



Confederation of Indian Industry

An insight into East and Northeast India from a skilling vantage point

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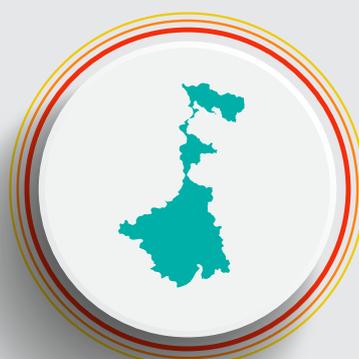




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Introduction





The need for a skilled workforce and its importance to the economic growth of a country has been a key agenda for discussion across several policy forums. Countries with high skill standards are able to cope up in a much better way with the challenges and opportunities presented by the ever changing domestic and international markets, particularly during the current age of COVID-19 pandemic and the resultant systemic social and economic turmoil. India currently faces a dual challenge of severe shortage of well-trained, skilled workers on one hand and non-employability of graduates, who possess little or no job-oriented skills on the other hand. It is estimated that less than five per cent of the total Indian workforce is skilled,¹ a statistic that is worrying considering the overall requirement of skilled labour that exists in the country and compared to our peers where the ratio is substantially higher. Hence, in order to harness its demographic dividend and overcome its skill shortage, India needs to work towards developing a sustainable skill ecosystem and roadmap wherein the workforce is equipped with employable skills and knowledge to be able to contribute to the economic growth of the country. State governments will play a pivotal role - providing the much-needed policy direction, roadmap creation and guidance to all stakeholders in the skill ecosystem.

The Eastern and the Northeastern part of the country, with about 26 per cent² of the population of the country and accounting for about 16 per cent of the country's GDP in 2018³, is one of the largest providers of skilled workforce to the rest of the country. Together, the 13 states in the East and the Northeast account for about 27 per cent of the inter-state migrants of the country. Demographically, the region offers a land of veritable cauldron shelters, representing a somewhat complex demographic character in terms of ethnicity, religion, language, caste and creed. These states can also be considered as the youngest states in the country with about 60 per cent of the population within the employable age-group (15-59 year) and a healthy sex ratio of about 49 per cent. The region's population pyramid is also expected to bulge across the 15-59-year age group over the current decade.

While the surge in the young population is a great impetus, currently the statistics for productive and inclusive engagement of the youth remain a cause of concern. The workforce participation rate of the region is 38.2 per cent, which is marginally trailing the national average, with a female participation in workforce of a meagre 23.3 per cent vis-à-vis a towering male participation of 52.3 per cent⁴. This could be attributed to the societal restrictions on women's mobility, strong patriarchal norms, limited educational attainment, and non-remunerative and seasonal nature of the work they are predominantly involved with in this region. Industry estimates suggest that if the number of female workers were to increase to the same level as the number of men, GDP of the region would expand by about 15-20 per cent⁵. Similarly, exclusion of school and college dropouts from employment translates into a foregone GDP of about five to eight per cent. Incidentally, the Gross Enrolment Ratios (GER) at Secondary, Higher Secondary, & Higher Education levels in the region are hovering around 80 per cent, 40 per cent and 20 per cent respectively, implying high dropouts at each level of education⁶.

Economically, most of the states in the region may be considered as rural agrarian economies with more than 70 per cent of the population within the region dependent on agriculture for a livelihood⁷. The Eastern belt of India has generally been comparatively less developed than the Western belt which has a significant manufacturing presence. While large, industrial manufacturing clusters are widespread in the Gujarat-Maharashtra-Western UP area, Chennai-Bengaluru cluster and in Central India, these sectors have little or nominal presence in East India. East and the Northeast consist more of sectors like textiles and apparel, small engineering, khadi and village industries, mining-oriented industries, food processing, etc. Services sector, that has experienced substantial growth over the last decade, has the potential to unlock significant opportunities which can create symbiotic growth for all states in the region. The region's distinctive competencies and competitive geographic advantage for the knowledge-based services make it unique emerging market in the country.

1. India Skills Report, 2019

2. Census 2011

3. Centre for Monitoring Indian Economy

4. Census 2011, PLFS 2018-19

5. PLFS 2018-19, CMIE, KPMG India Analysis

6. AISHE 2019-20, Ministry of Education, Govt. of India

7. Census 2011



One of the key aspects of the industries landscape of the region is the predominance of the MSMEs with the region accounting for about 30 per cent of the registered MSMEs in the country, more than 99 per cent of them being micro units⁸. Correspondingly, more than 92 per cent of the workforce of the region are involved with unorganised sectors (including agriculture). Another key aspect involves the creative economy of the region resulting from the confluence of multiple religions, races, ethnicity, tribes, etc. Incidentally, the region has about 13.2 per cent tribal population vis-à-vis 8.6 per cent national average⁹. Apart from these activities that deal with creativity, knowledge, ideas and information such as music, design, architecture, entertainment, media, films, visual arts, crafts, radio, advertising, literature, gaming and performing arts are popular in this region. All these underline the need for an overarching institutional skill-development mechanism to the youth in the region are employable.

Realising these huge challenges and vast opportunities, individual state governments and the State Skill Development Missions (SSDMs) of the region have embarked on many interventions towards developing a sustainable skill ecosystem wherein the workforce is equipped with employable skills and knowledge to be able to contribute to the economic growth of the region. Some such interventions include the launch of CMEGP programme and the World Skills Centre of Odisha, the Kushal Yuva Programme in Bihar, Utkarsh Bangla in West Bengal, the state-of-the-art Skills University with an annual training capacity of 1,000 in Assam to name a few. The enormity of the region's skilling challenge is, however, heightened by the fact that skill training efforts cut across multiple sectors and require the involvement of diverse stakeholders such as multiple government departments at the Centre and state, private training providers, employers, industry associations. There are several socio-economic factors that act as deterrents - lack of good infrastructure, transportation and connectivity issues, dispersed population over the geographical area making it difficult to mobilise candidates, lack of good trainers, indigenous culture and skill sets,

etc. The scenario has been further aggravated by the COVID-19 pandemic and the ensuing job shifts and displacements, worsening unemployment scenario, and pandemic-led reverse migration within the region. Thus, in order to provide an impetus to skilling activities in the region, special focus must be provided to the same in order to ensure that skilling initiatives are aligned to the needs of the states/region as well as national priorities while at the same time being closely industry-oriented.

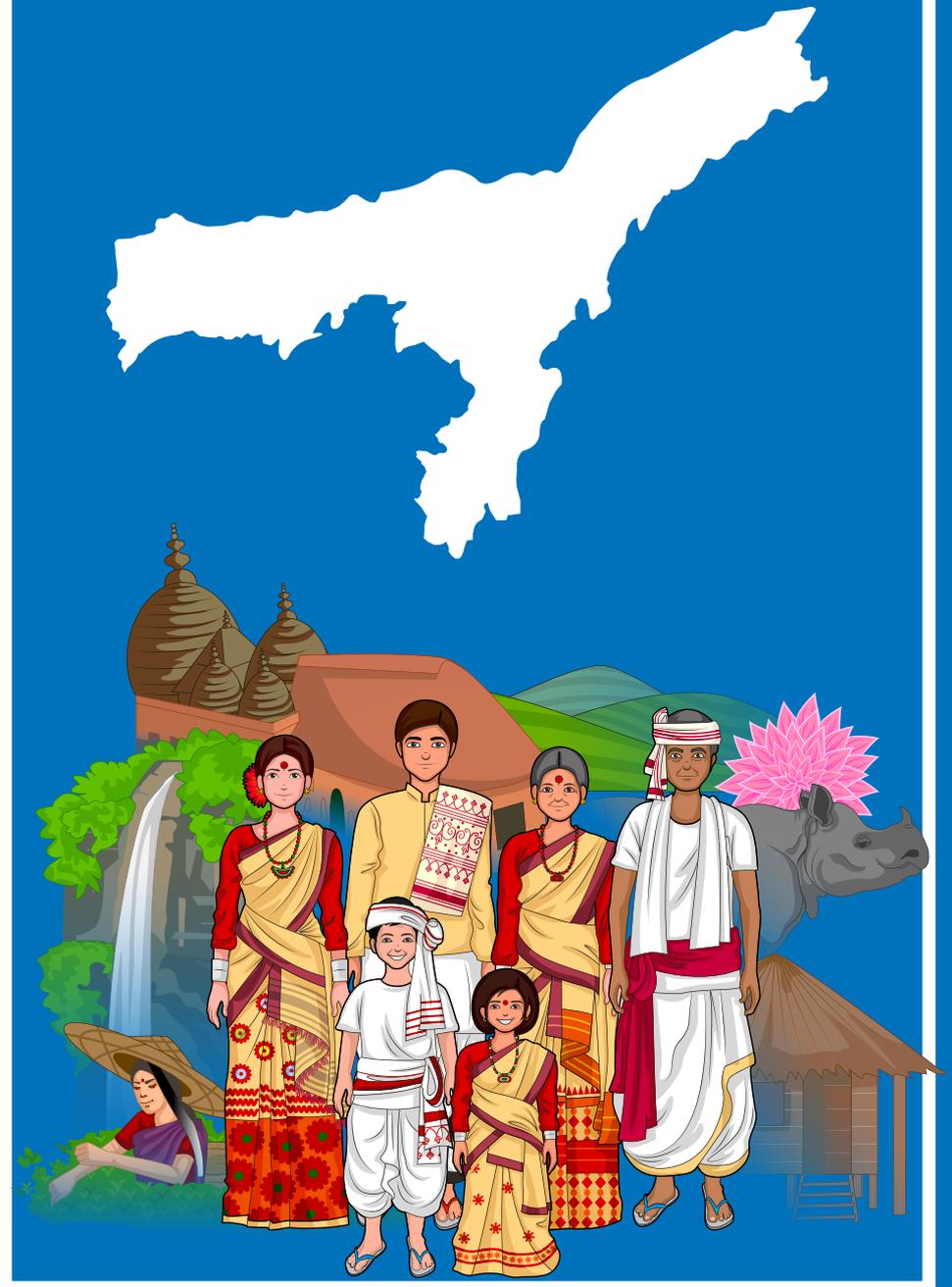
The key to individual SSDMs' success will not only be working with multiple stakeholders but also its ability to develop the focus and pool in resources. Consequently, SSDMs will need to give a major thrust on mobilisation and awareness creation, and roll out campaigns to bring sensitization among the youth on the training schemes, training centres, student entitlements, the placement opportunities and other benefits of undertaking a skill-based training. A critical element in the functioning of the SSDMs will be their ability to work at grassroots level with frontline administration to roll out outreach programmes. They would also need to develop inter-departmental convergence and coordination with other state departments for aligning the training programmes with skill qualification standards and certification process. Another key area for SSDMS would be to engage with national/international quality training partners, drive outcome-based training programmes, and internationalize the brand of skilling. Monitoring of various stakeholders and initiatives in the state's skill ecosystem will be a key challenge, and SSDMs will have to develop effective monitoring mechanisms to review progress, revise targets, address concerns and keep under control any compliance issues. In the following sections, we have discussed at length about the six major states in the East and the Northeast, including Assam, Bihar, Chhattisgarh, Jharkhand, Odisha and West Bengal – their demography, economy, focus sectors, and the ongoing skilling interventions. We have finally summed up by talking about some of the key interventions that the individual SSDMs may explore in order to further develop the skilling ecosystem within the region.

8. Annual Report 2020-21, Ministry of MSME, NSSO 73rd Round

9. Census 2011



Assam



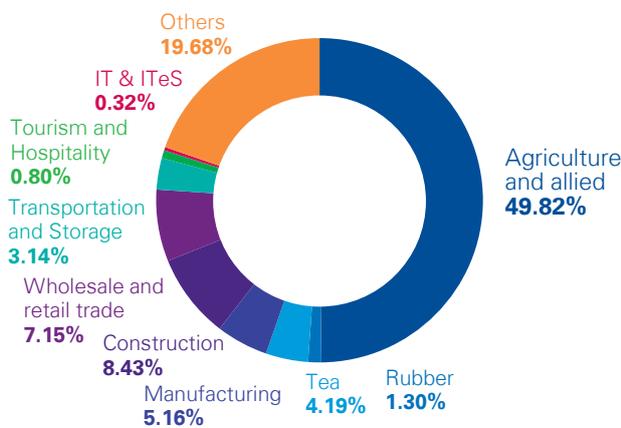


Assam, the gateway to North East India is the largest state in the North Eastern Region (NER) and a fast-growing state economy. The GSDP of the state in FY 2020 is estimated to be INR 3.74 lakh crore at current prices, growing at an impressive 12.76 per cent between FY 2012 and FY 2020¹⁰. In terms of demographic profile, Assam, today, can be considered as one of the youngest workforces in the country with more than 60 per cent of the total population belonging to the working age (15-59 years) and a median age of 22.7 years vis-à-vis 26.8 years nationally¹¹. In terms of the economic constitution of the state, agriculture and allied forms 17 per cent of the GSDP, industries contribute about 30 per cent, services contribute around 46 per cent to the state's GSDP, while taxes and subsidies account for the rest.

