



# LABOUR MARKET REPORT

**Workforce Planning and Information  
Division (WPID)  
Department of Workforce Planning and  
Skills Development (DWPSD)  
MoESD**

**2023**

## Table of Contents

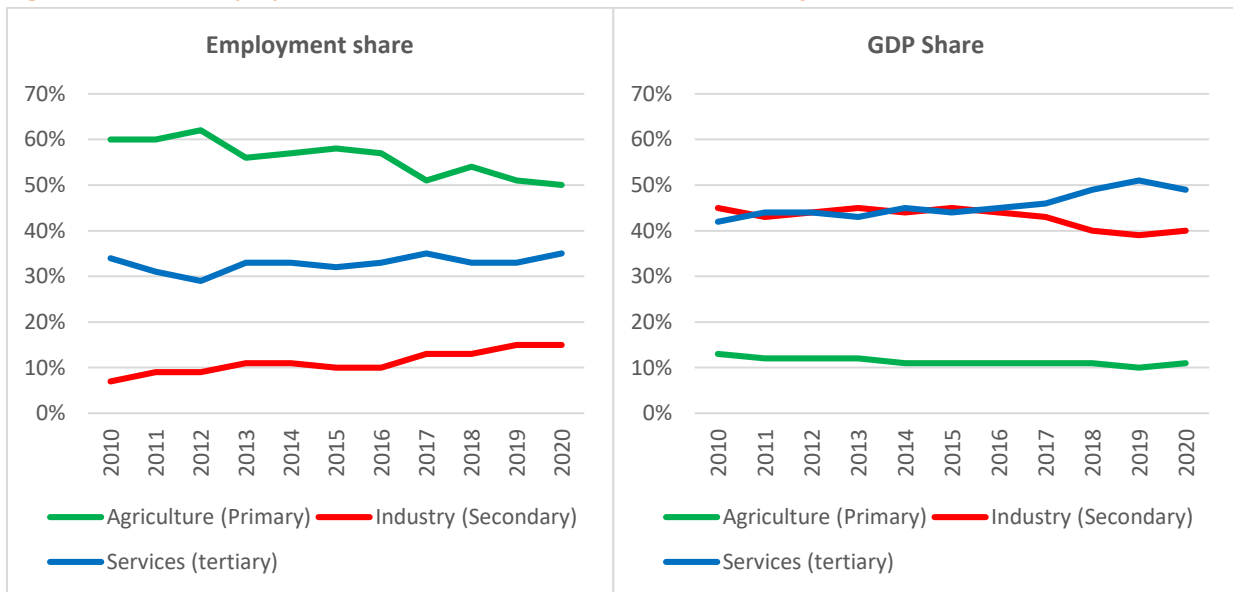
<b>Labour Market Trends</b>	<b>3</b>
Labour Force Trends	5
Employment Trends	7
Unemployment Trends	13
Labour Earning	18
<b>Labour Supply</b>	<b>20</b>
Education and TVET Institutions	20
Enrollment in Education and TVET	23
Forecast of New Entrants in 13 <sup>th</sup> Plan period	26
Youth Jobseeker Perception	28
<b>Labour Demand</b>	<b>30</b>
Job Prospect in Current Establishments	30
Human Resource Management Practices	38
Digital Competencies	41
Training and Development Needs	43
<b>ANNEXURES</b>	<b>48</b>

## Labour Market Trends

Over the decade, the agriculture sector has continued to be the main sector for employment, with more than 60 percent of the employed workforce working in the sector. Over the years, the proportion of employed workforce in this sector has gradually declined with employment proportion being 49 percent in 2021. On the other hand, the proportion of employed workforce in the industry sector increased from 7 percent in 2010 to 15 percent in 2020, whereas the proportion of employed workforce in the service sector has continued to stay the same over the last ten years.

The decrease in workforce in the agriculture sector has not had a significant impact on the GDP contribution from the sector. The contribution of this sector to the GDP has varied between 11 to 12 percent over the last ten years. Similarly, the proportion of contribution to the GDP by the other two sectors have been consistent till 2016 with the service sector doing better than the industry sector since 2017. While the share of employment by the industry sector is the lowest, it is one of the highest contributing sectors to GDP. The opposite can be said about the agriculture sector.

*Figure 01: Employment and GDP share in three broad sectors from 2010 to 2020*



Labor productivity is a concept used to measure the efficiency of the worker and is calculated as the value of output produced by a worker per unit of time, such as an hour or a day. Labour productivity can vary based on the capital investment within the sector, quality of management, workers incentives, and growth in demand. At the national level, the World Bank’s Global Productivity Report (2021) defines labour productivity as output (gross domestic product [GDP]) per input of a unit of labour. The report states that the effectiveness of labour input may be influenced by the level of education, training, and health of workers. Therefore, in assessing labour productivity, the GDP (at constant price) and total employed labour force data were taken into account.

The industry sector which mainly consists of the manufacturing and construction industries employs a high number of foreign workers. Therefore, in calculating labour productivity, the number of foreign workers (as per the labour net data from 2013 to 2021) was adjusted into the employment figures.

The labour productivity (calculated for GDP per month in Nu.) is the highest in the industry sector and lowest in the agriculture sector. However, overall labour productivity has increased in all the three broad sectors over the years.

A regional comparison of labour productivity shows that Bhutan is doing better in comparison to South Asian neighbours such as India, Nepal, and Bangladesh (World Development Indicators, World Bank). East Asian countries like Thailand, Malaysia, Singapore and developed countries have much higher labour productivity in comparison.

**Table 01: Labour Productivity (GDP per Month in Nu.) from 2013 to 2021**

Sectors	2013	2014	2015	2016	2017	2018	2019	2020	2021
Agriculture	2,685	2,699	2,721	2,853	3,314	3,745	3,870	4,099	4,144
Industry	21,216	20,358	19,966	21,166	23,968	21,637	27,230	39,053	30,736
Service	14,951	16,076	17,232	18,494	18,556	24,918	26,851	23,453	24,237
<b>Overall</b>	<b>10,470</b>	<b>10,723</b>	<b>11,051</b>	<b>11,848</b>	<b>13,163</b>	<b>14,589</b>	<b>16,435</b>	<b>16,453</b>	<b>16,127</b>

Note: GDP at Constant Prices from National Accounts Statistics 2022

**Table 02: Country comparison of labour productivity (Annual, Constant 2015 US\$)**

Country	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>South Asia</b>									
Bhutan	5,534	5,955	6,154	6,536	6,726	6,827	7,122	6,689	N.A
India	4,159	4,438	4,765	5,128	5,448	5,776	5,874	5,956	6,168
Bangladesh	2,994	3,125	3,279	3,460	3,484	3,673	3,898	4,122	4,311
Sri Lanka	9,232	9,671	9,971	10,238	10,388	11,083	11,364	11,646	11,809
Nepal	1,549	1,632	1,677	1,638	1,744	1,819	1,880	1,955	1,930
<b>East Asia</b>									
Thailand	9,897	10,015	10,345	10,782	11,294	11,637	11,958	11,186	11,393
Singapore	91,468	92,367	92,745	95,111	99,648	102,802	102,020	101,472	114,377
Malaysia	20,032	20,667	21,276	21,939	22,753	23,263	23,731	22,401	22,856
<b>Developed countries</b>									
Australia	112,183	114,231	114,483	115,704	115,862	116,372	116,419	118,202	116,788
Sweden	100,400	102,090	105,197	105,537	106,213	106,618	108,174	105,991	110,132
UK	91,354	91,889	92,678	93,331	94,300	94,744	95,336	87,405	94,034
Canada	82,753	84,624	84,671	84,711	85,543	86,677	86,469	86,560	86,479
Germany	80,967	82,039	82,529	82,202	83,623	84,024	83,809	81,036	83,578

Source: World Development Indicators (WDI), World Bank.

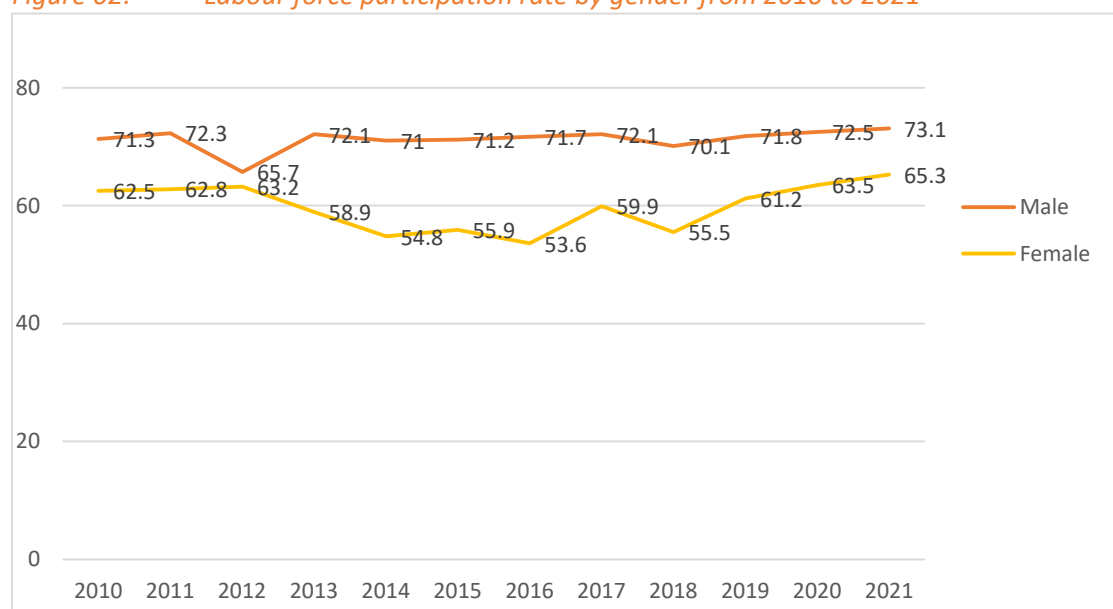
## 1. Labour Force Trends

The workforce in the country can be broadly categorized into two groups: the future workforce and the current workforce. The future workforce or the potential workforce are those currently in education and training institutions. The current workforce can be categorized into those that are employed and unemployed.

The labour force participation rate, which indicates the proportion of labour force in relation to the working age population, has increased to 69.1 percent in 2021 from 65.3 percent in 2013. Female LFPR has been fluctuating over the years with an increasing trend in the recent periods. The gap between male and female LFPR narrowed down in 2012, however, from thereon the female LFPR saw a decreasing trend. This has changed in the last three years. The female LFPR increased from 61.2 in 2019 to 63.5 percent in 2020 and 65.3 percent in 2021. Female LFPR was the highest in 2021. Bhutan also has higher female LFP compared to the South Asian neighbours like India (ILO estimate 2021: 19.2 percent), Bangladesh (ILO estimate 2021: 34.9 percent), Sri Lanka (ILO estimate 2021: 30.9 percent), and some of the developed countries like Australia (ILO estimate 2021: 61.1 percent), Singapore (ILO estimate 2021: 59.4 percent), and Japan (ILO estimate 2021: 53.3 percent). Social customs, culture, and institutions (including legal framework) play a large part in the participation of women and younger people in the labour market.

Labour force participation is the highest for those in the productive ages of 25 to 44 and ages 45 to 64 for both genders. In the recent years, labour force participation for those aged 65 years and above is seeing an increasing trend.

Figure 02: Labour force participation rate by gender from 2010 to 2021

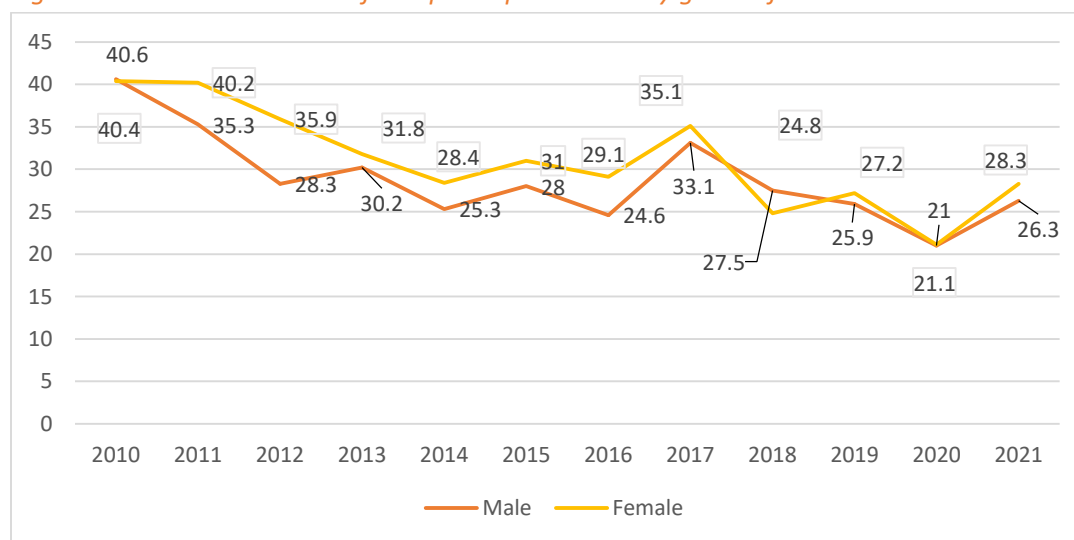


**Table 03: Labour force participation rate by age group from 2013 to 2021**

<b>Male LFPR</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
15-24	30.2	25.3	28.0	24.6	25.6	27.5	25.9	26.0	26.3
25-44	93.4	92.4	94.7	94.5	93.0	91.5	93.1	93.0	93.8
45-64	89.1	90.8	88.0	88.3	90.5	87.6	92.0	92.4	93.0
65+	49.6	52.6	44.5	37.4	39.3	44.6	47.3	49.6	53.2
<b>Female LFPR</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
15-24	31.8	28.4	31.0	29.1	27.7	24.8	27.2	28.3	28.3
25-44	74.1	69.0	73.5	69.1	76.3	72.0	77.6	81.2	83.1
45-64	73.2	70.8	63.6	66.5	76.2	69.5	76.4	78.8	81.1
65+	30.3	25.4	23.1	14.2	25.2	26.8	32.4	33.3	36.3
	<b>58.9</b>	<b>54.8</b>	<b>55.9</b>	<b>53.6</b>	<b>59.6</b>	<b>55.5</b>	<b>61.2</b>	<b>63.5</b>	<b>65.3</b>

Unlike the overall LFPR, the female youth labour force participation was always higher in comparison to male counterpart, except for the year 2018. The situation has started to improve from 2017 with youth LFPR for both sexes narrowing down. The decreasing LFPR for both sexes over the years, indicating that lesser number of youths are seeking employment/actively employed, can be attributed to the education and training policies complemented by the labour policies in place. The Constitution of the country and the education policies enable increasing proportion of youth staying in school and completing their basic education, considered at middle secondary level. The student dropout rates, as per the Education Statistic Reports, at primary, lower secondary, and middle secondary education levels are significantly low for all grades (2021: 1.6 percent in class VI, 0 percent in class VIII, and 2.5 percent in class IX). An increasing number of youth are opting to upgrade their qualifications through education and skilling programs instead of actively seeking employment at a young age. Further, the Labour Law discourages employment if an individual is not 18 years of age. Employers also seek to employ individuals with experience over someone with lack thereof. Over the years, there has also been a significant decline in female youth LFPR with the percentage being at par with the male counterpart. This can mean that a higher proportion of female youth are now completing their education and entering the labour market at a later age.

**Figure 03: Youth labour force participation rate by gender from 2010 to 2021**



## 2. Employment Trends

The overall employment rate over the decade has been slightly more than about 97 percent. The male employment rate was 97.8 percent and the female employment rate was 96.7 percent in 2019, which slightly decreased to 96.4 percent and 93.9 percent for the two genders respectively in 2021. The percentage of employment is high for the adult labour force in comparison to the youth labour force.

When it comes to profiling the employed workforce by the major sectors i.e. agriculture, industry and services, a majority of the workforce is employed in the agriculture sector, where the economic activities are agriculture and forestry related activities. This is followed by the service sector, which includes wholesale and retail trade, accommodation and transport services, professional, scientific, legal and administrative services, education, arts, entertainment, recreation and all other service activities. The industry sector which refers to mining, manufacturing, waste, water supply and construction activities employs the least number of people.

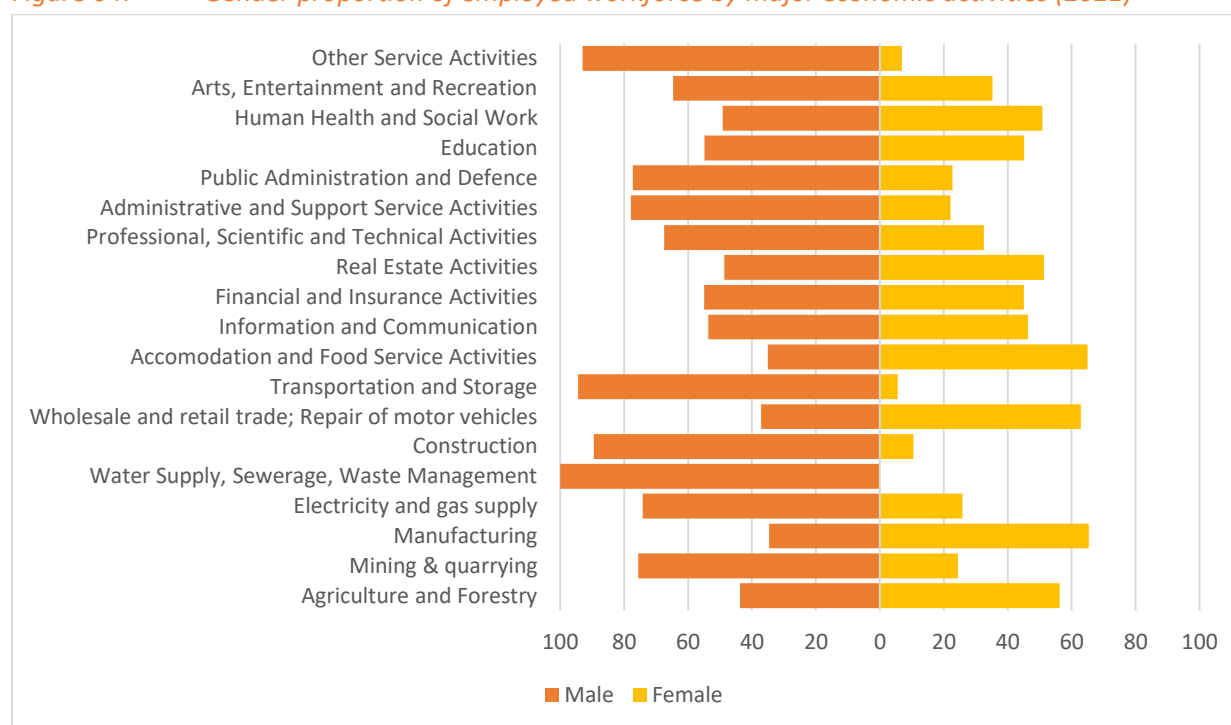
In 2021, Bhutan had a higher proportion of male workforce in mining, quarrying, transportation, storage, water supply, construction, public administration and defense. On the other hand, the proportion of female workforce was higher in accommodation, food services, manufacturing, and agriculture. In comparing employment over two periods (2010 to 2015 and 2016 to 2021), employment growth can be seen in ten different major economic activities including construction (158.9 percent), ICT (29.5 percent) and wholesale and retail trade (2.8 percent). Whereas employment has decreased in the other nine major economic activities including agriculture (-13.7 percent), real estate services (-72.1 percent), and water, sewerage, and waste management services (-54.8 percent). Major economic activities such as wholesale/retail, agriculture, and food services have done fairly well during the pandemic, with employment being stable or seeing an increase during the pandemic. Employment in the real estate activities saw a decline, especially after the Rupee crisis towards the end of the 10<sup>th</sup> plan period. Between 2019 and 2020, employment in social work has increased almost by 3000 individuals, which can be attributed to the accelerated *Desuup* program.

