2024

LABOUR FORCE SURVEY QUARTERLY REPORT

FIRST QUARTER

NATIONAL STATISTICS BUREAU

2024

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FOREWORD

It is with great pleasure and anticipation that we present to you the first Quarterly Labour Force Survey (QLFS) Report, an initiative of the National Statistics Bureau to meet the ever-increasing demand for data. This marks a transformative moment in our commitment to providing timely and comprehensive insights into the dynamics of the labour market in Bhutan.

In accordance with the directive received from the Office of the Prime Minister, the National Statistics Bureau has embarked on the journey to conduct the Labour Force Survey on a quarterly basis, commencing 2023. This progressive step aligns with our collective vision for a more dynamic and responsive understanding of the ever-evolving landscape of employment and labor in our country.

The first quarter of 2024 witnessed the culmination of our efforts, resulting in the successful completion of the second Quarterly Labour Force Survey. The findings presented in this concise report encapsulate a wealth of information, with key insights disseminated at both the national and domain levels. This approach ensures a nuanced understanding of the intricacies of our labor force, considering the unique characteristics of various domains within Bhutan.

As we navigate through the report, you will discover a mosaic of key findings, shedding light on employment patterns, unemployment rates, and other vital indicators that shape the socio-economic fabric of our country. It is important to note that while the majority of findings are presented at the domain level, some are specifically tailored to offer a comprehensive national perspective.

We extend our heartfelt gratitude to the dedicated team at the National Statistics Bureau whose commitment and expertise have made this survey a reality. Their unwavering efforts in collecting, analyzing, and presenting the data have been instrumental in shaping the foundation of this report.

This report is not merely a compilation of statistics; it is a testament to our collective pursuit of knowledge and understanding. May the insights gleaned from this survey inform policy decisions, inspire further research, and contribute to the overall development of the country.

We invite you to delve into the pages of the report, explore its findings, and join us in envisioning a future where informed decision-making empowers our labor force and propels our nation toward greater prosperity.

Sonam Tenzin
(Director General)

ACKNOWLEDGEMENT

The completion of the first quarter of the 2024 Quarterly Labour Force Survey (QLFS) and the preparation of this report have been made possible through the collaborative efforts and support of various individuals and entities.

Under the overall guidance of the Director General (Mr. Sonam Tenzin), the dedication and expertise of the core team from the National Statistics Bureau (NSB) played a pivotal role in the preparation of the report. Our sincere thanks go to Mr. Tashi Dorjee (Chief Statistical Officer), Ms. Jigme Choden (Statistical Officer), Mr. Bikash Subba (Statistical Officer) and Ms. Tshering Lhamo for their contributions.

We would be remiss not to acknowledge and appreciate the diligence of the officials, supervisors, and enumerators who were instrumental in the field enumeration for the QLFS. Their hard work and commitment are commendable and have significantly enriched the quality of the data gathered.

A special mention goes to the authorities and officials of the local government whose support during the field enumeration phase was indispensable. The collaborative spirit and assistance provided by these individuals greatly facilitated the smooth execution of the survey.

Lastly, our heartfelt thanks go to the respondents who participated in the QLFS. Their kind cooperation and willingness to share invaluable information have been instrumental in shaping the findings presented in this report.

This report stands as a testament to the collective effort and collaboration of all parties involved, and we express our sincere appreciation to each and every contributor.

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Chapter 1
EXECUTIVE SUMMARY

1.1 INTRODUCTION

The inaugural Quarterly Labour Force Survey (QLFS) conducted in September 2023 represents a significant stride towards enhancing our understanding of Bhutan's labor market landscape. Following the transition, the first Quarterly Labour Force Survey was conducted in March, 2024. The survey was funded by the Royal Government of Bhutan and is aimed at furnishing critical data for monitoring socio-economic development, informing policy formulation related to job creation and poverty reduction, and supporting similar programs.

The report presents the key findings from the labour related indicators like labour force population, employment, unemployment and the youth unemployment from the first quarter of the year 2024.

The statistics are measured based on the labour force framework as guided by the International Labour Organization (ILO) standard for labour market statistics for international comparability

1.2 KEY HIGHLIGHTS

Indicator	Bhutan	Sex		Area	
		Male	Female	Urban	Rural
Labour Force population	383,760	229,024	154,736	131,737	252,023
Inactive Population	216,652	85,562	131,090	92,262	124,390
Employed Population	368,048	219,922	148,126	123,091	244,957
Unemployed Population	15,712	9,102	6,610	8,646	7,066
Youth Unemployed Population	8,932	5,382	3,549	4,538	4,394
	Percent				
Labour Force Participation Rate	63.9	72.8	54.1	58.8	67.0
Inactivity Rate	36.1	42.6	57.4	39.5	60.5
Employment Rate	95.9	96.0	95.7	93.4	97.2
Unemployment Rate	4.1	4.0	4.3	6.6	2.8
Youth Unemployment Rate	22.9	25.7	19.7	31.5	17.9

Chapter 2
LABOUR FORCE AND INACTIVE POPULATION

As per the International Labour Organization (ILO) labour force framework (Figure 2.1), all persons 15 years and above are considered as the working-age population. The working age population is divided into two major groups: economically active and economically inactive.

The economically active population which is also referred as the 'labour force', is further composed of employed and unemployed persons.

