the survey.

The primary unit of enumeration in the survey is a *factory* in the case of manufacturing industries, a *workshop* in the case of repair services, an *undertaking* or a licensee in the case of electricity, gas and water supply undertakings and an establishment in the case of bidi and cigar industries.

The ASI frame is based on the lists of registered factories / units maintained by the Chief Inspector of Factories in each State and those maintained by registration authorities in respect of bidi and cigar establishments and electricity undertakings. The frame is revised/ updated every year by the Field Operations Division of NSSO in consultation with the Chief Inspector of Factories in the States online through the ASI Web Portal.

For the purpose of frame, only those establishments, which are employing 10 or more workers with power or 20 or more without power, are to be entered in the frame.

The collection and dissemination of ASI data, on a regular basis, is of vital importance. It provides data on various vital aspects of the registered factories for use in the estimation of National Income, studies of industrial structure and policy formulation. Some of the important indicators generated based on ASI are number of factories, employment, wages, invested capital, capital formation, input, output, depreciation and value added on an annual basis.

Periodic Labor force survey

Introduction

The Periodic Labour Force Survey (PLFS) is a flagship initiative by the **National Statistics Office (NSO)** under the **Ministry of Statistics and Programme Implementation (MoSPI)**, **Government of India**. PLFS was launched in 2017 with an objective of generating timely and comprehensive data on various aspects of the labour force, employment, and unemployment in both rural and urban sectors of India.

Prior to PLFS, employment-unemployment data in India were primarily sourced from major employment and unemployment survey conducted every five years. These five-year interval surveys were comprehensive but not frequent enough to track rapidly changing labor trends thus, PLFS was introduced to provide more frequent, granular and dynamic information to support evidence-based policy making and monitor emerging labor market trends.

PLFS collects extensive information on employment status, workforce participation, industry and occupation details, educational qualifications, vocational training, earnings from regular wages and self-employment and hours worked. The use of sampling weights or multipliers in PLFS ensures that the survey findings are representative at the national and state levels. Each record in the dataset is assigned a weight reflecting its population representation, which is essential for calculating aggregate statistics.

Objective of the survey

The objectives of PLFS are to generate estimates of the key labour market indicators viz. Labour Force Participation Rate (LFPR), Worker Population Ratio (WPR) and Unemployment Rate (UR) in the Current Weekly Status (CWS) at all-India level, separately for rural and urban sectors at monthly intervals and for all State/UTs as well as all India with rural and urban bifurcation at quarterly intervals.

In addition, provision for generation of district level annual estimates of the three key labour force indicators, separately for rural and urban areas for most of the districts has been kept in PLFS for the concerned State / UT to generate these district level estimates by combining the PLFS sample canvassed by National Statistical Office with the PLFS sample surveyed by respective State DES or planning department.

PLFS provide estimates of the following through the **Monthly and Quarterly Bulletins**

- LFPR, WPR and UR in CWS,
- Distribution of Workers in CWS by broad status in employment / broad industry of work.

Detailed estimates of various labour market indicators separately for age group, gender, level of education, etc., for both rural and urban areas is published annually in the form of an Annual Report. Besides the estimates of employment and unemployment indicators in usual status (ps + ss), some indicators are also published according to current weekly status (CWS).

The indicators released in the **Annual Reports of PLFS** include the following:

- Labour Force Participation Rate (LFPR), Worker Population ratio (WPR) and Unemployment Rate (UR),
- Distribution of workers by status in Employment,
- Distribution of workers by industry of work as National Industrial Classification (NIC)-2008,
- Distribution of workers by occupation as National Classification of Occupation (NCO)-2015,
- Employment in Informal Sector and conditions of employment,
- Earnings from employment,
- Number of days worked in a week.

Geographical coverage of the survey

The survey covers the whole of the Indian Union except the villages in Andaman and Nicobar Islands which remain extremely difficult to access throughout the year.

Sample design of the survey

The Periodic Labour Force Survey follows a scientifically designed stratified multi-level sampling approach.

Sampling Framework

The sampling frame is based on the latest census frame and includes **First Stage Units (FSUs)**. For urban sector it is the list of Urban Frame Survey (UFS) blocks as per latest Urban Frame Survey and for rural sector, it is the list of villages as per Census 2011 updated by removing those villages which are urbanized and included in latest UFS (till the time of sample selection).

For large villages/UFS blocks they are notionally divided into smaller units of more or less equal size, known as **sub-units (SUs)** depending on a pre-defined criteria based on population in the village or number of households in the UFS block.

The number of SUs to be formed in the **villages** (with Census 2011 population of 1000 or more and except some States/UTs) is decided based on projected present population of the village. The criteria for the formation of the SUs are given below:

Projected Population of the village	Number of SUs to be formed
less than 1200	1
1200 to 2399	2
2400 to 3599	3
....

Sub-units are formed in the **UFS blocks** with number of households 250 or more. The number of SUs to be formed within the UFS blocks is decided by the following criteria:

Number of Households in UFS Block	Number of SUs to be formed
less than 250	1
250 to 499	2
500 to 749	3
....

Thus, the list of villages / UFS blocks / sub-units (for those villages or UFS blocks where sub units are formed within) together formed the sampling frame for selection of the First Stage Units.

Formation of sub division

If in some of the selected FSU, present population is higher than the projected population in such case the selected FSU is notionally sub-divided into several smaller units, called Sub-division. The criteria for determining the number of Sub-divisions to be formed in the selected rural /urban FSU is given below:

Approx. present population of the selected SU	Number of sub-divisions to be formed
less than 1500	1
1500 to 2399	2
2400 to 3599	3
....

Only one Sub-division is selected randomly after forming the required number of Sub-divisions. Further, listing and selection of households are done in the selected Sub-division unit only.

Formation of Second stage strata (SSS)

Second Stage Strata (SSS) in each FSU is formed based on the number of members in each household who have completed secondary level of education considering general type of education. In urban FSUs, 4 SSS are formed, while 3 SSS are formed in rural areas. A total of 12 households will be surveyed from each of the selected FSUs. Allocation of the sample households among the SSS and criteria for the formation of SSSs are given in the following table.

Rural			
SSS	Composition of SSS	Number of persons	Number of households to be surveyed
1	Number of members in the household having a level of general education as secondary (10th standard) or above	2 or more	4
2		1	6
3		0	2

Urban			
SSS	Composition of SSS	Number of persons	Number of households to be surveyed
1	Number of members in the household having a level of general education as secondary (10th standard) or above	3 or more	4
2		2	4
3		1	2
4		0	2

Selection of Households

The sample households from each SSS are selected by the SRSWOR scheme. 12 households are selected in each FSU.