Traditionally been a rural agrarian economy, the state has, in the recent past, grown significantly in sectors like trade, tourism, and IT & ITeS. However, the

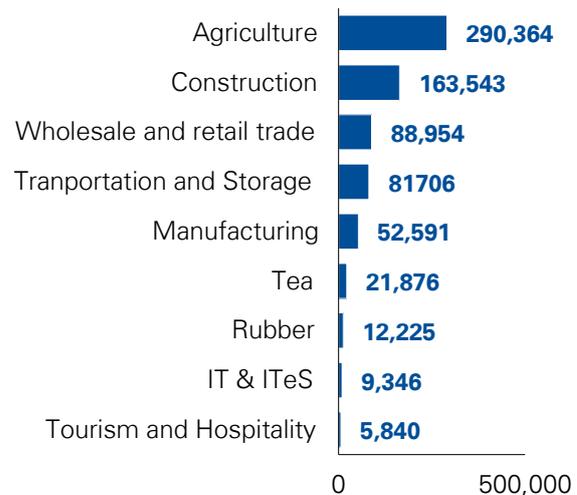
agriculture sector still continues to play its role as the backbone of the state economy and employment landscape by being the single largest contributor to the economy. Apart from agriculture, tea is another major sector of the state providing employment to close to six lakh persons, about 60 per cent of them being females¹². The industries sector is led by the oil and petroleum industry, textiles and handloom, food products, grain mill products, sugar, cement, fertiliser, plywood, wooden furniture, paper and paper pulp, engineering, steel fabrication, metal-based industries etc. Employment in the services sector is led by sectors such as trade, tourism and hospitality, transport, storage, IT & ITeS, communication and services, financial services, real estate, and other services. Apart from these, being endowed with abundant natural resources, the state is also home to a number of key indigenous sectors accounting for huge employment in the unorganised sectors of the state.

Figure 2: Sectoral workforce composition in Assam, 2020



Source: Assam Skill-gap Study, ASDM, Govt. of Assam

Figure 1: Incremental workforce requirement, 2020-25



Source: Assam Skill-gap Study, ASDM, Govt. of Assam

10. Centre for Monitoring Indian Economy
11. Census 2011

12. Assam Skill Gap Study, 2020-25, Govt. of Assam



Major focus sectors – Key trends and employment opportunities

- 1. Agriculture:** Agriculture and allied sectors have been the major employers contributing to a third of the state's income and providing livelihood opportunities to a large section of the population of the state. More than 70 per cent of the total population of Assam is dependent on agriculture, either directly or indirectly, providing employment and support to more than 50 per cent of its total workforce¹³.
- 2. Rubber:** Rubber cultivation has also been gaining popularity in Assam due to congenial agro-climatic conditions as well as its eco-friendly environment. The area under rubber cultivation has grown from 16.5 thousand hectares in 2006-07 to 57.94 thousand hectares in 2017-18. During FY 2018, the production of rubber increased by 27 per cent over the previous year to reach 22,324 MT with an employment generation of 189,790 man-days¹⁴.
- 3. Tea:** Tea occupies a very significant place in the economy of the state accounting for close to 60 per cent of the national production of tea and more than 50 per cent of average number of labour employed per day in the country under the tea industry¹⁵. About 17 per cent of the workers of the state are engaged with the tea industry.
- 4. Handloom:** Handloom is one of the most important cottage industries in Assam providing employment to about 20 lakh weavers in the state¹⁶. The sector plays a significant role in the socio-economic life, particularly in rural Assam, towards ensuring gender equity and inclusivity in the state's workforce. In terms of providing livelihood opportunities in the state, the sector is only next to agriculture.
- 5. Khadi and Village Industry (KVI):** The Khadi and Village Industries in the state are promoted by the state government with the view of economic development and employment augmentation in rural Assam. During FY 2018, the total value of production under khadi and village industries was INR26.76 crore having grown by 19.73 per cent from INR22.35 crore in the previous year. However, the total employment generated during the year was 66,844, having fallen from 74,960 during FY 2017.
- 6. Oil and petroleum:** Assam is a producer of crude oil and it accounts for about 15 per cent of India's crude output¹⁷. During FY 2018 the total crude oil production in the state was 43.45 lakh MT. The state has major oil refineries at Digboi, Guwahati, Bongaigaon and Numaligarh.
- 7. Tourism and hospitality:** Buoyed by natural beauty, sweeping valleys and pristine tea gardens, Assam is one of the major tourist destinations in the country. The sector contributes to more than 10 per cent of the total employment in the state¹⁸. Due to huge forest cover and abundance of native flora and fauna, the state has high potential for the development of wildlife tourism and eco-tourism.
- 8. IT & ITeS:** Owing to the state's proximity to BBN and ASEAN markets, developing IT infrastructure and availability of industry-ready and tech-savvy workforce, IT & ITeS has emerged as one of the major sectors for economic enablement and employment opportunities in Assam. The sector is further bolstered by favorable policy initiatives including Information Technology and Electronics Policy, Assam, 2017, Assam Electronics and IT Innovation Scheme, 2015, and the North East BPO Promotion Scheme (NEBPS).

Apart from the above-mentioned industries, Assam is also home to several indigenous MSME clusters, industries etc. where traditional skills are passed on from generation to generation. With more than 50,000 micro enterprises in the state accounting for more than 90 per cent of the workforce in Assam, these unorganised sectors like handicraft, khadi and village industries, sericulture, cane and bamboo craft, pottery, terracotta works, jute diversified products etc. play a significant role in boosting the local economy and providing ample opportunities for livelihood generation at the grassroot level.

13. Directorate of Economics & Statistics, Government of Assam

14. The Rubber Board, Zonal Office, Guwahati

15. Reports published by the Tea Board of India

16. Assam Economic Survey, 2019-20

17. Ministry of Petroleum, Govt. of India

18. Ministry of Tourism, Govt. of India



Skilling ecosystem of the state

According to the Skill-gap study conducted by the Assam Skill Development Mission (ASDM), it is estimated that as in 2020, the total size of the workforce of the state is 1.39 crore, of which about 71 per cent are males and the remaining are females. It is projected that by 2025, the size of the workforce would grow to 1.47 crore, with about 70 per cent male workers. The incremental workforce required between 2020 and 2025 is anticipated to be 12.5 lakh with agriculture, construction, wholesale and retail trade, tea, education, and transportation accounting for the maximum employment generation. Needless to say, to harness its demographic dividend and overcome its skill shortage backed by the extraordinary economic growth of the state, Assam needs to work towards developing a sustainable skill ecosystem wherein the workforce is equipped with employable skills and knowledge to be able contribute to the economic growth of the country.

Skilled workforce is one of the major contributors to the economic growth of any nation. Countries/states with high skill standards are able to cope up in a much better way with the challenges and opportunities presented by the ever-changing domestic and international markets. Therefore,

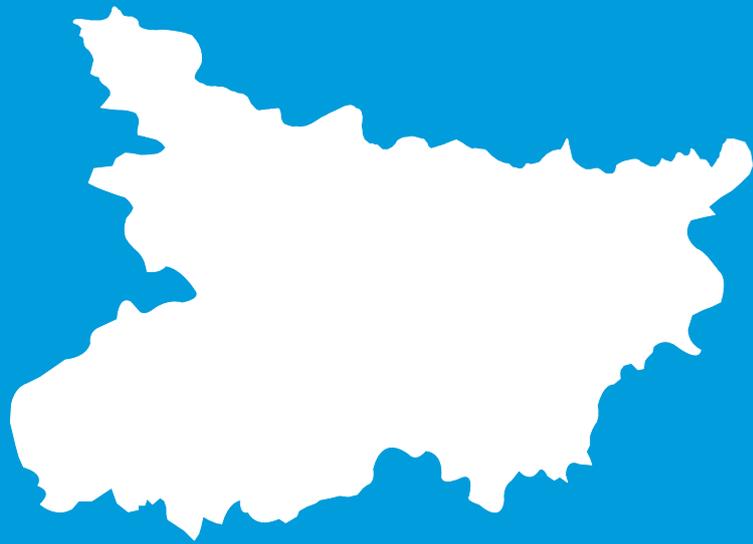
realising the vast opportunities as well as huge challenges, the government of Assam has accorded high priority towards skill development through schemes, incentives, policies, programmes and support through and institutional and regulatory framework.

With a vision to provide “Capacity building of unemployed youth and to deliver quality skill training leading to meaningful employment”, the state government of Assam has set up the Assam Skill Development Mission (ASDM) in 2015, as the nodal authority for skilling or skill-oriented interventions. Till the end of FY 2021, the state government has conducted trainings for about 650,000 candidates in PMKVY Scheme, about 65,000 youths under the DDU-GKY Scheme, and about 85,000 candidates under the state-sponsored Placement Linked Skill Development Training Programme (PLSDTP)¹⁹. Several other state and Central government schemes have been launched, skill requirements have been assessed and collaborations have been made in order to provide aspiring Assamese youth with opportunities to leverage their potential and enhance their skills.



19. Ministry of Rural Development, Ministry of Skill Development & Entrepreneurship, Govt. of India, ASDM, Govt. of Assam

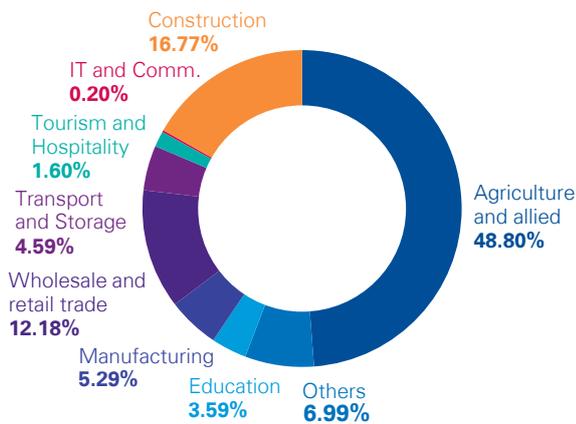
Bihar





With a population in excess of 10 crore (third largest in the country with a decadal growth rate of 25.4 per cent), Bihar has emerged as the Indian state with highest development rate in the financial year 2017-18 with a growth rate of 11.3 per cent of the GDP of the state²⁰. The state continues to be one of the fastest growing economies in the country with the GSDP at current prices growing at an impressive 13.27 per cent between FY 2016 and FY 2020 and per capita NSDP

Figure 4: Sectoral workforce composition in Bihar, 2019



Source: Assam Skill-gap Study, ASDM, Govt. of Assam

Primarily a rural agrarian economy, the state has agriculture as the backbone of economic sustainability and livelihood generation and is the numero uno state in the East in terms of agricultural production. About 80 per cent of the state’s population is dependent on agriculture and allied sectors for livelihood opportunities, much better than the national average. Bihar’s economy is also largely driven by small scale industries (SSIs) and MSMEs with the presence of about 34.5 lakh MSMEs. Interestingly, about 96 per cent of the workforce is employed in informal sectors (including agriculture) across a heterogenous mix of industries in the state - highest in the country currently. The representation of the industry sector is furnished by mining activities, construction work, roadways and utilities. Some of the other key sectors fueling the economic expansion and financial sustainability include sugar, leather, textiles and apparel, tourism to name a few.

As per Census 2011, the state has a workforce in excess of three crore, the fifth largest in the country with about 40 per cent of the population in the 0-14-year age-group and 58 per cent of the population below 25 years, largest in the country. In terms of the demographic profile, Bihar, currently is the youngest

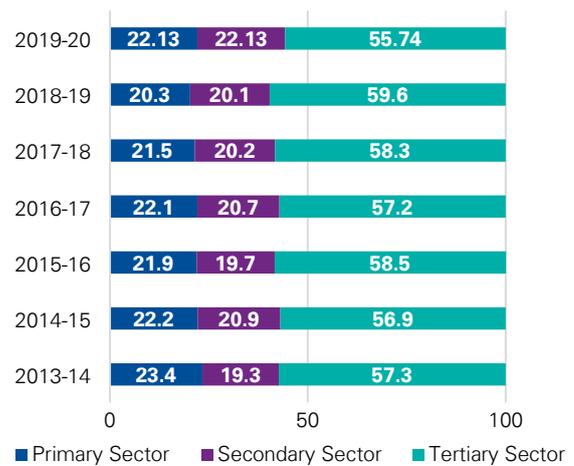
20. Central Statistical Organization, Government of India

21. Directorate of Economics and Statistics of Bihar

22. Centre for Monitoring Indian Economy, CMIE

growing at 13.41 per cent between FY 2016 and FY 2021²¹. In terms of the economic constitution of the state, agriculture and allied sectors form 20 per cent of the GSDP. Industries contribute 19 per cent, and services contribute around 51 per cent to the state’s GSDP²². Interestingly the highest contributor to the economy, the services sector, employs about 36 per cent of the workforce whereas the agriculture and allied sector employs 56 per cent of the workforce²³.

Figure 3: Structural composition of economy, FY14 - FY 20



Source: Assam Skill-gap Study, ASDM, Govt. of Assam

state in the country with a median age of only about 20 years which further reinstates the potential of the state as a future hub for skilled labour source. A hub of industrial labour, both native and migrant, the state also accounts for about 14 per cent of the migrant population of the country, according to Census 2011.

