

Vocational Training and Education in North-East India: Access and Labour Market Outcomes¹

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Introduction

Skill development of India's working-age population has received priority in recent years among policymakers in India. It is perceived as a tool to make the current workforce more productive, create opportunities for gainful employment, foster entrepreneurship, make India a hub of skilled personnel, and earn a competitive advantage in the global market for commodities and services. India's north-east region, having a population of 45.59 million as per the Census 2011, is comprised of eight States- Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura. NE regions is one of the landlocked regions of India. About ninety nine percent of the geographical boundary of this region is shared with international borders. Although the region is endowed with rich natural resources, hilly areas and difficult terrains, underdeveloped communication networks, inadequate connectivity act as major hindrance to the regional economic growth.

In recent past the region has performed better than the nation in terms of human development, particularly improving literacy rate among masses (Bezbaruah, 2010). The region also has performed better as compared to India in terms of woman empowerment with higher sex ratio and female literacy rate (NEC, 2015). In terms of Youth Development Index (YDI), performance of the NE States range between moderate (Arunachal Pradesh, Assam, Manipur, Nagaland, and Tripura) to high (Sikkim, Mizoram, and Meghalaya) (RGNIYD, 2017). But on the economic front, the region has fared relatively poorly with lower workforce participation, per capita income and consumption. The region is one of the least industrialised regions of the

¹ Views Expressed in this paper are author's own and do not necessarily belong to the organisation to whom the author is affiliated.

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country (Dikshit & Dikshit, 2014). The share of the secondary industry is just over eighteen percent of the region's income (*ibid.*). The boom in IT, telecommunications, and banking that India have witnessed in the past two decades has largely bypassed the north-east States (Sharma, 2019). There has been inordinate growth in the Central government funding in various flagship programmes and construction works that have turned the region into a donor-driven economy (*ibid.*).

Skill development of the youth in the north-east is required to attract private capital in the region. However, beyond the data and statistics available from official reports and documents, there is very little academic work on the issues involved in skill development in NE. The present study aims to fill this gap and takes a deep dive into the issues involved in access and the labour market outcomes of VET. While it is true that given the wide diversities in cultural, social, and historical background, population size and resource endowments, the challenges and impact of skill developments initiatives will be varied across NE States. This paper shall only focus on the general trends in the region and try to analyse the factors behind these observable trends using secondary data. The specific questions we ask are—what are factors that influence access to VET? What is the status of labour market participation and employment among VET vis-a-vis the non-VET population? Does VET lead to higher earnings and other benefits at workplaces? Does obtaining a VET qualification help to reduce the gender gap in wages? Section 1 describes the data sources and methodology, Section 2 is a brief review of existing literature, Section 3 presents the results of our analysis, Section 4 discusses the major findings, and Section 5 concludes the paper with few policy implications.

Data Sources and Methodology

This study is based on the micro-level data of the annual Periodic Labour Force Survey (PLFS 2017-18) conducted by the National Statistical Office. This is a nationwide sample survey carried out between July 2017 and June 2018. A multistage sample design was followed in PLFS. In rural areas, 2011 census villages formed the first stage of sampling units (FSU). Each rural household was visited only once and one-fourth of the villages were covered in each quarter of the survey period. For urban areas, a multistage rotational panel design was followed where urban blocks from Urban Frame Surveys constituted the FSUs. A total number of 4,33,339 persons from India were surveyed under PLFS 2017-18. Sample size for the eight north-eastern States was 37778. The survey collected information on the employment status of each member of the sampled households, including earnings, education, skills training, type of job contacts, and access to social security benefits. Each member of the household was asked whether they have received any kind of VET—formal or other than formal. Detailed questions were asked to those who received/receiving formal training on the duration, field, and source of funding for the training³. The

³ For more discussion on PLFS, see Jajoria and Jatav (2020) and Annual Report, PLFS 2017-18

present study covers the population in the age group of 15- 59 years. We have primarily used descriptive analysis of statistical data for this study. The estimates for this region have been compared with all-India figures to generate an understanding of the comparative picture of skill development. This has been supplemented by the observations from the author's field visit to several Industrial Training Institutes (ITIs) and interaction with the stakeholders in two NE States Manipur and Nagaland in December 2020.