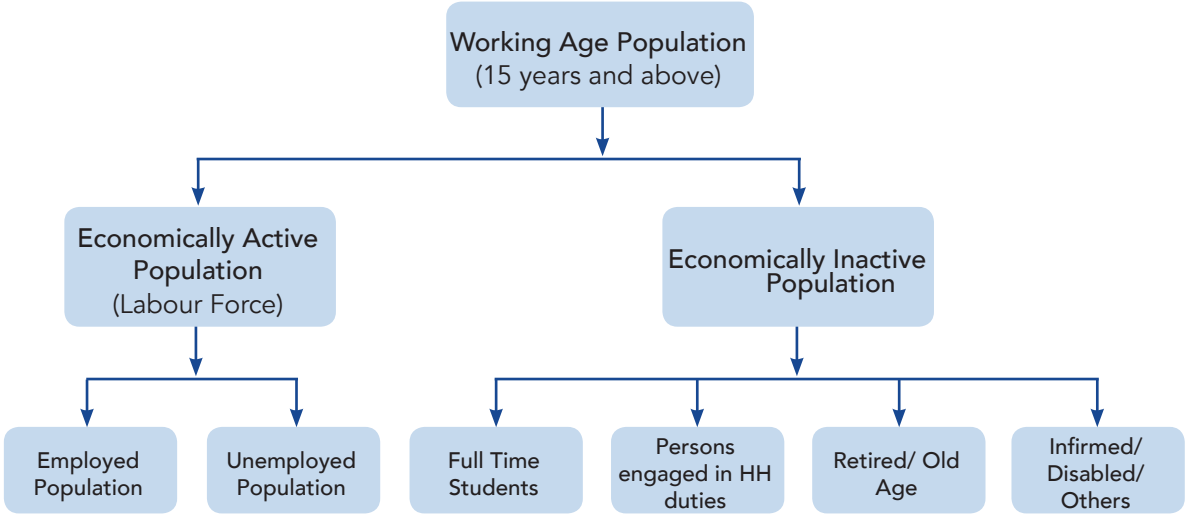


Figure 2.1 Components of Economically Active and Inactive Population

UNDERSTANDING LABOUR FORCE CONCEPTS AND THE INDICATORS WE USE TO MEASURE THEM

Three criteria define employment (including self-employment):

1. Age:To be in the age range chosen to define the active population, usually 15 years and older.
2. Duration of the activity: All persons who have worked at least one hour during a specified brief period (in general, one week) including all those who have a job, but are on leave for various reasons.
3. Nature of the activity: Must be an activity of production of goods and services according to the national accounting system (International Conference of Labour Statisticians, 1982).

Table 2.1 Working-Age Population by Area and Sex, Bhutan 2024

Sex	Urban		Rural		Both Areas	
	Number	Percent	Number	Percent	Number	Percent
Male	114,179	51.0	200,408	53.2	314,586	52.4
Female	109,816	49.0	176,010	46.8	285,826	47.6
Both Sex	223,995	100.0	376,417	100.0	600,412	100.0

2.1 Working age population

Working age population is defined as all persons aged 15 years and above.

2.2 Labour Force (Economically Active) Population

Economically active population: All the persons aged 15 years and above who are either employed or unemployed during the reference period.

2.3 Labour Force Participation Rate (LFPR):

The labour force participation rate (LFPR in the diagram below) provides information about the size of the supply of labour currently available for work compared to the whole working-age population.

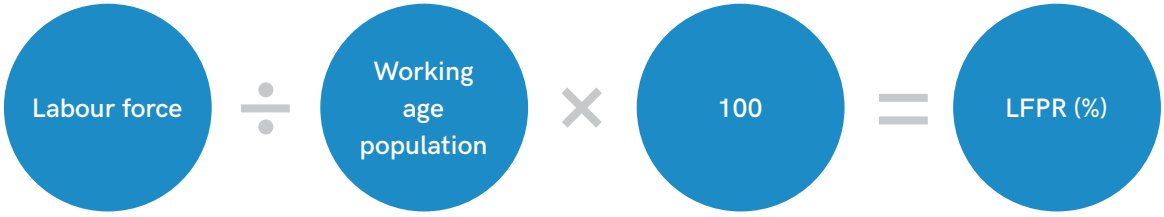


Table 2.2 Distribution of Economically Active Persons by Sex and Area, Bhutan 2024

Sex	Urban		Rural		Both Areas	
	Number	Percent	Number	Percent	Number	Percent
Male	82,110	62.3	146,914	58.3	229,024	59.7
Female	49,627	37.7	105,110	41.7	154,736	40.3
Both Sex	131,737	100.0	252,023	100.0	383,760	100.0

Table 2.3 Distribution of Economically Inactive Persons by Sex and Area, Bhutan 2024

Sex	Urban		Rural		Both Areas	
	Number	Percent	Number	Percent	Number	Percent
Male	32,068	34.8	53,494	43.0	85,562	39.5
Female	60,194	65.2	70,896	57.0	131,090	60.5
Both Sex	92,262	100.0	124,390	100.0	216,652	100.0

Table 2.4 Labour Force Participation Rate by Age Group and Sex, Bhutan 2024

Age Group	Total	Sex		
		Male	Female	Both Sex
15-19	6,018	9.1	7.3	8.2
20-24	32,940	58.3	49.8	54.0
25-29	53,488	85.6	64.6	76.2
30-34	63,688	91.7	67.5	80.2
35-39	57,567	92.2	71.8	82.6
40-44	48,766	93.3	73.1	84.1
45-49	37,601	94.7	71.3	83.7
50-54	28,456	87.2	69.5	79.0
55-59	20,654	83.1	58.5	71.6
60-64	15,656	72.2	52.5	62.7
65+	18,927	44.1	26.1	35.1
Total	383,760	72.8	54.1	63.9

Table 2.5 Labour Force Participation Rate by Sex and Dzongkhag, Bhutan 2024

Dzongkhag/Thromde	Labour Force Population	Sex		
		Male	Female	Both Sex
Bumthang	9,959	73.6	68.6	71.2
Chhukha	20,480	71.0	49.9	61.1
Phuntsholing Thromde	13,815	76.5	53.2	64.7
Dagana	13,560	77.6	59.2	68.8
Gasa	2,439	73.6	71.1	72.4
Haa	8,921	91.2	73.7	83.5
Lhuentse	5,350	57.5	50.6	54.2
Monggar	19,498	82.7	65.9	73.8
Paro	26,312	70.5	56.6	63.7
Pema Gatshel	14,033	83.1	71.0	77.1
Punakha	16,108	76.1	53.9	65.7
Samdrup Jongkhar	11,272	67.4	40.2	54.6
Samdrup Jongkhar Thromde	2,838	59.3	39.1	50.1
Samtse	33,516	76.1	62.1	69.1
Sarpang	21,699	75.6	62.5	69.3
Gelephu Thromde	5,686	74.9	52.4	64.5
Thimphu	9,951	65.3	35.6	51.2
Thimphu Thromde	60,963	69.7	38.4	54.4
Trashigang	22,393	73.3	68.1	70.8
Trashi Yangtse	4,807	53.0	28.2	40.7
Trongsa	14,105	80.0	63.0	73.7
Tsirang	14,421	78.9	73.8	76.4
Wangdue Phodrang	25,181	70.0	63.9	67.6
Zhemgang	6,456	63.5	39.4	52.0
Bhutan	383,760	72.8	54.1	63.9