While the surge in the young population is a great impetus, currently in Bihar the statistics for productive and inclusive engagement of the youth remains a cause of concern. The labour force participation rate (15 years and above) is 40.4 per cent which is trailing the national average, with a female participation in labour force of 4.3 per cent vis-à-vis a male participation of 73.1 per cent²⁴. Moreover, the Gross Enrolment Ratios (GER) at Secondary, Higher Secondary and Higher Education levels in the state are ~78 per cent, ~36 per cent and 13.6 per cent respectively, implying high dropouts at each level. This situation is further aggravated with about 22 per cent dropouts of the youth in the 18-23 years age-group, translating to about 1.30 crore youth staying out of mainstream education in Bihar every year²⁵. All these information points to the quintessential need for an overarching institutional skill-development mechanism to bring back these students into the workforce in the employable paradigm.

23. Bihar Economic Survey 2020-21, Finance Department, Government of Bihar

24. PLFS, 2018-9

25. AISHE Annual Report FY 2019, KPMG India Analysis



Major focus sectors – Key trends and employment opportunities

As the state government aspires to develop Bihar into a major industrialised state by leveraging its strategic advantages like infrastructure, abundance of natural resources, vast pool of skilled human resources etc., special emphasis needs to be given on the development of the sectors that are significant in terms of their contribution towards economic upliftment and employment augmentation within the state. Some of these sectors have been identified and discussed at length in the below sections.

1. Agriculture and allied sectors: Agriculture and allied sectors are the backbone of Bihar's economy accounting for about 24 per cent of the state's GDP. With favorable climatic and rich soil conditions promoting the ascent of this sector, Bihar has a vast variety of important agro-produce including rice, wheat, maize, mangoes, litchi, potatoes, sugarcane, tobacco, onion, chili and jute. The sector currently employs around 77 per cent of the total workforce in production of wheat, rice, fruits and vegetables, accounting for about 60 per cent of the state's land usage²⁶.

2. Livestock, animal husbandry and dairy: Livestock and dairy production is one of the major contributing factors to rural livelihood generation and economy of Bihar within the allied sectors. According to a 2019 study, the present milk production is at 9,818 MT and is estimated to level up to 14,867 MT by 2022. The state accounts for about 5.2 per cent of the total milk production in the country, with milk production growing at the rate of 6.2 per cent annually. The state ranks fourth in terms of total livestock numbers with about 6.8 per cent of the total national livestock population. Although lagging in the country's index, Bihar is still growing steadily in its poultry department, having grown from 9,308 lakh egg production in 2013-14 to 12,771 lakh in 2018-19, and is estimated to reach 23,400 lakh by 2022. Bihar continues to account for 4.4 per cent of the total meat production in the country which was estimated at 364 MT in the year 2019-20 and is expected to reach 1,423 MT by 2022²⁷. Such notable avenues in this sector make for 18.7 per cent of the total livelihood, about 70 per cent being females²⁸.

3. Sugar: The sugar industry in Bihar has always been a key sector of growth which used to contribute to 40 per cent of the country's sugar production in the past. Owing to conducive climatic conditions and favorable soil texture, the input required to cultivate sugarcane is much less making it cost efficient as well as labor-intensive. With the introduction of machineries and the state's fiscal and regulatory efforts to revive the industry, Bihar today ranks fourth in terms of sugarcane production in India. The state has 11 operational sugar mills which produced a staggering 221 lakh MT sugarcane in the year 2019-20, accounting for about five per cent of the national production²⁹.

4. Telecom: Despite being predominantly rural, Bihar's telecom sector grew incredibly in the past few years. Bihar has the third largest mobile subscriber base in the country with about 85 million mobile subscribers in January 2020³⁰. The telecom industry has been crucial in not just income generation but the growth of socioeconomics and rural development in the state. The employment forecast estimated by the Telecom Department showed Bihar's numbers surpassing its peer states by more than double. The effect of the IT industry on the rise in the nation overall has had a ripple effect in Bihar and most of it on the youth of Bihar resulting in the stupendous growth in wireless subscribers as well as internet users in the state.

5. Textile: Bihar is a paradise for Tussar silk, being predominantly produced in the Bhagalpur district. Traditional weaving and handloom is a rather age-old traditional industry in Bihar where cluster artisans still work in the districts of Bhagalpur, Gaya, Nalanda, Darbhanga and Madhubani. These clusters are involved with several crafts including Eri silk weaving, mica and motifs, hand spinning khadi and mulberry silk weaving to name a few. This industry caters to more than 90,000 weavers working their magic on about 14,000 looms in the state. Trading steadily in exports as well, the textiles sector is also a major foreign exchange earner for the state. An Exim Bank study estimated INR9,662 crore worth merchandise exports from the state in 2017-18 – an astounding growth from INR2,973 crore in 2012-13.

26. Agriculture Department, Government of Bihar

27. Department of Animal Husbandry and Dairying, Ministry of Fisheries, Animal Husbandry and Dairying, GOI

28. Economic Survey of Bihar 2020-21

29. Sugarcane Industries Department, Govt. of Bihar

30. Centre for Monitoring Indian Economy (CMIE)



6. Leather: Arguably, Bihar's strongest competitive advantage is availability of industrial labour that makes way for small-scale labor-intensive industries that flourish in the state. The leather industry is one such industry which is supported by both private and public players. Bihar approximately has eight per cent of the total bovine population in India - an important investment for leather production. Footwear manufacturing has gained momentum in the state and is creating employment, adding to the existing 50,000 footwear artisan count³¹. Most of the products being daily use items, the local and national consumption of these products is high, bringing most of the revenue in the unorganized sector of this industry. Unlike some of the other manufacturing industries, woman employment in the leader industry is predominant with about 30 per cent workforce share in the sector³².

7. Tourism: Blessed with a myriad of monuments and monasteries, age-old cultural heritage and nature's bounties in the form of native flora and fauna, the state has tourism industry as one of the most thriving industries. Bihar has a vibrant and rich heritage steeped in religious history, state of the art educational institutions and the ruins of foregone dynasties, along with modern-day tourism infrastructure, hotels and restaurants to encourage travel and tourism within the state. During 2019, the state registered about 3.37 crore domestic and 10.88 lakh foreign tourist arrivals

accounting for about 1.81 per cent and 3.77 per cent of the total national domestic and foreign tourist footfalls respectively³³.

8. Small machine manufacturing: Bihar's predominant agriculture industry is complemented by manufacturing of modern agricultural contraptions that is helping the state prosper in the manufacturing sector. Along with this, locomotive and automobile manufacturing has also gained momentum in the last decade employing about 5.3 per cent of the workforce of the state³⁴. This sector is set to grow in the current decade gradually in terms of factory setup and organised labour interventions and bolstered by the state's stable policies and enabling environment for industrial investments.

Bihar being one of the fastest growing states has spread its wings in many other significant sectors that will potentially create large scale growth opportunities in the years to come and include sectors like power, construction, rural development, IT & ITeS and healthcare. The above-mentioned sectors are expected to bring about positive economic outcomes and will only be accentuated with effective upskilling activities of the labour force. Hence, to harness its demographic dividend and overcome its skill shortage, Bihar needs to fervently work towards developing a sustainable skill ecosystem wherein the workforce is equipped with employable skills to be able to contribute to the economic growth of the country.



31. Department of Industries, Government of Bihar

32. Census 2011

33. Ministry of Tourism, Government of India

34. Center for Monitoring Indian Economy (CMIE)



Skilling ecosystem

Sustaining economic growth and development requires that resource needs be met for future growth requirements, resulting in a symbiotic relationship between economic growth and skill development. Industry estimates suggest that human centric skills development could accelerate the GDP growth in any nation/state by about two per cent³⁵. The kind of sectoral growth that Bihar envisions, quality workforce becomes an imperative indicator for sustainable economy. It may hereby be mentioned that according to the skill-gap study commissioned by the National Skill Development Corporation (NSDC), the state would require an incremental workforce in excess of 15 crore till 2022. States with high skill standards are able to cope up in a much better way with the challenges and opportunities presented by the ever changing domestic and international markets, and Bihar, with its unparalleled growth, is no exception to this.

Acknowledging the perils and potentials that it harbours, the state government has curated several interventions – be it the flagship Kushal Yuva Program enhancing employability skills of the aspirants within the 15-28 year age-group, or the introduction of Recruit-Train-Deploy (RTD) programme offering industry-ready candidates to corporates from the day-one. The state's agenda, therefore, emulates the drive to scale up industry relevant skill trainings to ramp up industrial productivity and ultimately aid economic growth of the state. The ever-burgeoning economy and its rising industrial expansion bear

testimony to the growing need for steady pool of industry-ready personnel. However, as the economy and the labour market of the nation, including the states, is battling the impact of COVID-19, the challenge for Bihar is compounded by the fact that more than 96 per cent of the state's workforce, translating to about 3 crore workers, are in the unorganised sector. The pandemic has also led to a reverse migration of more than 25 lakh migrant workers till July 2020, leading to major job shifts and employment displacements. Under this pretext, the state may need to address the key challenges like irrelevance of training, lack of co-ordination between various skill development programmes across departments, social perceptions and employer-employee-trainer misalignment, to further develop and nurture the desired skill ecosystem for economic growth and social development.

Under the ambit of the national schemes, Bihar has trained about 4.8 lakh candidates under the PMKVY Scheme and about 53,000 candidates under the DDUGKY Scheme³⁶. The stir in the skilling sector of Bihar has brought about national and international players to invest in the state and tap new opportunities. Needless to say, that as Bihar is at the cusp of significant economic growth, skill development is envisaged to be the ladder it requires along with a collaborative participation of the state government, industry and academia in the state's skilling agenda.

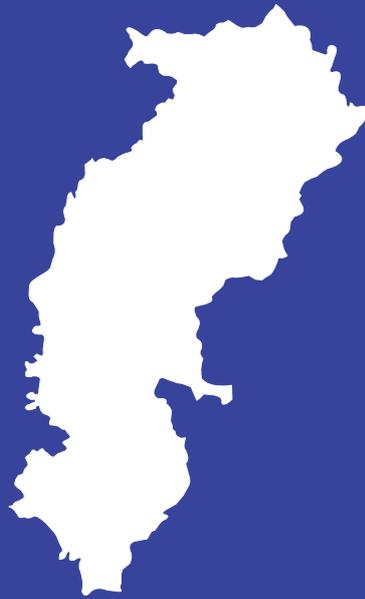


35. BCG, World Skills Russia, Rosatom

36. Ministry of Rural Development, Ministry of Skill Development & Entrepreneurship, Govt. of India



Chhattisgarh





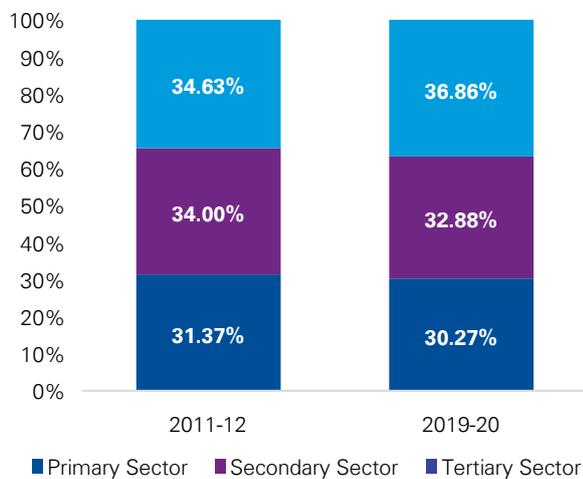
Sharing its borders with seven other Indian states, including the mineral-rich states of Odisha, Jharkhand and Andhra Pradesh as well as the industrially developed Maharashtra and Uttar Pradesh, the state of Chhattisgarh covers a population base that corresponds to about 40 per cent of the country's population³⁷. In terms of demographic profile, the state can be considered as one of the youngest states with about 64 per cent³⁸ of the population within the employable age-group (15-59 years). The population pyramid is expected to further bulge across the 15-59-year age-group, which shall see the state emerge as a major supplier of manpower across the country. The burgeoning need for skilled manpower is further accentuated by Chhattisgarh's impressive economic growth as well as concentrated efforts taken by the state government in the areas of regulatory and policy regime, infrastructure expansion and skilling of resources.

While its economy grew at about 8.4 per cent in 2019-20 at current prices (vis-à-vis national average of 7.8 per cent), the growth may have slumped a

bit to about 5.09 per cent³⁹ during the last financial year due to the COVID-19 pandemic. Chhattisgarh represents a relatively balanced economic structural composition, with the tertiary sector of the state growing at an impressive double-digit growth of 10.63 per cent⁴⁰ between FY 2012 and FY 2020. The primary and secondary sectors are also at the cusp of recording double digit growth figures, with a growth rate of 9.28 per cent and 9.31 per cent respectively during the same period.

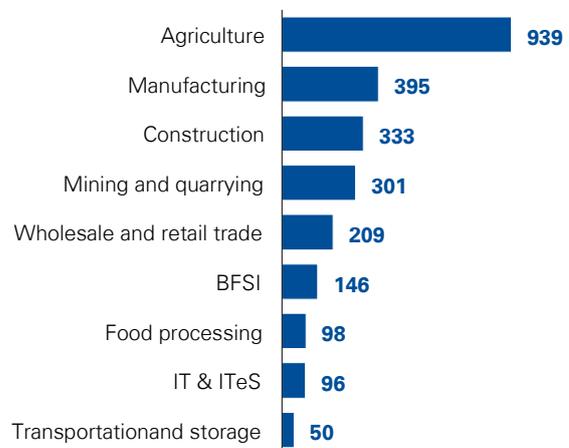
Chhattisgarh's success factors in achieving high growth rate may largely be attributed to the growth in agriculture and industrial production. The state, famously known as the 'Rice Bowl of India', creates about 80 per cent of its livelihood opportunities in the agriculture sector. With about 44 per cent of the geographical area of the state under forest cover, Chhattisgarh accounts for about 17 per cent of India's total exports of herbs and medicinal plants⁴¹. Apart from agriculture, other thriving sectors include iron and steel, cement, thermal power, and tourism.