**Table 04:** Employment by major economic activities from 2010 to 2021

Major economic activities	Total employed (Average)		% of total employment		Employment growth
	2010-15	2016-21	2010-15	2016-21	
<b>Agriculture</b>					
Agriculture and Forestry	195,255	168,514	59.0	52.3	-13.7
<b>Industry</b>					
Mining & quarrying	1,511	1,407	0.5	0.4	-6.9
Manufacturing	18,672	22,399	5.6	7.0	20.0
Electricity and gas supply	4,713	4,218	1.4	1.3	-10.5
Water Supply, Sewerage, Waste Management	429	194	0.1	0.1	-54.8
Construction	5,997	15,525	1.8	4.8	158.9
<b>Services</b>					
Wholesale, retail trade; Repair of motor vehicles	25,192	25,891	7.6	8.0	2.8

Transportation and Storage	7,624	9,614	2.3	3.0	26.1
Accommodation and Food Service Activities	7,337	9,835	2.2	3.1	34.1
Information and Communication	1,996	2,585	0.6	0.8	29.5
Financial and Insurance Activities	2,524	3,157	0.8	1.0	25.1
Real Estate Activities	2,612	730	0.8	0.2	-72.1
Professional, Scientific and Technical Activities	1,359	796	0.4	0.2	-41.4
Administrative and Support Service Activities	3,741	3,477	1.1	1.1	-7.1
Public Administration and Defence	30,124	26,822	9.1	8.3	-11.0
Education	10,543	13,638	3.2	4.2	29.3
Human Health and Social Work	4,623	6,273	1.4	1.9	35.7
Arts, Entertainment and Recreation	1,155	1,660	0.3	0.5	43.7
Other Service Activities	5,311	5,213	1.6	1.6	-1.8

Figure 04: Gender proportion of employed workforce by major economic activities (2021)



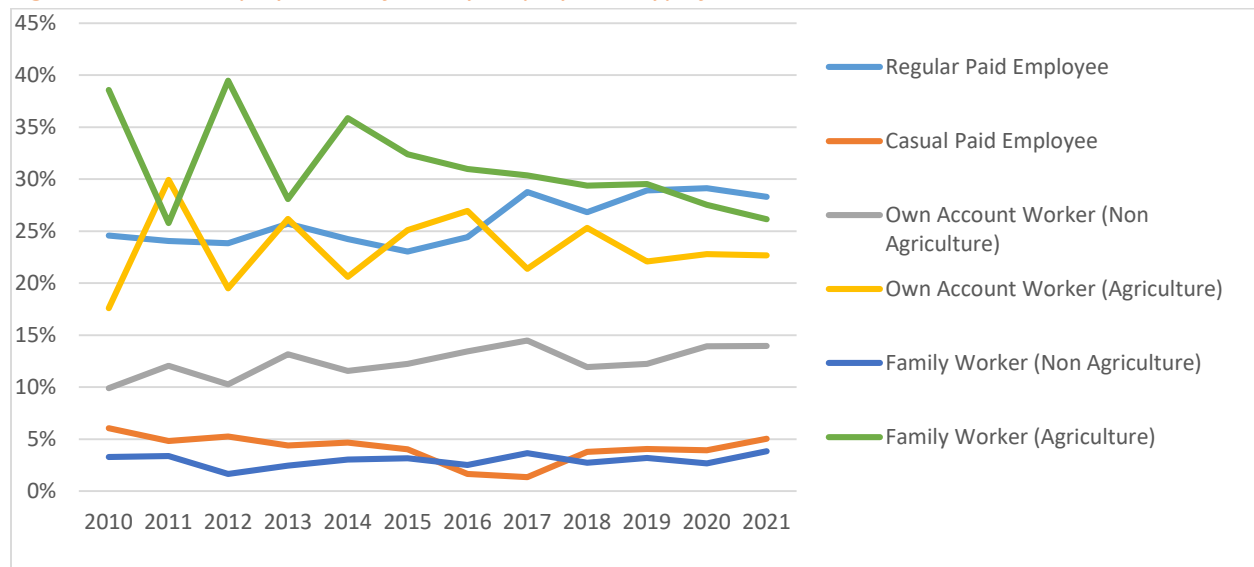
With regard to the total workforce employed by the nature/type of employment, the number is very high for family worker (both agriculture and non-agriculture activities) followed by own account worker (both agriculture and non-agriculture activities). It can be observed that the number of family workers (Agriculture) is decreasing, while the number of own-account workers is increasing over the years.

In most economies, the rising trend in the employment of contract and freelance workers has resulted in a decline in the employment of regular paid workers. As opposed to contract and freelance workers, regular paid workers have better access to employment conditions and benefits. The number of regular



paid employees has increased over the years.

Figure 05: Employed workforce by employment type from 2010 to 2021



As for the total workforce employed by major occupations, skilled agricultural workers continue to lead in terms of numbers, although a gradual decrease can be seen in recent years. The other occupations all see a steady trend from 2010 to 2021. Following skilled agricultural workers, service workers, shop and market sales workers and professionals also make up a high proportion of the employed workforce. Clerks, legislators, senior officials and managers and armed forces are the occupations with the least number of employed people.

In the year 2021, a higher proportion of male workforce was working as plant and machine operators/assemblers, armed forces, and technical/associated professionals. Whereas, a higher proportion of female workforce were working as clerical support workers, skilled agriculture workers and service/shop/market sales workers.

Over the two time periods, employment growth can be seen in six occupation categories including legislators, craft-related workers, and plant/machine operators. The growth is negative for four occupation categories, including elementary occupations, clerical support workers, and skilled agriculture workers.

While looking at the different enterprises, there has been employment growth across all the enterprises with the exception of the government sector, agriculture farming sector, and private companies. The proportion of employment is high in private businesses, with the employment growth over the two periods being 25.6 percent.

Table 05: Employment by major occupation group from 2010 to 2021

Major occupations	Total employed (Average)		% of total employment		Employment growth
	2010-15	2016-21	2010-15	2016-21	
Armed forces	8,787	9,094	2.6	2.8	3.5
Elementary occupations	11,765	11,511	3.5	3.6	-2.2
Plant and machine operators and assemblers	13,926	16,983	4.2	5.3	21.9
Craft and related workers	18,987	22,858	5.7	7.1	20.4
Skilled agricultural workers	194,208	167,769	58.4	51.9	-13.6
Service workers, shop and market sales workers	28,587	36,918	8.6	11.4	29.1
Clerical Support Workers	7,765	6,958	2.3	2.2	-10.4
Technicians and associate professionals	14,566	15,090	4.4	4.7	3.6
Professionals	27,119	23,363	8.2	7.2	-13.9
Legislators, senior officials and managers	6,570	12,468	2.0	3.9	89.8

Figure 06: Employed workforce by gender in major occupation group in 2021

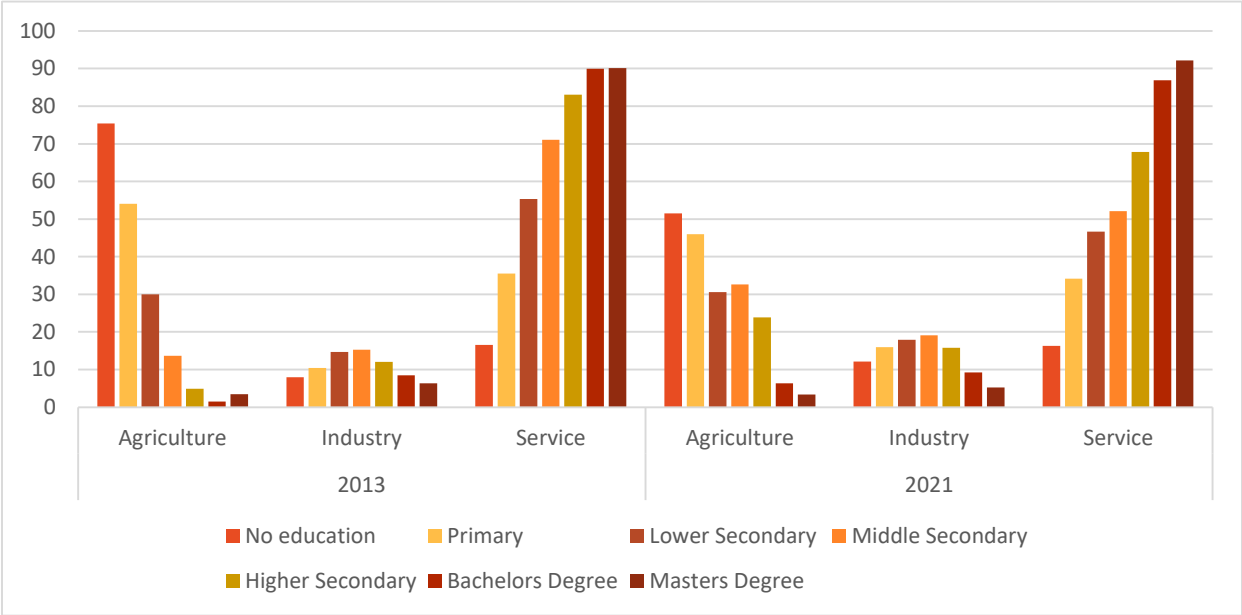


Table 06: Employment by enterprise from 2010 to 2021

Enterprise	Total employed (Average)		% of total employment		Employment growth
	2010-15	2016-21	2010-15	2016-21	
Government	42,278	37,433	12.8	11.6	-11.5
Public/Govt Companies	12,016	15,135	3.6	4.7	26.0
Private Companies	14,965	12,820	4.5	4.0	-14.3
Armed Forces	8,334	10,005	2.5	3.1	20.0
Agri. Farming	190,327	167,781	57.5	52.0	-11.8
Private Business	62,085	77,949	18.8	24.2	25.6
NGO/INGO/CSO	844	1,619	0.3	0.5	91.7

When it comes to the total employed by the level of qualification, those with no education make up the highest proportion (55.4 percent in 2013 and 41.5 percent in 2021). In 2013, 75 percent of those with no education were working in the agriculture sector, which decreased to 51 percent in 2021. The agriculture sector primarily employs those with no education or lower education. The industry sector mainly employs those with mid-level education whereas the service sector employs those with a higher level of education. In fact, a higher proportion of those with higher secondary, bachelor’s degree and master’s degree are employed in the service sector.

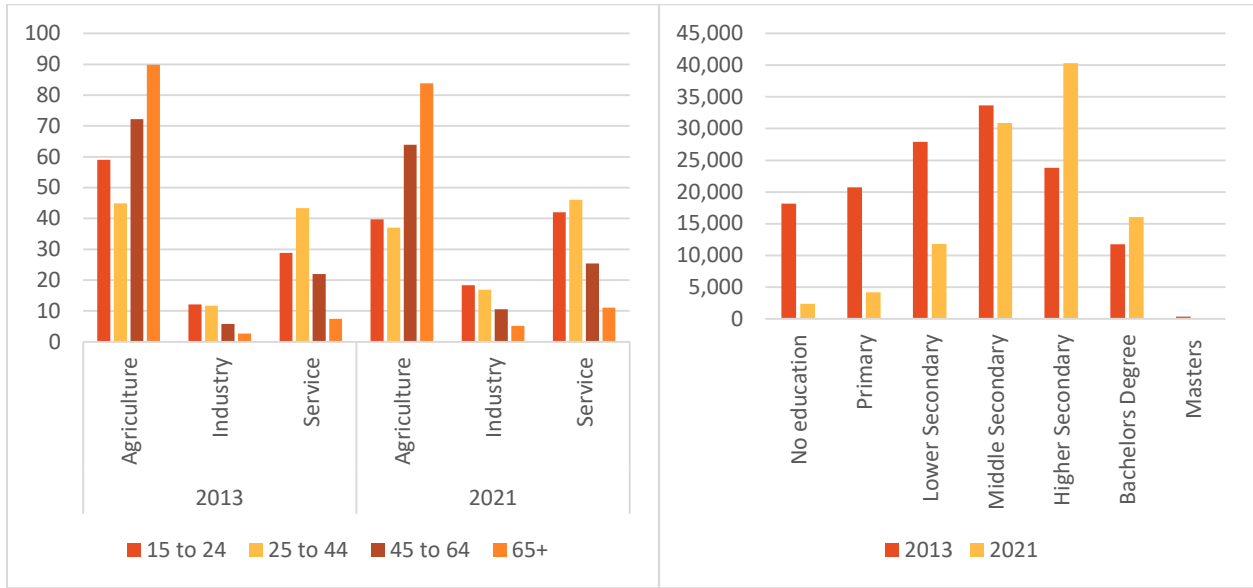
Figure 07: Employed workforce by education level by sectors in 2013 and 2021 (percentage)



Agriculture also employs a higher proportion of those in older age bracket. Over the years, the proportion of employed youth has decreased in the agriculture sector and increased in the industry and service sectors. In 2021, the proportion of those between 15 to 44 years is higher in the service sector in comparison to the other two sectors.

Over the years, there is higher number of youth with education entering the labour market. The proportion of youth with no education has significantly decreased from 33.6 percent in 2013 to 7.5 percent in 2021. However, the share of employment in the service sector has not expanded over the last ten years despite the fact that more number of educated workforce are now entering the labour market. Expansion and growth of service sector is especially important if more jobs are to be created for the educated workforce entering the labour market.

Figure 08: Employed by age group and sector in 2013 and 2021 (left) and youth by education (right)



### 3. Unemployment Trends

The costs of unemployment are not only in terms of loss of output due to underutilization of available labour input but also the loss of an individual’s social role. Employment is determined by the demand for labour and supply of labour. Demand for labour is determined in the same way as the demand for other factors of production. Full employment is defined as a state where the demand for labour equals the supply, at the existing wage rate. Unemployed persons are those that are able to and actively seeking work but who cannot get jobs during the reference week. The number of unemployed persons increased in 2020 which can be attributed to the pandemic which has led to many people being laid off from their jobs. The unemployment rate in 2020 was the highest in 11 years at 5 percent which decreased to 4.8 percent in 2021. The female population continues to contribute a higher proportion to the total number of unemployed persons compared to males.

Figure 09: Number of unemployed by gender from 2010 to 2021

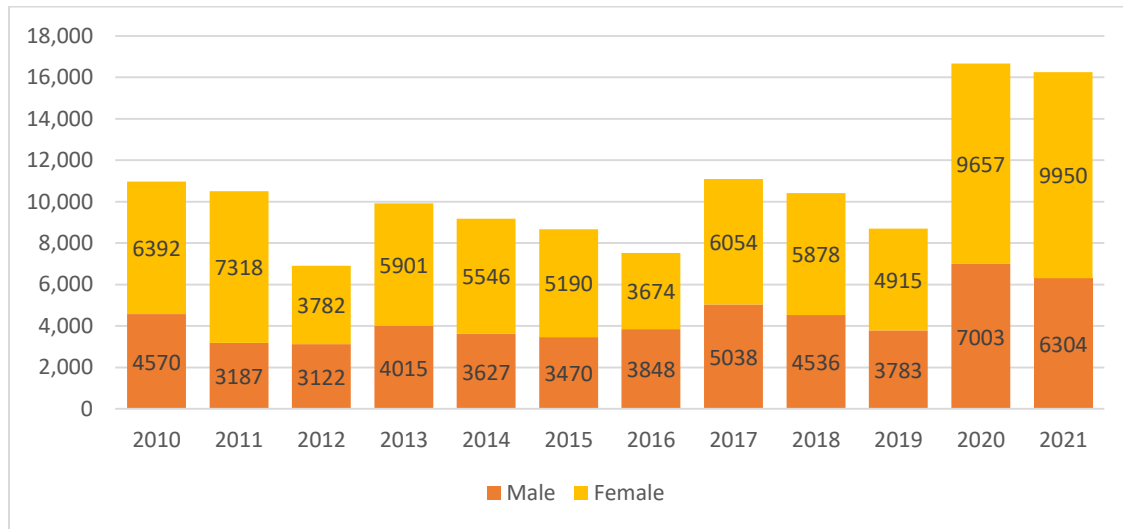
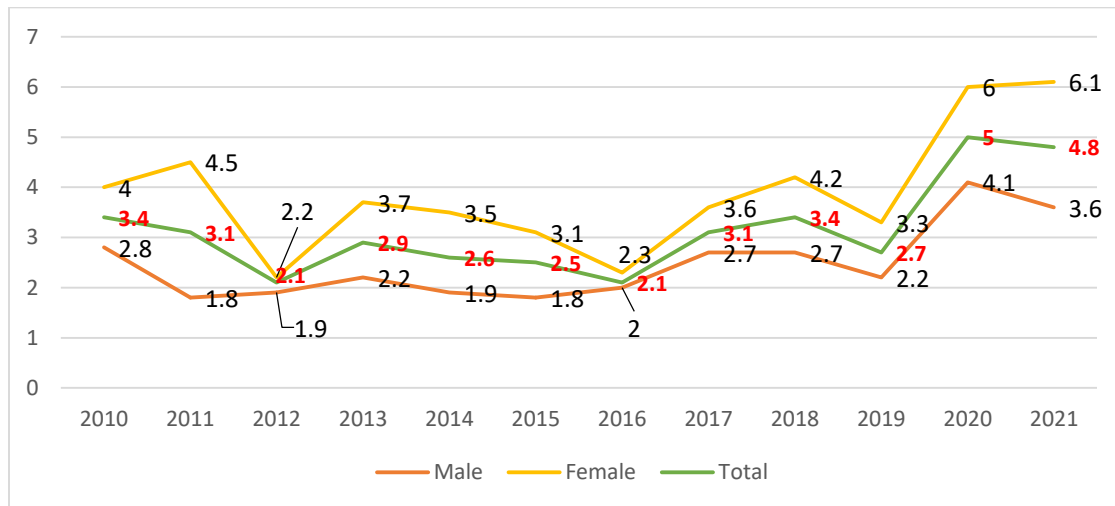


Figure 10: Unemployment rate from 2010 to 2021



A critical concern for Bhutan is youth unemployment. In 2020, the youth unemployment rate was 22.6 percent, an all-time high in 11 years. Except for in 2016, female youth unemployment continues to outweigh male youth unemployment. The implications of high youth unemployment could be dire, indicating the need for more investment in active labour market programs such as youth engagement, skilling and employment programs.