There are few limitations of the study. As Agrawal and Kumar (2017) have shown, NSSO surveys are widely used for their reliability and continuity of information on the NE region. But sometimes State level estimates are marred by faulty sample frame, biased sample, and insufficient coverage. Therefore, we used State-level data in few instances and mostly used combined regional data to study employment, wages and access to benefits at workplaces. Kikon & Karlsson (2019) and many others have noted an increasing phenomenon of migration of NE youth to other metropolitan cities in "mainland India". However, due to lack of recent census or survey data on migration, there is insufficient information on their economic engagement, earnings and conditions of employment. Hence, our study is limited to the analysis of scenario within the geographical boundaries of Northeast and does not cover those who have migrated outside for any reason.

Literature Review

Industrialisation and skill development are of critical importance in creating career opportunities for the NE youth as in other parts of India (Deka, 2018). The Second Administrative Reforms Commission (ARC 2008) viewed skill development of the youth as an effective strategy for conflict resolution and recommended that it should be given top priority through promotion of vocational education, setting-up of it is and polytechnics (GoI, 2008). The Vision 2020 for the NE recognises the shortage of skilled workers due to the absence of good training facilities and weak quality of infrastructure (NEC, 2008). The regional development plan prepared by the North-Eastern Council identifies the urgent need to significantly improve the pool of highly skilled and trained manpower for economic development and attracting higher investment (NEC, 2017).

Despite the recognition of critical importance of vocational education in development of the region the availability of skilled labour in the region is very less. For example, CMIE data shows only 0.6 lakh population aged 15 years and above in Assam have access to formal vocational training (NSDC, 2019). Availability of skills among women in the State is even lower (GoA, 2014). Sahu & Kumar (2017) identified this skill deficit as one of the major constraints in the path of long-term economic growth and sustainability of the region.

As of 2017, out of the 11964 ITIs all over India, only one percent was located in

the north-eastern region (Khuntia, 2017). In several States like Arunachal Pradesh, Mizoram, and Meghalaya there are districts which did not have even one ITI (*ibid.*). The opportunities of formal skill training were even lower for women with some States like Arunachal Pradesh, Manipur, Meghalaya, Mizoram, and Sikkim has less than a hundred seats reserved for women in ITIs (*ibid.*). Performance audit reports of existing ITIs in a number of NE States revealed severe deficiencies in the basic infrastructure such as inadequate buildings, classrooms, laboratories, washrooms, water and power supply, hostels, and lab equipment⁴.

Interestingly, however inadequate the provision and skewed the distribution of the existing ITIs are, the utilisation of this existing infrastructure is far below the optimum level. As per the MIS data of National Council of Vocational Training (NCVT), the average seat utilisation level of ITIs in the country is 77.36 percent. In contrast to this, except for Assam (71.48 percent) and Arunachal Pradesh (76.32 percent), in other NE states the current seat utilisation level is much below the all-India level, meaning there is no full utilisation of existing resources (including manpower and physical infrastructure) as a large number of seats are lying vacant⁵. But if we consider the deficiency in the provision basic infrastructure that the audit reports have highlighted, along with the lack of planning and vision, then this co-existence of inadequacy in the number of ITIs and under-utilisation of seats would hardly come as a surprise.

The challenges for skill development is compounded by the also concerns over quality, employability, placements of the trainees. Human Development Reports of some NE States have found less unemployment and higher presence of the ITI/polytechnic educated youth in regular wage/ salaries jobs (GoM 2013). However, Audit reports of ITIs found a “major lacuna in the planning process” due to inability to coordinate with industry demands (GoA 2016). This observation in turn indicates an existing skill mismatch in the regional economy. Annual Report (2019-20) of the Ministry of Skill Development and Entrepreneurship (MSDE) shows that between 2016 and 2020 there exists a wide difference across NE States in terms of the placement rates under PMKVY (CSSM)⁶- the flagship programme of GoI for short term skill training. While the placement rates in Assam, Meghalaya, and Mizoram are well above the national average, States like Sikkim (5 percent), Nagaland (7.9 percent) and Tripura (8.4 percent) are among the bottom performers (GoI 2020). Similar divergence in performance has been recorded in other official reports also- an assessment of the State Incentive Grants (SIG) under the World Bank sponsored SANKALP programme found that the placement rate under GOI and major State

⁴ For more information see GoA (2016), GoM (2016)

⁵ Management Information System of NCVT. <https://www.ncvtmis.gov.in/Pages/ITI/TradeStats.aspx> accessed on 24th May 2021

⁶ PMKVY- CSSM is the centrally sponsored State managed component of the scheme. In PMKVY 2.0 (2016-2020) only 25 percent of the funds were allotted under the components. However, under guidelines of PMKVY 3/0 it has been stated that the States' share will be increased up to 75 percent based on the performance of the individual State.

funded short term training programmes was 67 percent in Nagaland, while it was just 32 percent in Arunachal Pradesh (MSDE 2019).