Labour Force

Labour force refers to the ‘economically active’ population that includes both ‘employed’ and ‘unemployed’ persons. Estimates of the labour force used are obtained based the usual status (ps+ss) approach, i.e., by considering usual principal and subsidiary activity together. The labour force according to the usual status (ps+ss) is obtained by considering the usual principal status and the subsidiary status together.

The estimate of the labour force in the usual status (ps+ss) includes:

- (a) the persons who either worked or were seeking/available for work for a relatively long part of the 365 days preceding the date of survey and
- (b) those persons from among the remaining population who had worked at least for 30 days during the reference period of 365 days preceding the date of survey.

Usual activity status: The usual activity status relates to the activity status of a person during the reference period of 365 days preceding the date of survey. The activity status on which a person spent relatively long time (major time criterion) during the 365 days preceding the date of survey is considered as the usual principal activity status of the person. To decide the usual principal activity of a person, he/ she is first categorized as belonging to the labour force or not, during the reference period on the basis of major time criterion. Persons, thus adjudged as not belonging to the labour force are assigned the broad activity status 'neither working nor available for work'. For the persons belonging to the labour force, the broad activity status of either 'working' or not working but seeking and/ or available for work is then ascertained again on the basis of the relatively long time spent in the labour force during the 365 days preceding the date of survey. Within the broad activity status so determined, the detailed activity status category of a person pursuing more than one such activity is determined again on the basis of the relatively long time spent criterion.

Subsidiary economic activity status: Persons might also pursue, in addition to his/her usual principal status, some economic activity for 30 days or more during the reference period of 365 days preceding the date of survey. The status in which such economic activity was pursued

during the reference period of 365 days preceding the date of survey is the subsidiary economic activity status of the person. In case of multiple subsidiary economic activities, the major activity and status based on the „relatively long time spent“ criterion is considered.

Labour Force Participation Ratio (LFPR)

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

$$\text{LFPR} = \frac{(\text{no. of employed} + \text{no. of unemployed persons})}{\text{Total population}} * 100$$

Analyzing Female Labor Force Participation Ratio (FLFPR)

The Female LFPR is a key labour market indicator that measures the percentage of women aged 15 years and above who are either employed or actively seeking employment. Figure 1 shows the annual trends of FLFPR from 2017 to 2024.

Over the period shown, the female LFPR exhibits notable fluctuations. From 2017–18 to 2019–20, the participation rate rose from 36.9% to 40.1%, suggesting a growth of almost 8.67% of women in the workforce during this phase. However, this upward trend is abruptly reversed in 2020–21, when the LFPR dropped sharply to around 25.1%, a decline of almost 37% and remained nearly stagnant through 2021–22. This significant decline coincides with the COVID-19 pandemic and the associated lockdowns, which may have disproportionately impacted female employment due to increased domestic burdens, disruptions in informal sector jobs, and mobility restrictions. The recovery phase begins in 2022–23 with a gradual rise to 27.9%, followed by a further increase to 32.2% in 2023–24.

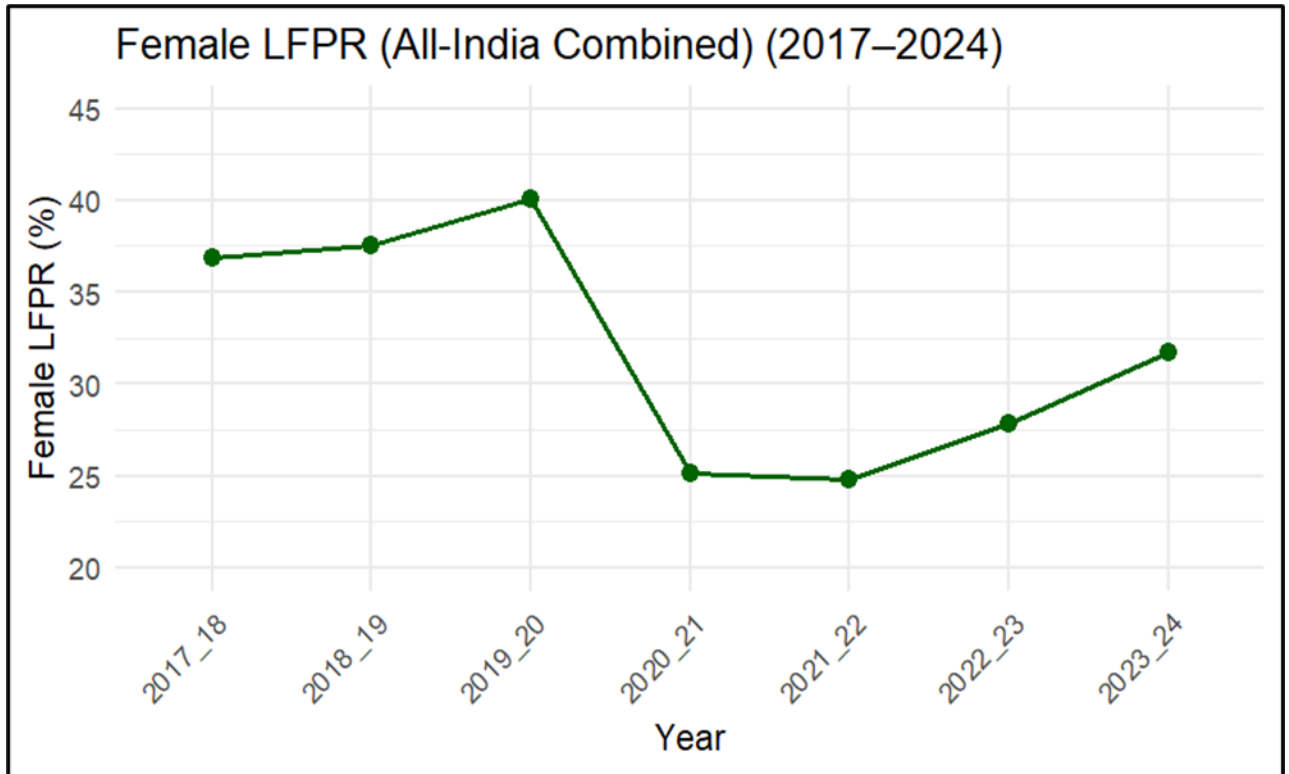


Figure 1: Female LFPR trends at all India level

Figure 2 provides a comparative overview of the Female Labour Force Participation Rate (LFPR) in rural and urban India based on usual status (ps+ss) over the past three decades. The figures for the years before 2017 are obtained from quinquennial Unemployment – Employment survey (EUS).