Figure 11: Number of unemployed youth from 2010 to 2021

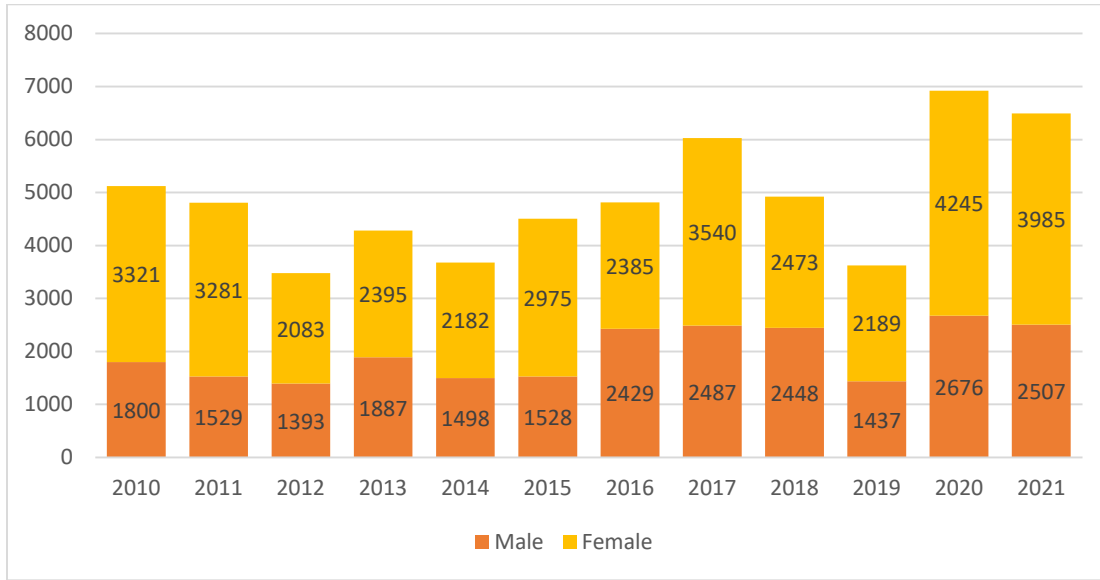
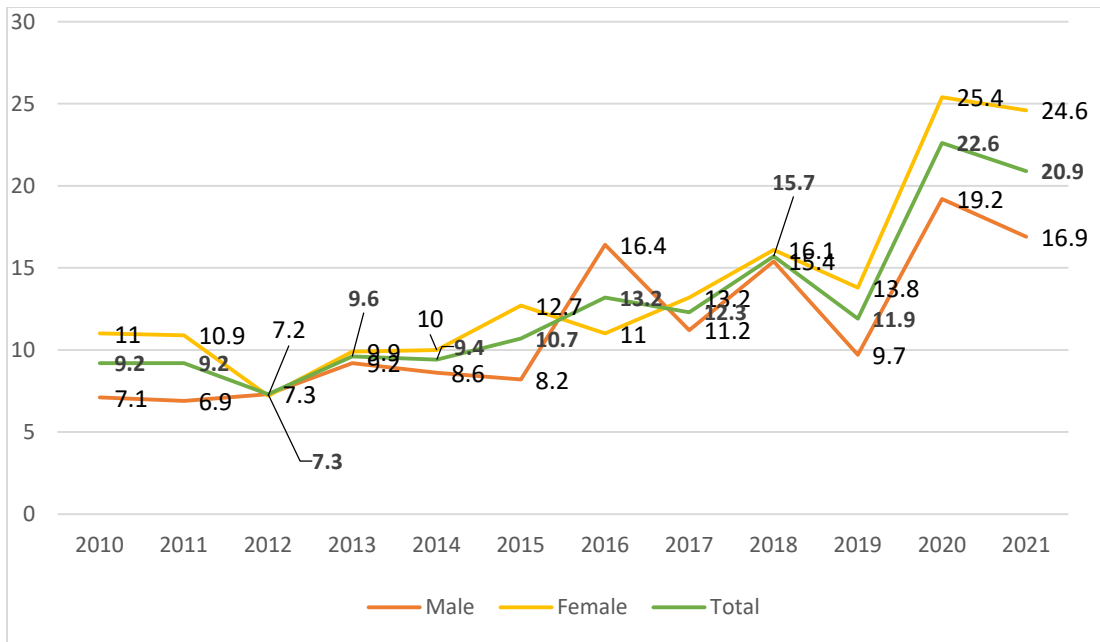
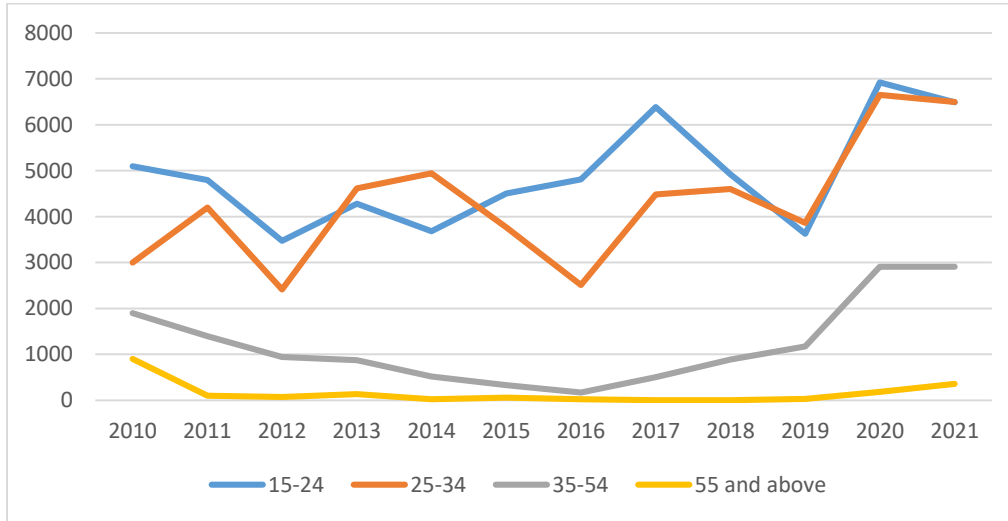


Figure 12: Youth unemployment rate from 2010 to 2021

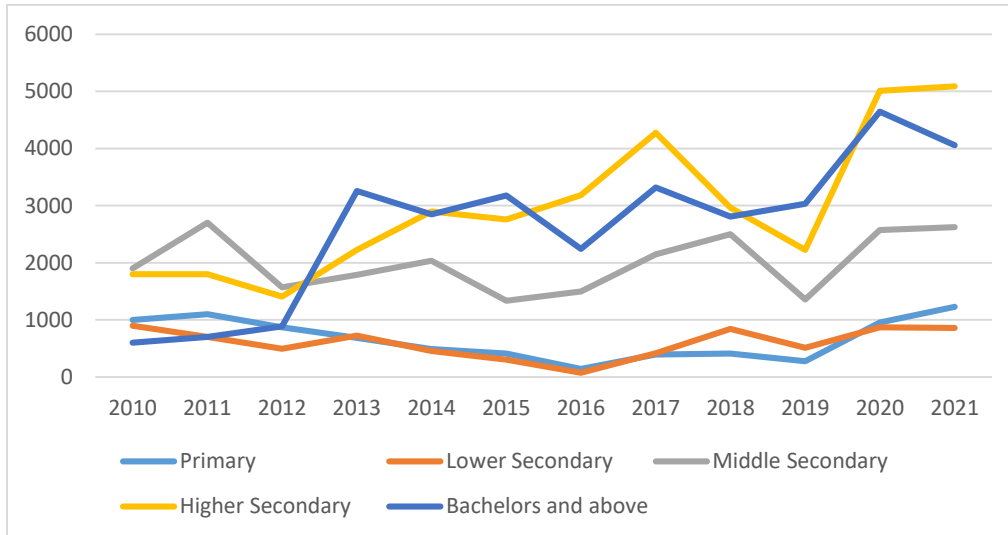


Youth between the ages of 15 to 24 and those between the ages of 25 to 34 continue to be the main group who are unemployed. The proportion of unemployed among the older age categories is much lower. This can be because a person in a lower age bracket lacks the skills and experience required by the industry. While unemployment among middle and higher secondary education graduates was a challenge till 2012, over the years, unemployment among the higher secondary and those completing their undergraduate degrees have become the key concern. In the current context, university and higher secondary graduates are the ones entering the labour market.

**Figure 13:** Number of unemployed by age group from 2010 to 2021



**Figure 14:** Number of unemployed by education qualification from 2010 to 2021

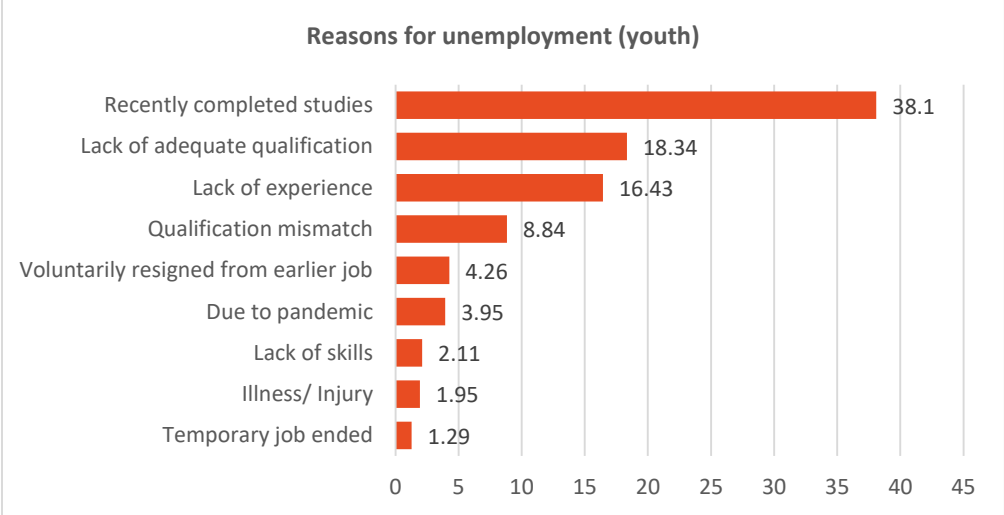


High level of unemployment has significant costs on individuals (both unemployed and employed), their families, the government, and society in general. Without the right labour transition support services such as skilling, wage subsidy, and other programs, there is the risk of new entrants falling into the trap of long-term unemployment, which is defined as unemployment beyond a period of 12 months. Experiences show that those in long-term unemployment have lower probability of securing employment. One reason being reduction in the intensity of job searches from the individuals themselves, and the other being reluctance from the employers to hire those who have been unemployed for an extended period.

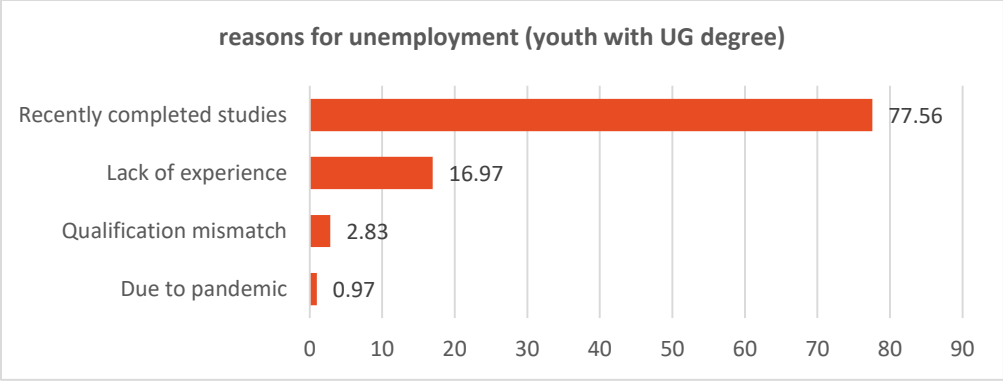
There are structural changes in the profile of the unemployed. In addition to the young group between the age of 15 to 24 years, support will have to be enhanced for those falling into the higher age bracket of 25 to 34 years. Further, active labour market programs will have to be designed for those with a higher level of qualifications. There should be a mechanism or system that allows students to look for jobs or internships while they are still studying. This will help them to be meaningfully engaged while gaining experiences for better employment opportunities.

The LFS 2021 gives insights into the reasons cited by youth as to why they are currently unemployed. The main reason is because most youth are in transition to work. Other reasons cited are lack of adequate qualification and lack of experience. Among the youth with higher education qualification, the main reason cited was of transitory nature. They also cited lack of experience as one of the main reasons.

*Figure 15: Reasons for youth unemployment (in percentage, LFS 2021)*







## 4. Labour Earning

The median monthly wage for employed youth in different categories is used to understand the entry wage, whereas the median monthly wage for the adult employed workforce (25 years and above) gives an understanding of the wage increment or increases over the years in the specific categories. Looking at the different enterprises, the monthly median entry wage for youth is the lowest for agriculture farming (Nu. 6000 in 2021) and the highest for the armed force services (Nu. 17,500 in 2021). There is low wage increment in the agriculture sector. The increment is better in other enterprises, especially government, public companies and armed force services (annexure Table A03). The overall median wage for an employed youth in 2021 was Nu. 13,000 whereas the median wage for an employed adult was Nu. 14,000.

The entry wage for those with higher education is much better than for those with a lower level of education. Youth with bachelor's degree are able to earn a monthly median wage of Nu. 17,000 (2021), whereas the amount is significantly low for those with secondary education. The wage increment/increase for an individual with a bachelor's degree is much higher than for those with a lower education level. An employed adult with a bachelor's degree is able to earn a monthly median wage of Nu. 30,000, whereas this amount is far less for those with secondary education. The entry wage is also higher for the urban areas as compared to the rural areas. The amount is higher for those in the capital city as compared to the other urban areas. Similarly, the wage increment in the urban areas is much better than the rural areas. In fact, there is no wage increment in the rural areas.

*Table 07: Monthly median earnings for youth and adult by level of qualification*

Education	Youth				Adult			
	2018	2019	2020	2021	2018	2019	2020	2021
Lower Secondary	7,000	10,000	10,000	12,000	12,000	15,000	15,000	15,000
Middle Secondary	8,000	10,000	10,000	12,000	14,000	15,000	15,000	15,000
Higher Secondary	9,000	12,000	12,000	13,500	15,625	16,000	17,000	18,000
Bachelor's Degree	18,000	21,000	22,000	17,000	22,000	28,000	29,000	30,000

*Table 08: Monthly median earnings for youth and adult by location and employment type*

Area	Youth				Adult			
	2018	2019	2020	2021	2018	2019	2020	2021
Urban	9,350	11,000	11,000	12,000	15,000	19,000	19,250	20,000
Rural	7,000	10,000	11,398	14,000	6,000	8,500	10,000	10,000
Thimphu	10,000	12,000	11,500	12,000	17,000	20,000	20,000	20,000
Regular paid	9,000	10,000	11,398	12,000	14,000	16,700	18,000	18,000
Casual/ Contract	10,000	15,000	12,000	18,000	11,800	15,000	12,000	15,000
Own account (non-Agri)	10,000	15,000	15,000	15,000	15,000	15,000	15,000	18,000
Own account (Agri)	4,000	5,000	5,000	6,000	4,000	4,500	6,000	5,000

The monthly earning data from LFS (2018 to 2021) shows that individuals employed in urban areas and in regular paid jobs earn more compared to other groups. Females however earn less in comparison to their male counterparts. Youth earn less in comparison to the adult workforce, and the earning in 2021 incremented in comparison to the previous years.

The gender earning gap is the average difference between the monthly earning (LFS) for employed men and women. The gender earning gap for both youth and adult employed population has varied over the years, with females earning less than men. In 2019, before the pandemic, the gender pay gap for employed adults was 80.4, which means for every Nu. 100 paid to a male adult, a female adult was paid only Nu. 80.4. The gender earning gap in 2021 was 77.2 for employed adults and 87.7 for employed youth. Annexure Table A04 provides more information on the gender earning gap by enterprise, major occupation, major economic activities, and education level. Across all these categories, female earning is less in comparison to males.

*Table 09: Gender monthly earning gap for youth and adults from 2013 to 2021 (in Nu.)*

<b>Adult</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Male	11,719	14,935	16,679	19,250	16,309	14,858	18,210	19,262	20,293
Female	8,836	12,979	12,036	15,913	12,430	11,920	14,642	14,889	15,656
Earning gap (female to male)	<b>75.4</b>	<b>86.9</b>	<b>72.2</b>	<b>82.7</b>	<b>76.2</b>	<b>80.2</b>	<b>80.4</b>	<b>77.3</b>	<b>77.2</b>
<b>Youth</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Male	7,337	10,682	12,158	14,041	12,200	11,420	13,522	14,818	15,866
Female	7,998	9,175	11,272	12,569	11,118	10,051	12,980	11,279	13,913
Earning gap (female to male)	<b>109.0</b>	<b>85.9</b>	<b>92.7</b>	<b>89.5</b>	<b>91.1</b>	<b>88.0</b>	<b>96.0</b>	<b>76.1</b>	<b>87.7</b>

# Labour Supply

## 1. Education and TVET Institutions

The formal education system in Bhutan was introduced in the 1950s and since then it has expanded to address the basic educational needs and development of human resources required for the socio-economic development of the country. From grades PP to X, Bhutan's school-based education system provides free basic education for 11 years. Moreover, starting 2019, the government started to offer scholarships to students who pass class X to continue their education till class XII in both public and private higher secondary schools in the country. Hence, the general education system consists of seven years of primary education (PP-VI) and six years of secondary education (VII-XII). After completing class XII, students can either enter the Technical and Vocational Education and Training (TVET) or continue their education at one of the country's Tertiary Education Institutes (TEIs) for a diploma or bachelor's degree.

While Zorig trades were provided in the country for aeon and strengthen in the 17<sup>th</sup> century, with the advent of modernization in the 1960s, the importance of contemporary TVET in the country was realized during which the first TVET institute, Kharbandi Technical School, was established in 1964, which was later renamed as the Royal Technical Institute (RTI). The main objective of the institute was to train Bhutanese youth at the certificate level in four trades; automobile, general mechanic, building construction and electrical engineering. A decade later, in 1974, the Royal Bhutan Polytechnic (RBP) was established in Dewathang, Samdrup Jongkhar with the aim of higher level technical training in trades such as - civil engineering, electrical engineering and surveying. Today, the number has increased to about 141 TVET institutions, both private and public.

As indicated in the following table, the schools, TEIs and TVET institutions have increased. The country currently has two universities: The Royal University of Bhutan (RUB) and the Khesar Gyalpo University of Medical Science of Bhutan (KGUMSB). The different TEIs are located in different parts of the country and provide courses in specific fields of studies. The different TEIs under KGUMSB provide certificate, diploma, and post-graduation studies in health areas, whereas the TEIs affiliated with RUB offer diploma, UG, and master's studies in arts and humanities, ICT, agriculture, engineering, business and management, and education. The number of TEIs have significantly increased over the years with more private proponents investing to set up TEIs in the country.