Results and Analysis

Access to VET in North-Eastern States

We begin our analysis by looking at the longitudinal trend. As can be seen from the following Table 1, a very small share of the population in north-east has received formal VET and the number has not changed much in the last decade. Only 1.08 percent of the males and 0.61 percent of the females has undergone any formal VET course. This makes only 0.85 percent of the population formally trained in 2017-18. In fact, there is a marginal decline in the proportion of females who have received formal VET from 0.71 percent in 2011-12 to 0.61 percent 2017-18.

Table 1: Proportion of the population with formal vocational training in NE States

NSS rounds/ years	Male	Female	Person
NSS 61st round 2004-05	0.42	0.26	0.34
NSS 66th round 2009-10	0.77	0.52	0.65
NSS 68th round 2011-12	1.07	0.71	0.89
PLFS 2017-18	1.08	0.61	0.85

Source: EUS various rounds and PLFS 2017-18

If we take persons who received Other VET (i.e. who are skilled through other informal or non-formal ways like hereditary, learning in the job, self-learning, or others) into account, then also the picture does not change much. Only 2.70 percent of the males and 2.23 percent of the females has received VET of any form. There also exist some differences between rural and urban sectors. While 5.25 percent of the urban population has received some form of VET, the proportion is just 1.96 percent in case of rural population. A sizeable section of the population who received Other VET have acquired it through self-learning (0.75 percent), hereditary transfer of skills and knowledge (0.32 percent), and learning on the job (0.46 percent) (Table 2).

Within each State of north-east India, there exists substantial variation among districts depending upon the level of socio-economic development. Appendix Table 1A shows the proportion of the population who received VET in the aspirational (backward) districts vis-à-vis the overall figures of the respective States⁷. It is clear that the backward districts are far more disadvantaged in terms of access to formal skill education as compared to the average population of the State. For example, aspirational districts in several of the north-eastern States like Arunachal Pradesh,

⁷ Aspirational districts are 115 districts from 28 States identified by NITI Aayog on the basis of indicators of socio-economic backwardness. For more information, visit <https://niti.gov.in/about-aspirational-districts-programme>.

Nagaland, or Meghalaya do not have a single person who received formal VET.

Table 2: Percentage distribution of population by the type of vocational training, NE States

Sector/ Gender	Received vocational training					Total	Did not receive VET
	Formal training	Other VET					
		Hereditary	Self-learning	Learning on the job	Others		
Rural							
Male	0.90	0.21	0.38	0.41	0.09	2.00	98.00
Female	0.43	0.38	0.84	0.24	0.04	1.92	98.08
Person	0.67	0.29	0.60	0.33	0.07	1.96	98.04
Urban							
Male	2.11	0.40	1.94	1.90	0.28	6.62	93.38
Female	1.54	0.58	1.14	0.51	0.11	3.88	96.12
Person	1.83	0.49	1.54	1.20	0.19	5.25	94.75
Rural+ Urban							
Male	1.08	0.24	0.62	0.64	0.12	2.70	97.30
Female	0.61	0.41	0.88	0.28	0.05	2.23	97.77
Person	0.85	0.32	0.75	0.46	0.09	2.47	97.53

Source: PLFS 2017-18

As compared to north-east India, opportunities for access to VET area little higher at the all-India level. Considering both types of VET (formal+ Other) north-eastern States (2.47 percent) have a much lower proportion of persons with VET as compared to all Indian States (9.2 percent) taking together (Table 2A in Appendix).

Employment and Unemployment among VET Holders

In this section, we analyse the labour force participation and unemployment situation among VET holders vis-à-vis others in the NE States. We have used usual principal and subsidiary activity status (UPSS) approach for classification.

Labour force participation rate (LFPR) which is the percentage of the population in the labour force is higher among VET holders (Table 3). Similarly, worker population ratio (WPR) which measures the proportion of employed persons in the population is much better among VET holders than others. But at the same time, it is also noteworthy that the proportion of the population unemployed (PU) is very high among formal VET qualified persons in the case of both males (8.8 percent) and females (14.5 percent).