Figure 6: Structural composition of economy of Chhattisgarh, FY12 - FY20



Source: Centre for Monitoring Indian Economy (CMIE)

Figure 5: Incremental workforce requirement, 2012-22



Source: Chhattisgarh Skill-gap study, NSDC

37. Census 2011

38. Investindia.gov.in/state/Chhattisgarh

39. Economic survey Chhattisgarh – 2020-21

40. Directorate of Economics and Statistics of Chhattisgarh, MOSPI

41. Govt. of Chhattisgarh



With a capacity of about 5.4 million tonnes per year across more than 100 steel rolling mills, 90 sponge iron plants and ferro-alloy units, the state accounts for about 15 per cent of the steel production of the country⁴². Chhattisgarh is one of the few states that generate surplus power with an annual installed power generation of capacity 14,000 MW, and among the few profitable states in terms of utility-based electricity⁴³. Endowed with as many as 28 varieties of minerals, Chhattisgarh accounts for the highest output of coal in the country and second-highest reserves, third largest iron ore production, 50 per cent of country's cement production, and is the only state that produces concentrated tin⁴⁴. Apart from these sectors, tea production, apparel and textiles, construction, tourism etc. are some of the other notable sectors propelling the growth of the state and fuelling the need for skilled manpower.

As Chhattisgarh is steadily marching towards becoming a leading state economy, it may be said that the skilled workforce of the state is one of the major contributors to such economic growth.

Major focus sectors – Key trends and employment opportunities

With rich reserves of minerals, strategic location comprising a large hinterland and access to a pool of industry-ready manpower, Chhattisgarh has several strategic enablers to bank on for long-term industrial growth. In order to achieve the envisaged transformation of the state, the state government is taking a range of interventions in the areas of policy, infrastructure, skilling, investment promotion and other interventions along the priority sectors of the state, as identified below. Apart from the below-mentioned sectors, the state also harbours promise for the growth and development of some of the other sectors including logistics, manufacturing, trade, real estate and IT, to name a few.

1. Agriculture and allied industries: With more than 3.7 million⁴⁵ families dependent on agriculture and allied industries, and more than 50 per cent of the land being used for cultivation, agriculture continues to be the backbone of the economy and employment generation of the state. Agriculture in Chhattisgarh is characterized largely by manual labour techniques and therefore, provides jobs to low-skill wage earners and landless labourers with ample opportunities for value-addition, farm mechanization, and resulting need for skill development. Livestock and poultry farming

According to the Chhattisgarh skill gap study, commissioned by the National Skill Development Corporation (NSDC), the total incremental demand for manpower in the state by 2022 is anticipated to be around 30 lakh, with 50 per cent of this demand expected in semi-skilled and skilled level. This strongly signifies the importance of industry-aligned skill training with the aim of providing a job-ready human workforce to the industry to ramp up productivity and ultimately aid economic growth.

In addition to this, the growth in the state's working-age population by the year 2022 and the decline of the same in some of the other neighbouring states and countries shall see the state emerge as the storehouse of employable manpower for the entire country. The government has, accordingly, taken cognisance of this fact and various steps towards catalysing the skilling ecosystem have been initiated, in order to progressively mitigate the incremental human resource shortage in the state, as illustrated in the figure above.

are also prominent sub sectors driving the economy of rural Chhattisgarh. Recognizing the vast opportunities and investment potential of the sector, the Government of India has already notified one mega food park and two food parks within the state.

2. Metals and minerals: Ranked fourth in terms of mineral wealth, the state has rich deposits of bauxite, limestone, dolomite and corundum, which make Chhattisgarh the ideal place for low-cost production of iron, steel, electronic components, cement and aluminium, and downstream products thereof. With the launch of the National Mineral Policy 2019 and the Mines and Minerals (Development and Regulation) Amendment Act 2021, Chhattisgarh has arguably become a 'top of the mind recall' destination amongst global and domestic investors in the sector.

3. Cement: Accounting for about 5.4 per cent⁴⁶ of the total limestone reserves of India, the state has the presence of operational cement units of all major cement producers of the country. The state has ten major cement production units and the government is leaving no stone unturned in upgrading the industry-specific infrastructure for the sector.

42. Chhattisgarh Environment Conservation Board, Ministry of Environment, Forests, and Climate Change, Govt. of India

43. Central Electricity Authority, Chhattisgarh Economic Survey

44. Chhattisgarh's Directorate of Geology and Mining, Economic Survey of Chhattisgarh 2017-18, Indian Bureau of Mines

45. Chhattisgarh Economic Survey 2019-20, Ministry of Agriculture- Department of Agriculture and Cooperation, Ministry of Food Processing

46. Economic Survey of Chhattisgarh, Ministry of Mines, *JM Financial- – Cement Sector Update April 2018



- 4. Power:** The presence of huge reserves of coal makes Chhattisgarh a favored destination for pit-head-based thermal power plants for power generation for both merchant sales as well as state consumption. The state government has also accorded priority status to renewable energy under the State Industrial Policy and estimates solar PV grid potential based on identified sites at approximately 1,000 MW⁴⁷.
- 5. Apparel:** One of the major producers of Tussar and Kosa silk in the country, the state has silk production as the main source of livelihood among a large section of the rural and tribal populace. Many villages have gainfully started running units for producing silk sarees and dresses for domestic consumption as well as export opportunities. With the help of the Apparel Export Promotion Council,

the state has established Apparel Training and Designing Centres (ATDC) providing high-end and industry-aligned training in the sector to the state's youth.

- 6. Tourism:** With its pristine nature, rich biodiversity and unique tribal culture, Chhattisgarh offers access to diverse portfolio of niche tourism products. The state is constantly promoting the sector with the introduction of industry-supportive policy framework and attracting private sector investments towards sustainable end eco-friendly infrastructure development. In the year 2020, it published the Chhattisgarh Tourism Policy 2020 to tap the potential of the tourism industry and create employment and investment avenues based on the concept of efficient resource utilization.

Skilling ecosystem of the state

As Chhattisgarh is becoming more equipped to harness its demographic dividend and overcome its skill shortage, there has been a lot of focus and activity within the skill development ecosystem especially in the last few years. The significance, relevance and criticality of skill development have been earmarked in policy circles of the state through conspicuous institutional setups and state mechanisms. Some of the major challenges within the system have been the disconnect between the availability of skilled manpower and industry requirements, lack of cohesiveness between multiple stakeholders, need for recognition of skill certifications by industry and lack of sustainable model for capacity building. Hence, in order to provide a much-needed regulatory and functional framework to ensure access and inclusivity within skill development, Chhattisgarh, as the first state in the country, institutionalised a revolutionary law that placed skilling as a fundamental right to the citizens of the state. According to the 'Chhattisgarh Right of Youth to Skill Development Act 2013', it is the responsibility of the state to provide free, professional and industrially aligned skill training to all people between the age of 14 and 45 years.

The enormity of the state's skilling challenge is further aggravated by the fact that skill training efforts require the involvement of diverse stakeholders including multiple government departments and

bodies, and thus it is important to build capable and effective institutional mechanisms within the skill development space in order to catalyse the overall efforts by various stakeholders. Within this mandate, the state has set up the Chhattisgarh State Skill Development Authority (CSSDA) as a dedicated and nodal authority for skill development. Under the CSSDA, 27 livelihood colleges, with residential training facilities, have been set up in all districts and these have trained about 6.7 lakh beneficiaries with placement per centage in excess of 50 per cent⁴⁸. In the next phase of their journey, such livelihood colleges are envisioned to be developed as Centres of Excellence with advanced and high-end training infrastructure and industry proctored skilling facilities.

Over the last decade, Chhattisgarh has taken rapid strides in developing its skilling ecosystem through a streamlined and strategic approach in coalescing the efforts of disparate players in the skill development landscape and binding its pertinency to the economic prosperity of the state and the nation. It has already trained more than 80,000 candidates under the flagship PMKVY scheme and regularly organises Rozgar Melas at the sub-division and district levels for supporting industry outreach and placement initiatives. Under the DDUGKY Scheme, the state has a target of skilling about one lakh candidates till March 2023, of which about 50 per cent have already been trained⁴⁹.

47. Central Electricity Authority, Chhattisgarh Economic Survey

48. Govt. of Chhattisgarh

49. Ministry of Rural Development, Ministry of Skill Development & Entrepreneurship, Govt. of India

Jharkhand





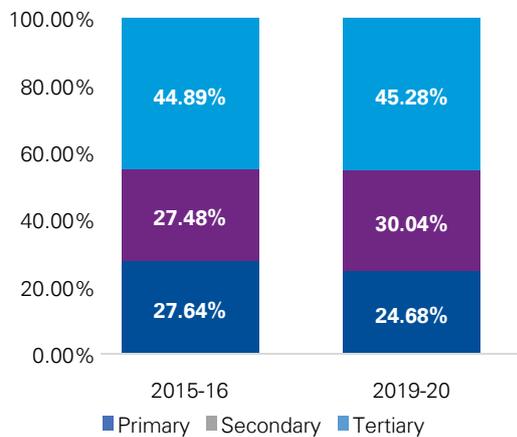
Accounting for about 40 per cent of India’s mineral and 29 per cent of coal reserves⁵⁰, the state of Jharkhand is one of the largest producers of natural resources and mineral wealth in the country. Riding the state’s pro-industry policy regime, and major enablers in the form of branding, trunk infrastructure, sector-aligned skilling, and encouraging a culture of entrepreneurship, the state’s economy has been growing at an average annual growth rate of 12.3⁵¹ per cent over the last five years. While the pandemic has caused systemic disruption to the state’s economy and growth agenda, Jharkhand is still poised to experience a ‘V’ shaped recovery in the coming quarters. The state is also home to some of the premier colleges and institutes of the country and has five reputed research institutes in the field of iron, steel, mining and metallurgy, thereby mitigating the state’s needs for an employable resource pool to be able to contribute to the economic growth.

Demographically, Jharkhand is the 14th most populated state with about 63⁵² per cent of the population within the employable age-group (15-59). The state’s economy has a major share from the tertiary sector which has recorded a relatively slower

growth rate of 8.7 per cent between 2015-16 and 2019-20. Within the tertiary sector, sub sectors like trade and repair, transport, storage, communication, hotel and real estate are the major contributors. During the same time period, secondary and primary sectors have shown relatively better double-digit growth of 14.44 per cent and 12.16 per cent respectively².

The Eastern belt of India has generally been comparatively less developed than the Western belt which has a significant manufacturing presence. However, the state of Jharkhand stands as an exception and is one of the most attractive destinations for auto-component industries, cement plants, power projects and steel companies owing to the high availability of metals and coal as well as proximity to the sourcing clusters. Jharkhand hosts some of the major steel manufacturing plants of the country, and accounts for over 20 per cent of steel production of India³. This may well be attributed to the state’s mining and quarrying sector that grew at an impressive double-digit growth of 10.6 per cent during the last decade¹.

Figure 8: Structural composition of economy of Jharkhand, FY16 - FY20



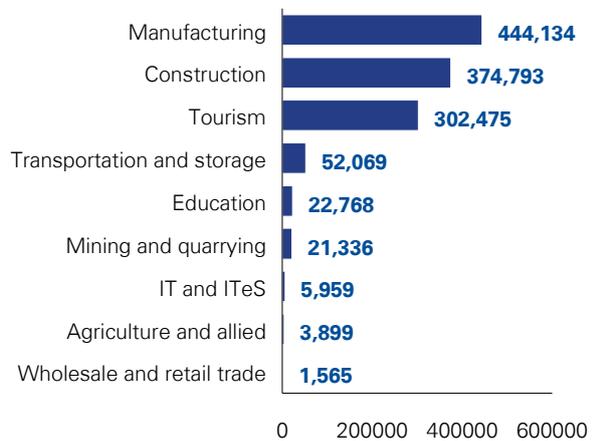
Source: Centre for Monitoring Indian Economy (CMIE)

Jharkhand also has enormous potential for generating power because of the surplus availability of large coal reserves. The state has an installed power production capacity of 2,524 MW which also includes 191 MW of installed hydropower generation and 57 MW of other renewable power generation⁵³. Like most of the

50. Department of Industry, Government of Jharkhand, Ministry of Mines

51. Directorate of Economics and Statistics of Jharkhand, Central Statistics Office

Figure 7: Incremental workforce requirement, 2017-22



Source: Jharkhand Skill-gap study, NSDC

states in the eastern belt of the country, agriculture is another driving force of the state’s economy, accounting for livelihood opportunities for about 80 per cent⁵⁴ of the rural population of the state. It also has a large sericulture sector and is the largest producer of Tussar silk in the country.