Chapter 3
EMPLOYMENT

Employment: All those household members who are 15 years and above and are engaged in any activity to produce goods or provide services for pay or profit during a reference period. It comprises employed persons "at work" and "not at work". Employed persons "not at work" are those persons who still maintained a job attachment during their absences, including those such as sick leave due to their illness or injury and periods of maternity or paternity leave during the reference period.
The term "for pay or profit" refers to work done as part of a transaction in exchange for remuneration in cash or in kind. The remuneration may be paid directly to the person performing the work or indirectly to a household or family member.
Employment Rate: The proportion of employed population to the total labour force.
Employment-to population ratio: Represents the percentage of employed persons relative to the working age population.
The overall employment rate in Bhutan for first quarter, 2024 is 95.9% *(CI 95.2-96.6),* with a higher rate among males (96.0%) than females (95.7%).

3.1 The employment-to-population ratio

The employment-to-population ratio (shown as EPR in this diagram) is a basic yardstick for understanding the overall demand for labour in an economy. It provides information on the ability of an economy to generate employment.

It is defined as the percentage of employed persons in the **working-age population:**

When the employment-to-population rate rises over time, it usually means there is increasing demand for workers within the economy. A low percentage means that a large share of the working-age population is unemployed or not attached to the labour force.

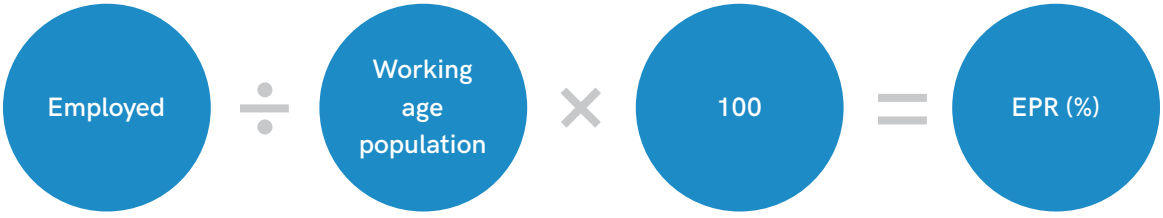


Table 3.1 Proportion of Employed Person by Sex and Dzongkhag, Bhutan 2024

Dzongkhag/Thromde	Total	Employment Rate		
		Male	Female	Both sex
Bumthang	9,349	89.0	99.4	93.9
Chhukha	19,716	96.0	96.7	96.3
Phuentshogling Thromde	12,732	96.2	86.5	92.2
Dagana	13,408	100.0	97.3	98.9
Gasa	2,427	100.0	98.9	99.5
Haa	8,797	99.1	97.8	98.6
Lhuentse	5,265	100.0	96.5	98.4
Monggar	18,951	97.5	96.9	97.2
Paro	24,417	92.4	93.3	92.8
Pema Gatshel	13,964	100.0	98.9	99.5
Punakha	15,566	95.1	99.1	96.6
Samdrup Jongkhar	10,705	94.4	96.0	95.0
Samdrup Jongkhar Thromde	2,802	100.0	96.4	98.7
Samtse	32,596	98.4	95.9	97.3
Sarpang	20,797	95.5	96.3	95.8
Gelegphu Thromde	5,153	89.6	92.4	90.6
Thimphu	9,433	93.7	97.1	94.8
Thimphu Thromde	56,592	93.0	92.5	92.8
Trashigang	22,079	99.5	97.6	98.6
Trashi Yangtse	4,742	99.2	97.5	98.6
Trongsa	13,720	97.7	96.3	97.3
Tsirang	14,260	100.0	97.6	98.9
Wangdue Phodrang	24,269	96.3	96.6	96.4
Zhemgang	6,307	98.9	95.5	97.7
Total	368,048	96.0	95.7	95.9

Table 3.2 Proportion of Employed Persons by sex and Age Group Bhutan 2024

Age Group	Total	Employment Rate(%)		
		Male	Female	Both sex
15-64	349,122	95.8	95.5	95.7
18-64	347,706	96.0	95.5	95.8
15-19	4,071	56.4	82.2	67.6
20-24	25,956	77.8	79.9	78.8
25-29	49,888	94.0	92.1	93.3
30-34	61,691	97.2	96.3	96.9
35-39	56,913	98.9	98.8	98.9
40-44	48,581	99.4	100.0	99.6
45-49	37,364	99.7	98.9	99.4
50-54	28,348	99.8	99.4	99.6
55-59	20,654	100.0	100.0	100.0
60-64	15,656	100.0	100.0	100.0
65+	18,927	100.0	100.0	100.0
Bhutan	368,048	96.0	95.7	95.9

Table 3.3 Proportion of Employed Person by Area, Sex and Sector, Bhutan 2024

Sector	Total	Area		Sex		Total
		Urban	Rural	Male	Female	
Agriculture	152,151	4.2	60.0	34.2	52.0	41.3
Industry	54,314	19.1	12.6	17.9	10.2	14.8
Service	161,584	76.7	27.4	48.0	37.8	43.9
All Sectors	368,048	100.0	100.0	100.0	100.0	100.0

Table 3.4 Distribution of Employed Persons by Sex , Area and Employment status, Bhutan 2024