The data also highlights a wide difference between formal and Other VET holders in terms of employment indicators. This is particularly true among the male population—there is a 19.5 percentage point difference in the WPR among formal (73.2 percent) and Other (92.7 percent) VET educated males. In the case of LFPR, the difference is

13.3 percentage points between formal and Other VET holders. (Table 3)

In the case of females, LFPR, WPR, and the proportion unemployed are highest among technical degree holders. However, there is a significant improvement in LFPR and WPR among VET holders as compared to general and elementary educated females. LFPR is much higher among formal VET holders than Other VET holders (Table 3). It can thus be inferred that formal VET courses have been more effective than Other methods to improve female participation in the labour market.

Table 3: Employment and unemployment among population with different educational background (%)

Type	WPR	LFPR	PU
Male			
Formal	73.2	82.0	8.8
Non- formal	92.7	95.3	2.6
All VET	84.9	90.0	5.1
General	44.6	50.4	5.7
Elementary	77.8	84.4	6.7
Technical	81.6	89.2	7.6
All	60.1	66.1	6.0
Female			
Formal	46.5	61.0	14.5
Non- formal	48.7	49.8	1.1
All VET	48.1	52.9	4.8
General	8.7	10.0	1.3
Elementary	18.4	22.8	4.4
Technical	54.4	76.9	22.5
All	14.5	17.2	2.7
Person			
Formal	63.7	74.5	10.8
Non- formal	71.0	72.9	1.9
All VET	68.5	73.4	4.9
General	26.7	30.2	3.5
Elementary	49.0	54.6	5.6
Technical	73.1	86.5	13.4
All	37.8	42.1	4.4

Source: PLFS 2017-18

Appendix Tables 3A shows the labour market indicators among VET holders across gender and location in NE States. Two things are clear from the Table-overall, the

VET holders in NE faces a higher burden of unemployment as compared to India and there exist a significant variation across States within NE region. High unemployment among VET holders in NE State has been reflected in various other surveys as well. For example, a study by Mott Macdonald and MSDE on ITI graduates in 2018 found that 58.2 percent of the students under Centre of Excellence scheme (CoE) and 46.7 percent under Craftsman Training Scheme (CTS) are unemployed⁸. These proportions are much higher than all India level figures (34.9 percent for CoE and 36.4 percent for CTS).

Table 4 shows occupation-wise distribution of all VET qualified workers (formal+ Other) in the NE States. Craft and related trade works provide the largest opportunity of employment for VET holders, both in rural as well as urban sectors. Nearly one-fourth of all VET/ skilled labourers are absorbed in craft and related trade occupations (24.6 percent). The highest proportion of urban skilled workers are working as professionals (22 percent). In rural areas, quite a high proportion is working as skilled agricultural and fishery workers (15.3 percent) or technicians and associate professionals (17.3 percent). Also noticeable is the very little access of VET holders to white-collar jobs like legislators, senior officials, and managers.

Table 4: Distribution of VET trained workers across various occupations in north-east India

Occupation	Distribution of VET holders		
	Rural	Urban	All
Legislators, senior officials, and managers	2.8	3.3	2.9
Professional	13.2	22.0	16.2
Technicians and associate professionals	17.3	12.6	15.7
Clerks	1.9	7.9	3.9
Service workers, shop and market sales workers	4.8	12.0	7.3
Skilled agricultural and fishery workers	15.3	2.4	10.8
Craft and related trade workers	26.4	21.1	24.6
Plant and machine operators. assemblers	7.7	11.6	9.1
Elementary occupations	10.7	7.2	9.4
All	100	100	100

Source: PLFS 2017-18

The industrial distribution of skilled workers, both formal and other VET, are given in Table 5. Together the agriculture, mining and quarrying employs more than half

⁸ The Centre of Excellence Scheme was introduced in the Union Budget of 2004-05 to upgrade 500 it is in the country as Centre of Excellence through domestic resources and World Bank assistance. For more visit <https://dgt.gov.in/VTIP>

The Craftsman Training Scheme (CTS) was introduced by the Government of India in 1950 by establishing by establishing 50 ITIs for imparting skills in various vocational trades to meet the skilled manpower requirement for technological and industrial growth of the country. For more see <https://dgt.gov.in/CTS>

of the skilled workers (53.27 percent). The other large employer of skilled workers is the other services (25.63 percent), a significant share of whom constitutes people engaged in personal, community, and administrative services. The share of manufacturing in the skilled workforce is just above 2 percent. Thus, it is clear that there is very little opportunity for skilled workers outside the primary and government sector. Marchang (2019) using 2011-12 EUS data had shown that as against the dominant agriculture sector and a rising share of service activities in the workforce, the manufacturing sector still remains underdeveloped with very low investment. Our analysis shows that manufacturing jobs are still hard to come by in this region.