52. Invest India

53. Central Electricity Authority

54. Ministry of Agriculture and Farmers Welfare, Department of Agriculture, Cooperation and Farmers Welfare



Major focus sectors – Key trends and employment opportunities

Jharkhand enjoys a unique place in the country because of its mineral-rich status and geographic locational advantage. It is situated close to the vast markets of eastern part of the country as well as connected seamlessly with ports of Kolkata, Haldia and Paradip. Leveraging its strategic advantages like infrastructure, geographic location, abundance of natural resources, skilled human resources etc., the state is poised to emerge as a major industrialised state over the next ten years.

At a time when India is pushing hard to open up her markets, reduce regulatory roadblocks and develop innovative campaigns to attract more foreign direct investment, Jharkhand has the potential to capitalise on the unique opportunities developed as a result of these national initiatives. Additionally, wide range of fiscal and policy incentives have boosted the state's economy and helped accelerate its envisaged development plan in priority sectors like agriculture, mining, textiles, automobiles, tourism and so on.

1. Agriculture and allied industries: About 43 per cent⁵⁵ of the total workforce is dependent on agriculture and allied industries for sustainable livelihood opportunities. As the state is constantly trying to increase the productivity of the agriculture and allied sector, it has shown continuous growth in terms of production, yield, and land use for the last five years. However, there still lies wide scope for improvements in terms of irrigation, storage facility and credit availability. With the launch of government schemes like Jharkhand Rajya Fasal Rahat Yojana and Jharkhand Krishi Rin Maafi Yojana for agricultural development along with schemes for allied sectors, the state is poised to unlock a good amount of the potential of the sector towards income augmentation and livelihood generation.

2. Mining: As already elaborated, Jharkhand is endowed with rich mineral deposits and is, currently, the only state in the country that produces coking coal, uranium and pyrite. It is ranked first among all the states in terms of production of coal, mica, kesianite and copper. The sector contributes to a whopping 70 per cent of the state's non-tax revenue and accounts for about 12.5 per cent of GSDP of the state⁵⁶ - second largest contributor to the GSDP after agriculture. With the aim to increase investor confidence in

the vision of the state in the sector, both the state and Central governments are continually trying to reform mining laws and undertake aggressive policy and regulatory initiatives to make the process of approval more transparent, speedier and hassle-free.

3. Automobile and auto-components: The state is one of the largest steel producers of India and this gives the much-desired impetus to the auto and auto-component sector. Jharkhand hosts more than 800 auto-ancillary units in Jamshedpur and Adityapur auto clusters. The sector is also driven by a strong local demand for industrial vehicles and mining equipment, as well as demand internationally from the east and the southeast. Consequently, considering the abundance of economic opportunities in the sector, deeply interlaced with livelihood opportunities, the state has kept the automobile and auto-component sector under high priority sectors in the recently fortified policy reforms, with investments worth INR one lakh crore earmarked for the high priority sectors.

4. Textile and apparel: Jharkhand is the largest Tussar silk producer in India, accounting for about 62 per cent⁵⁷ of total non-mulberry silk production and producing about 8.7 per cent of India's raw silk production. The much-acclaimed state-produced silk is exported to geographies like USA, European and East Asian countries, and is thus one of the major foreign exchange earners for the state. Given the very specific requirements of the sector, the state government is making rapid investments towards development of specialized infrastructure for the sector in the form of silk parks in Ranchi, Saraikela-Kharsawan, Giridih and Deoghar districts.

5. Handicraft: Handicraft is one of the sectors which is significantly uplifting rural economy of Jharkhand. The state is very rich in handicrafts and more than 40 types of handicrafts are made in different parts of the state. To promote handicraft and allied sectors, the state government has established Jharkhand Silk Textile and Handicraft Development Corporation Ltd. (JHARCRAFT) and provided forward and backward linkages to the handicrafts sector for a sustainable source of livelihood and upliftment of the rural economy.

55. Jharkhand Economic Survey 2020-21

56. Jharkhand: The Goldmine of Growth, BloombergQuint, February 2017

57. Ministry of Textiles



6. Construction and real estate: The sector is poised to account for the highest estimated skilled workforce requirement by 2022, bolstered by a rapid urbanization, industry-led growth and economic expansion. The state government has already embarked on expediting road construction projects and also developing investment regions and several sector-specific industrial corridors to further boost the state's burgeoning economy. Apart from jumpstarting strategic infrastructure development, Jharkhand is also undertaking aggressive policy and regulatory initiatives to channelize efforts into attaining prominence within the sector. Consequently, according to the newly drafted industrial policy, the state government shall

provide 5-25 per cent of capital subsidy for new infrastructure and capital projects in the state.

7. Tourism: Endowed with a rich cultural heritage, myriad of beautiful lush green forests, and native flora and fauna, Jharkhand's tourism sector has grown considerably in recent years accompanied by a stupendous growth in the number of tourists visiting the state over the years. The state government has recognized the potential of the tourism sector in terms of contribution towards economic sustainability, investment potential and employment generation, and is in the process of implementing key reforms and strategic initiatives that will help the state accelerate its envisaged development plan in the sector.

Skilling ecosystem

One of the fastest growing states in the country, Jharkhand has been experiencing a rapid surge in the demand for skilled workforce to cater to its impending investment opportunities and resulting industrial setups. In terms of demographic profile, the state is one of the youngest states in the country, with 70 per cent of the population below 35 years of age. Its population pyramid is also expected to bulge across the 15-59 age group over the current decade. Consequently, realising the huge challenge as well as the vast opportunity presented by the ever-changing domestic and international markets, Jharkhand government has accorded skill development as a state priority and introduced the Jharkhand Skill Development Policy 2018 to work towards developing a sustainable skill ecosystem wherein the workforce is equipped with employable skills and knowledge to be able contribute to the economic growth of the state. This skill development policy is centred around the three themes of quality, quantity and sustainability of the skilling ecosystem and accordingly provides the necessary regulatory push and fiscal impetus to encourage skilling of the youth. The Jharkhand Skill Development Mission Society also regularly organises large scale Skill Summits to promote skilling in the state as well as to encourage private sector participation in the skilling agenda.

As the country currently faces a dual challenge of severe shortage of well-trained, skilled workers on one hand and non-employability of graduates on the

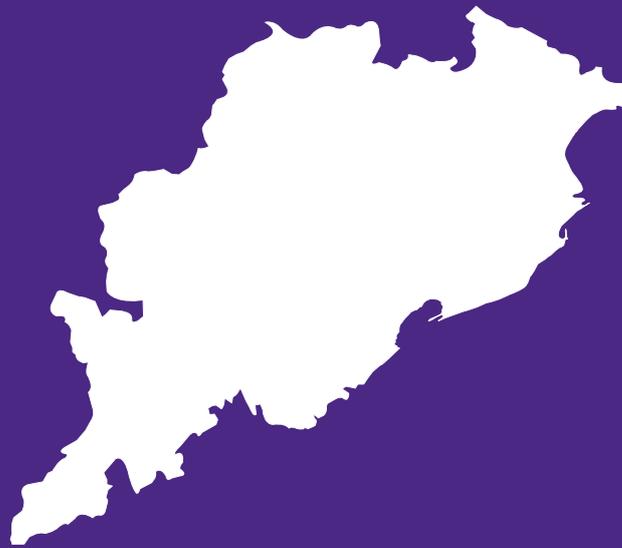
other hand, the skill-gap study constituted by the National Skill Development Corporation suggests a demand for an additional 15 lakh skilled, semi-skilled and minimally skilled manpower by 2022 in the state. The enormity of the state's skilling challenge is further aggravated by the fact that skill training efforts cut across as many as 24 sectors, with construction and tourism accounting for about 50 per cent of the skilled manpower shortage and require the involvement of diverse stakeholders. Jharkhand, therefore, needs to focus on consistent efforts for developing a skill ecosystem, harness its demographic dividend, overcome its skill shortage, and involve industry stakeholders to make training programmes more industry-aligned as well as aspirational among the youth.

The state has already made some noticeable efforts to train the unemployed youth in relevant skills to make them employable, with more than two lakh candidates having been trained under the PMKVY Scheme with a placement of about 45 per cent⁵⁸. Under the state-cum-Centrally funded DDUGKY Scheme, the state has a target of training about a lakh candidate till 2023, of which Jharkhand has already achieved about 50 per cent, with a placement per centage in excess of 40 per cent⁵⁹. The state also has several other flagship schemes targeting skill development, including Saksham Jharkhand Kaushal Vikas Yojana, Employability Excellence with College Education and Learning (EXCEL) etc.

58. Ministry of Skill Development & Entrepreneurship, Govt. of India

59. Ministry of Rural Development, Govt. of India

Odisha

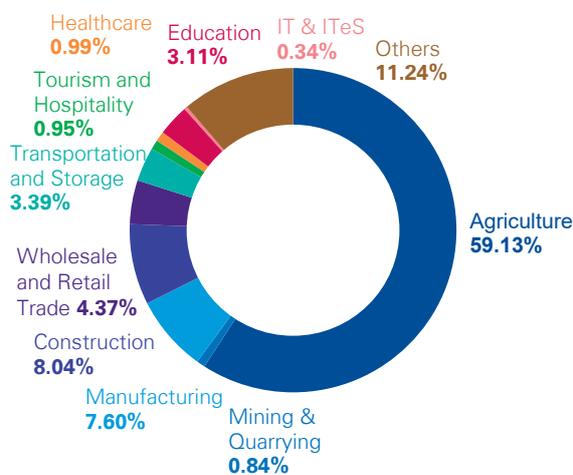




A mineral-rich state located on the eastern coast of India, Odisha has a lot to offer to both foreign and domestic investors. Blessed with an abundance of minerals such as chromite, nickel, bauxite, iron ore and coal, Odisha has traditionally been a hotspot for steel and mining industries. The state is home to one of the largest ports in India with the Paradip port serving the eastern and central regions of the country. Odisha is also a growing tourist destination boasting a natural and serene landscape with a 480

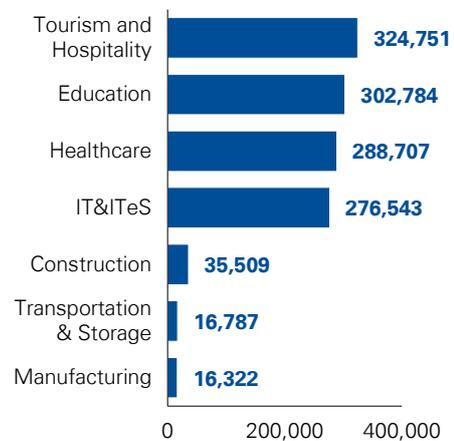
km long coastline, several pristine beaches and backwaters, high hills and mountains of the Eastern Ghats and a vast variety of flora and fauna. In terms of the economic constitution of the state, agriculture and allied sector forms 21 per cent of the GSDP, industries contribute 36 per cent, and services contribute around 43 per cent to the state's GSDP. Growing at 7.1 per cent per annum during 2012-13 to 2019-20, the state accounted for a GSDP of INR5.41 lakh crore in FY 2020 at current prices⁶⁰.

Figure 10: Sectoral workforce composition of Odisha, 2020



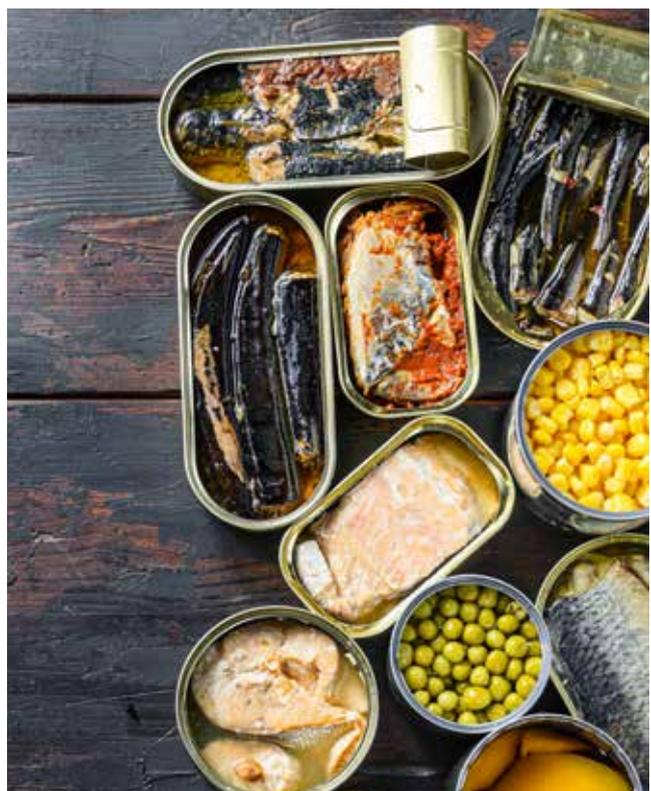
Source: Census 2011, KPMG India Analysis

Figure 9: Incremental workforce requirement, 2021-26



Source: Odisha Skill-gap study, NSDC

In order to attract more foreign direct investment in a bid to fuel the state's growth and to create job opportunities for a fast growing young workforce, the state government of Odisha is pushing hard to open up her markets, reduce regulatory roadblocks and develop innovative campaigns such as 'Make in Odisha' and 'Skilled in Odisha'. The state has already embarked on the development of investment regions and several sector-specific clusters such as Paradip PCPIR, NIMZ (National Investment and Manufacturing Zone) in Kalanganagar, Port-led Manufacturing Region at Dhamra, InfoValley – IT and ESDM Park, Food Parks in Rayagada and Deras, Aluminium Downstream Industrial Park in Angul, Plastic Park in Paradip and Downstream parks in stainless steel and steel sectors. Some of the key sectors with significant investment and employment generation potential include agriculture, food processing, downstream and ancillary industries, chemical, petroleum and petrochemical, textiles, ESDM, IT & ITeS, tourism, etc.