Nature of Employment	Total	Urban			Rural			Both Area		
		Male	Female	Both Sex	Male	Female	Both Sex	Male	Female	Both Sex
Employee (regular paid)	125,974	66.2	49.0	59.8	27.9	12.2	21.4	41.4	23.6	34.2
Employee (Casual paid)	19,913	4.8	1.3	3.5	10.0	1.3	6.4	8.2	1.3	5.4
Own-account worker (Non-agriculture)	59,732	24.6	34.5	28.3	9.8	10.8	10.2	15.0	18.1	16.2
Own-account worker(Agriculture)	72,137	1.2	2.6	1.7	26.8	31.1	28.6	17.8	22.3	19.6
Family worker(Non-agriculture)	11,582	2.4	10.7	5.5	1.6	2.5	2.0	1.9	5.0	3.1
Family worker(Agriculture)	78,295	0.7	1.7	1.1	23.8	42.0	31.4	15.7	29.6	21.3
Employer	209	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
Apprenticeship/Internship	206	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1
Total	368,048	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 3.5 Percentage Distribution of Employed Persons by Sex and Major Occupation, Bhutan 2024

Major Occupation	Total	Area		Sex		Total	% contribution of females to the total employment
		Urban	Rural	Male	Female		
Managers	44,269	23.0	6.5	10.7	14.0	12.0	46.7
Professionals	30,432	13.3	5.7	9.6	6.3	8.3	30.6
Technicians and Associate Professionals	22,254	9.3	4.4	7.7	3.6	6.0	24.1
Clerical Support Workers	8,362	5.0	0.9	1.8	2.9	2.3	51.9
Services and Sales Workers	38,128	19.1	6.0	11.5	8.7	10.4	33.7
Skilled Agricultural, Forestry and Fishery Workers	150,352	3.0	59.9	33.4	51.9	40.9	51.1
Craft and Related Trades Workers	32,991	10.8	8.1	9.7	7.9	9.0	35.3
Plant and Machine Operators and Assemblers	22,854	9.5	4.6	10.1	0.4	6.2	2.9
Elementary Occupations	15,064	4.9	3.7	3.9	4.4	4.1	43.1
Armed Forces Occupations	3,340	2.1	0.3	1.5	0.0	0.9	0.0
Total	368,048	100.0	100.0	100.0	100.0	100.0	40.2

Table 3.6 Proportion Employed Persons by Sex, Area and Level of Education, Bhutan 2024

Level of Education	Total	Area		Sex		Total
		Urban	Rural	Male	Female	
None	124,560	14.8	43.4	29.4	40.4	33.8
Primary/Nursery	41,401	8.3	12.7	13.8	7.4	11.2
Lower Secondary	20,769	6.0	5.5	5.8	5.4	5.6
Middle Secondary	52,332	20.4	11.1	15.0	13.1	14.2
Higher Secondary	48,830	22.6	8.6	13.3	13.2	13.3
Certificate/Diploma	10,111	5.6	1.3	3.1	2.2	2.7
Bachelors Degree	30,953	15.5	4.8	9.7	6.6	8.4
Masters Degree & Above	6,214	3.2	0.9	2.4	0.6	1.7
Monastic Education	8,761	1.7	2.7	3.9	0.1	2.4
Non-Formal Education	24,118	1.8	9.0	3.6	11.0	6.6
Total	368,048	100.0	100.0	100.0	100.0	100.0

** This excludes those who are enrolled in TVET under the MoLHR*

Table 3.7 Total Employed Persons by Area, Sex and Major Economic Activity, Bhutan 2024

Major Economic Activity	Total	Area		Sex		Total
		Urban	Rural	Male	Female	
Agriculture, Forestry and Fishing	152,151	4.2	60.0	34.2	52.0	41.3
Mining and Quarrying	2,604	0.5	0.8	1.2	0.0	0.7
Manufacturing*	32,245	13.8	6.3	8.7	8.9	8.8
Electricity, Gas, Steam and Air Conditioning Supply	8,175	2.1	2.3	3.1	0.9	2.2
Water Supply; Sewerage, Waste Management and Remediation Activities	114	0.1	0.0	0.0	0.0	0.0
Construction	19,465	4.8	5.6	8.0	1.3	5.3
Wholesale & Retail Trade; Repair of Motor Vehicles and Motorcycles	36,072	19.7	4.8	6.9	14.1	9.8
Transportation and Storage	11,965	4.9	2.4	5.2	0.3	3.3
Accommodation and Food Service Activities	16,860	8.2	2.8	3.1	6.8	4.6
Information and Communication	3,542	2.6	0.1	1.3	0.4	1.0
Financial and Insurance Activities	3,519	2.3	0.3	1.0	0.9	1.0
Real Estate Activities	574	0.5	0.0	0.2	0.1	0.2
Professional, Scientific and Technical Activities	821	0.6	0.0	0.3	0.1	0.2
Administrative and Support Service Activities	5,710	3.8	0.4	1.8	1.1	1.6
Public Administration and Defense; Compulsory Social Security	33,588	17.8	4.8	12.5	4.1	9.1
Education	21,853	6.8	5.5	6.4	5.2	5.9
Human Health and Social Work Activities	9,159	4.6	1.4	2.4	2.6	2.5
Arts, Entertainment and Recreation	2,472	1.2	0.4	0.8	0.5	0.7
Other Service Activities	6,426	1.3	2.0	2.6	0.5	1.7
Activities of Households as Employers	131	0.0	0.1	0.1	0.0	0.0
Activities of Extraterritorial Organizations and Bodies	602	0.3	0.1	0.2	0.1	0.2
Total	368,048	100.0	100.0	100.0	100.0	100.0