The data reveals a persistent disparity between rural and urban participation rates, with rural women consistently showing higher engagement in the labour force than their urban counterparts.

It reports the changes in the female labour force participation rate (LFPR) from 1993-94 to 2023–24 for the rural and urban sector. In the rural sector the estimated female LFPR increased from 33.0% in 1993–94 to 35.5% in 2023–24, a growth of only 7.5% in last 30 years. In urban areas, the female LFPR increased from 16.5% to 22.3% during the same period, a growth of nearly 35%.

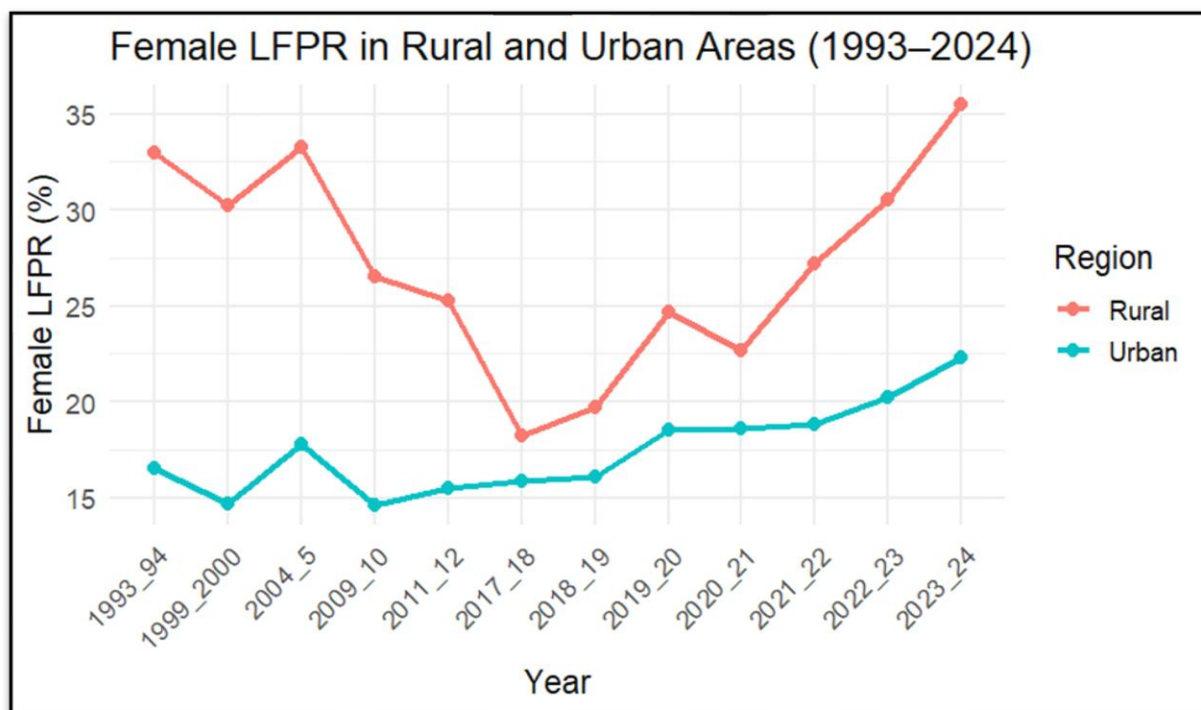


Figure 2: Comparison of female LFPR in urban and rural region

In rural areas, the Female Labour Force Participation Rate (LFPR) stood at over 32% in 1993–94 but gradually declined to around 18.2% by 2017–18. One possible explanation for this decline is the reduction in women’s involvement in agricultural activities. In 1993, approximately 84.7% of rural working women were engaged in agriculture, which fell to 76.9% by 2023–24. Although a large proportion of rural women have traditionally been employed in agriculture, increasing mechanization and the lack of alternative non-farm employment opportunities have pushed many women out of the labour market entirely, rather than into unemployment.

This trend is supported by data from the Cost of Cultivation (CoC) survey, which report a consistent decline in labour use in crop cultivation over time, with the rate of decline being particularly sharp during the period from 2011–12 to 2016–17 for both men and women. The following table shows change in labor use required per hectare of field since 1993.

Year	Average labour use (Hrs./ha)		
	Male	Female	Total
1993-94	455	246	701
2004-05	419	223	642
2011-12	412	220	632
2016-17	366	189	555

However, extensive research is required to know the cause of the decline.

Since 2018–19, a noticeable recovery is observed, culminating in a significant rise to 35.5% by 2023–24.

In contrast, urban female LFPR remained relatively low and stable throughout the period, ranging between 14% and 17% until 2018–19. It began to increase gradually after 2019–20, reaching 22.9% in 2023–24.

Female LFPR for both rural and urban areas for the year 2023-24 is highest among all the years since 1993 with 35.5% and 22.3% for rural and urban areas respectively.

The nadir FLFPR for rural area was recorded in the year 2017-18 with 18.2%.and for urban areas it was in 2004-05 with 14.6%.

Future Predictions for Female LFPR using polynomial model

To estimate the female Labour Force Participation Rate (LFPR) for the year 2024–25, a polynomial regression approach is employed due to its flexibility in capturing non-linear trends commonly observed in socio-economic time series data.