60. Centre for Monitoring Indian Economy



Major focus sectors – Key trends and employment opportunities

- 1. Agriculture:** Primarily an agrarian economy, Odisha has majority of its rural workforce engaged with agriculture and allied sectors. Agriculture sector still continues to be the primary source of livelihood for a sizable part of the population, although the GVA from agriculture and allied sectors is about 21.27 per cent in 2020-21(A) and 21.38 per cent in 2019-20 . This is accompanied by a steady decline in the Net Sown Area (NSA) and an equivalent reduction in the average size of operational land holding in the state which stands at 53.30 lakh hectares in 2019-20.
- 2. Agro-food processing including seafood:** With a long coastline of 484 kms, annual rainfall of over 1,400 mm and vast stretches of land under agriculture and horticulture, Odisha is one of the most agriculturally abundant states and a major seafood producer of India⁶². The state also holds a high priority for the food processing industry and has taken several facilitative initiatives favoring the growth of the sector. In order to support these agro-based industries, the state government has established mega food parks at Rayagada and Khordha and a seafood park at Deras. The sector, according to the Odisha Industrial Development Plan (OIDP), is anticipated to create additional employment for 2 lakh people, aided by incremental investments worth INR19,800 crore.
- 3. Downstream and ancillary industries:** Downstream and ancillary industries act as the backbone of the manufacturing sector of India and Odisha. The downstream industries in the state majorly include the iron, steel and stainless-steel based industries and the alumina and aluminium-based industries. The state has been proactive in setting up industrial parks and investment regions like Kalanganagar National Investment and Manufacturing Zone, Downstream Aluminium Park at Angul, Downstream Steel Park at Angul and Stainless-Steel Park at Kalanganagar. According to the Odisha Industrial Development Plan (OIDP), the sector, between 2015 and 2025, is likely to attract investments worth INR40,000 crore, resulting in incremental employment generation for 2.5 lakh people.
- 4. Textiles:** Odisha is a leader in skilled and quality workforce for the textile sector, with immense opportunity to invest in this field. With dedicated apparel and textiles parks set up at Ramdaspur and Chhatabar, and investor-friendly regulatory and policy regime, the state has seen significant investments from apparel sector companies in recent times. As per the latest data released by CSO, in 2017-18 (P), the number of factories in manufacturing and wearing apparels and employment in the sector have risen by 33.33 per cent and 48.27 per cent respectively over the previous year.
- 5. Chemical and petrochemical:** Odisha's focus on chemical and petrochemical sector is visible through the state's Industrial Policy Resolution (IPR) which has proposed chemical/petrochemical industries as a priority sector and has offered significant financial incentives along with Single Window Clearance Committee framework to facilitate ease of doing business. One of the four Petroleum, Chemicals and Petrochemicals Investment Regions (PCPIR) in India has already been established at Paradip, resulting in large scale gainful employment opportunities in the sector within the state.
- 6. Electronic System Design and Manufacturing:** Keeping pace with the global scenario, the ESDM industry is currently one of the fastest growing industries in the state. From Odisha's perspective, the ICT Policy 2014 aims to make the state a favored destination for the IT and ESDM industries. In order to enhance and promote electronic manufacturing, a dedicated electronics manufacturing cluster has already been established near Bhubaneswar. A revised and fortified special incentive package has also been launched to facilitate investments in the sector within the state, thereby creating an avenue for sustainable employment opportunities.
- 7. Tourism:** With beautiful beaches, age-old cultural heritage, a myriad of monuments, rich variety of flora and fauna, nature's bounties in biodiversity, beach resorts, national parks and sanctuaries, Odisha has always been one of the prime tourist destinations. During 2019-20, about 150.36 lakh domestic tourists (from within and outside the state) and 1.01 lakh foreign tourists visited the state, as the average annual growth rate in tourist inflow in the state has been 7.68 per cent in the last ten years⁶³. Being labor-intensive, the sector is also significant from the point of view of employment creation and according to the state's skill-gap study, the sector has an incremental workforce requirement of about 6.6 lakh between 2011 and 2026.

61. Odisha Economic Survey 2020-21

62. Odisha Industrial Development Plan, 2015-25

63. Planning and Convergence Department, Govt. of Odisha



8. IT & ITeS: Considered as a priority sector in Odisha, the IT & ITeS sector shows huge promises for employment generation and income augmentation. The presence of all leading Indian IT companies in the state speaks volumes for the congenial and proactive industrial climate for IT in the state. With sector-focused infrastructure (Infocity, Infovalley SEZ etc.), favorable policy regime (the fortified ICT Policy, Industry Policy Resolution etc.), and future-aligned digital skilling

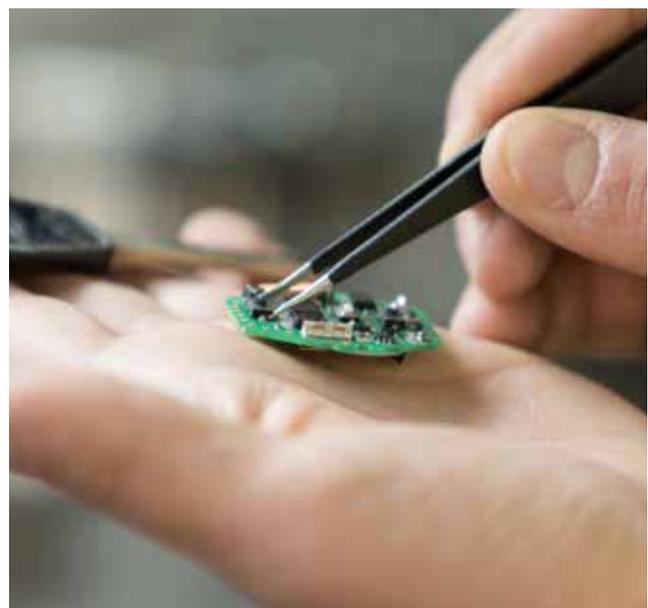
interventions through 'Skilled in Odisha' initiatives, the sector accounted for IT exports worth INR4,500 crore (USD600 mn.) in 2019, thereby, securing seventh position in the country in terms of IT exports⁶⁴. According to the Odisha Industrial Development Plan (OIDP), between 2015 and 2025, the IT & ITeS sector, along with ESDM, is likely to create additional employment for about 1.20 lakh people, aided by investments worth INR12,000 crore (USD1.6 bn.).

Skilling ecosystem of the state

Accounting for about 3.47 per cent of country's population and 3.54 per cent of country's workforce according to Census 2011, Odisha is one the largest providers of skilled manpower to the rest of India. Growing at a decadal growth rate of about 14 per cent, the population of the state is likely to grow to INR4.74 crore. by 2020 of which 47.4 per cent would be below 25 years⁶⁵. This further reinstates the potentiality of the state as a future hub for skilled labour source.

While the surge in the young population is a great impetus, currently in Odisha the statistics for productive and inclusive engagement of the youth remain a cause of concern. The workforce participation rate is 41.8 per cent, which is in line with the national average, with a female participation in workforce of 27.2 per cent vis-à-vis a male participation of 56.1 per cent⁶⁶. Industry estimates suggest that if the number of female workers were to increase to the same level as the number of men, GDP of Odisha would expand by about 15 per cent. Similarly, exclusion of school and college dropouts from employment translates into a foregone GDP of about five to eight per cent. Moreover, the Gross Enrolment Ratios (GER) at Secondary, Higher Secondary, and Higher Education levels in the state are ~80 per cent, ~40 per cent and 22.1 per cent respectively, implying high dropouts at each level⁶⁷. This situation is further aggravated with about 24 per cent of the youth in the 15-16 years age-group, translating to more than two lakh youth, stay out of mainstream education in Odisha every year. All these information points to the quintessential need for an overarching institutional skill-development mechanism to bring back these students into the workforce within the employable paradigm.

Acknowledging the perils and potentials that it harbours, the state government has curated several praiseworthy interventions under the '*Skilled in Odisha*' initiative. The Government of Odisha launched an inclusive skill development strategy by the name of '*Chief Minister's Employment Generation Programme (CMEGP)*' in 2014-15 under which more than a million youth have been imparted skill trainings over a period of five years⁶⁸. This is in line with the state's economic expansion stimulated by the Odisha Industrial Development Plan (OIDP), 2015-25, which estimates a total investment of USD40 billion and employment opportunities for ten lakh persons in the five focus sectors of the state till 2025. Odisha is also setting up the country's first and one-of-its-kind World Skills Centre, envisioned to be a premier institute to impart high-end skills and create globally employable youth in the state.



64. Government of Odisha

65. Census 2011, 2011

66. Census 2011, Periodic Labour Force Survey 2017-18

67. AISHE Annual Report FY 2019

68. Govt. of Odisha

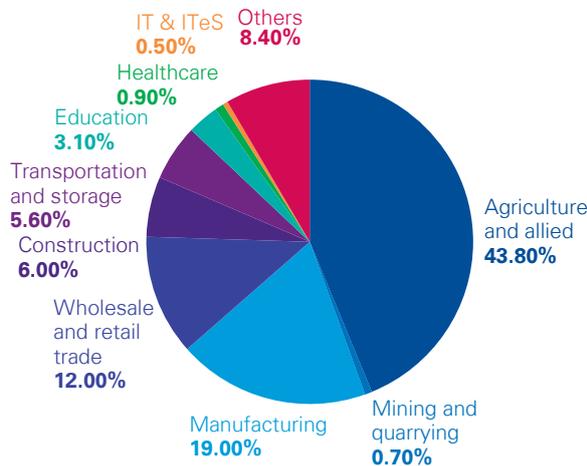
West Bengal





Located strategically along the eastern fringes of the country, the state of West Bengal is one of the largest and fastest growing state economies, growing at a growth rate of 12.62 per cent at current prices between FY 2016 and FY 2021⁶⁹. Sharing its international borders with Nepal, Bhutan, Bangladesh, the state not only offers the gateway to South East Asia, North East India, but serves a population base that corresponds to over 27 per cent of the country's population and another 0.2 billion people residing in the neighbouring countries. The population of the state is about 9.9 crore as on 2020 and is deemed the fourth most populous state in the country - a major asset for the state. With more than 60 per cent population within the employable age-

Figure 11: Sectoral workforce composition of West Bengal, 2011



Source: Census 2011

The largest contributor to the economy is the tertiary sector supporting livelihood for about 14.5 per cent of the population which has about 60 per cent share of urban populace. The GSDP contribution of tertiary sectors such as tourism, transport and real estate stands at a massive 55.97 per cent. The secondary sectors comprising manufacturing and construction contribute to about 19.65 per cent of the GSDP. Employment in the secondary sector is led by sectors such as cotton and jute mills, textile production, wood and furniture, beverages, tobacco and leather industry. While the primary sector usually provides employment to rural populace, standing at 53.2 per cent of the workforce, the secondary and tertiary sectors account for about 28.2 per cent and 14.5 per cent of the employment. Interestingly in the urban population, the employment opportunity is very high in the services sector at 58.1 per cent followed by secondary sector at 39.4 per cent⁷².

69. Ministry of Statistics and Programme Implementation, GOI

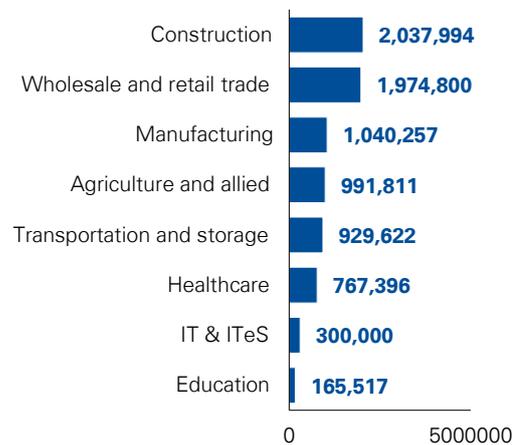
70. Census 2011

71. Centre for Monitoring Indian Economy (CMIE)

group, the state also has a notable gender ratio of 951 females per 1,000 males⁷⁰.

West Bengal has a history enriched with modern thinking with an inclination towards education and social reforms. A vastly agrarian state, Bengal's economy mostly depends on agriculture and medium sized industries. Agriculture and allied sectors contribute to about 24.3 per cent of the total economy⁷¹ emphasising on new crop production methods and technologies. West Bengal leads in production of jute, in the second largest producer of potato production, and third largest producer of rice in the country along with major contributions to fish and tea production.

Figure 12: Incremental workforce requirement, 2012-22



Source: West Bengal Skill-gap study, NSDC

West Bengal has one of the most vibrant and dynamic MSME sectors in the country, acting as the backbone to the economy of the state. The sector accounts for more than 90 per cent of the active industrial units, 50 per cent of the industrial production, and 40 per cent of the exports from the state⁷³. According to NSS 73rd round, West Bengal has the second largest number of MSME enterprises with 88.67 lakh enterprises, accounting for 14 per cent of country's total MSMEs. The state also accounts for the second largest employment in MSMEs with 135.52 lakh people employed in the sector⁷⁴. As the sector has huge potential in terms of employment generation and overall economic upliftment, the state government has adopted several forward-looking initiatives to meet the shortfalls in the sector through comprehensive skill development interventions.