*Table 10: Number of HRD institutions in 2010 and 2022*

HRD Institutions	2010			2022		
	Government	Private	Total	Government	Private	Total
Primary	351	36	<b>387</b>	808	74	<b>882</b>
LS	88	2	<b>90</b>	58	1	<b>59</b>
MS	51	1	<b>52</b>	64	1	<b>65</b>
HS	30	13	<b>43</b>	69	20	<b>89</b>
TEIs	11	1	<b>12</b>	15	3	<b>18</b>
TVET	9	50	<b>59</b>	13	128	<b>141</b>

SN	Name of TEIs	Ownership	University	Courses	Area of focus
1	Apollo Bhutan Institute of Nursing	Private	KGUMSB	1	Health
2	Arura Academy of Health Sciences	Private	KGUMSB	1	Health
3	Faculty of Nursing and Public Health	Government	KGUMSB	19	Health
4	Faculty of Postgraduate Medicine,	Government	KGUMSB	11	Health
5	Faculty of Traditional Medicine	Government	KGUMSB	5	Health
6	College of Natural Resources	Government	RUB	9	Agriculture and Forest
7	Jigme Namgyel Engineering College	Government	RUB	10	Engineering and related technologies
8	College of Science and Technology	Government	RUB	9	Engineering and related technologies
9	Samtse College of Education	Government	RUB	15	Education
10	Paro College of Education	Government	RUB	14	Education
11	Gedu College of Business Studies	Government	RUB	6	Business and Management
12	Gyalpozhing College of Information Technology	Government	RUB	3	ICT
13	Jigme Singye Wangchuck School of Law	Government		1	Law
14	Norbuling Rigter College	Private	RUB	6	Arts and humanities
15	College of Language and Cultural Studies	Government	RUB	4	Arts and humanities
16	Royal Thimphu College	Private	RUB	12	Arts and humanities
17	Sherubtse College	Government	RUB	22	Arts and humanities
18	Yonphula Centenary College	Government	RUB	1	Arts and humanities
	<b>Total</b>			<b>149</b>	

The Registration and the Establishment Regulation mechanism put in place in 2010 has had a significant impact on the number of TVET providers in the country. Over the years, the number of TVET institutions have gradually increased. As of February 2022, there were 135 registered training providers in the country. The eight institutions under the direct administration of the DWPSD provide specialized skills mainly in the construction, hydropower, traditional arts and craft, and automobile areas. These are areas which require comparatively higher investment. While many private training providers have strung up over the years, most of these institutions are located in urban areas (especially Thimphu Dzongkhag) and provide courses in tourism, ICT, management, and other generic fields. With efforts to align TVET courses with the BVQF, courses offered in these institutions have increased in the 12<sup>th</sup> plan period. Furthermore, efforts to fund accredited courses increased the number of courses accredited from the private training provider's side.

SN	Ownership	Number of TVET institutions	Number of Courses		Key area of focus
			Accredited	Non -Accredited	
1	DWPSD	8	73	46	Construction; Traditional Arts & Crafts; Hydropower; Automobile
2	Other Government	8	4	23	Agriculture; Livestock; Culture; Tourism & Hospitality, Arts & Crafts
3	NGO	6	3	21	Culture; Tourism & Hospitality; Arts & Crafts
4	Corporation	5	0	23	Finance; ICT
5	Private	108	72	369	Business & Management; Tourism & Hospitality; ICT; Driving
	<b>Total</b>	<b>135</b>	<b>152</b>	<b>482</b>	

As indicated in the following table, the increased access due to the increase in the number of education and training institutions in the country has had significant impact on the level of education in the country. However, the country still have lower proportion of workforce with tertiary education (9.6 percent in 2021). There is still higher proportion of workforce with no education in 2021 (42.9 percent)

*Table 11: Education profile of labour force between 2010 and 2021*

SN	Education Level	2010		2021	
		Number	%	Number	%
1	No Education	201,946	62.5	145,157	42.9
2	Primary	34,780	10.8	37,285	11.0
3	Lower Secondary	16,656	5.2	17,862	5.3
4	Middle Secondary	25,104	7.8	35,078	10.4
5	Higher Secondary	14,770	4.6	44,303	13.1
6	Degree	11,447	3.6	32,450	9.6
7	NFE	11,701	3.6	26,241	7.8
8	Religious Professionals	6,653	2.1	na	na
	<b>Total</b>	<b>316,405</b>	<b>100.0</b>	<b>338,376</b>	<b>100.0</b>

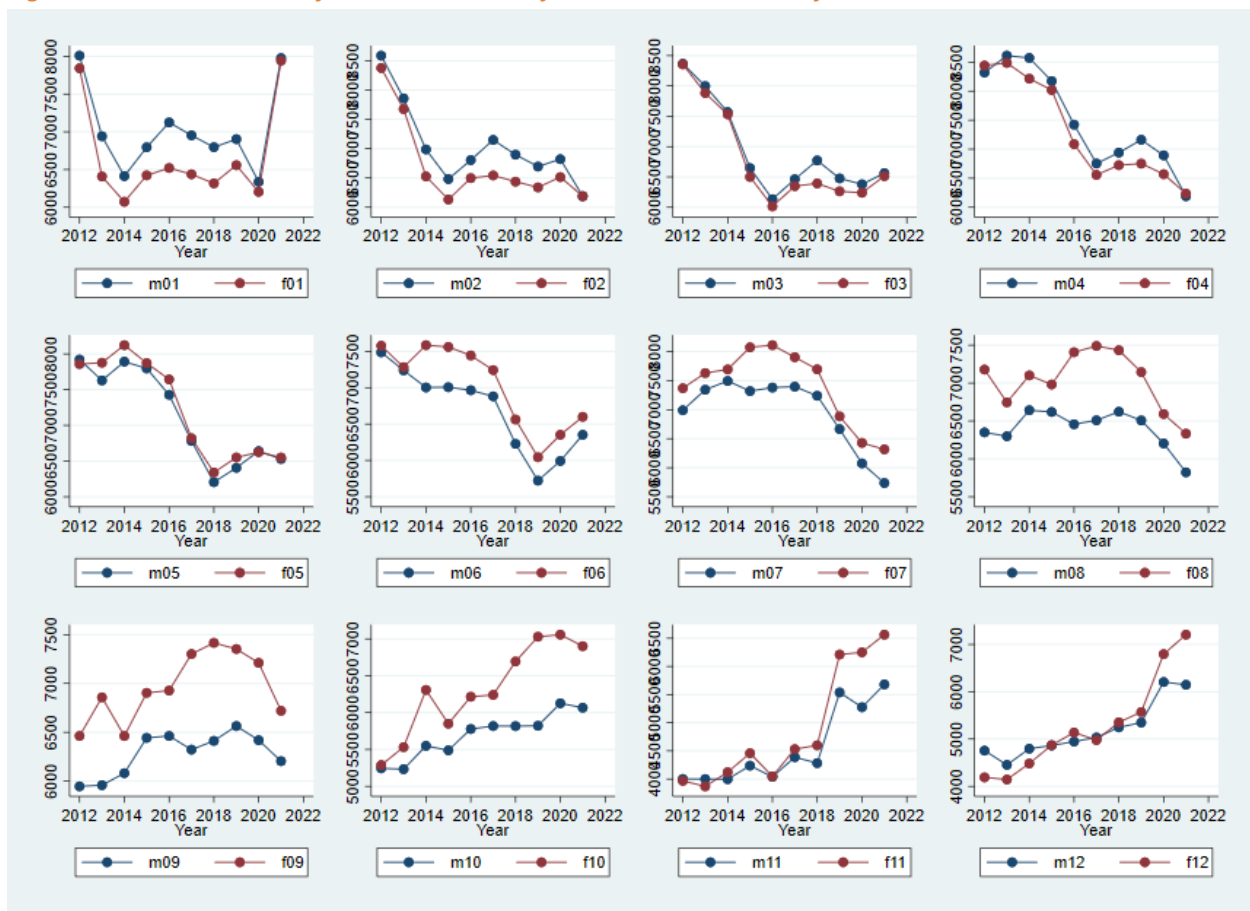
## 2. Enrollment in Education and TVET

A total of about 168,324 students were enrolled in the education system in the year 2021, out of which a huge number were in the primary education level. Between the years 2012 and 2021, the total number of students was on the decline, which can be attributed to the decreasing number of newborns from 1990. The effect of the decline in the number of newborns can be seen while looking at the enrollment over the last ten years from class PP to class XII. Furthermore, the number of students in all the grades has been on the decline in the recent years due to decrease in number of new borns since 1990s.

Table 12: Student enrollment in education system from 2012 to 2021

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Primary	110,617	104,323	101,667	99,291	96,654	94,184	92,298	89,719	94,165	92,621
Lower Secondary	27,887	28,018	28,929	28,992	29,353	29,296	28,989	27,200	25,299	24,210
Middle Secondary	22,941	23,581	24,400	24,686	25,382	25,682	26,338	26,767	26,813	25,892
Higher Secondary	16,914	16,469	17,397	18,433	18,171	18,930	19,483	22,671	24,529	25,601
<b>Total</b>	<b>178,359</b>	<b>172,391</b>	<b>172,393</b>	<b>171,402</b>	<b>169,560</b>	<b>168,092</b>	<b>167,108</b>	<b>166,357</b>	<b>170,806</b>	<b>168,324</b>

Figure 16: Male and female enrollment from class I to class XII from 2012 to 2021



Bhutan has the lowest tertiary enrollment rates, even in comparison to regional neighbours like India, Bangladesh, and Sri Lanka. As per the World Bank WDI, tertiary enrollment rate for Bhutan was 15.6 percent in 2019. In the same year, the enrollment rate was 116 percent in Australia, 91.1 percent in Singapore, and 43.1 percent in Malaysia. Developed countries have much higher enrollment into the tertiary education system. Countries with high tertiary enrollment rates also have lower unemployment with advanced education (bachelor’s degree and above) in comparison to unemployment with basic education (primary and lower secondary education). However, the situation is reversed in Bhutan.

Vocational enrollment in Bhutan was 1536 in 2017, which accounts for 7 percent of secondary education graduates. East Asian neighbours like Thailand and Malaysia have vocational enrollment of more than 10 percent. Australia, Germany, UK and Sweden have vocational enrollment of more than 20 percent.

In 2021 gross enrolment ratio at tertiary level within Bhutan (19 to 23 years old) was **18.7 percent** (State of Tertiary Education of Bhutan 2021). Enrollment into the in-country public TVET institutions was 729 (TVET Statistic of Bhutan 2021) which accounts for **5.6 percent** of higher secondary graduates in 2021.

*Table 13: Country comparative of tertiary enrollment rate and unemployment, 2019*

Country	Tertiary enrollment rate	Youth unemployment rate (modeled ILO estimate)	Unemployment rate (modeled ILO estimate)	Unemployment with advanced education (% of total labor force with advanced education)	Unemployment with basic education (% of total labor force with basic education)
<b>South Asia</b>					
Bhutan	15.6	11.0	2.5	11.1**	5.3**
India	28.6	22.7	5.3	15.1	3.8
Bangladesh	24.0	12.7	4.4	10.7*	3.5*
Sri Lanka	21.1	21.3	4.3	7.8	3.1
Nepal	13.3	6.0	3.1	8.3*	9.8*
<b>East Asia</b>					
Thailand	49.3*	4.3	0.7	1.5	0.6
Singapore	91.1	7.7	3.1	4.8*	5.4*
Malaysia	43.1	11.2	3.3	3.9	2.2
<b>Developed countries</b>					
Australia	116.0	11.8	5.2	2.2	13.2
Sweden	77.3	20.2	6.8	3.7	20.6
UK	65.8	11.1	3.7	2.5	6.5
Canada	75.7	11.0	5.7	4.4	11.6
Germany	73.5	5.8	3.1	1.8	7.9

source: World Bank WDI; \* Other years; \*\* calculated from LFS 2019; \*\*\* Modeled ILO estimate



Table 14: Country comparative of vocational enrollment, 2017

Country (2017)	Secondary education, vocational pupils	Secondary education, vocational pupils (% female)	Vocational pupil (% Secondary education)
<b>South Asia</b>			
Bhutan	1,536	34.9	2
India	2,300,769	16.6	1.8
Bangladesh	612,601	27.3	4
Sri Lanka	99,702	47.6	3.8
Nepal	N.A	N.A	N.A
<b>East Asia</b>			
Thailand	650,886	38.7	10.3
Singapore	N.A	N.A	N.A
Malaysia	368,991	43.1	13.4
<b>Developed countries</b>			
Australia	970,735	39.3	36.6
Sweden	186,467	51.5	20.4
UK	2,211,467	50.4	34.6
Canada	128,399	45.9	4.8
Germany	1,347,863	35.9	19.2

source: World Bank WDI

### 3. Forecast of New Entrants in 13<sup>th</sup> plan period

Information on the actual number of students currently enrolled in different fields of studies, in different years, with different universities and colleges in the country were collected from the respective universities and TEIs. Universities and TEIs were also asked to provide information on the new courses that will be introduced in the 13<sup>th</sup> plan period with annual enrollment numbers. Data on the UG scholarship students and the number of self-funded students enrolled through the Education Consultancy and Placement Firms (ECPF) were collected from the Ministry of Education and Skills Development (MoESD).

The number of UG and diploma graduates provided in the following two tables include the number of students graduating from the in-country colleges and universities, DAHE scholars, and self-funded students enrolled through the ECPFs.

*Table 15: UG graduates by broad field of studies from 2023 to 2028*

<b>Broad field</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>
Agriculture	214	195	187	132	154	154	154
Arts and Humanities	1056	1051	1028	942	936	936	936
Business and Management	765	711	695	621	620	620	620
Education	340	172	206	170	177	177	177
Engineering	370	341	426	355	310	314	314
Health	162	124	295	212	155	159	159
Hospitality and Tourism	37	66	43	1	0	0	0
ICT	217	359	197	136	135	135	135
Law	18	19	27	21	19	21	21
Science	145	264	240	212	209	209	209
<b>Total</b>	<b>3324</b>	<b>3302</b>	<b>3344</b>	<b>2802</b>	<b>2715</b>	<b>2725</b>	<b>2725</b>

*Table 16: Diploma graduates by broad field of studies from 2023 to 2028*

<b>Broad field</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>
Arts and Humanities	3	8	0	0	0	0	0
Business and Management	3	9	0	0	0	0	0
Education	25	29	25	25	25	25	25
Engineering	303	158	178	177	177	178	178
Health	410	397	403	277	277	277	277
Hospitality and Tourism	6	17	3	0	0	0	0
ICT	1	0	0	0	0	0	0
<b>Total</b>	<b>751</b>	<b>618</b>	<b>609</b>	<b>479</b>	<b>479</b>	<b>480</b>	<b>480</b>

In assessing the number of Class XII graduates in the 13<sup>th</sup> FYP period, the education data and information on the actual number of students from class PP to Class XII from the year 2012 to 2021 were used. The forecast was made using the following assumption:

- Regression result of male and female student enrollment and student movement to higher grade in the subsequent year from 2012 to 2021 for all grades (class PP to Class XII).
- The regression result takes into account that the current practice of no cut-off policy for class X

will be continued in the 13<sup>th</sup> plan period, considering the National Gyalsung Program which will be initiated in the 13<sup>th</sup> plan period benefiting all class XII graduates.

- The one year National Gyalsung Program for class XII graduates may commence in the year 2024, benefiting the 2023 class XII graduate cohort.
- Tertiary Education Roadmap for Bhutan 2017-2027, states that ‘in-take capacity of in-country TEIs is about 35 percent... The roadmap aspires to enhance access to relevant tertiary education within the country from 35 percent to 55 percent of higher school graduates to curb the severe drain on the nation’s economy and ease youth unemployment’. However, considering the enrollment rates into the tertiary education (both UG and diploma programs within and outside Bhutan) which is 25.2 percent in 2020 and 24.1 percent in 2021, only about 25 percent will be enrolled in the tertiary education programs and the remaining will enter the labour market.

A total of 13,478 class XII students will graduate in the year 2023. The graduate number is expected to reduce over the years, with the graduate number dropping to 12,316 in the year 2029.

**Table 17: Forecast of higher secondary graduates from 2023 to 2029**

	2023	2024	2025	2026	2027	2028	2029
Enrollment in Class XII	13,478	12938	12,462	12,241	12,667	12,535	12,316
National Gyalsung Program graduates			13,478	12938	12,462	12,241	12,667
Enrollment in TEIs (25%)	<b>3,444</b>	<b>0</b>	<b>3,370</b>	<b>3,235</b>	<b>3,116</b>	<b>3,060</b>	<b>3,167</b>
New entrants (Class XII)	10,332	0	10,109	9,704	9,347	9,181	9,500

In making the forecast of new entrants in the 13<sup>th</sup> plan period, the following assumptions were made:

- The key point of entry into the labour market will be mainly:
  - Tertiary education institutions, especially those with undergraduate and diploma degrees; and
  - Class XII not moving into tertiary education.

**Table 18: Forecast of new entrants in the 13<sup>th</sup> plan period**

Qualification	2023	2024	2025	2026	2027	2028	2029
Undergraduate	3324	3302	3344	2802	2715	2725	2725
Diploma	751	618	609	479	479	480	480
Class XII	10,332	0	10,109	9,704	9,347	9,181	9,500
<b>Total</b>	<b>14,407</b>	<b>3,920</b>	<b>14,062</b>	<b>12,985</b>	<b>12,541</b>	<b>12,386</b>	<b>12,705</b>

#### 4. Youth Jobseeker Perception

The Jobseeker Survey 2022 captures the profile and insight of unemployed jobseekers, both youth and adults, in the country. Perception of youth jobseekers is especially important, considering the supply of youth labour force in the 13<sup>th</sup> plan period and design of appropriate interventions.

The most important factors considered by the youth jobseekers in the sequence of high to low frequency are: gain work experience; interest in job; job security; good working conditions; high salary; and career advancement opportunities. The earning expectation of youth jobseekers is another important factor.

*Table 19: Factors important for youth jobseekers in seeking employment (percentage)*

Parameters	Female	Male	Total
Gain work experience	83	83	83
Interest in job	66	62.7	64.7
Job security	65.8	59.2	63.2
Good working condition	50	38.6	45.5
High salary	34.2	44.9	38.4
Career advancement opportunities	36.3	41.4	38.3
Job workplace location	9.2	7.5	8.5
Company reputation	7.4	8.1	7.7
Parents desire	7.4	8	7.6
Job relevance	6.3	7.6	6.8
Social status associated with job	3.7	2.8	3.4
Friends recommendation	0.3	0.8	0.5

*Table 20: Expected monthly salary of youth jobseekers by gender and education (percentage)*

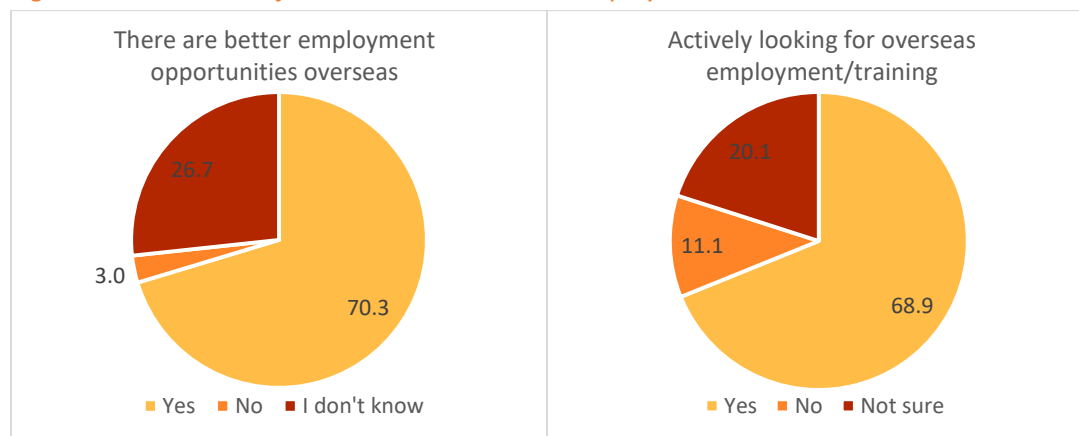
Expected monthly salary	Female	Male	Degree	Higher secondary
Less than Nu. 5,000	1.4	1.2	1.1	1.4
Nu 5,001 to Nu 7,000	6	2.8	3.3	6
Nu. 7,001 to 10,000	21.1	8.6	13.1	18.8
Nu. 10,001 to Nu. 15,000	38.1	31.8	18.2	38.2
Nu. 15,001 to Nu 20,000	20.8	31.7	35.3	22.8
Nu, 20,001 to Nu. 25,000	8.5	16	18.9	9.3
More than Nu 25,000	4.2	8	10.2	3.6

Though unemployment is a big concern for the country, placing scarce human resources for employment outside Bhutan has been the last resort to resolve the unemployment issue till the 10<sup>th</sup> FYP period. HRD plans and strategies were designed with the intention to cater to the domestic HR requirements.