The fitted polynomial for rural sector is:

$$y = 41.08 - 5.74x + 0.43x^2$$

And the fitted polynomial for urban sector is:

$$y = 16.88 - 0.69x + 0.09x^2$$

Sector	Predicted FLFPR for the year 2024-25	Mean Absolute Percentage Error (MAPE)
Rural	39.64%	8.02%
Urban	23.68%	2.50%

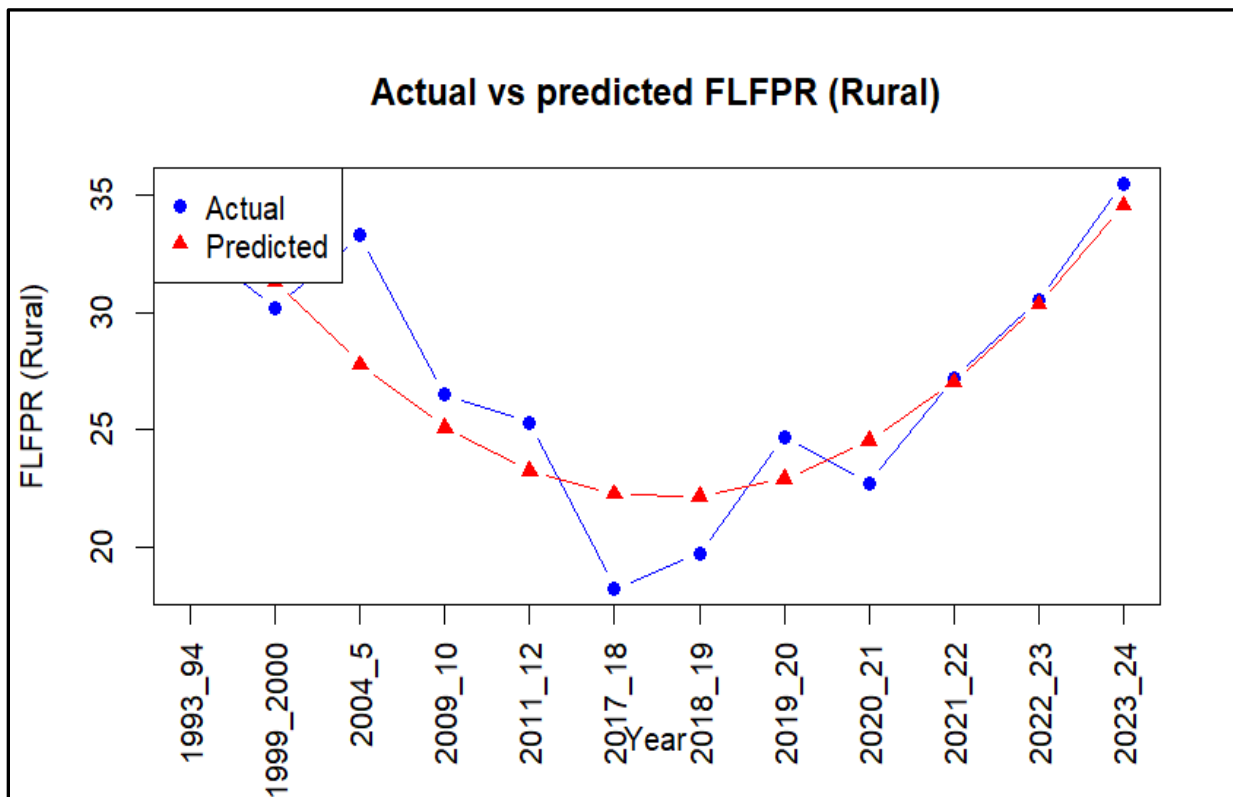


Figure 3: Actual vs predicted FLFPR (Rural)

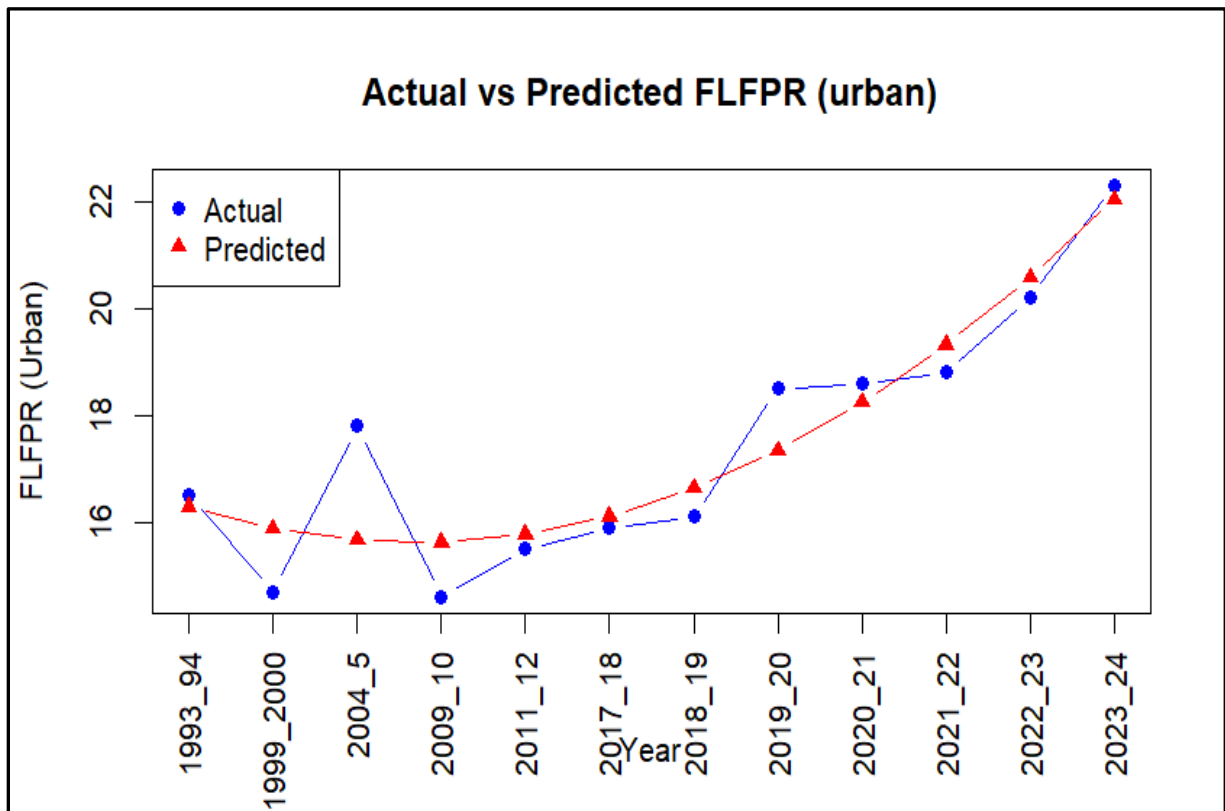


Figure 4: Actual vs predicted FLFPR (Urban)

Change in FLFPR across States and Union Territories from 2021–22 to 2023–24

Northern and Central Region: Haryana has seen the highest growth in rural areas among other north-central states with 16.1 of FLFPR in 2022-23 to 20.2 it has seen a growth of almost 25.5% in a year. Himachal Pradesh has shown a decline in FLFPR of 3.1%. Punjab, Uttarakhand, Madhya Pradesh and Uttar Pradesh have seen a modest growth of 22.0%, 19.4%, 16.7%, 12.4% respectively. We also observed that in Punjab and Haryana, female LFPR is typically lower than in other states in the region.