** This includes weaving of home-based textiles, cane and wood products*

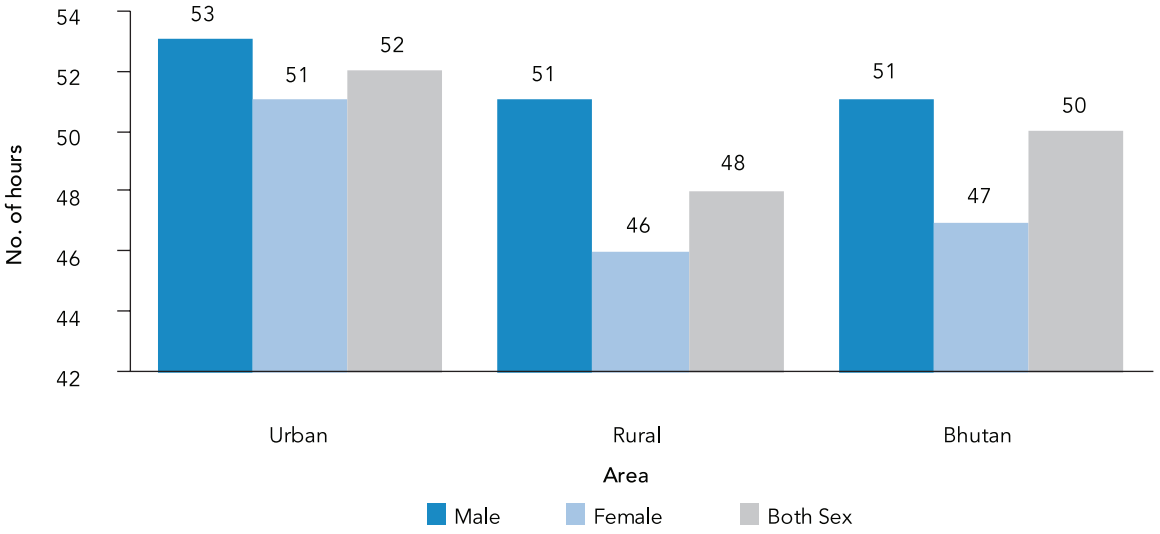


Figure 3.1 Mean Hours Worked in a week by Sex, Area, Bhutan 2024

Table 3.8 Employment to Population Ratio by Sex and Area, Bhutan 2024

Area	Employed Person			Working Age Population			Employment to Population Ratio (%)		
	Male	Female	Both Sex	Male	Female	Both Sex	Male	Female	Both Sex
Urban	77,511	45,580	123,091	114,178	109,821	223,999	67.9	41.5	55.0
Rural	142,411	102,546	244,957	200,408	176,005	376,413	71.1	58.3	65.1
Bhutan	219,922	148,126	368,048	314,586	285,826	600,412	69.9	51.8	61.3

Table 3.9 Percentage Distribution of Employed Person by Sex and Type of Enterprise, 2024

Type of Enterprise	Total	Sex		Both Sex	% contribution of females to the total employment
		Male	Female		
Government Agency	51,107	15.9	10.8	13.9	31.4
Armed Forces	14,836	6.1	1.0	4.0	10.2
Agriculture Farming	150,476	33.5	51.9	40.9	51.1
Public/Government Company	21,915	8.2	2.6	6.0	17.4
Private Limited Company	14,331	4.9	2.5	3.9	25.4
Private Business	112,556	30.8	30.3	30.6	39.9
NGO/INGO/CSO	2,828	0.7	0.9	0.8	48.6
Total	368,048	100	100	100	40.2

Chapter 4
UNEMPLOYMENT

The three criteria used to define unemployment

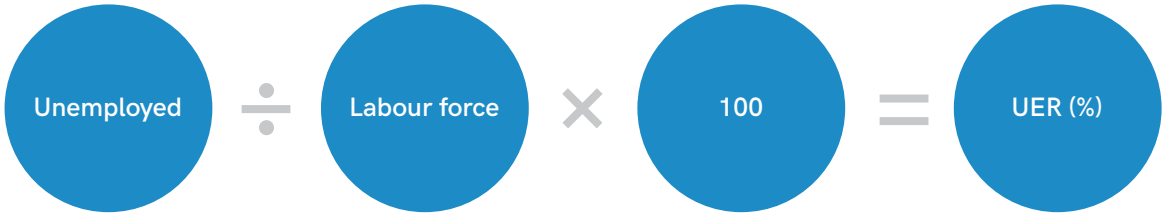
1. Without Work: A person of working age who didnot work at all during the reference period (not even for one hour), nor was temporarily absent from work.
2. Seeking Work: The person is actively seeking for work in last
3. Currently available for work: The person is available for employement in the next four weeks

Youth Unemployment: Those unemployed persons aged 15-24 years.
Unemployment-to-population ratio: The proportion of unemployed persons relative to the total working-age population.
Unemployment rate: The proportion of unemployed persons in the labor force, also known as the economically active population.
Youth unemployment rate: The percentage of unemployed individuals in the age group 15-24 years relative to the labor force (also known as the economically active population) in the same age group

Unemployment rate

The unemployment rate (UER in this diagram) reflects the ability of an economy to generate employment for those persons who want to work but are not doing so, even though they are available for employment and actively seeking work. It is an important indicator of labour market performance, and a key measure of labour underutilization.

For the first quarter of the year 2024, the estimated unemployment rate is 4.1% (CI 3.41-4.90). This rate is higher for females compared to males.



Specifically, the unemployment rate for females is 4.3% (CI 3.25-5.59), which is slightly higher compared to their male counterpart where the rate is at 4.0% (CI 2.21-4.95).

Likewise, the youth unemployment rate is estimated at 22.9% (CI 18.91-27.51). Notably, the youth unemployment rate for males (25.7%) is higher than that of females (19.7%).