However, with the initiation of the 11<sup>th</sup> FYP period, overseas employment was initiated to meaningfully engage youth in terms of developing their skills while giving them an opportunity to earn. The Overseas Employment Program (OEP) when first initiated was implemented in two different modes: 1. Direct collaboration between the government and the overseas company 2. Placement through the Registered Bhutanese Overseas Employment Agents. Over the years, overseas employment has gained a lot of momentum in terms of popularity and is one of the preferred employment choices, which is a matter of concern for the country, considering the high requirement of human resources in our own industries.

70.3 percent of youth jobseekers said that they think employment opportunities are much better overseas and 68.9 percent are actively looking for employment/training overseas. This staggeringly high proportion of youth jobseekers pursuing overseas employment should be a matter of concern since it will have implications on the local labour supply. The proportion of adult jobseekers who said that they are actively looking for employment/training overseas is also high (59.5 percent).

Figure 17: Youth jobseekers and overseas employment



Many Bhutanese pursue education and training overseas on their own funding. Many of them are guided by the registered Education Consultancy and Placement Firms (ECPFs) or the Training Consultancy and Placement Firms (TCPFs), regulated by the MoESD. The recent data on the students enrolled through the ECPFs show that majority (48 percent) of the total privately funded students are studying in Australia followed by India (42.8 percent). The number of students in other countries are very negligible.

With increasing importance on TVET, the TCPF Regulation was put in place to support and guide Bhutanese interested to pursue vocational studies outside Bhutan. The Regulation came into effect very recently (2022). A total of 12 TCPFs have registered thus far and the key partners of majority of these TCPFs are Australian counterpart universities and institutes due to increasing demand from Bhutanese to pursue studies in Australia.

# Labour Demand

## 1. Job Prospect in Current Establishments

The Establishment survey and Employee survey conducted in 2022, have been instrumental in gathering human resource requirements and human resource development data and information from the establishments registered on the Bhutan Labour Market Information System (EER system). The EER captures all licensed business establishments in the country including one-person operated businesses with the only exception of government agencies under the purview of RCSC, armed forces, and foreign international agencies. The EER also captures information on the government delinked agencies such as RUB, KGUMSB and others. From a total of 26,540 establishments (listed on the EER) falling within 18 major economic activities categories as listed below, about 14.1 percent were hired in 2019, which dropped to 10 percent in 2020 but saw an increase in 2021 with the percentage bouncing back to 12.9 percent.

The data also shows a positive HR growth in most establishments that hired, meaning the number of new hires were more than the number of HR exits. 10.8 percent of the total establishments had a positive HR growth. With the pandemic situation improving in 2021, the HR growth increased to 9.1 percent in 2021 in comparison to 6.7 percent in 2020. In 2021, the main HR growth was in construction activities.

*Table 21: Establishment that hired and establishment with HR growth (% from 2019 to 2021)*

Economic Activities	% of establishment that Hired one or more person			% of establishment with HR growth		
	2019	2020	2021	2019	2020	2021
Agriculture, forestry and fishing	11.4	8.1	10.1	9.6	7.2	8.4
Mining and quarrying	19.8	18.9	33.8	12.6	11.2	23.5
Manufacturing	33.3	24.2	28.6	23.6	10.7	21.4
Electricity, gas, steam and air conditioning supply	42.4	37.5	65.6	35.3	30.4	36.4
Water supply; sewerage, waste management and remediation	43.6	32.2	0.0	32.5	32.2	0.0
Construction	44.9	31.3	55.8	35.7	26.8	46.3
Wholesale and retail trade; repair of motor vehicles/motorcycle	8.3	7.1	8.4	6.6	5.1	6.0
Transportation and storage	35.1	22.0	19.8	31.1	14.9	10.7
Accommodation and food service activities	13.6	8.1	11.8	10.4	5.7	7.0
Information and communication	41.0	31.5	27.2	30.0	23.4	24.1
Financial and insurance activities	38.7	31.3	29.3	36.4	19.6	17.3
Real estate activities	0.0	30.8	30.8	0.0	0.0	30.8
Professional, scientific and technical activities	28.3	17.1	28.2	17.0	11.2	19.4
Administrative and support service activities	28.3	7.7	6.0	23.3	3.5	4.4
Education	57.1	34.4	47.3	45.5	26.1	32.3
Human health and social work activities	26.4	16.2	36.1	26.4	13.0	27.2
Arts, entertainment and recreation	13.3	9.2	7.1	10.1	7.3	6.5
Other service activities	13.1	12.0	15.2	7.6	6.4	10.2
<b>Total</b>	<b>14.1</b>	<b>10.0</b>	<b>12.9</b>	<b>10.8</b>	<b>6.7</b>	<b>9.1</b>

Out of the 26,540 establishments, a total of 3734 establishments hired in 2019. The number was 2663 establishments in 2020 and 3417 establishments in 2021. While the number of establishments that hired is smaller in proportion, the number of new hires was 22,309 individuals in 2019. The number decreased in 2020 but saw an increasing trend in 2021. However, while the new hire number saw a fluctuation in the last three years, the number of exits were consistent over the last three years. The HR exit was about 11,007 in 2021, with the exits being the largest in construction, manufacturing, wholesale/retail sale and accommodation and food services. Considering the fact that exits in the respective years were replaced through new hires, overall, there was additional new hire of about 10,000 individuals in 2019, 4000 individuals in 2020, and 6000 individuals in 2021. Going forward, with steady economic growth and progress, the existing businesses in the economy may generate close to about 10,000 new jobs every year.

Considering the fact that 2019 was the year where the effect of pandemic was not felt and the economic situation was fairly normal, the HR recruitment situation among the existing establishments was very positive and high in terms of number in comparison to the subsequent years. The number of hires far exceeded the number of exits, meaning the HR growth was fairly large. With the pandemic situation coming to an end, we can expect similar pattern in the future hires.

*Table 22: Total number of new hire and total number of exits from 2019 to 2021*

Economic Activities	Total Number of HR Hire			Total Number of HR Exit		
	2019	2020	2021	2019	2020	2021
Agriculture, forestry and fishing	167	137	66	96	67	264
Mining and quarrying	199	223	238	140	114	135
Manufacturing	3199	2040	2425	1897	1997	1641
Electricity, gas, steam and air conditioning supply	434	216	198	262	142	284
Water supply; sewerage, waste management/remediation	86	61	0	47	9	5
Construction	7168	6529	7348	4326	3596	4172
Wholesale and retail trade; repair of motor vehicles and	3345	2647	2918	1463	1739	1469
Transportation and storage	174	87	68	55	61	51
Accommodation and food service activities	3831	1498	1654	1704	2236	1399
Information and communication	567	503	596	266	242	284
Financial and insurance activities	372	198	208	204	160	140
Real estate activities	0	12	20	0	12	0
Professional, scientific and technical activities	246	111	171	131	73	113
Administrative and support service activities	1043	492	416	635	692	465
Education	957	545	727	319	250	373
Human health and social work activities	42	15	46	6	9	18
Arts, entertainment and recreation	182	110	91	105	130	42
Other service activities	299	155	273	92	116	152
<b>Total</b>	<b>22,309</b>	<b>15,579</b>	<b>17,463</b>	<b>11,749</b>	<b>11,644</b>	<b>11,007</b>

Corresponding to the LFS survey data, the overall proportion of female hires is better in certain industries in comparison to other industries. It is comparatively higher in agriculture, accommodation and food services, social service activities, and other service activities. Correspondingly, the proportion of female exits is higher in industries with higher female employment such as accommodation and food services and other service activities.

*Table 23: Overall female hire and exit (% from 2019 to 2021)*

Economic Activities	Overall % of Female Hire			Overall % of Female Exit		
	2019	2020	2021	2019	2020	2021
Agriculture, forestry and fishing	44.8	25.3	25.1	51.4	19.7	37.1
Mining and quarrying	19.9	12.5	20.0	24.0	25.5	25.1
Manufacturing	37.8	30.7	30.2	33.5	32.3	28.2
Electricity, gas, steam and air conditioning supply	23.2	21.1	45.9	22.7	23.5	24.4
Water supply; sewerage, waste management and remediation	0.0	0.0	0.0	0.0	0.0	33.3
Construction	5.6	6.0	7.8	4.3	2.8	8.6
Wholesale and retail trade; repair of motor vehicles and	39.0	39.5	40.4	38.2	41.7	53.8
Transportation and storage	48.4	43.4	55.4	40.7	28.1	49.6
Accommodation and food service activities	62.6	68.8	75.6	60.9	61.0	62.9
Information and communication	44.5	42.4	48.8	36.6	36.4	31.8
Financial and insurance activities	50.0	49.2	44.1	45.8	35.7	38.1
Real estate activities		0.0	0.0		0.0	
Professional, scientific and technical activities	41.4	59.8	33.4	62.2	58.7	43.9
Administrative and support service activities	37.8	28.1	29.7	31.5	28.2	16.3
Education	60.1	54.9	54.9	54.8	54.2	49.9
Human health and social work activities	67.4	58.9	71.7	61.7	12.1	45.5
Arts, entertainment and recreation	50.5	34.4	47.1	60.0	45.2	51.0
Other service activities	67.1	68.0	53.2	75.4	70.7	58.7
<b>Total</b>	<b>33.3</b>	<b>27.0</b>	<b>29.3</b>	<b>28.6</b>	<b>30.8</b>	<b>29.9</b>

From the new hire and exit trend over the last three years, we can expect a total of about 10,000 jobs created by the existing industries. This is further confirmed by the information on new jobs collected from the establishments. A total of 7637 establishments, which accounts for 28.8 percent of the establishments said that they have vacancies which they are planning to fill within one to two years. The number of new vacancies amounts to a total of 10,291 new jobs.

Establishments indicated that 5834 of these jobs are hard-to-fill jobs. Hard-to-fill jobs are those positions where employers have difficulty getting workers due to a range of reasons which may include people not wanting to take these jobs due to nature of work, salary level, the location of work, career opportunities, and so on. More details on the hard-to-fill jobs is provided in annexure Table A01. On a positive note, establishments have also indicated that out of the 10,291 jobs, 7839 job positions, which accounts for 76.2 percent of the total new hires, will be vacancies available on a regular basis.



*Table 24: Establishment that with confirmed new vacancies for hire in one to two years*

<b>Economic Activities</b>	<b>No. of establishment</b>	<b>Yes (%)</b>	<b>No. of jobs</b>
Agriculture, forestry and fishing	53	35.0	64
Mining and quarrying	45	43.1	71
Manufacturing	876	51.7	1121
Electricity, gas, steam and air conditioning supply	23	48.8	29
Water supply; sewerage, waste management and remediation	6	15.0	10
Construction	418	60.6	800
Wholesale and retail trade; repair of motor vehicles/motorcycle	2919	19.7	3530
Transportation and storage	32	17.9	34
Accommodation and food service activities	2123	33.5	3114
Information and communication	69	52.3	94
Financial and insurance activities	14	33.8	27
Real estate activities	6	49.4	13
Professional, scientific and technical activities	128	46.5	162
Administrative and support service activities	279	43.1	448
Education	189	68.9	239
Human health and social work activities	9	26.4	15
Arts, entertainment and recreation	100	30.6	129
Other service activities	345	47.4	392
<b>Total</b>	<b>7637</b>	<b>28.8</b>	<b>10291</b>

*Table 25: New vacancies for hire in one to two years by major occupation and slots*

<b>Major occupation</b>	<b>Number of Vacancies</b>	<b>%</b>	<b>Hard to fill</b>	<b>Hard to fill %</b>	<b>Regular hire</b>	<b>Regular hire %</b>
Managers	372	3.6	129	34.6	293	78.7
Professionals	673	6.5	405	60.2	478	71.0
Technicians and Associate Professionals	696	6.8	394	56.6	475	68.1
Clerical Support Workers	633	6.2	272	43.0	412	65.1
Personal Services Workers	4517	43.9	2398	53.1	3610	79.9
Skilled Agricultural, Forestry and Fish	57	0.6	17	30.3	55	96.1
Craft and Related Trades Workers	1824	17.7	1250	68.5	1415	77.5
Plant and Machine Operators and Assembly	414	4.0	310	74.8	327	79.0
Elementary Occupations	1105	10.7	659	59.6	776	70.2
<b>Total</b>	<b>10291</b>	<b>100</b>	<b>5834</b>	<b>56.7</b>	<b>7839</b>	<b>76.2</b>

With the prospect of growth within different establishments, information on the mission critical jobs is an important area of input. Mission critical jobs are those job groups that are critical for a business in delivery of its core products and services. The mission critical jobs for a hotel business may be its front desk staff, kitchen staff, and housekeeping staff, whereas the mission critical jobs for an automotive workshop may be its auto repair technicians and mechanics. A total of 10,300 establishments provided information on the mission critical jobs for their business, the details of which are provided in annexure Table A02.

*Table 26: Future growth prospect as per the establishment by major economic activities*

<b>Economic Activities</b>	<b>Contraction</b>	<b>Stable</b>	<b>Growth</b>
Agriculture, forestry and fishing	0.0	66.9	33.1
Mining and quarrying	9.8	72.2	17.9
Manufacturing	5.6	62.3	32.2
Electricity, gas, steam and air conditioning supply	0.0	38.5	61.5
Water supply; sewerage, waste management and remediation	4.0	70.7	25.4
Construction	8.3	68.4	23.3
Wholesale and retail trade; repair of motor vehicles and	4.5	74.3	21.3
Transportation and storage	6.1	78.1	15.7
Accommodation and food service activities	6.1	73.7	20.1
Information and communication	3.4	50.9	45.7
Financial and insurance activities	0.0	67.4	32.6
Real estate activities	0.0	0.0	100.0
Professional, scientific and technical activities	10.2	53.1	36.7
Administrative and support service activities	4.3	66.2	29.4
Education	8.9	57.7	33.4
Human health and social work activities	0.0	41.1	58.9
Arts, entertainment and recreation	13.5	62.8	23.7
Other service activities	8.6	60.4	30.9
<b>Total</b>	<b>5.3</b>	<b>71.8</b>	<b>22.9</b>

*Table 27: Mission critical jobs by major occupation*

<b>Major occupation</b>	<b>Mission critical jobs</b>	<b>Percent</b>
Managers	644	5.3
Professionals	890	7.3
Technicians and Associate Professionals	928	7.6
Clerical Support Workers	196	1.6
Personal Services Workers	6224	50.8
Skilled Agricultural, Forestry and Fishery	94	0.8
Craft and Related Trades Workers	2171	17.7
Plant and Machine Operators and Assemblers	326	2.7
Elementary Occupations	784	6.4
<b>Total</b>	<b>12257</b>	<b>100.0</b>

A total of 4017 establishments, which accounts for 30.3 percent of total establishments said that they are operating with HR shortage, meaning that they have a smaller number of human resources than optimally required by their establishment. The HR shortage is high in certain industries and lower in others. In terms of occupation, the number is highest for personal service workers followed by craft and related trades workers and elementary occupations.

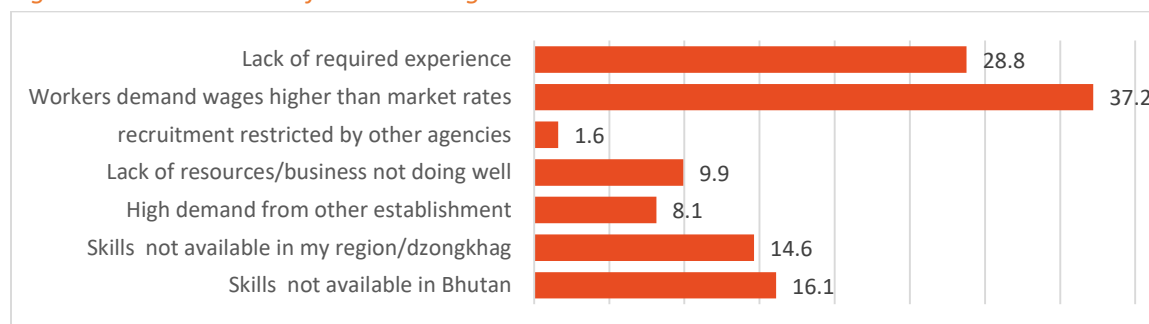
When it comes to reasons for HR shortage, the main reason highlighted from employers' side is that prospective workforce demand higher wages compared to the market wage rate or what the employers

are providing. Another main reason highlighted was the lack of work experience. This can be especially true for the youth jobseekers who enter the labour market without any additional work experience. Establishments also highlighted that skills required for certain jobs or positions are not available either in the country or in the location where the business is located.

*Table 28: Establishments operating with HR shortage*

<b>Economic Activities</b>	<b>Number of establishment with HR shortage</b>	<b>Percent</b>
Agriculture, forestry and fishing	48	62.8
Mining and quarrying	30	57.1
Manufacturing	552	65.2
Electricity, gas, steam and air conditioning supply	14	62.7
Water supply; sewerage, waste management and remediation	15	76.3
Construction	252	73.2
Wholesale and retail trade; repair of motor vehicles/motorcycle	1295	17.5
Transportation and storage	20	22.6
Accommodation and food service activities	1358	42.9
Information and communication	46	70.2
Financial and insurance activities	2	9.4
Real estate activities	6	98.8
Professional, scientific and technical activities	54	38.9
Administrative and support service activities	52	16.1
Education	64	46.3
Human health and social work activities	9	50.9
Arts, entertainment and recreation	41	24.8
Other service activities	159	43.7
<b>Total</b>	<b>4017</b>	<b>30.3</b>

*Figure 18: Reasons for HR shortage*



*Table 29: Major occupations of HR shortage*

Major occupation	Number of jobs (shortage)	Percent
Managers	52	1.1
Professionals	216	4.6
Technicians and Associate Professionals	272	5.8
Clerical Support Workers	120	2.5
Personal Services Workers	1839	38.9
Skilled Agricultural, Forestry and Fishery	16	0.3
Craft and Related Trades Workers	1217	25.8
Plant and Machine Operators and Assemblers	131	2.8
Elementary Occupations	860	18.2
<b>Total</b>	<b>4723</b>	<b>100.0</b>

Hire of foreign workers has been one of the means through which labour requirement by different establishments are being met. Over the last nine years, Bhutan hired foreign workers in more than 150 occupations from about 47 countries. A significant number of foreign workers dominate the construction sector, with concrete workers, masons and carpenters being the top three most demanded occupations amongst others. The construction sector continues to be labour intensive with booming government infrastructure development projects, hydropower construction projects and private house construction, coupled by lack of mechanization in the industry, and demand for manual workers. The foreign workers in professional occupations such as teachers, lecturers, doctors, engineers (electronics and communication), chefs, and others, are the least hired. Over the years, with investment in education and training in these areas, the country is in a situation to be able to recruit Bhutanese in these specialized fields. While there are over 40 nationalities represented by the foreign workers, a significant number of foreign workers are from India (98.5 percent in 2021).