In urban areas, the female LFPR has shown a modest increase between 2022–23 and 2023-24 across all states, except Punjab where it has had a decline of 5.9% and Chhattisgarh where FLFPR remained same. Uttarakhand had the highest growth among all states and UTs of about

48.8% in urban areas. Madhya Pradesh, Rajasthan, Uttar Pradesh, Jammu and Kashmir also have high growth in a year with 30.4%, 26.3%, 17.3% of growth respectively. Haryana and Uttar Pradesh have the least FLFPR in the region.

Delhi has observed the remarkable growth in its FLFPR in both Urban and Rural area with the highest growth of 375.9% shown in Rural area than any other State/Union Territory.

Ladakh's FLFPR decreased from 2022-23 to 2023-24 in both rural and urban area of 1.7% and 25.7%. Ladakh has historically higher LFPR in rural areas

Eastern region: Bihar's FLFPR in both rural and urban area have been very less in the past years but it has seen a more pronounced growth than any other eastern states with 39.7% and 30.4% of growth respectively. West Bengal, Jharkhand and Odisha have almost comparable growth in both Rural and Urban areas with each other (FLFPR growth in Rural areas of west Bengal, Jharkhand and Odisha is 19.1%, 12.5%, 12.3% respectively and for urban areas it is 17.0%, 14.5% and 11.9% respectively).

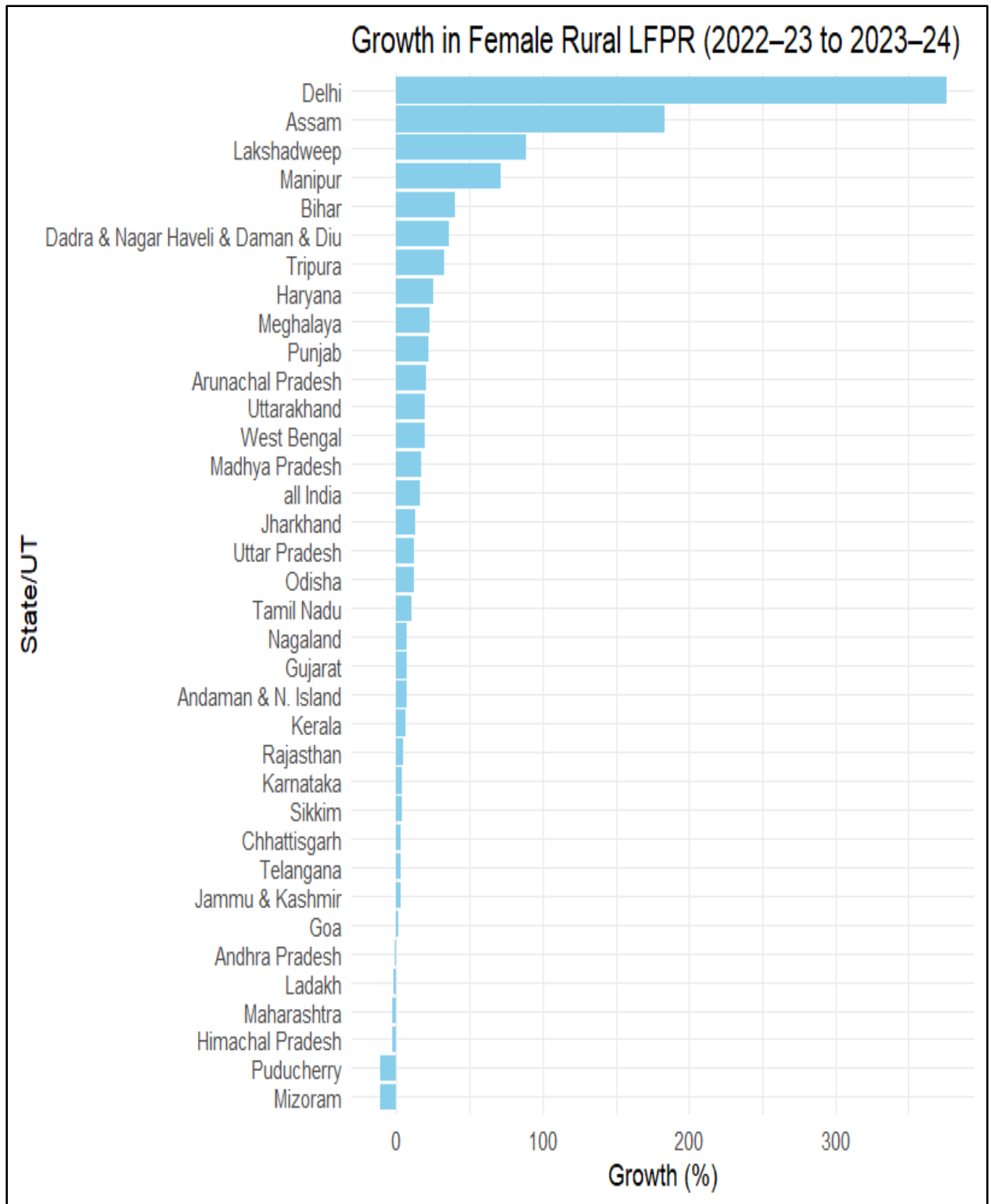
North-East Region: In rural areas, we observed a significant increase in female LFPR from 2022–23 to 2023–24 in Assam (growth of 183%) and Manipur (growth of 71.4%), while in Sikkim, which has historically had a higher female LFPR, there has been little change during the same period. For Tripura and Meghalaya, we observed a significant increase in female whereas Mizoram observed a decline of 11.1%.

In urban areas, the most significant increase in the female LFPR has been for Manipur which has third highest growth (71.4%) among all other state/UTs. Arunachal Pradesh, Meghalaya, Tripura, Assam and Nagaland had a significant increase of 21.5%, 23.0%, 10.7%, 4.9% and 3.2% respectively. Mizoram and Sikkim had the decline in FLFPR from 2022-23 to 2023-24 of 2.3% and 3.3%.