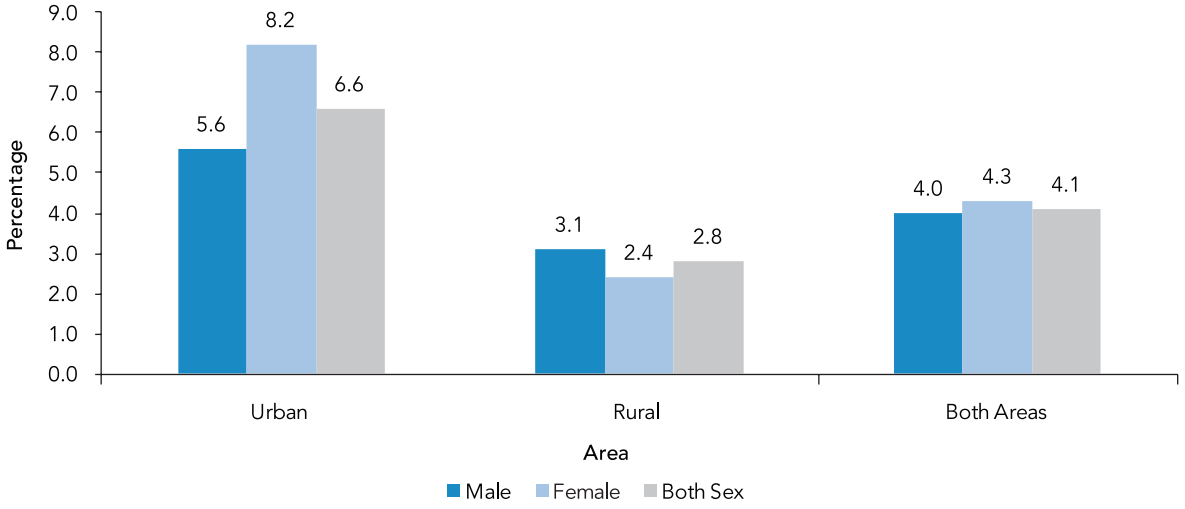


Figure 4.1 Unemployment by Sex and Area, 2024

Table 4.1 Unemployment Rate by Sex and Dzongkhag/Thromde, 2024

Dzongkhag/Thromde	Total	Unemployment Rate		
		Male	Female	Both sex
Bumthang	609	11.0	0.6	6.1
Chhukha	763	4.0	3.3	3.7
Phuentshogling Thromde	1,082	3.8	13.5	7.8
Dagana	151	0.0	2.7	1.1
Gasa	12	0.0	1.1	0.5
Haa	124	0.9	2.2	1.4
Lhuentse	85	0.0	3.5	1.6
Monggar	547	2.5	3.1	2.8
Paro	1,895	7.6	6.7	7.2
Pema Gatshel	69	0.0	1.1	0.5
Punakha	543	4.9	0.9	3.4
Samdrup Jongkhar	567	5.6	4.0	5.0
Samdrup Jongkhar Thromde	36	0.0	3.6	1.3
Samtse	920	1.6	4.1	2.7
Sarpang	902	4.5	3.7	4.2
Gelegphu Thromde	532	10.4	7.6	9.4
Thimphu	517	6.3	2.9	5.2
Thimphu Thromde	4,371	7.0	7.5	7.2
Trashigang	314	0.5	2.4	1.4
Trashi Yangtse	65	0.8	2.4	1.4
Trongsa	385	2.3	3.7	2.7
Tsirang	162	0.0	2.4	1.1
Wangdue Phodrang	912	3.7	3.4	3.6
Zhemgang	150	1.1	4.5	2.3
Total	15,712	4.0	4.3	4.1

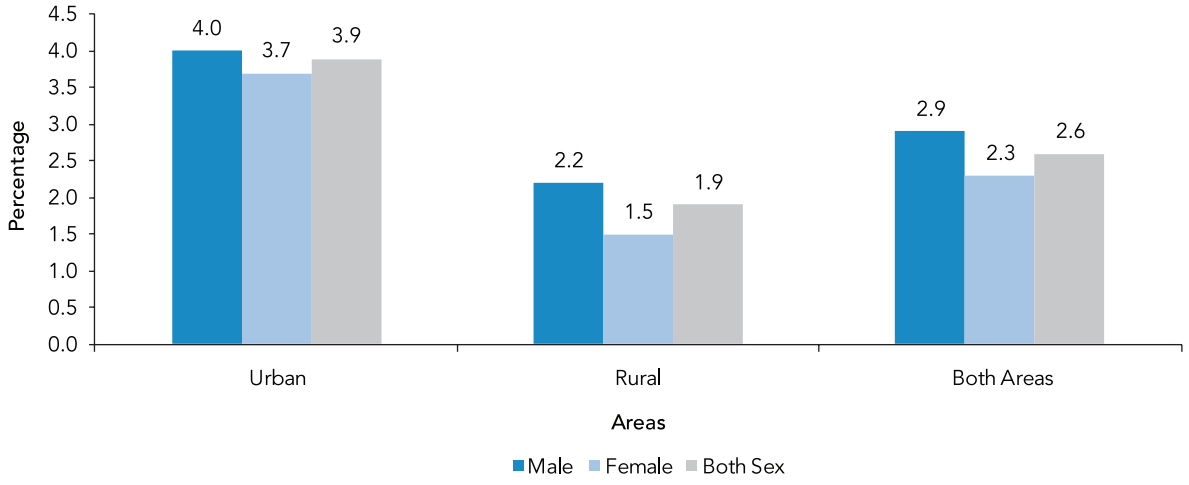


Figure 4.2 Unemployment-to-population Rato, by Sex and Area, 2024

Table 4.2 Unemployment Rate by Level of Education and Sex, 2024

Level of education	Total	Sex		Both Sex
		Male	Female	
None	1,006	0.8	0.8	0.8
Primary	671	1.2	2.7	1.6
Lower Secondary	637	1.7	5.0	3.0
Middle Secondary	2,338	4.5	3.9	4.3
Higher Secondary	7,746	13.6	13.8	13.7
Certificate/Diploma	263	3.7	0.0	2.5
Bachelor's Degree	2,946	6.8	12.6	8.7
Non-Formal Education	105	0.0	0.6	0.4
Total	15,712	4.0	4.3	4.1

Table 4.3 Youth Unemployment Rate by Sex and Age Group, 2024

Sex	Total	Urban	Rural	Both Areas
Male	5,382	33	21.7	25.7
Female	3,549	29.8	13	19.7
Both Sex	8,932	31.5	17.9	22.9

ANNEXURES

SAMPLING DESIGN & ESTIMATION PROCEDURE

Coverage of the Survey

The QLFS 2024 has been designed to cover the entire country. The country is divided into a number of Enumeration Areas (EAs) in both urban and rural areas. The urban areas are classified as defined by the erstwhile Department of Urban Development and Engineering Services (DUDES) under the then Ministry of Works and Human Settlement (MoWHS), and as used in the 2017 PHCB. The rural areas are *gewogs* and *chiwogs* from all twenty *dzongkhags*. The smaller *chiwogs* are considered as one EA, while the bigger *chiwogs* were divided into several EAs.