*Table 30: Proportion of foreign workers by sector from 2013 till 2021*

Sectors	2013	2014	2015	2016	2017	2018	2019	2020	2021
Construction	51.2	52.4	64.5	65.6	65.9	73.9	77.7	55.4	63.3
Hydro Construction	33.0	33.7	25.2	19.7	20.1	10.9	9.4	21.2	10.5
Mining	0.9	0.9	0.9	0.5	0.8	0.2	0.2	0.3	0.3
Education	0.9	1.5	1.7	0.8	1.3	0.8	0.4	0.7	1.2
Hospitality and Tourism	3.7	3.4	2.1	1.6	3.0	3.6	3.0	2.4	2.0
Others	10.2	8.0	5.6	11.8	9.0	10.5	9.3	19.9	22.7
<b>Total (number)</b>	<b>63922</b>	<b>71066</b>	<b>84131</b>	<b>88303</b>	<b>62780</b>	<b>76890</b>	<b>42063</b>	<b>6211</b>	<b>23099</b>

*Table 31: Top 15 occupations with foreign workers from 2013 till 2021*

<b>SN</b>	<b>Occupations</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
1	Concrete Worker	26130	32718	38459	40176	30707	36020	18466	641	492
2	Mason	13194	17001	23764	23467	17572	24379	15296	2143	11380
3	Carpenter	8438	7131	7173	6814	5015	5350	3084	647	2822
4	Belter	3457	2625	2784	2203	1558	1579	897	180	661
5	Rod Binder	1542	1932	2004	2070	1233	2224	966	562	2410
6	Labourer	1756	79	37	4021	406	812	228	22	77
7	Process Worker	642	820	1306	910	793	1203	461	293	945
8	Rigger	1011	1263	1100	1009	753	585	249	197	330
9	Welder	742	713	714	688	394	448	239	215	843
10	Packer	975	985	420	310	327	640	313	0	64
11	Fitter	322	556	725	676	592	606	195	143	206
12	Driller	405	668	586	574	542	500	291	91	132
13	Structural metal worker	50	233	238	640	839	30	6	10	19
14	Heavy vehicle driver	497	370	506	338	114	55	36	22	36
15	Motor Vehicle Mechanic	276	249	309	271	158	235	160	83	160

## 2. Human Resources Management Practices

Human Resource Management is a strategic approach to effective and efficient management of human resources within an organization. It is designed to maximize performance and delivery of employees to achieve the larger vision or mission of an organization and in effective delivery of its products and services. While there are different components to a good HRM practices, during the Establishment survey 2022, basic information and data on different HRM components, including HR Development practices, were collected. The results shown in this section are mainly for the small, medium and large (SML) scale establishments.

ISR or Internal Service Rules can be a mechanism to institute better functioning within different establishments, and to ensure that workers know their rights and obligations. As per the Regulation on Working Conditions 2022, all small, medium, and large scale establishments in the country are mandated to develop an ISR and process endorsement with the Department of Labour (DoL). The mandatory components in the ISR includes: hours of work; leave entitlement; benefits; internal grievance procedures; occupational health and safety policy; sexual harassment prevention policies among others. Similarly, Occupational Health and Safety is a critical component of labour administration. The Regulation of Occupation Health, Safety and Welfare 2012 and the Regulation on Occupation Health and Safety for the Construction Industry 2012 are two key documents requiring establishments to have occupational health and safety practices at the workplace. Labour inspections are carried out by DoL and regional offices to monitor occupational health and safety practices by different establishments. 72.2 percent of the SML establishments said they have an ISR and only 59.9 percent said that their ISR is endorsed by the DoL. The proportion of SML establishments with Occupational Health and Safety (OHS) policy and those providing provident fund from their employees are 64.4 percent and 71.9 percent respectively.

Having formal processes or systems like having written contract/terms of employment for new recruits, having clearly defined job roles and responsibilities, and providing payslips or evidence of wages paid can be attributed to good HRM practices. Appointment letter is one of the key documents referred to by the DWPSD (for cross checking their employment status and year of services) in the implementation of in-service HRD program for the non-civil service sector. Further, having a clear system on employee promotion and salary increment can be instrumental in the HR management process. However, only 23.2 percent of the SML establishments indicated that they have HR/Personnel Department/Unit/Division in their establishment, and many SML establishments do not seem to have system of issuing appointment letter at the time of recruitment, or having clear job roles and responsibilities for their new recruits.

Training and development of workers can be an effective way to build new skills, upgrade old ones and get hands on learning. In changing times, it is also a means to become familiarized with new technology and software, and to keep up with changing requirements in the workplace. However, the HRD component seems to be far worse in comparison to the other HRM components. Training and development of workers seems to be the lowest priority for most SML establishments. While only 36.5 percent of the SML establishments said that they do have HRD plan or strategy in place, only 27 percent keep budget aside for training and development activities. Further, only 34.9 percent said that they have

clear set of rules or guidelines in place when it comes to implementation of training and development activities.

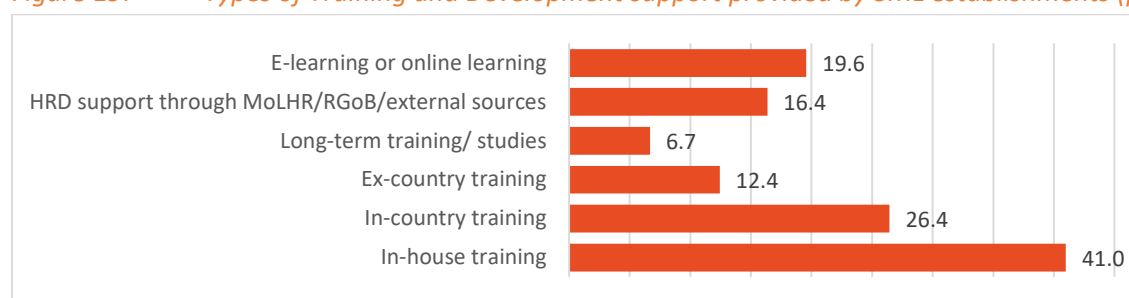
*Table 32: SML Establishments with HRM components*

<b>Labour and Employment Act requirement</b>	<b>Yes</b>	<b>%</b>
Our establishment has Internal Service Rule (ISR)	789	72.2
Our Internal Service Rule (ISR) is endorsed by DoL	655	59.9
We have occupational health and safety policy in place	704	64.4
We have Provident Fund for our employees with recognized financial institute	786	71.9
<b>HRM Practices</b>	<b>Yes</b>	<b>%</b>
We have HR/Personnel Department/Unit/Division in our establishment	254	23.2
We provide pay slip/evidence of wages paid to our employees	899	82.3
We have written contract/term of employment for our staff and new recruits	654	59.8
We issue appointment letter at the time of appointment of new recruits	701	64.1
We have clear job roles and responsibilities for our staff and new recruits	905	82.8
We have sexual harassment policy/grievance system in place	609	55.7
We have Employee promotion system in place	632	57.8
We have salary increment system in place	389	35.6
<b>HRD Practices</b>	<b>Yes</b>	<b>%</b>
We have HRD plan/strategy for our employees	399	36.5
Our establishment has fund/budget set aside for training and development of our employees	295	27.0
We have clear set of rules/guidelines for training and development process/procedure of our employees	381	34.9

Training and development support can be provided through different means and mechanisms. In-house training which requires the least amount of investment in terms of budget and resources is the most popular among the SML establishments, with 41 percent saying that they provide training and development support through this particular means.

During the pandemic, the erstwhile MoLHR initiated support through the means of global online learning platforms such as Coursera, Skillshare, and edX. Online learning is also fairly cheaper in comparison to ex-country training or hire of experts from outside. Therefore, 19.6 percent of the SML establishments indicated that they use online learning as a means to provide training and development support to their employees. However, very few, in fact only 6.7 percent of the SML establishments provide support on long-term training or studies.

Figure 19: Types of Training and Development support provided by SML establishments (percent)



Industry-Institute linkage can benefit both the training/education institutions as well the establishments. It can be one of the means to enhance relevancy of any education or training programs, and enhance employment outcomes. Individual establishment linkage with sector bodies can also be a means for the establishment to share their business concerns for intervention from relevant agencies, including government bodies. Most sector bodies, especially the private sector associations, work on supporting their specific sector and member firms, and voicing their concern in any relevant forums.

The linkage is especially low for SML establishments with public or private colleges in the country or even training institutions. While the linkages are poor, only few of them (less than 3 percent) have indicated any plans to set up linkage in the future, which could mean that they do not see benefit to any linkage with sector bodies or institutions.

Table 33: Linkage and network with sector bodies and institutions (SML establishments)

Sector bodies and institutions	No linkage at all	Poor linkage	Moderate linkage	Strong linkage	Not relevant	linkage in the future
Public or private colleges in the country	70.2	7.3	12.5	5.8	2.5	1.7
Public technical or vocational institutes	66.4	8.5	10.5	9.3	2.3	2.9
Private training institutes	66.2	12.0	12.1	4.6	2.1	2.9
Government sector body	49.8	10.4	21.4	15.9	1.4	1.2
Private sector association/Body	56.1	9.4	20.0	11.1	1.1	2.3
External training and education institutes	72.2	8.9	8.5	5.4	2.4	2.6



### 3. Digital Competencies

Technological advancements and digitalization have been profoundly reshaping work and lifestyle, business models and operations, and government policy choices. Digitalization has brought tremendous benefits to the economies and societies in terms of efficiency and productivity gains and making lives more convenient. Digital transformation also contributes to innovation in products, in processes, in work and organizational arrangements. As such, it holds the promise to substantially improve the job quality and productivity of existing jobs, as well as lives of workers (Changing demand for skills in digital economies and societies, ILO, 2021).

Digitization, ICT and technology is at the forefront of Bhutan's priority and will continue to be so in the 13<sup>th</sup> plan period. Through the Establishment survey, Employee survey, and Jobseeker survey conducted in 2022, information on the digital skills and competencies of workforce in different categories, those employed as well as not employed, were collected. During the Employee survey, employees working in different establishments were asked to assess their digital skills and competencies in four different areas: 1. Use of basic computer skills such as use of internet, typing, sending emails; 2. Use of work related software and tools such as Word, ppt, desktop publishing; 3. Use of data analytic software such as STATA, SPSS, Excel, etc; and 4. Use of advance digital tools such as software development, coding, big data analysis, etc.

About 48 percent of the 85,122 employees (Establishment survey 2022) and about 35 percent of the 6007 jobseekers who participated in the Jobseeker survey 2022 have assessed themselves either poor or average in basic computer tools. On the use of work-related software or tools, about 63 percent of the employees and 49 percent of the jobseekers have assess themselves as poor or average.

The digital skills and competencies among the employees are especially weak among the older age groups and those with lower levels of education. However, there is a large proportion of youth who have assessed themselves having poor competency in the use of both basic computer tools and work-related software/tools. On the use of basic computer tools, 15.4 percent of those within the age category of 18 to 24, 14.1 percent of those within the age category of 25 to 29, 24.8 percent of those within the age category of 30 to 34, 28.1 percent of those within the age category of 35 to 39, and 49 percent of those aged 40 years and above assessed themselves as having poor skills and competency in this area. On the use of work-related software/tools, 34.3 percent of those within the age category of 18 to 24, 27.7 percent of those within the age category of 25 to 29, 36.9 percent of those within the age category of 30 to 34, 43.5 percent of those within the age category of 35 to 39, and 68 percent of those aged 40 years and above assessed themselves as having poor competency in this area.

On the use of data analytical tools such as STATA, SPSS, excel or others, a high proportion of employees assessed themselves as having very poor competencies in the area (56 percent of those within the age bracket of 18 to 24, and overall 61 percent). On the use of advance digital tools (software development, programing, etc), a very high proportion assessed themselves having poor skills in the area (78.1 percent among those within the age group of 18 to 24, and overall 82 percent).

Figure 20: Assessment of digital competencies of employees (percent)

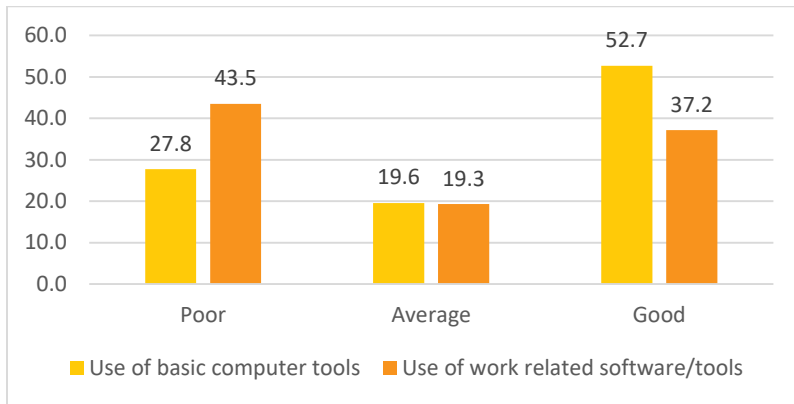
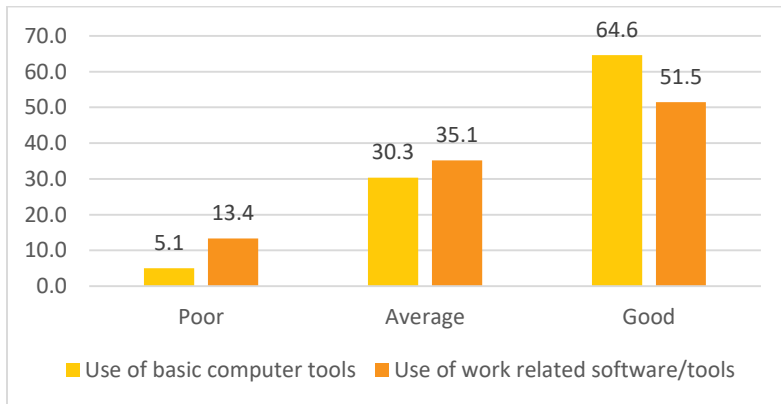


Figure 21: Assessment of digital competencies of jobseekers (percent)



#### 4. Training and Development Needs

The erstwhile MoLHR, since its establishment, has considered Human Resource Development as a critical concern for improving private sectors' capacity and performance, since the sector is particularly constrained by the lack of qualified people in both the technical and management areas. The extremely low levels of investments committed by private enterprises for any kind of human resource development in their own organizations combined with the paucity of HRD funds available from development partners for the private sector has been a major constraint.

Training and development is an important means to upgrade skills and knowledge of workers. With changes in technology and mechanization, reskilling and upskilling becomes especially important so that the existing workforce are able to adapt to these new changes and upgrade their work knowledge. Training and development can also be a means to enhance productivity of workers as they will be in a position to take up more difficult and advanced job tasks.

The Establishment survey and Employee survey 2022 was an important means to collect training and development areas from the employers as well as employees' perspective. Through the two surveys, establishments and employees were asked to provide information of the training and development needs, including training title, level of training, priority scale, and funding details. Training and development areas of low priority and areas where funds were available within the establishment were filtered out.

Training and development areas which are common across many major economic activities are accounting, office management ICT training, financial management, marketing, and others as listed below. More details on the training and development areas for each major economic activities are listed in the subsequent table.

<b>Training and development areas</b>	<b>number of major economic activities</b>
accounting	14
office management	13
ICT training	12
accounting and tally	11
computer skills training	11
financial management	11
marketing	11
management training	10
communication and soft skills	9
leadership training	9
new technology	9

**Agriculture, forestry and fishing**

masonry; mushroom cultivation; agriculture training; animal care; electronic training; financial management; leadership training; accounting; business management; resource management; writing; accounting; accounting and tally; grafting; wood craft/carving/carpentry; enterprise resource planning; procurement training; accounting; housekeeping; marketing; data management and analysis; office management; driving; communication and softskills; packaging; ict training; ebusiness; landscaping; gardener training; cyber/system security

**Mining and quarrying**

human resource management; auto mechanic; procurement training; electric technician; accounting; occupational health and safety; commercial accountancy; accounting and tally; drilling training; computer skills training; blasting; electrical engineering; accounting; marketing; auto mechanic

**Manufacturing**

human resource management; programing logic control; accounting; advance mechanical training; design training; bookkeeping; machine operator training; wood craft/carving/carpentry; administrative training; tailoring; production management; oil extraction; quality control; accounting and tally; marketing; accounting and tally; materials furnishing training; painting; copper refining; coding; plumbing; fire hazard training; civil engineering; gho tailoring; wood craft/carving/carpentry; motor rewinding; ebusiness; structure designing; zorig chusum training; occupation health and safety; fabrication; tapping (furnace ); occupational health and safety; machine operator training; wood craft/carving/carpentry; fashion design training; food handler; wood craft/carving/carpentry; wood craft/carving/carpentry; masonry; leadership training; inventory management; journalism; bakery and confectionery; variable frequency drive repair; packaging; human resource management; administrative training; human resource management; plant operation; management training; heavy machine repair and maintenance; ict training; marketing; procurement training; advance electrical training; electronic training; programing logic control; data management and analysis; sawmill related training; advance cooking/culinary; electric technician; fund management; waste water management; computer skills training; polishing gemstone; graphic designing; flooring and tiling; financial management; driving; hydraulic system training; machine operator training; plumbing; zorig chusum training; fire fighting; electrical technician; inventory management; bakery and confectionery; gho tailoring; shoe design and making; advance electrical training; engraving training; potter; chemical training; front desk training; plumbing; quality control; welding; sculpting; new technology; unplasticized polyvinyl chloride frofile; tailoring; chef training; embroidery; western garment tailoring; western garment tailoring; system application and product; customer care and services; accounting; bakery and confectionery; civil engineering; ebusiness; furniture design and making; office management; fabrication designer; juice and herbal production; welding; instant noodles maker; pressurize and labeling; unplasticized polyvinyl; western garment design; embroidery; machine operator training; tour management; machine repair and maintenance; auto mechanic; heating ventilation and air conditioning; tailoring; casting

**Electricity, gas, steam and air conditioning supply**

pipe lining; leadership training; security guard training; advance mechanical training; advance electrical training; billing training; transformation and distribution line; occupational health and safety; machine repair and maintenance; tailoring; ict training; engineering; environment impact assessment; legal documentation and training; advance machine learning; wood craft/carving/carpentry; panel board; geographic information system; office management; accounting and tally; electric technician; management training; advance electrical training; machine repair and maintenance; new technology; plumbing; accounting; software development; masonry; cable technician training; project management; housekeeping; management training; advance electrical training; programing logic control; new technology; auto mechanic; new technology; system management; cloud computing; business management.