West and Southern Region: In the rural areas, except for Puducherry, Maharashtra and Andhra Pradesh we observed increase in female LFPR from 2022–23 to 2023–24. For Puducherry, Maharashtra and Andhra Pradesh the decline percentages were 11.0%, 2.8% and

1.2% respectively. The growth is pronounced for women Dadar and Nagar Haveli and Daman and Diu and Tamil Nadu and for other states it is less than 7.0%.

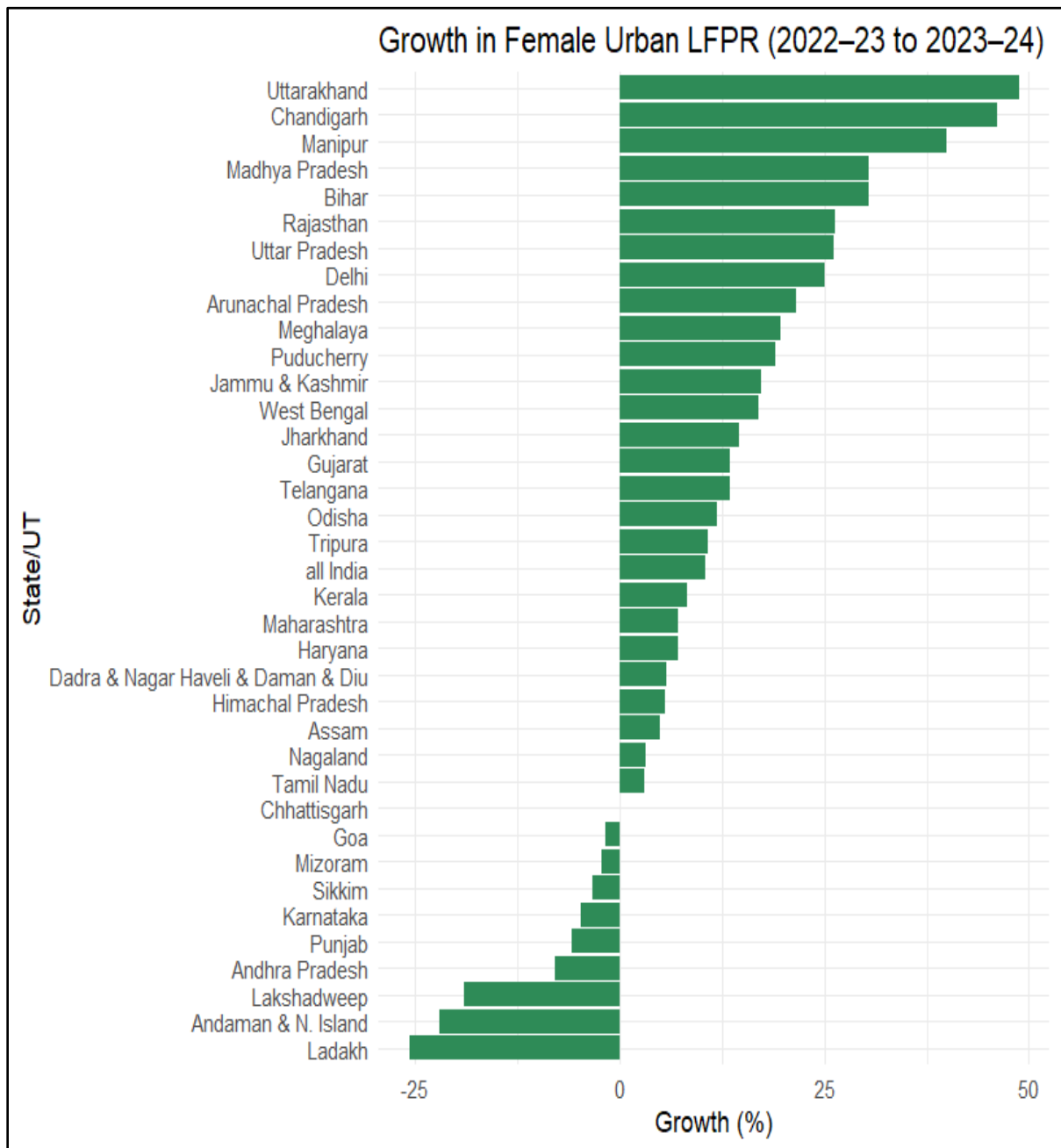
For Urban areas Andhra Pradesh, Karnataka and Goa have seen a decline in FLFPR in year 2022-23 to 2023-24. Puducherry, West Bengal and Telangana are the states/UTs in this region that have shown a pronounced growth in Female LFPR.



*FLFPR is considered for all ages.