72. Department of Statistics and Programme Implementation, Govt. of West Bengal

73. Source: Government of West Bengal

74. Source: Ministry of MSME



Major focus sectors – Key trends and employment opportunities

With a political mandate for ‘big bang’ reforms, a benign global business environment, and targeted and innovative campaigns by the state government, West Bengal has emerged as the harbinger of growth to eastern India. The state has made significant progress in several of its sectors, keeping pace with the unprecedented growth that the state has witnessed in the last few years. Some of such priority sectors, from the point of view of economic contribution, livelihood generation and investment potential, have been discussed in the following sections.

- 1. Agriculture and allied sector:** Dominating the state’s landscape and economy, Bengal’s agriculture sector supports about 77.1 lakh farmers with more than 50 per cent rural population included and accounts for about 60 per cent of the land usage within the state⁷⁵. The sector is also significant from the point of view of gender equity and inclusivity with more than 50 per cent female workforce. With about 16.5 million tonnes of rice production, Bengal is the third largest in terms of its production. Consequently, the food grain production in the last decade quickly shot up from 14.8 million tonnes in 2010-11 to 19.87 million tonnes in 2019-20. The state is also the leading vegetable producer in the country with 29.55 million tonnes of production as in FY 2019⁷⁶.
- 2. Tea:** West Bengal, the second largest tea-growing state in the country, has verdant tea gardens in the districts of Darjeeling, Jalpaiguri, Cooch Behar and Uttar Dinajpur. North Bengal has close to 450 tea gardens spread out predominantly in the district of Darjeeling, and the other districts of Kalimpong, Jalpaiguri, and the Terai and Dooars region⁷⁷. More than 50 per cent of the workforce in the district of Darjeeling is employed by the tea industry which covers about 17,500 hectares of land. In 2019-20 West Bengal produced 415 million kg of tea, second only to Assam. The tea industry employs about 2 million workers and has the highest out-of-state worker employment compound rate of 3.06 per cent. It contributes to over 20 per cent of the

economic contribution of the primary economy West Bengal, and is also significant from the point of view of ensuring gender balance and inclusivity within the state’s employment landscape⁷⁸.

- 3. Animal husbandry and pisciculture:** West Bengal is the second largest fish producing state, third largest meat producing state, and the largest producer of goat meat in the country⁷⁹. The annual meat production increased from 5.77 lakh tonnes in 2010-11 to 9.03 lakh tonnes in 2019-20 at an impressive growth rate of 5.10 per cent. Milk production, however, saw a slower growth having grown to 59.68 lakh tonnes in 2019-20. New initiatives and focused efforts saw rising numbers in this industry after a sudden unexpected dip in 2016-17. Adding to the growth, the annual egg production increased by a towering 143 per cent in the last 10 years. The fishing industry, not far behind, produced 12.9 lakh tonnes of fishes in 2019-20, owing to a 950 km coastline, innumerable inland waterways and fresh waterbodies within the state⁸⁰.
- 4. Jute and textile:** With a long tradition and legacy in textile manufacturing, West Bengal is a dominant player in the industry. The state accounts for the largest production of jute (about 80 per cent of the country’s jute production), houses about 70 out of 92 jute mills in the country, is the birthplace of hosiery industries, and bears the reputation of production of all four commercially exploited varieties of silk. The first jute industry was set up in 1855 and the state capital, Kolkata, being a port city aided in easy transportation of the products thus contributing to the major portion of the economy. It may, hereby, be stated that in 2019-20, the state produced 7,901.3 thousand bales of jute, of which about 90 per cent was consumed in the domestic market, leaving just 10 per cent for international consumption⁸¹. Industry estimates suggest that by FY 2025, the state has the potential to account for about 10 per cent of the country’s textiles market share, thereby employing about nine lakh people in the industry⁸².

75. Source: Department of Agriculture, Government of West Bengal

76. Ministry of Agriculture and Farmers Welfare, GOI

77. Tea Board of India

78. Report on “History and Growth of Tea Production in India and Particularly North Bengal Region”

79. Ministry of Food Processing Industries, Govt. of India

80. 20th Livestock Census 2019

81. Office of the Jute Commissioner, Ministry of Textile, GOI

82. Dept. of MSME & Textiles, Govt. of West Bengal



5. Tourism and hospitality: With a rich history, cultural heritage and diverse socio-economic traditions along with nature's bounties, West Bengal has all the prerequisites for a successful tourism sector and ensures an enchanting and pleasant voyage. There are fine silver-sand beaches on the coast in the south and serene green valleys in the lap of the mighty Himalayas, dotted with famed hill stations in the north. In 2019, the state accounted for a staggering 92 million tourists, growing at a whopping 17.31 per cent CAGR since 2001, out of which 1.2 million were foreign tourists⁸³. While the sector's contribution towards the state economy is about 11 per cent, including spillovers to other sectors, it also offers direct employment to about six lakh people, as in FY 2018⁸⁴.

6. IT/ITeS: The industry has had a growth of 221 per cent in exports of software and services from INR8,335 crore in 2011-12 to INR26,800 crore in 2019-20⁸⁵. Primarily comprising the urban population, the sector employs over two lakh professionals directly. Apart from large corporations, the sector also constitutes 90 per cent SMEs providing employment to about 50 per cent of the workforce. The sector's growth is further accentuated by the investments by private sector players, as well as state's investments into specialized infrastructure, including 17 IT parks, two EMCs, state-of-the-art Bengal Silicon Valley IT Hub, Webel-Fuji Soft-Vara Centre of Excellence, Cyber Security Centre of Excellence to name a few⁸⁶.

7. Basic metals industries: The basic metals industry is the second most dominating industry after agriculture, and contributes to about 15 per cent of the employment. The state accounts for about five per cent of the INR1.4 lakh crore foundry and forging industry, concentrated primarily in and around the twin cities of Kolkata and Howrah⁸⁷. With the advantage of the availability of raw materials in proximity, there are more than 500 foundry units in the state with a total installed capacity of one million tonne and accounts for a turnover in excess of INR3,000 crore. The forging industry of the state, on the other hand, is worth INR2,000 crore, and employs about 45,000 people directly as well as indirectly⁸⁸.

8. Healthcare: West Bengal has committed to take the healthcare sector to newer heights with initiatives and investments in the right areas. 41 fully functional super-specialty hospitals, 72 critical care facilities, numerous mother and childcare facilities, 86 blood banks across the state and various schemes and opportunities for improvements have catered to the industry's growth in the last 10 years⁸⁹.

West Bengal has shown much growth and diversity in the developmental activities of its economy. One of the critical points to note is the informal sector and its impact on the economy of the state. While the predominant characteristics of the informal sector is to have own enterprises, the industry differs from urban to rural landscapes. The urban population inclines more towards education and trades within the informal sector whereas the rural population prefers transport for its benefits. As much development is carried out in the industries and allied sectors, the participation of indigenous population and the tribal skills is also a matter of importance. These multi-pronged efforts for development have a significant impact on the socio-economic health while providing sufficient opportunities for growth, and, thereby, mandates the needs for industry-aligned and future-oriented skill development and vocational education.



83. Ministry of Tourism, Govt. of India

84. Department of Tourism, Government of West Bengal

85. State Economic Survey, KPMG India Analysis

86. Department of IT and Electronics, Govt. of West Bengal

87. Govt. of West Bengal

88. Dept. of MSME & Textiles, Govt. of West Bengal

89. Health and Family Welfare Department, Government of West Bengal



Skilling ecosystem of the state

West Bengal's 9.9 crore population has a 68.1 per cent share of rural population and 31.8 per cent of urban population. It is estimated that the existing population density will only be stressed by the population growth rate of 8.7 per cent in the subsequent years⁹⁰. Naturally, this population spurt will need to be supported by a planned employment strategy in the coming years. Some of the major employment trends to consider are decreasing agricultural workforce, untapped potential of industries such as jute, difference in the economic sector preference in the rural and urban landscape and the low female workforce share. Considering this situation, Bengal's efforts towards skill development and overall economic reformation brought about some visible changes in the last decade. The advent of skill development in West Bengal initiated the Paschim Banga Society for Skill Development (PBSSD) in February 2016, and since then, the state has only progressed in upskilling its workforce.

With 272 ITIs, 154 polytechnics, 3,300 vocational training centres (VTCs), and more than 500 empanelled training providers, West Bengal is one of the very few states in the country that have an Integrated Skill Development Policy⁹¹. The state has set up a training infrastructure to support the skilling

of six lakh youths annually under the institutional and non-institutional mechanisms, thereby mitigating the increasing demand for skilled work force within the state. The state government has introduced the flagship skill development scheme 'Utkarsh Bangla' for all the skill development interventions to provide wage/ self-employment aligned skills training to the state's residents. The scheme encompasses all skill development activities of the state under the ambit of the Technical Education, Training, and Skill Development (TET&SD), Department and involves industry-oriented trainings in more than 300 job roles across 34 active sectors in the state.

The PBSSD, working in full swing, is prepared to partner with industries, CSRs, NGOs and public partners for the desired results in ensuring an industry-aligned and placement-oriented skilling for the unemployed youth of the state. As on 2020-21, the PBSSD initiatives have resulted in 343,511 people trained in 2,329 training centres in the state. Under the flagship PMKVY Scheme, the state has trained more than four lakh candidates as on date, and has an imposing target of training in excess of one lakh candidates under the DDUGKY Scheme till March 2023⁹².



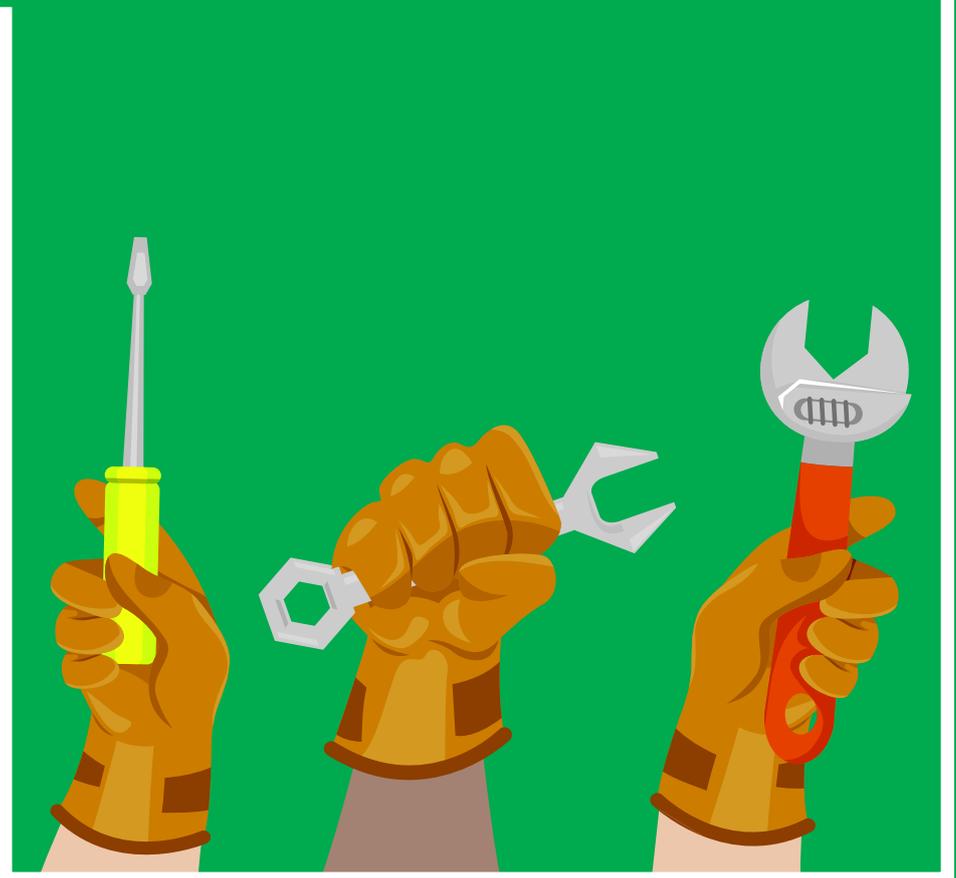
90. Census 2011

91. Government of West Bengal

92. Ministry of Rural Development, Govt. of West Bengal



Moving to the next level of skill development in the East and the Northeast





As the country is in need of workers equipped with employable skills and knowledge to be able to contribute gainfully to the economic growth of the country, East and Northeast India are no exceptions, particularly after the economic growth anticipated for the region over the current decade. The region has traditionally been the supplier of skilled manpower to the rest of the country, given the young workforce, large population within the employable age-group, and access to technically skilled as well as low cost resources. It may, hereby, be mentioned that only the three states of Bihar, West Bengal and Jharkhand together account for about 22 percent of the country's migrant population, according to the Census.

Realising the huge challenge as well as the vast opportunity, the individual state governments in the region have accorded skill development its due significance and launched several initiatives towards skilling the unemployed youth. However, considering the inherent priorities of the region including focus on self-employment and entrepreneurship, female-centric skilling and employment, Recognition of Prior Learning (RPL) for the unorganised workers and migrant laborers, future-aligned skilling along the next-generation job-roles, the government needs to address these to work towards the common goal of providing skilled workforce to support the economic expansion of the region. Some of the key action items, in this regard, are listed below.