Sampling Frame

The sampling frame was developed from the 2017 PHCB and updated in 2023 with merging of undersized EAs and the splitting of oversized EAs across the country. A fresh listing of households was carried out while splitting the EAs.

Sample Design

The sample for the first quarter of the year 2024 is designed to provide estimates of the labour force-related indicators at the national and domain levels. In addition to 20 domains of interest, which are *dzongkhags*, the four *thromdes* are also considered as domains. Every *dzongkhag* is further stratified into urban and rural areas, resulting in 44 strata for the survey.

A stratified two-stage sampling design was adopted. The urban and rural areas of each Dzongkhag served as first-level stratification. Within each first-level strata, all Primary Sampling Units (PSUs) were first ordered geographically. From the ordered list, the PSUs were further stratified in such a way that the total number of households within second-level strata are approximately equal. The number of secondary-level strata per primary strata were based on the sample size allocated. In each secondary-level stratum, Probability Proportional to number of households and with Replacement (PPSWR) was used to select four PSUs. All PSUs in each stratum were randomly assigned numbers 1-4. All PSUs with the same assigned number were then grouped to form replicates. These replicates constitute the sample areas to be covered for each quarter.

In the second stage of sampling, all the regular households in the sampled PSUs were listed, and the required number of households in each PSU was selected based on the Circular Systematic Sampling (CSS).

Sample Size Determination

The overall sample size was determined based on various precision targets, i.e., at 1%, 3%, and 5% margin of error values, for six major labour force-related indicators at both national and domain levels. It was decided that the estimation of the required sample size would be based on the generation of reliable estimates of Employment/Unemployment Rates at the domain levels and Youth Unemployment Rates in the annual sample. The sample size was determined using the following formula:

Taking into account the estimates from LFS 2022, the computation was conducted.

n= is the number of households required in the sample

p = is the estimated proportion of the population that possesses a certain characteristic

deff = design of effect

SE = standard error of the estimate

R = response rate, assumed to be 90%

Utilizing the above-mentioned formula, the total sample size for the pilot QLFS was adjusted at 3,000 households, resulting in an annual sample of 12,000 households to achieve the survey objectives.

Sample Allocation

Considering equal importance to produce estimates at national and domain levels, a compromise allocation scheme was used for sample allocation. The sample allocation for each domain followed as per the given formula:

$$n_h = n * \frac{\sqrt{\theta W_h^2 + (1-\theta)/L^2}}{\sum_{h=1}^{L} \sqrt{\theta W_h^2 + (1-\theta)/L^2}}$$

Where:

n= overall sample size

= relative importance given to proportional allocation,

L = total number of strata

$W_h = N_h/N$

N_h *= total number of units in stratum h*

N = population size

Dzongkhag/Thromde	Rural		Urban		Both Areas	
	No. of EA	No. of HHs	No. of EA	No. of HHs	No. of EA	No. of HHs
Bumthang	4	64	3	36	7	100
Chhukha	7	112	2	24	9	136
Phuentshogling Thromde	-	-	10	120	10	120
Dagana	6	96	2	24	8	120
Gasa	5	48	3	24	8	87
Haa	4	64	2	24	6	88
Lhuentse	5	80	1	12	6	92
Monggar	6	96	3	36	9	132
Paro	8	128	3	36	11	164
Pema Gatshel	5	80	3	36	8	116
Punakha	6	96	2	24	8	120
Samdrup Jongkhar	6	96	1	12	7	108
S/Jongkhar Thromde	-	-	7	84	7	84
Samtse	10	160	3	36	13	196
Sarpang	7	112	1	12	8	124
Gelephu Thromde	-	-	8	96	8	96
Thimphu	6	96	1	12	7	108
Thimphu Thromde	-	-	28	336	28	336
Trashi Yangtse	5	80	2	24	7	104
Trashigang	8	128	2	24	10	152
Trongsa	4	64	2	24	6	88
Tsirang	6	96	1	12	7	108
Wangdue Phodrang	6	96	3	36	9	132
Zhemgang	5	80	3	36	8	116
Total	120	1,887	95	1,140	215	3,012

The allocated sample size for each domain was then distributed proportionately to the number of households in both urban and rural areas, except for Thromdes.

Sampling Weights

The sampling weights were made up of three components namely:
Base weight (w_1);
Nonresponse weight (w_2); and
Post-stratification Weight (w_3).
The final weight was computed as $W_f = w1 * w2 * w3$
Base weight is the inverse of the selection probabilities for a stratified two-stage sampling. In the 1st stage sampling, the selection probability for i[th] PSU in a stratum was computed as follows:

$$P_{psu_i} = \frac{M_i}{\sum_{i=1}^{N} M_i} * n \qquad (1)$$

Where,
M_i *= number of households in ith PSU*
n= total number of PSUs selected in the stratum
$\sum_{i=1}^{N} M_i$ *= total number of households in the stratum*
In the 2nd stage sampling, the selection probability for j[th] household in the i[th] PSU in a stratum, was computed as follows:

$$P_{psu_{ij}} = \frac{n_{ij}}{m_{ij}} \qquad (2)$$

Where,
n_{ij} *= total number of households interviewed in the i[th] PSU*
m_{ij} *= total number of households during fresh listing in the i[th] PSU*
Then base weight for j[th] household in the i[th] PSU in a stratum is computed as follows:

$$w_1 = \frac{1}{P_{psu_i} * P_{psu_{ij}}}$$

The non-response weight is computed at the stratum level, i.e., in urban and rural areas within each domain. It is the inverse of stratum response rate as follows:

$$w_2 = \frac{1}{weighted\ response\ rate\ in\ a\ stratum\ (R)}$$

Where,

$$R = \frac{weighted\ number\ of\ completed\ interviews\ in\ the\ stratum}{weighted\ total\ number\ of\ households\ in\ the\ stratum}$$