* All the areas of Chandigarh are taken as Urban

Figure 5: Growth in FLFPR(Rural) from 2022_23 to 2023_24



FLFPR is considered for all ages

Figure 6: Growth in FLFPR(Urban) from 2022_23 to 2023_24

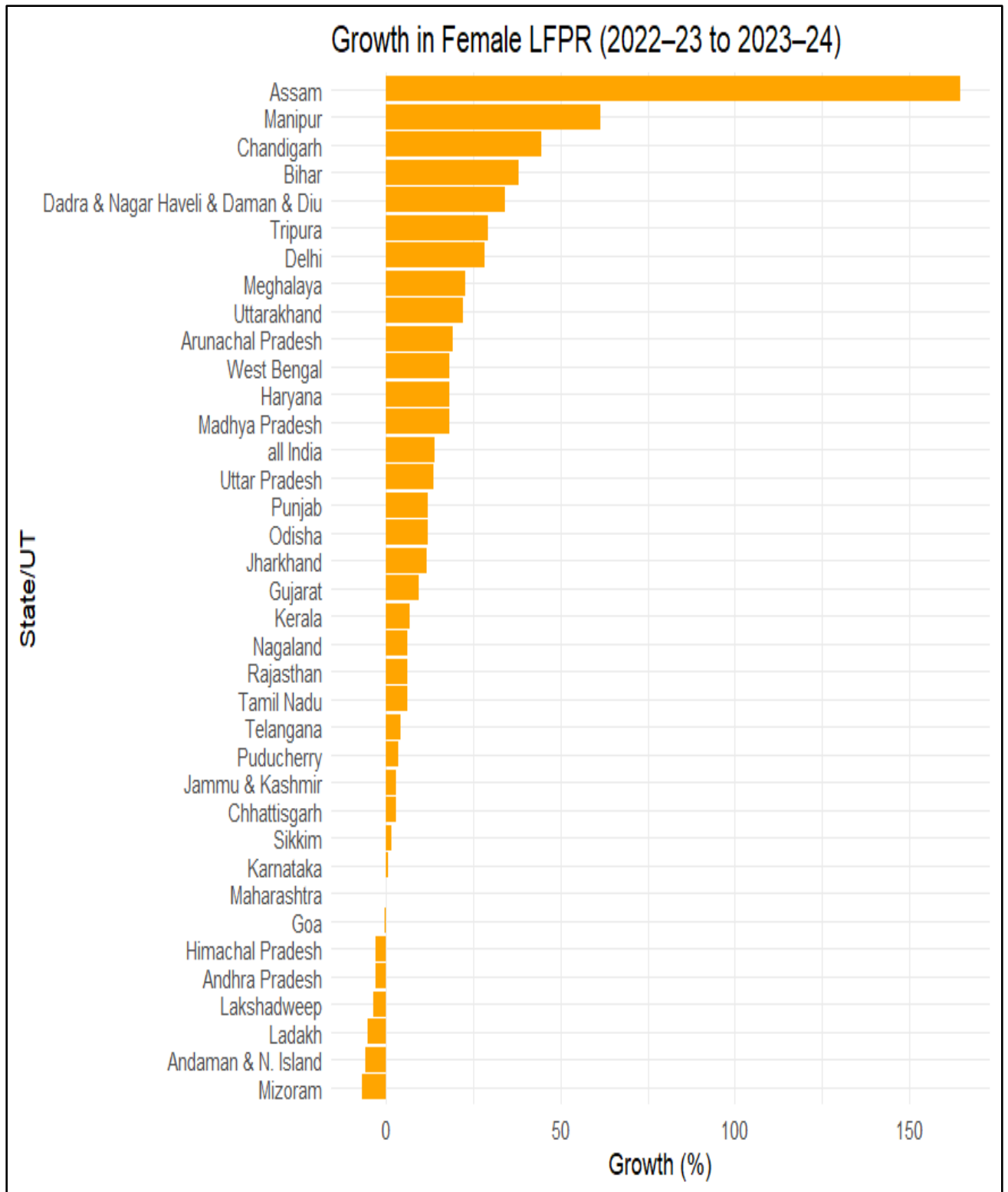


Figure 7: Growth in FLFPR(Combined) from 2022_23 to 2023_24

Wage differences among genders

Regular Salaried employee

The wage gap is very much prominent across genders now more evident for rural areas. Female workers, on an average, are found to be paid less than male workers in both rural and urban area and this difference have kept on increasing almost every year from 2017-18 to 2023-24. On an average, female regular wage workers are earning **62.23% of their male counterparts in Rural areas** in 2023-24 and 69.33% in 2017-18. Female regular wage workers are earning on an average **78.27% in 2023-24 of their male counterparts in urban areas** in the Indian workforce comparable to 80.25% in 2017-18. The increasing wage disparity is a concern given that FLFPR is growing.

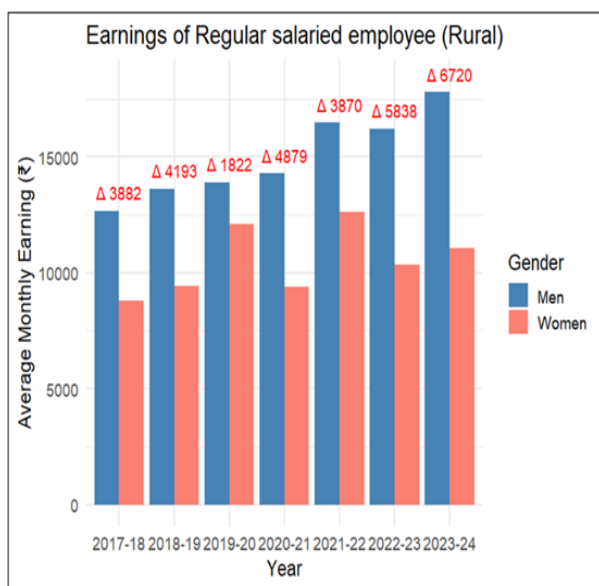


Figure 8: Difference in wages for men and women for regular salaried employee for rural area

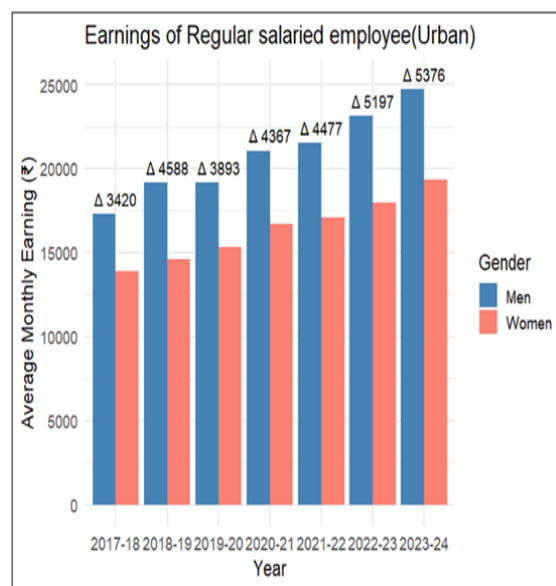


Figure 9: Difference in wages for men and women for regular salaried employee for urban area

There could be numerous reasons concerning the increasing wage difference one very evident cause is the less working hours of women than men. The burden of unpaid care and domestic work falls disproportionately on women, limiting their time and energy for paid employment. As per the Time-Use survey 2019, 81% of females engaged themselves in

unpaid domestic services for household members devoting 5 hours per day. This unequal distribution of household responsibilities can be a significant barrier to women's participation in paid work. The table below compares the average number of hours worked for both men and women in rural and urban areas.

Average number of hours worked in a week for regular salaried workers for first quarter

Year	Rural		Urban	
	Men	Women	Men	Women
2017-18	56.7	50.0	60.3	52.6
2018-19	51.9	44.5	53.0	45.4
2019-20	53.0	44.4	54.4	46.5
2020-21	50.0	39.1	50.8	41.8
2021-22	51.7	40.4	52.0	44.3
2022-23	51.3	41.9	51.8	44.6
2023-24	51.6	44.2	51.1	44.2

Casual waged labourers

Just like regular salaried, casual waged activities also have a prominent gender disparity in wages received per day. Female workers are less paid when compared to men. Daily earnings of rural females are roughly **65.58% of the daily wage of their male counterparts in 2017-18 to 68.32% in 2023-24**. For urban areas, daily earnings of casual waged female worker are **only 61.36% of their male counterparts in 2017-18 to 66.35% in 2023-24**. Again, the trend of wage disparity has been increased when compared to 2017.