1. Spreading awareness: There is currently a dire need to spread awareness about the need for skilling among the masses and the onus lies on all stakeholders of the skill ecosystem in this connection. While the various bodies, stakeholders and schemes show the government's intent towards pushing the agenda of skill development, the outcome has not been satisfactory primarily because of the lack of awareness regarding these schemes and policies. There needs to be a continuous, concerted and combined effort from the governments at the state levels and the Centre to spread awareness about the benefits of enrolling in different schemes, their certifications and placement opportunities with the ultimate aim of making vocational education both aspirational and industry-aligned. For example, the individual SSDMs can be instrumental in creating awareness through campaigns in regional languages through electronic and print medium for maximum reach to target segments. NGOs with their grass-root level outreach and community connects too can be engaged in mobilizing awareness in remote areas.

2. Youth aspiration and mobilization: It would also be equally important to engage with the students and candidates to understand their aspirations and aptitude for a particular sector or job role and set their job expectations right. It would not only help in getting the right kind of resources for respective roles but also curb dropouts and absenteeism during training as well attrition. Further a robust pre-screening of candidates to enroll in various schemes basis eligibility criteria such as demographic profile, aptitude level, sector and job-role specific requirements, medical health history, etc. can also ensure a higher passing rate among candidates.

3. Indigenous sectors and skills: Eastern and Northeastern India are home to some of the best-known indigenous sectors of the country with more than 90 per cent people involved with unorganized sectors (including agriculture). Some of such trades and indigenous sectors like unorganized retail and handloom, handicrafts do not need training centres but support of an ecosystem. The traditional skills are passed on from generation to generation and due to lack of marketability and recognition, these skills run the risk of being lost, since the younger generation does not want to associate themselves with trades which neither give financial stability nor recognition. Hence, sectors like these need an ecosystem to sustain them. Artisans need to be provided with funds, market linkages and intelligence, a platform to market their products, education about raw materials and the products used and also how to market them. Educating the customer about the skills involved hence commanding a premium price for the product and promotion of fair-trade practices to build awareness among artisans and customers alike of the benefits of using of eco-friendly products and processes are also important. Government may also provide post-placement benefits in terms of financial assistance to the skilled workers as this would initially help them to settle in a place away from home. State-specific entrepreneurship development roadmap may be developed with the ethos of 'Aatma Nirbhar Bharat Abhiyaan' which would have elements of coaching from national/international practitioners, capacity building through relevant skill training programmes, platform to access market linkages with go-to-market planning, selection of right product-mix, customer segmentation techniques among others.



4. Diversity and inclusivity: Any plan/policy mandate must acknowledge the intersectionality and the divergence in the social groups that it targets. It is important to embed inclusivity as well as equity under the ambit of any skill development plan and policy. Inclusivity is an essential element of public policies across the globe, with governments supporting interventions that aim to improve lives of disengaged or disadvantaged, particularly in the East and Northeast wherein the female participation in the workforce has historically been less than 30 per cent⁹³.

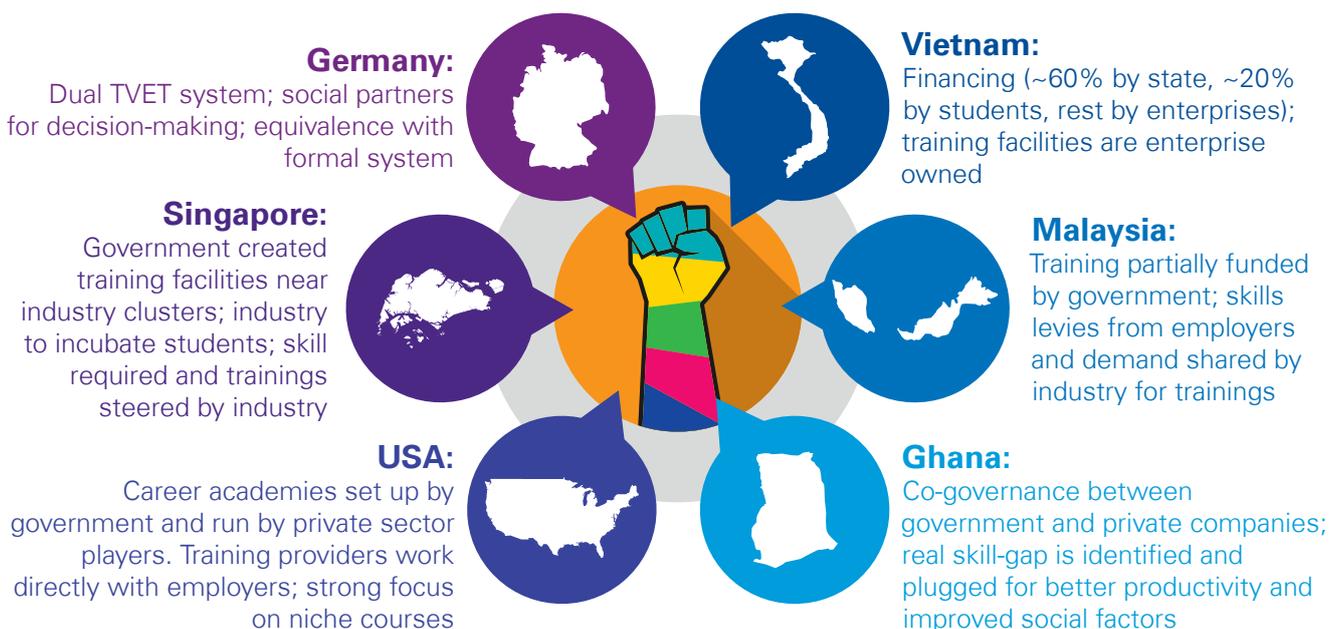
Vocational education and trainings provide pathways to further learning, employment opportunities and a 'second chance for learning' to people from disadvantaged backgrounds. Inclusion leads to improving confidence, self-respect, interpersonal and life skills, and engagement with the larger community. It facilitates changes at systemic level that enables people to start participating in skill development activities. In line with the recommendations of NPSD&E 2015 i.e. development of a specific disadvantaged groups and gender-focused strategy to boost participation rates in skill development programs, it would be imperative to strengthen the equity angle in the state skill development plans of the states in this part of the country.

5. Industry involvement and PPP: While a lot of government as well as private institutions have

been created for skill development, some suffer from physical infrastructure and manpower crunch. The industry has to step in here to help support the infrastructure needed in the ITIs and training centres so that students can receive industry relevant training with a focus on next-generation competencies and skillsets. This will cut down the investments, both in terms of time and money in training when they hire someone with non-relevant skill sets and they get industry-ready employees right from the day one. The industry's involvement will also strengthen the industry-academia connect and participation, and can move away from the trend of captive skilling by a few industry giants to industry's contribution to skilling initiative at large. Besides, the corporates and industry could also help in offering apprenticeship jobs to trainees with a stipend so that they can 'earn while they learn'.

Skill development is a long term and a perpetual process which would require significant contribution from the private sector in order to create a sustainable ecosystem. Private sector has a huge potential to influence scale as well as quality of skill development programmes due to its integral linkage with placements. Hence, in this regard, state governments must aim to foster continuous private sector involvement and strengthen their role through relevant policy support.

Indicative global PPP best practices in skilling and vocational education⁹⁴



93. PLFS 2018-19

94. KPMG India Analysis



It may also be said that the relevance of skill development programmes in the states could have been improved if the course/job role mix was adequately rationalized and prioritized to target the candidate's aspirations and industry requirement. Further, there is more scope for engagement and advocacy with the industries, local business houses, and industry associations through sustainable engagement models. This could have not only increased the relevance of skilling in the public context, but also encouraged industries formalize employing certified resources and paying skill premium making skill-based career more aspirational. Some of the key recommendations, in this regard, are given below.

a. Cluster or geography-based training

programmes: There is also a growing need to identify the requirements of industry and skill people accordingly to eliminate demand-supply mismatch through the adoption of demand driven models, cluster-oriented approaches, and establishment of inter-industry linkages. A cluster level or a specific geography-based training programme could be instrumental in mobilizing more people to take up training in sectors with distinct industry needs, as well as would ensure gainful employment of the beneficiaries at the local level post completion of training.

b. Industry linkages for placement/employment opportunities:

Corporates and local businesses could be encouraged to participate in placement/employment sessions and take a skill pledge and partner with state governments on Skill Development Mission. Industries could also be encouraged to lend their infrastructure to training institutions for providing workplace experience to trainees, recognizing skilling/certifications and offer skill premium.

Industry-academia connect may also be sought in skills demand assessment, designing of course curriculum, addressing infrastructure needs, training interventions and ensuring gainful employment and livelihood opportunities through internship, apprenticeship, OJT, RTD models, etc.

c. Industry-aligned course curriculum: There is also an urgent need of continuously updating the curricula in line with the industry requirements and to incorporate the latest trends that will help students gain relevance in their training process. While such curricula are designed by Sector Skill Councils (SSCs), many of the SSCs' outreach may be limited and their ability to create consensus over QPs/NOSs and visibility for assessment and certification will be crucial. Currently, the focus on curriculum advocacy with key stakeholders like the industry, corporates and local businesses is relatively low. While advocacy events are organized, they are restrictive in nature to providing employability advice to the participants. Individual SSDMs, in participation with the individual district administration and skills committees, require playing a stronger advocacy role by engaging with local business houses, industry chambers and corporates to aid in curriculum advisory and course design.

6. Factoring COVID-19 impact: Relevance also translates to skills in focus, particularly in the post COVID-19 era. While prioritization of sectors helps in identifying industries, the next important step is to focus on skills which are emerging and are required by the industries. It is imperative to understand that some skills would see significant rise in demand while others may not be as much in demand. Few might even be rendered obsolete owing to trends of automation and technological disruptions. Purely physical skills such as basic repairing and maintenance skills, motor skills are likely to be the casualties of the changing trends. Even basic cognitive skills such as basic data entry or basic numeracy and calculation related skills also run risks of being obsolete with such kind of work being automated due to much higher speed, accuracy and efficiency. Consequently, it is evident that the skilling requirements of the future workforce is expected to undergo consequential changes which are dynamic and may be exigent to implement. The evolving market requirements would require effective moulding of the training landscape to guard against the redundancy of the workforce.



7. Integral approach to vocational education: It is essential that the skill development initiatives are coordinated with demand and supply scenarios across geographies, industries and labour markets so that new skills required by industry or changes in supply of labour are speedily adjusted with adequate and efficient training programmes. More often than not, there is an observable mismatch between what the students study and the work profile and job-titles they are offered post training, rendering their skill sets obsolete and redundant. From integrating vocational education with the general education in schools to continuously updating the curricula to incorporate the latest trends will not only help students gain relevance in their training process but also make them ready to adapt to future disruptions in the labor economy. While the process of integrating vocational courses with general education has begun and has been duly addressed in the National Education Policy (NEP) 2020, even though it is at a nascent stage and the process will need support from secondary, higher secondary and higher education institutions, including ITIs and polytechnics. There has to be a seamless facilitation from secondary to higher education if a student chooses to study vocational courses. SSCs to develop NOSs and QPs in tandem with the industry requirements, conduct train the trainer programmes, assess the trainees to avoid the demand-supply gap. This makes particular significance for the states in the East and the Northeast that are traditionally marred by dropouts at the primary, secondary, and higher secondary levels.

8. Migration support: Migration from one area to another in search of improved livelihood is a key feature of human history. While some regions and sectors fall behind in their capacity to support populations, others move ahead and people migrate to access emerging opportunities. From the demographic point of view, the people from the East and the Northeast may be considered as the most vibrant migratory population, moving to the West, Northwest and South India, as well as to international destinations in the East, Southeast, Far East, and the Middle-East.

Globally the workforce is ageing, and this trend is going to continue for the next decade. India, particularly the East and the Northeast, a youth-concentrated geography, has the potential to reap its demographic advantage and export skilled workers to the world. NSDC has conducted a global skills gap study wherein geographies with dearth of skilled workers have been identified - a lot of which can be catered through the region's outgoing trained manpower. NPSD&E 2015 also emphasises on creating skills training ecosystem that would enable training and placement of the region's boys and girls in overseas jobs. Such mobility, if facilitated by the region, would go a long way in strengthening the value of the brand of the individual states in the East and the Northeast as the storehouse of manpower. In this regard, initiatives like technical collaborations with other developed countries for benchmarking and mutual recognition of standards; enabling global mobility via cross-country internship programmes; institutional arrangements in the form of joint working groups, secretariats etc. for regular exchange of knowledge, experiences, research findings, teaching and learning materials, would go a long way in furthering the region's globalising migration initiatives.

For the economic growth of the East and the Northeast, skilling and vocational education will be essential. It will be a catalyst for the success of the other initiatives and programmes introduced by individual state governments. For such skilling initiatives to succeed, the government, industry and academia will have to work hand-in-hand and catalyze the skill ecosystem further to achieve the objectives. Providing quality industry-aligned training, moving towards recognizing certificates, preference to certified workforce would encourage more and more youth to participate in vocational training. Making skill development aspirational will ultimately lead towards changes in the society's perception on such training as a livelihood option, thereby motivating a larger number of youths to take up a skill-based career for improved quality of life and recognition.





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CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

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