**Construction**

child care and development; financial management; lab technician; business management; wood craft/carving/carpentry; plumbing; construction management; software training; advance equipment training; team management; civil engineering; accounting; corporate governance; bakery and confectionery; welding; bookkeeping; interior designing; masters in civil engineering; advance electrical training; occupational health and safety; engineering; metal testing training; painting; machine operator training; advance digital training; construction related training; inventory management; heavy vehicle repair and maintenance; new technology; masonry; machine repair and maintenance; engineering; office management; blasting; first aid and safety; auto mechanic; advance digital training; project management; driving; taxation and tax filing; procurement training

**Wholesale and retail trade; repair of motor vehicles and motorcycles**

business and trading; journalism; business management; optical technician; panel beating; paint mixing; wood craft/carving/carpentry; auto mechanic; meat handling; business management; first aid and safety; auto painter; auto electrician; risk management; bookkeeping; colorist training; driving; ebusiness; electric technician for heavy earthmoving equipment; entrepreneurship skills; leadership training; management training; painter; auto painter; engine mechanic; accounting and tally; financial management; battery system; management training; mass communication; hotel management; plumbing; pharmaceutical; hardware and software training; leadership training; entrepreneurship skills; journalism; advance cooking/culinary; marketing; ict training; optical technician; advance electrical training; marketing; auto mechanic; cloud computing; welding; pump mechanic; ict training; electric technician; loading and unloading; advance mechanical training; team management; welding; office management; web design and development; bakery and confectionery; marketing; driglam namzha; sales management; pump mechanic; machine operator training; electronic training; vehicle maintenance training; auto painter; counselling; financial management; shop management; ebusiness; business management; marketing; software development; electric technician; inventory management; procurement training; painting; denting; customer care and services; sales management; general mechanics; management training; lab technician; advance electrical training; accounting and tally; music direction; commercial accountancy; denting; home appliance training; electrical technician; tyre repair and maintenance; hydraulic system training; legal service management; communication and softskills; customer care and services; new technology; enterprise resource planning; tailoring; tot training; electronic training; software development; ict training; machine repair and maintenance; auditing; sales management; denting; computer skills training; glass cutting; panel beater; machine repair and maintenance; painter; writing; hydraulic system training; electric technician; paint making; accounting; accounting; human resource management; auto mechanic; mobile repair; hotel management; graphic designing; production of kitchen items

**Transportation and storage**

inventory management; computer skills training; human resource management; communication and softskills; driving; computer skills training; accounting; trade classification coding; bhutan trade classification and tariff schedule; customer care and services; office management; billing training; ict training; customs clearing; custom rules and regulations; business and trading; accounting; office management; accounting and tally; online system; coding; marketing

**Accommodation and food service activities**

chef training; entrepreneurship skills; leadership training; driving; bakery and confectionery; hotel management; floriculture; computer skills training; barista; hotel management; marketing; hospitality management; advance cooking/culinary; chef training; communication and softskills; communication and softskills; spa and therapy training; ebusiness; bakery and confectionery; electric technician; advance cooking/culinary; accounting; bartending; baking and confectionery; chef training; cost control and analysis; first aid and safety; accounting and tally; marketing; knitting; housekeeping; computer skills training; advance cooking/culinary; advance cooking/culinary; customer care and services; bakery and confectionery; front desk training; front desk training; food and beverage; new technology; food and beverage; guest services; front desk training; hospitality management; housekeeping; food handler; billing

training; elevator maintenance training; work ethics; barista; inventory management; sales management; human resource management; management training; delivery management; kitchen helper; accounting; office management; receptionist training; event management; customer care and services; heating ventilation and air conditioning; receptionist training; food and beverage; human resource management; customer care and services; tailoring; hair and beauty; driglam namzha

### **Information and communication**

music production; filmmaking; hardware and system networking; machine operator training; artificial intelligence; ict training; digital system training; accounting; music production; system management; line maintenance; splice cable training; advance equipment training; new technology; network engineering; graphic designing; office management; cable technician training; videography and video editing; ict training; business management; electrical technician; audio visual editing; advance digital training; new technology; research method and development; project management; customer care and services; computer skills training; business management; marketing; line setting; ict training; cyber/system security; production management; accounting; communication and softskills; advance animation; graphic designing; financial management; song editing; new technology; risk management; credit and risk analysis; writing; computer skills training; driving; accounting; communication and softskills; management training; auditing; hardware and system networking; banking technology; credit management; management training; data management and analysis; leadership training; personal development; financial management; administrative training; law; banking technology; banking technology; interpersonal relationship; project management; customer care and services

### **Professional, scientific and technical activities**

risk management; management training; cyber/system security; web design and development; auditing; office management; advance electrical training; interior designing; new technology; bakery and confectionery; writing; geographic information system; public relation; tot training; accounting and tally; legal documentation and training; financial management; interior designing; taxation and tax filing; case mediation; big data analysis; computer skills training; law; accounting; software development; project management; ict training; communication and softskills

### **Administrative and support service activities**

photography; leadership training; human resource management; machine operator training; audio visual; mechanic training; ict training; tour manager; marketing; labour law and safety; western garment tailoring; accounting and tally; marketing; financial management; printing; auto mechanic; ebusiness; security guard training; marketing; computer skills training; office management; bookkeeping; communication and softskills; food and beverage

### **Education**

program design; bookkeeping; software development; accounting and tally; driving; driving rules and regulations; counselling; child care and development; auto mechanic; quality control; administrative training; first aid and safety; curriculum development; professional development; book facilitator; counselling; bakery and confectionery; advance cooking/culinary; communication and softskills; accounting; taxation and tax filing; management training; enrollment training; hygiene; teaching methods and skills; office management; fitness and sports; inventory management; human resource management; work ethics; teaching methods and skills; management training; child care and development; tot training; child psychology; tot training; education assessment training; cyber/system security; maths related training; communication and softskills; professional development; leadership training; marketing; ict training; tot training; tot training; program management; coding; system management; tailoring; teaching methods and skills; research & digital training

**Human health and social work activities**

special education for pwd; special education for pwd; animal care; monetary evaluation; new technology; accounting; lab technician; project management; fundraising; procurement training; accounting; coding; healthcare; fundraising; ict training; financial management; writing; administrative training; leadership training; writing; resources management; counselling; community development training; program management

**Arts, entertainment and recreation**

tailoring; chef training; rafting; human resource management; dancing; food and beverage; river guide training; web design and development; management training; financial management; dancing; fitness and sports; advance cooking/culinary; office management; customer care and services; disc jockey; sports coach

**Other service activities**

spa and therapy training; mobile repair; design training; computer skills training; taxation and tax filing; hair and beauty; planning; ict training; accounting; goldsmith training; physio therapy theory; wellness training; financial management; software development; machine operator training; upholstery; upholstery; hair and beauty; office management; counselling; marketing; machine repair and maintenance; customer care and services; geographic information system; community development training; spa and therapy training; public policy; management training

## ANNEXURES

Table A01: *Hard-to-fill occupation by Major Economic Activities*

Major Economic Activities	Hard-to-fill Jobs
Agriculture, forestry and fishing	Production clerk; Nursery labourer; Chief executive officer/managing director ; Livestock and dairy farmer; Nursery farmer ; Operations research analyst; Director/Director general; Machine tool operator/metal turner
Mining and quarrying	Machine tool operator/metal turner; Manufacturing labourer not elsewhere classified ; Driller (mining); Welder; Packing/wrapping machine operator; Geologist; Motor vehicle mechanic/Auto mechanic; Marketing professional; Book keeping clerk; Mining technician; Crusher operator ; Mining labourer; Heavy truck driver ; Electrician; Policy administration professional ; Blaster; Mining engineer
Manufacturing	Electrical engineer (general); Graphic designer; Sawmill machine operator; Waiter; Blast Furnace operator; Sculptor; Handicraft worker not elsewhere classified; Brick kiln operator; Metal extrusion plant operator; Marketing manager; Finance Officer/Account Officer; Metallurgical engineering technician; Mechanical engineer; Electrician; Quality control officer; Machine tool setter; Heavy truck driver ; Metallurgist; Printing worker; Marketing professional; Receptionist (general); Information and communications technology operations technician; Metal casting moulder; Paper products machine operator; Electronics mechanic/servicer; Rubber products machine operator (polythene); Plywood machine operator; Machine tool operator/metal turner; Furniture production machine operator; Labelling machine operator; Canning machine operator; General manager; Engineering professionals not elsewhere classified; Construction supervisor; Manufacturing labourer not elsewhere classified ; Domestic Cleaner/helper; Machine operator (stone cutting or processing); Sales worker not elsewhere classified; Accounting associate professional; Journalist; Sales manager; Brick and tile moulder; Toiletry products machine operator; Automotive/Auto electrician; Sheet metal worker (Penal Beater); Jewellery and Precious Metal Worker ; Security guard (includes all types of security guards); Packing/wrapping machine operator; Carpenter (shingzow); Wood carver (paap); Blacksmith (gaw); Cast concrete product machine operator; Geology technician; Chemist; Motor vehicle mechanic/Auto mechanic; Baker; Painter; Book keeping clerk; Brick layer's assistant; Wood furniture maker; Metal finishing machine operator; Book binder; Cashier and ticket clerk; Kitchen helper; Weaving and knitting machine operator; Business services and administration managers not elsewhere classified; Shopkeeper; Bottle filler; Mining technician; Tailor (tshemzo); Wood turner (shazo); Wood products machine operator; Product and garment designer; Liquor/wine taster; Tyre repairer(tyre retreading/resoling); Microbiologist; Stationary plant and machine operator not elsewhere classified ; Sawyer; Electrical household appliance repairer; Welder; Food deliverer ; Pharmacist; Process control technician not elsewhere classified; Finance manager; Hand Packer; Other chemical and physical science technicians; Food taster (including non-alcoholic beverages); Market research/ Survey Interviewer; Crane operator; Human resource officer; Shop sales assistant; Manufacturing supervisor; Dairy farm labourer
Electricity, gas, steam and air conditioning supply	Machine operator (stone cutting or processing); Marketing professional; Solar power plant operator; Book keeping clerk
Water supply; sewerage, waste management and remediation activities	Book keeping clerk



Construction	Bill collector; Concrete/transit mixer driver; Civil engineer; Construction labourer (civil engineering); Cable and rope splicer; Computer network professional; Road making machine operator ; Receptionist (general); Engineering professionals not elsewhere classified; Electrician; Traditional painter (Ihadrip); Office Assistant; Building construction labourer; Maintenance labourer (roads, dams); Information and communications technology operations technician; Stonemason, Stone Cutter, Splitter and Carver (doo zop); Electrical generator fitter; Electrical engineer (general); Heavy truck driver ; Finance Officer/Account Officer; Book keeping clerk; Building painter; Physical an engineering science technicians not elsewhere classified; Machine tool operator/metal turner; Light vehicle car driver; Carpenter (shingzow); Excavator/Bull dozer machine operator; Shop sales assistant; Construction supervisor
Wholesale and retail trade; repair of motor vehicles and motorcycles	Systems administrator (computer); Food deliverer; Light vehicle car driver; Manufacturing labourer not elsewhere classified ; Electrical engineering technician; Electrician; Welder; Automotive/Auto electrician; Vehicle cleaner/car washer; Finance Officer/Account Officer; Chef; Mechanical engineer; Office Assistant; Software developer; Business services and administration managers not elsewhere classified; Sales manager; Stall and market salesperson; Kitchen helper; Steel roller; Graphic designer; Dispensing optician; Printing worker; Finance manager; Sales worker not elsewhere classified; Scrap Sorter; Hand Packer; Electrical equipment assembler; Baker; Meat seller/dresser; Motor vehicle mechanic/Auto mechanic; Jewellery and Precious Metal Worker ; Information and communications technology operations technician; Cook; Machine tool operator/metal turner; Shop sales assistant; Photographer; Electrical household appliance repairer; Marketing manager; Furniture upholsterer; Carpenter (shingzow); Pharmacist; Tyre repairer; Electronics engineering technician; Commercial sales representative; Interior designer; Book keeping clerk; Electronics mechanic/servicer; Heavy truck driver ; Motor vehicle spray painter; Cement worker; Cashier and ticket clerk; Medical laboratory technician; Butcher; Store keeper; Stonemason, Stone Cutter, Splitter and Carver (doo zop); Wood carver (paap); Marketing professional; Waiter; Glass cutter
Transportation and storage	Aeronautic engineering technician; Clearing and forwarding agent; Flight engineer; Heavy truck driver ; Administrative assistant; Book keeping clerk; Systems administrator (computer)
Accommodation and food service activities	Book keeping clerk; Physical an engineering science technicians not elsewhere classified; Chef; Baker; General manager; Hotel manager; Shopkeeper; Heavy truck driver (truck, tripper, etc...); Commercial sales representative; Finance Officer/Account Officer; Fast food preparer; Bartender; Hotel receptionist; Electrician; Housekeeper (other institution); Security guard ; Garden labourer; Waiter; Accounting associate professional; Food & beverage operations manager; Electronics mechanic/servicer; Kitchen helper; Cook; Housekeeper (hotel); Restaurant manager; Shop sales assistant
Information and communication	Bartender; Website designer; Engineering professionals not elsewhere classified; Photographer; Applications programmer; Sales manager; Information and communications technology services manager; Creative and performing artist not elsewhere classified; Electric cable jointer(power transmission lines); Cable and rope splicer; Shop sales assistant; Software developer; Software and applications developer and analyst not elsewhere classified; Human resource officer; Editor (film, video and radio); Stationary plant and machine operator not elsewhere classified ; Producer
Financial and insurance activities	Finance Officer/Account Officer; Database administrator; Computer network professional; Software and applications developer and analyst not elsewhere classified; Operations research analyst; Director/Director general; Credit and loan officer; Information and communications technology operations technician; Economist
Real estate activities	Marketing professional; Lawyer

Professional, scientific and technical activities	Website designer; Information and communications technology user support technician; Office Assistant; Book keeping clerk; Legal professional not elsewhere classified; Operations research analyst; Legal Officer; Graphic designer; Legal and related associate professional; Solar power plant operator; Administrative assistant; Technical training institute (tti) teacher/Instructor; Accounting associate professional; Environmental officer; Interior designer; Microbiologist; Printing worker; Environmental engineer; Policy administration professional ; Public Relations Professional ; Lawyer; Web and mobile applications developer
Administrative and support service activities	Tourist guide; Technical training institute (tti) teacher/Instructor; Bus driver; Office Assistant; Excavator/Bull dozer machine operator; Photographer; Motor vehicle mechanic/Auto mechanic; Vegetable farmer; Receptionist (general); Construction labourer; Marketing manager; Shop sales assistant; Light vehicle car driver; Radio announcer; Baker; Audiovisual technician; Other author and related writer; Security guard ; Book keeping clerk; Cashier and ticket clerk; Printing worker; General manager
Education	School Counsellor; Chef; General manager; Higher secondary school teacher; Other language teacher; Conference and event planner; Marketing professional; Bus driver; Laundry machine operator; Driving instructor; Information technology trainer; Office Assistant; Sports instructor; Early childhood educator; Plumber; Lecturer; Cleaner (Offices, Hotels and Other Establishments); Business consultant; Teaching professional not elsewhere classified (NFE instructor); Other related professional; Technical training institute (tti) teacher/Instructor; Other arts teacher; Baker
Human health and social work activities	Social Worker; Public Relations Professional ( ; Finance Officer/Account Officer; Business services and administration managers not elsewhere classified; Medical laboratory technician
Arts, entertainment and recreation	Housekeeper (other institution); Cook; Fitness and recreation instructor and programme leader; Elementary worker not elsewhere classified; Bartender; Editor (film, video and radio); General manager; Graphic designer; Photographer; Sports coach; Kitchen helper; Bookmaker, Croupier and Related Gaming Worker
Other service activities	Office Assistant; Electrical equipment assembler; Jewellery and Precious Metal Worker ; Electronics engineering technician; Mobile repairer; Accounting associate professional; Computer repairer; Policy administration professional ; Waiter; Cook; Barber; Housekeeper (other institution); Electrician; Hairdresser; Beautician; Cleaner ; Furniture upholsterer

Table A02: Mission Critical Jobs by Major Economic Activities

Major Economic Activities	Mission Critical Jobs
Agriculture, forestry and fishing	Financial analyst; Poultry farmer; Machine tool operator/metal turner; Nursery farmer (flower, fruits, ornaments); Administrative assistant; Apiarist (Beekeeper); Forestry production manager; Mixed farm labourer; Chief executive officer/managing director ; Dairy products machine operator; Operations research analyst; Director/Director general; Horticultural labourer; Other related professional; Shop sales assistant; Livestock and dairy farmer; Nursery labourer; Other agronomy, horticultural and farming related technicians; Stonemason, Stone Cutter, Splitter and Carver ; Marketing professional; Finance manager; Dairy products maker
Mining and quarrying	Accounting associate professional; Mining and quarry manager; Stonemason, Stone Cutter, Splitter and Carver; Land surveyor; Crusher operator (mineral or stone processing); Manufacturing labourer not elsewhere classified ; Heavy truck driver; Marketing professional; General manager; Blaster; Geologist; Finance Officer/Account Officer; Human resource officer; Construction supervisor; Packing/wrapping machine operator; Excavator/Bull dozer machine operator; Machine operator (stone cutting or processing); Welder; Electrician; Mining engineer; Driller (mining); Bogger operator(boomer, jumbo operator); Mining labourer; Miner (including plant operator); Quarry supervisor; Motor vehicle mechanic/Auto mechanic; Data entry clerk/Data focal persons; Rolling mill control operator; Policy administration professional; Mining supervisor; Dispatcher
Manufacturing	Tailor (tshemzo); Baker; Printing worker; Industrial and production engineer; Carpenter (shingzow); Manufacturing labourer not elsewhere classified ; Sawyer; Metal casting moulder; Incinerator and water treatment plant operator; Welder; Shop sales assistant; Wood carver (paap); Marketing professional; Automotive/Auto electrician; Electrician; Accounting associate professional; Agriculture technician (agriculture extension); Finance manager; Manufacturing manager; Weaving and knitting machine operator; Clerical support workers not elsewhere classified; Production clerk; Metallurgist; Garment pattern-maker; Crane operator; Graphic designer; Rolling mill control operator; Machine tool operator/metal turner; Food deliverer; Wood furniture maker; Assembler not elsewhere classified(cycle assembler); Shoe Maker; Metal extrusion plant operator; Construction labourer (civil engineering); Chemical engineer; Cashier and ticket clerk; Painter; Mining technician; Wood products machine operator; Human resource officer; Brick kiln operator; Plastic products machine operator; Business services and administration managers not elsewhere classified; Cook; Stonemason, Stone Cutter, Splitter and Carver ; Jewellery and Precious Metal Worker; Building construction labourer; Finance Officer/Account Officer; Medical and pharmaceutical products sales professional; Furniture production machine operator; Engineering professionals not elsewhere classified; Chief executive officer/managing director ; Geology technician; Cast concrete product machine operator; Hand Packer; Motor vehicle mechanic/Auto mechanic; Electronics mechanic/servicer; Paper products machine operator; Boiler operator; Sheet metal worker (Penal Beater); Concrete mixing plant operator ; Electrical household appliance repairer; Process control technician not elsewhere classified; Office Assistant; Dairy farm labourer; Plumber; Electrical generator fitter; Sawmill machine operator; Sculptor; Packing/wrapping machine operator; Policy administration professional; Chef; Stationary plant and machine operator not elsewhere classified ; Bricklayer; Book binder; Quality control officer; Traditional painter (Ihadrip); Plywood machine operator; Journalist; Excavator/Bull dozer machine operator; Potter; Pharmaceutical products machine operator; Hand Labeller; Motor Vehicle and machineries assembler ; Metal finishing machine operator; Brick and tile moulder; Blacksmith (gaw); Kitchen helper; Wood treater; Metal finishing machine operator; General manager; Sales manager; Shopkeeper; Mechanical engineer; Technical illustrator; Food taster (including non-alcoholic beverages); Dairy products maker; Toiletry products machine operator; Sales worker not elsewhere classified; Electrical engineer (general); Waiter; Meteorology technicians; Other cleaning worker; Electrical engineering technician; Stall and market salesperson; Dispatcher; Liquor/wine taster; Manufacturing supervisor; Rice farmer; Cloth weaver