This difference can again be traced back by the hours spent by the male and females for their daily casual waged work. Traditional beliefs that men should be the primary breadwinners can affect women's career decisions and opportunities. Even in progressive societies, implicit expectations about women prioritizing family over a career can influence workplace dynamics and decisions, affecting women's earning potential.

Average number of hours worked in a week for casual waged workers for first quarter

Year	Rural		Urban	
	Men	Women	Men	Women
2017-18	46.4	39.0	49.1	42.0
2018-19	44.0	38.7	43.8	40.3
2019-20	45.4	41.4	45.6	39.8
2020-21	44.4	38.4	44.1	40.4
2021-22	42.9	37.4	41.7	36.6
2022-23	43.1	35.3	41.6	36.5
2023-24	42.4	36.9	41.7	34.6

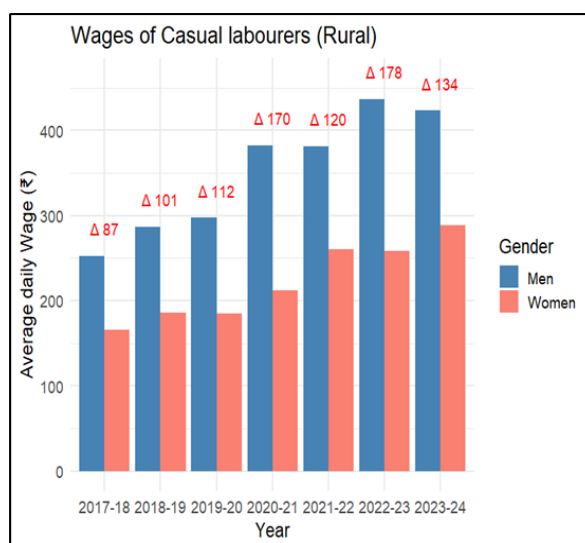


Figure 10: Difference in wages for men and women for casual waged labourers for rural area

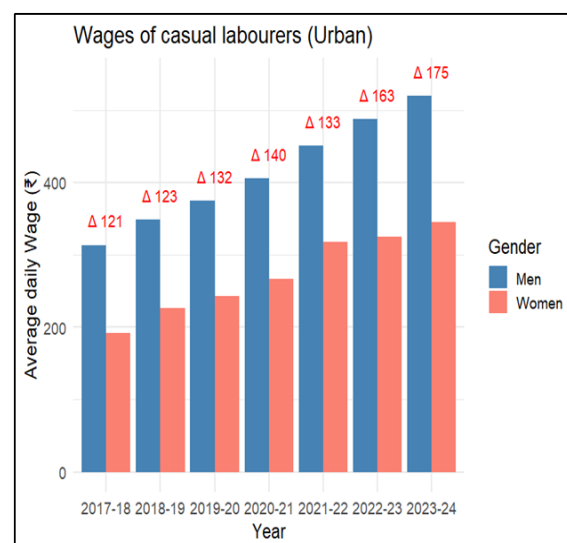


Figure 211: Difference in wages for men and women for casual waged labourers for urban area

CONCLUSION

This analysis of female labor force participation in India using PLFS data reveals a persistent gender gap, with women participating less in the workforce than men. While rural female LFPR has shown steady improvement, reaching its highest level in 2023–24, urban participation remains lower, pointing to region-specific challenges. States like Delhi, Bihar, and Assam have recorded significant growth in FLFPR, while others like Mizoram and Himachal Pradesh have experienced declines, highlighting the uneven nature of progress across states.

Despite rising participation, wage disparities between men and women remain substantial. In both regular and casual employment, women continue to earn significantly less than their male counterparts—earning only about 62% to 78% in rural areas, and 66% to 78% in urban areas—a gap that has widened over time. The burden of unpaid domestic and care work further limits women’s working hours and earning potential.

To close these gaps, targeted policies are needed, especially in urban areas, to address structural barriers, promote decent work opportunities, and ensure wage equity. Supporting women through flexible jobs, childcare access, and vocational training will be critical for building a more inclusive labor market in India.

Considering these trends, there is a need to address the lower workforce participation of urban women through targeted interventions. The analysis emphasizes the importance of policies that support female employment, particularly in urban areas where participation is lower than in rural areas. Understanding where and how women are employed, especially in urban settings, is crucial for developing strategies to boost female participation and close the gap between urban and rural areas.

EXPERIENCE

Throughout my internship at Zonal Office, NSO (FOD) Lucknow, I had the privilege to work on various projects and immerse myself in the dynamic world of Statistics. This experience has been incredibly rewarding, and I am grateful for the valuable lessons and opportunities it has provided. During my time at this Office as an Intern, I was able to successfully achieve the objectives of this Internship. Through dedication and collaboration with my supportive team, I was able to successfully achieve so much useful knowledge in this field. These accomplishments not only boosted my confidence but also showcased my ability to adapt and thrive in a professional setting.

One of the most enriching aspects of this internship was the chance to be the part of data collection. The field visits were really an enriching experience. Moreover, I gained a deeper understanding of the works done in NSO (FOD). broadening my horizons and fueling my passion.

Looking ahead, I am excited to leverage the skills and experiences gained during this internship to make meaningful contributions in the industry. The journey does not end here, rather, it marks the beginning of an exciting chapter in my career.

In conclusion, my internship at Zonal Office, NSO (FOD), Lucknow has been an invaluable experience. I am eager to apply these newfound insights as I embark on my professional journey, and I will always cherish the memories and knowledge gained during this transformative period.

BIBLIOGRAPHY

The following sources were referred to for the preparation of this report. These include official government publications, survey reports, and other relevant materials consulted during the course of the internship.

- Ministry of Statistics and Programme Implementation (MoSPI). *Annual Report of PLFS*
- EAC-PM working paper series: *Female Labour Force Participation Rate: An Observational Analysis of the Periodic Labour Force Survey (PLFS) from 2017-18 to 2022-23* by Dr. Shamika Ravi & Dr. Mudit Kapoor.
- Unit level PLFS data released by MOSPI.
- www.mospi.gov.in
- PLFS Instruction Manual Vol I 2025
- PLFS Instruction Manual Vol II 2025