To further improve the precision of the estimates and account for changes in the population structure, a post-stratification adjustment was additionally employed, utilizing population projections by Dzongkhag, ten-year age group, and sex. To achieve this, the post-stratification adjustment weight for each post-stratification cell was calculated as

$$w_3 = N_{[g]}^{2024} / \hat{N}_{[g]}^{2024}$$

Where $N_{[g]}^{2024}$ is the projected population for adjustment cell [g]. In here an adjustment cell refers to 10-year age-group by sex for each Dzongkhag. The age-groups are <15, 15-24, 25-34, 35-44, 45-54, 55-64, 65+. Further $\hat{N}_{[g]}^{2024}$ is simply the sum of assigned weights (after adjusting for non-response) of all individuals belonging to adjustment cell [g]. Therefore, the final survey weight is then defined as
$W_f = w1 * w2 * w3$

Estimation

Given the final weight attached to a sample unit, the population total is estimated as

$$\hat{Y} = \sum_{i \epsilon s} W_{f_i} * y_i, \quad i \epsilon s$$ is all sampled units

The population mean is estimated as

$$\underline{y} = \frac{\sum_{i \epsilon s} W_{f_i} * y_i}{\sum_{i \epsilon s} W_{f_i}}$$

The population proportion is estimated as

$$\hat{p} = \frac{\sum_{i \epsilon s} W_{f_i} * y_i}{\sum_{i \epsilon s} W_{f_i}}$$

y_i = 1 if unit i posses attribute, 0 otherwise

INDICATORS: DEFINITION, NUMERATOR AND DENOMINATOR

Sl No	Indicators	Definition	Numerator	Denominator
1	Working-age Population	Persons aged 15 years and above		
2	Economically Active Population (labour force)	Working-age population who were/are employed or unemployed during the reference period of the survey are referred to as Economically active population or Labour Force.		
3	Economically Inactive Population (out of labour force)	Working-age population who are/were neither employed nor unemployed during the reference period		
4	Labour Force Participation Rate (LFPR)	LFPR is defined as proportion of economically active persons (labour force) to the working age population	Economically active/ labour force	Working-age population
5	Economically Inactivity Rate	It is defined as proportion of economically inactive persons (out of labour force) to the working-age population	Economically inactive population	Working-age population
6	Employment Rate	It is defined as proportion of employed persons to the economically active population	Employed persons	Economically active population
7	Employment-to-Population Ratio	It is defined as the proportion of employed persons to the working-age population	Employed persons	Working-age population
8	Unemployment Rate	Unemployment rate is defined as the proportion of unemployed persons to the economically active population	Unemployed persons	Economically active Population
9	Unemployment-to-Population Ratio	It is defined as the proportion of unemployed persons to the working-age population	Unemployed persons	Working-age population
10	Youth Unemployment Rate	Youth unemployment rate is defined as the percentage of unemployed persons in the age group 15-24 years to the economically active population in the same age group	Unemployed persons (aged 15-24 years)	Economically active youth population
11	Share of Youth Unemployment	It is expressed as percentage of youth unemployed persons to all unemployed persons	Youth Unemployed persons	Total Unemployed persons

RELIABILITY OF THE ESTIMATES

Since estimates are based on sample data, they differ from figures that would have been obtained from complete enumeration of the population using the same instrument. Results are subject to both sampling and non-sampling errors. Non-sampling errors include biases from inaccurate reporting, processing, and tabulation, etc., as well as errors from non-responses and incomplete reporting. These types of errors cannot be measured readily. However, to some extent, non-sampling errors can be minimized through the procedures used for data collection, editing, quality control, and non-response adjustment. The variances of the survey estimates are used to measure sampling errors.

(i) Variance estimation

Most commonly used methods for estimating variances of survey estimates from complex surveys such as the QLFS are the Taylor-series Linearization, Jack-knife Replication, Balanced Repeated Replication (BRR), and Bootstrap methods. The Taylor-series Linearization method has been used for variance estimation in the QLFS because of its simplicity.

(ii) Coefficient of variation

It is more useful in many situations to assess the size of standard error relative to magnitude of the characteristic being measured (the standard error is defined as the square root of the variance). The coefficient of variation provides such a measure. It is the ratio of the standard error of the survey estimate to the value of the estimate itself expressed as a percentage. It is very useful in comparing the precision of several different survey estimates, where their sizes or scales differ from one another.

(iii) P-value of an estimate of change

The p-value corresponding to an estimate of change is the probability of observing a value larger than the particular observed value under the hypothesis that there is no real change. If the p-value <0.01, the difference is highly significant; if p-value is between 0.01 and 0.05, the difference is significant; and if p-value >0.05, the difference is not significant.

The exact differences, or sampling error, vary depending on the particular sample selected, and this variability is measured by the standard error of the estimate. There is approximately a 95 percent chance, or level of confidence, that an estimate based on a sample will differ from the 'true' population value by no more than 1.96 standard errors due to sampling error. Analyses related to the Labour Force Survey are generally conducted at this 95 percent confidence level. For example, the confidence interval for the quarterly unemployment rate is calculated as follows:

When the estimated unemployment rate is 4.1 and standard error of unemployment rate is 0.38 then at 95% confidence interval, the estimated value (of the unemployment rate) ± (standard error) * (1.96)

4.1 ± (0.38) * (1.96)

(4.1 ± 0.74)

This means, the 95 percent confidence interval on the quarterly unemployment rate could range from (3.36 to 4.84). This implies that there is about a 95 percent chance that the 'true' unemployment rate lies within this interval. This range includes all the values ranging from 3.36 to 4.84.

Therefore, for the quarterly labour force survey report, a separate table is given including approximate standard errors for some selected indicators, so that users could understand this statistical scenario clearly.

Indicator	Total	Std. Error	95% Confidence Interval	
			Lower Limit	Upper Limit
Labour Force participation Rate	63.9	0.78	62.35	65.45
Inactivity Rate	36.1	0.78	34.5	37.6
Employment Rate	95.9	0.38	95.16	96.65
Unemployment Rate	4.1	0.38	2.82	4.22
Youth Unemployment Rate	22.9	2.18	18.91	27.51
Youth Unemployment Rate	15.9	1.95	12.47	20.2

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