Electricity, gas, steam and air conditioning supply	Physical an engineering science technicians not elsewhere classified; Civil engineer; Electric power line worker/installer; Human resource officer; Construction supervisor; Electrical engineer (general); Geologist; Marketing professional; Mechanical engineer; Information and communications technology operations technician; Packing/wrapping machine operator; Accounting associate professional; Electrician; Chief executive officer/managing director ; Solar power plant operator; Hydroelectric power plant operator
Water supply; sewerage, waste management and remediation activities	Incinerator and water treatment plant operator; Recycling collector; Building caretaker (including Koenyer); Plumber; Garbage truck driver; Stationary plant and machine operator not elsewhere classified ; Business services and administration managers not elsewhere classified; Executive Director
Construction	Stonemason, Stone Cutter, Splitter and Carver (doo zop); Wood products machine operator; Civil engineering technician; Accounting associate professional; Computer network professional; Civil engineer; Excavator/Bull dozer machine operator; Heavy truck driver (truck, tripper, etc...); Construction supervisor; Motor vehicle spray painter; Information and communications technology operations technician; Construction labourer (civil engineering); Building construction labourer; Welder; Traditional painter (Ihadrip); Bogger operator (boomer, jumbo operator); Construction project manager; Chief executive officer/managing director ; Working proprietor ; Engraver; Electrical engineering technician; Electrician; Maintenance labourer (roads, dams); Road making machine operator ; Motor vehicle mechanic/Auto mechanic; Executive Director; Carpenter (shingzow); Procurement Officer; Machine tool operator/metal turner; Book keeping clerk; Business services and administration managers not elsewhere classified; Finance manager; Finance Officer/Account Officer; Plumber; Mechanical engineer; Human resource officer; General manager; Electric cable jointer (power transmission lines); Engineering professionals not elsewhere classified
Wholesale and retail trade; repair of motor vehicles and motorcycles	Shop sales assistant; Motor vehicle spray painter; Marketing manager; Welder; Meat seller/dresser; Shopkeeper; Automotive/Auto electrician; Carpenter (shingzow); Motor vehicle mechanic/Auto mechanic; Manufacturing labourer not elsewhere classified; Sales manager; Human resource officer; Agriculture technician (agriculture extention); Shop supervisor; Cook; Cashier and ticket clerk; Information and communications technology operations technician; Mechanical engineer; Book keeping clerk; Marketing professional; Heavy truck driver ; Accounting associate professional; Policy administration professional ; Sawyer; Tyre repairer (tyre retreading/resoling); Finance Officer/Account Officer; Wood furniture maker; Scrap Sorter; Store keeper; Electronics mechanic/servicer; Sheet metal worker (Penal Beater); Vehicle cleaner/car washer; Light vehicle car driver; Stonemason, Stone Cutter, Splitter and Carver; Telecommunications engineer; Service station attendant (Working in fuel stations); Pharmacist; Baker; Hand Packer; Dairy products maker; Business services and administration managers not elsewhere classified; Finance manager; General manager; Dispensing optician; Food deliverer; Service attendant ; Chemical engineer; Human resource manager; Medium vehicle driver (DCM); Dairy products machine operator; Steel roller; Working proprietor ; Government regulatory associate professionals not elsewhere classified; Machine tool operator/metal turner; Warehouse porter; Mobile repairer; Retail manager; Waiter; Electrician; Nursery labourer; Wood treater; Physical an engineering science technicians not elsewhere classified; Construction labourer (civil engineering); Furniture production machine operator; Livestock and dairy farmer; Kitchen helper; Wood products machine operator; Journalist; Editor (film, video and radio); Other film, stage and related director and producer; Car wash service attendant; Excavator/Bull dozer machine operator; Software developer; Tool maker; Jewellery and Precious Metal Worker (goldsmith, silversmith); Procurement/purchasing manager; Chief executive officer/managing director ; Domestic Cleaner/helper; Poultry farmer; Cement worker

Transportation and storage	Aircraft pilot; Clearing and forwarding agent; Heavy truck driver (truck, tripper, etc...); Systems administrator (computer); Accounting associate professional; General manager; Bus driver; Food deliverer; Administrative assistant; Office Assistant; Business services and administration managers not elsewhere classified; Aeronautic engineering technician; Chief executive officer/managing director; Bill collector; Medium vehicle driver(DCM); Human resource manager; Human resource officer; Manufacturing labourer not elsewhere classified; Real estate manager; Flight engineer
Accommodation and food service activities	Cook; Bartender; Chef; Plumber; Waiter; Restaurant manager; Kitchen helper; Shop sales assistant; Housekeeper (hotel); Food deliverer; General manager; Fast food preparer; Hotel receptionist; Accounting associate professional; Baker; Cashier and ticket clerk; Marketing manager; Book keeping clerk; Finance Officer/Account Officer; Sales manager; Hotel manager (operation/lodging services); Housekeeper (other institution); Electrician; Wood carver (paap); Laundry machine operator; Business services and administration managers not elsewhere classified; Food service counter attendant; Hand launderer; Working proprietor; Creative and performing artist not elsewhere classified; Building caretaker (including Koenyer); Shopkeeper
Information and communication	Script writer; Information and communications technology operations technician; Producer (film, video and radio); Kitchen helper; Bill collector; Telecommunications line worker; Computer repairer; Other author and related writer; General manager; Systems administrator (computer); Shop sales assistant; Computer network professional; Composer; Director (film, video and radio); Construction supervisor; Process control technician not elsewhere classified; Sales manager; Software developer; Technical training institute (tti) teacher/Instructor; Policy administration professional; Finance Officer/Account Officer; Accounting associate professional; Business services and administration managers not elsewhere classified; Electric cable jointer(power transmission lines); Database administrator; Book keeping clerk; Audiologist; Cable and rope splicer; Musician; Network administrator; Journalist; Photographer; Physical and engineering science technicians not elsewhere classified; Information and communications technology services manager; Engineering professionals not elsewhere classified; Creative and performing artist not elsewhere classified; Graphic designer; Editor (film, video and radio); Chief executive officer/managing director; Electrician
Financial and insurance activities	Insurance clerk; Credit and loan officer; Financial analyst; Computer network professional; Auditor; Insurance company manager (including branch manager); Business services and administration managers not elsewhere classified; Economist; Insurance representative/agent; Client information worker not elsewhere classified; Finance Officer/Account Officer; Information and communications technology operations technician; Financial and investment adviser; Web and mobile applications developer; Policy administration professional; Investment manager; Chief executive officer/managing director; Bank manager (including branch manager); Human resource officer; Bank teller
Real estate activities	Marketing professional
Professional, scientific and technical activities	Building architect; General office clerk; Legal Officer; Policy administration professional; Lawyer; Graphic designer; Technical training institute (tti) teacher/Instructor; General manager; Accounting associate professional; Tourist guide; Jewellery and Precious Metal Worker (goldsmith, silversmith); Chemist; Other visual artists; Web and mobile applications developer; Office Assistant; Photographer; Electrician; Operations research analyst; Legal professional not elsewhere classified; Auditor; Printing worker; Civil engineer; Other film, stage and related director and producer; Construction project manager; Interior designer; Solar power plant operator; Land surveyor

Administrative and support service activities	Tourist guide; Human resource officer; Printing worker; Contact Centre Information Clerk; Public Relations Professional ; Hotel receptionist; Corporate director (e.g. BPC, DGPC etc...); Radio announcer; Shop sales assistant; Light vehicle car driver; Excavator/Bull dozer machine operator; Airline ticket agent; Construction labourer (civil engineering); General manager; Security guard (includes all types of security guards); Bus driver; ICT Officer; Marketing manager; Marketing professional; Photographer; Accounting associate professional; Business services and administration managers not elsewhere classified; Chef; Graphic designer; Medium vehicle driver(DCM); Audiovisual technician; Human resource manager; Wood products machine operator; Stationary plant and machine operator not elsewhere classified ; Chief executive officer/managing director (e.g. DHI and limited companies); Electronics mechanic/servicer; Transportation Manager; Manufacturing labourer not elsewhere classified ; Multimedia (including games) developer; Receptionist (general); Legal Officer; Finance Officer/Account Officer; Business services agent not elsewhere classified (Tour operators, Auctioneers); Information and communications technology services manager; Office Assistant; Farm machinery repairer; Heavy truck driver (truck,tripper,etc...); Road making machine operator
Education	Fitness and recreation instructor and programme leader; Early childhood educator; Higher secondary school teacher; Accounting associate professional; Driving instructor; School Counsellor; Primary school teacher; Lecturer; Technical training institute (tti) teacher/Instructor; Business consultant; Teaching professional not elsewhere classified (NFE instructor); Information technology trainer; Child care services manager; ICT Officer; Bus driver; Special needs teacher; Tailor (tshemzo); General manager; General office clerk; School principal; Middle secondary school teacher; Other related professional; Chef; Cook; Executive Director; Warden/Matron; Marketing manager; Business services and administration managers not elsewhere classified; Office Assistant; Marketing professional
Human health and social work activities	Executive Director; Medical laboratory technician; Social Worker; Accounting associate professional; Policy administration professional ; Medical doctor (general); Building caretaker (including Koenyer); Finance Officer/Account Officer; General manager; Pathology laboratory technician
Arts, entertainment and recreation	Working proprietor; Shop sales assistant; Audiovisual technician; Services managers not elsewhere classified; Tourist guide; Early childhood educator; Marketing professional; Sports centre manager; Sales manager; Stall and market salesperson; Human resource manager; Fitness and recreation instructor and programme leader; Musician; Tailor (tshemzo); Bookmaker, Croupier and Related Gaming Worker; General office clerk; Policy and planning manager; Personal services worker not elsewhere classified (Draying worker); Conference and event planner; General manager; Software developer; Sports coach; Housekeeper (other institution); Cashier and ticket clerk; Receptionist (general); Business services and administration managers not elsewhere classified; Housekeeper (hotel); Dancer; Cook; Director/Director general; Kitchen helper; Sculptor; Bartender; Other author and related writer; Curator (art gallery and museum); Waiter; Accounting associate professional
Other service activities	Wood furniture maker; Beautician; Barber; Chef; Jewellery and Precious Metal Worker (goldsmith, silversmith); Hairdresser; Policy administration professional; Electrical household appliance repairer; Business services agent not elsewhere classified ; Mobile repairer; Counsellor (rehabilitation, drugs and alcohol); Computer repairer; Services managers not elsewhere classified; Health associate professional not elsewhere classified; Tailor (tshemzo); Electronics mechanic/servicer; Make-up artist (stage, film and studio); 34120; Office Assistant; Human resource officer; Sports coach; Legal and related associate professional; General manager; Executive Director; Shop sales assistant; Carpenter (shingzow); Accounting associate professional

*Table A03: Median wage for youth and adult employed population from 2018 to 2021 by economic activities, enterprise, and major occupations*

Major economic activities	Age 15 to 24				Age 25 and above			
	2018	2019	2020	2021	2018	2019	2020	2021
Agriculture and Forestry	4,000	5,000	6,200	6,000	4000	5000	6000	5000
Mining and Quarrying	10,000	11,000	11,000	16,000	12220	14000	16000	17000
Manufacturing	8,000	9,000	9,000	10,000	10000	10000	10000	10000
Electricity and Gas Supply	10,000	17,000	22,000	30,000	15000	17000	22370	23000
Water Supply, Sewerage and Waste Management	8,000	9,500			12000	18000	15000	11000
Construction	10,500	15,000	15,000	15,000	15000	15000	17000	19000
Wholesale and Retail Trade; Repair of Motor Vehicles	9,000	10,000	9,000	12,000	15000	15000	16000	20000
Transportation and Storage	9,500	15,000	9,000	15,000	20000	20000	17000	16000
Accommodation and Food Service Activities	8,000	8,000	8,000	10,000	15000	15000	15000	15000
Information and Communication	10,000	12,000	12,000	12,000	15000	18000	21000	22000
Financial and Insurance Activities	15,000	15,635	19,879	11,000	20000	20000	23000	28000
Real Estate Activities	6,500	8,500			20000	8000	33000	20000
Professional, Scientific and Technical Activities	10,000	10,000	10,000	12,000	20000	30000	25000	27000
Administrative and Support Service Activities	10,000	10,000	9,500	15,000	20000	20000	13500	17000
Public Administration and Defense	10,000	17,600	15,000	17,000	13000	20000	21000	22000
Education	12,900	14,000	14,400	16,000	19000	27000	28000	28000
Health and Social Work Activities	15,000	20,000	12,000	12,000	18000	23000	20000	15000
Arts Entertainment and Recreation	10,000	7,000	15,000	11,900	15000	15000	20000	20000
Other Service Activities	6,000	5,000	15,000	8,000	8000	8000	10000	8000
Activities of Households as Employers	4,000	4,500	5,000	6,000	7000	10000	9000	9000

Major occupations	Youth				Adult			
	2018	2019	2020	2021	2018	2019	2020	2021
Legislators, Senior Officials and Managers	10,000	15,726	16,000	20,000	20000	21000	21500	30000
Professionals	15,000	15,000	16,900	16,000	21000	25000	28000	30000
Technicians and Associate Professionals	10,000	12,000	16,000	15,000	16000	19500	21000	21000
Clerical Support Workers	8,000	10,900	12,000	15,000	15000	17000	17000	18000
Services and Sales Workers	8,500	9,500	10,000	11,000	13000	15000	15000	15000
Skilled Agricultural and Forestry Workers	4,000	5,000	5,000	6,000	4000	4750	6000	5000
Craft and Related Workers	9,000	11,000	10,000	15,000	10000	12000	12000	15000
Plant and Machine Operators	10,000	13,000	10,500	13,000	15000	15000	15000	15000
Elementary Occupations	8,000	10,000	10,000	12,500	8000	10000	12000	12000
Armed Forces	10,985	17,500	18,800	12,000	13000	23000	22000	23000

Enterprises	Youth				Adult			
	2018	2019	2020	2021	2018	2019	2020	2021
Government	11,000	15,000	12,000	13,075	16000	20000	20000	21000
Public/Govt. Companies	11,000	12,000	14,000	14,000	16000	17000	20187	22000
Private Companies	9,000	9,000	10,000	12,000	13000	13700	15000	15000
Armed Forces	9,000	18,000	19,000	17,500	13000	22000	23000	23000
Agri. Farming	4,000	5,000	5,000	6,000	4000	4600	6000	5000
Private Business	9,000	10,000	10,000	14,000	15000	15000	15000	15000
NGO/INGO/CSO	15,000	12,400	12,500	13,000	18000	13500	22000	14000

*Table A04: Gender earning gap by Enterprise, major occupation, major economic activities and level of education in 2021*

Enterprise	Male	Female	Gap
Government Agency	23,836	21,225	0.89
Armed Forces	23,167	19,478	0.84
Agriculture Farming	8,918	7,974	0.89
State Owned Company (SOEs)	27,660	23,347	0.84
Public Limited Company	21,858	19,708	0.90
Private Limited Company	19,622	15,862	0.81
Private Business	26,179	19,523	0.75
Non-governmental/International Government/Civil Society Organization	23,375	24,687	1.06
Major Occupation	Male	Female	Gap
Managers	44,791	34,612	0.77
Professionals	33,812	30,673	0.91
Technicians and Associate Professionals	20,974	22,972	1.10
Clerical Support Workers	18,819	17,650	0.94
Services and Sales Workers	25,654	21,119	0.82
Skilled Agricultural, Forestry and Fishery	8,968	7,979	0.89
Craft and Related Trades Workers	21,142	9,793	0.46
Plant and Machine Operators and Assemblers	20,779	12,763	0.61
Elementary Occupations	15,958	10,700	0.67
Armed Forces	23,139	19,940	0.86
Major Economic Activities	Male	Female	Gap
Agriculture, Forestry and Fishing	9,451	8,047	0.85
Mining and Quarrying	32,037	12,820	0.40
Manufacturing	19,441	9,564	0.49
Electricity, Gas, Steam and Air Conditioning Supply	24,727	25,273	1.02
Water Supply; Sewerage, Waste Management and Remediation Activities	16,757		
Construction	23,651	16,624	0.70
Wholesale & Retail Trade; Repair of Motor Vehicles and Motorcycles	39,707	25,110	0.63
Transportation and Storage	22,222	16,689	0.75
Accommodation and Food Service Activities	29,053	24,187	0.83
Information and Communication	29,926	19,583	0.65
Financial and Insurance Activities	30,054	26,003	0.87



Real Estate Activities	45,009	25,670	0.57
Professional, Scientific and Technical Activities	37,231	44,598	1.20
Administrative and Support Service Activities	23,780	24,060	1.01
Public Administration and Defense; Compulsory Social Security	23,074	19,383	0.84
Education	29,015	25,683	0.89
Human Health and Social Work Activities	19,398	18,274	0.94
Arts, Entertainment and Recreation	20,647	22,307	1.08
Other Service Activities	9,516	17,936	1.88
Activities of Households as Employers	5,640	8,209	1.46
Activities of Extraterritorial Organizations and Bodies	31,527	37,163	1.18
<b>Education</b>	<b>Male</b>	<b>Female</b>	<b>Gap</b>
None	14,616	10,965	0.75
Primary/Nursery	17,763	16,847	0.95
Lower Secondary	19,702	18,784	0.95
Middle Secondary	19,576	17,166	0.88
Higher Secondary	21,188	17,887	0.84
Certificate/Diploma	33,778	25,142	0.74
Bachelor's Degree	35,763	28,494	0.80
Master's Degree & Above	51,015	56,510	1.11
Monastic Education	16,234	7,251	0.45
Non-Formal Education	15,007	9,762	0.65
<b>Nature of employment</b>	<b>Male</b>	<b>Female</b>	<b>Gap</b>
Regular paid employee	22,557	19,547	0.87
Casual paid employee	17,177	13,296	0.77
Own-account worker(Non-agriculture)	31,864	20,972	0.66
Own-account worker(Agriculture)	8,907	7,963	0.89
Employer	86,806	49,409	0.57
<b>Overall</b>	<b>20,244</b>	<b>15,606</b>	<b>0.77</b>