Table 5: Distribution of VET trained workers across various industry in north-east India

Industry	Distribution of VET holders		
	Rural	Urban	All
Agriculture and allied sectors	44.95	30.03	40.05
Mining and quarrying	11.57	16.60	13.22
Manufacturing	1.79	2.77	2.11
Electricity, gas, water supply	0.02	0.58	0.20
Construction	7.42	6.15	7.00
Wholesale, retail trade, repair work, hospitality	2.00	7.34	3.76
Transport, storage, communications	4.91	7.29	5.69
Financial intermediation, real estate, business activities	1.29	4.48	2.34
Other services	26.06	24.76	25.63

Source: PLFS 2017-18

The share of formally skilled worker in total workforce within each broad sector is given in Appendix Table 4A. It can be seen that although agriculture is the largest employer of the workforce in the NE States, only 0.2 percent of the agricultural workforce was formally skilled in 2017-18. There is an expansion of workforce engaged in the community, social and personal services between 2011-12 and 2017-18 but the share of formally skilled workers in total workforce engaged in this sector has remained unchanged. The share of skilled workers has significantly declined in electricity, gas and water supply; finance, insurance, and real estate, and wholesale and retail trade. The only industry which has experienced a drastic improvement in the proportion of skilled workers in its workforce is mining and quarrying. Although the share of this sector has not improved in total workforce, nearly one-fourth of the workers it employs are skilled workers.

Earnings of VET Qualified Workers

Before moving on to analyse the data on earnings of VET qualified workers vis-à-vis non-VET workers we discuss here some of the findings of earlier studies. Dey and Devi (2019) in a primary study in Cachar district of Assam found that VET workerson

average earn Rs. 4489 higher than non-trained workers. A country-wide assessment of PMKVY (2016-2019) have found that the trained and certified candidates under this scheme earn 15 percent more than non-skilled labourers (NSDC, 2020). Agrawal & Agrawal (2017) using NSS 68th round data found that returns to VET was almost 20 percent higher than general education at the all-India level. Agrawal (2012) using NSS 66th round all India data showed that average daily earnings of formal VET workers was substantially higher than Other VET workers. Ahmed & Chattopadhyay (2016) studied the impact of VET on earnings at different levels of education using same dataset and found that at the higher levels of education earnings of formal VET category was less than the general education category of workers. Moreover, at the higher levels of education Other VET workers earn higher than formal VET holders. Ahmed (2014) working with NSS 61st and 66th round found that formal VET had positive impact on wages.

In this section we consider three types of employment – casual work, regular wage employment, and self-employment. We begin with the daily earnings of casual labourers. Around nine percent of skilled workers (taking both formal and Other VET together) are employed as casual labour. Most of the casual skilled workers are employed in agriculture, forestry, fisheries (15 percent), construction (24 percent), and domestic workers (22 percent). Among male casual workers' construction sector is the most important employer. Around one-third of male VET qualified workers are engaged in the construction sector. On the other hand, around three fourth (74 percent) of the skilled female casual labourers are engaged as domestic workers.

Table 6 shows the daily earnings of VET qualified as well as other casual workers. Looking at the average of all four quarters, earnings of VET qualified male workers is higher (Rs. 328/ day) than their counterparts who received general education (Rs. 281/day). On the other hand, among female workers VET holders earn (Rs. 159/ day) even less than those who have elementary education or less (Rs. 173/day). Most strikingly, in both cases-formal and Other VET- daily earnings of female workers are less than half of what male counterparts earn on average.

Next, turning regular to the salaried workers, around 45 percent of the skilled/ VET workers of both types work as regular wage earners. Most important employers of skilled regular workers are the education (29 percent), health and social work (11 percent), public administration and defence (10 percent). Among women, however, participation in public administration and defence is less. Most of the skilled women workers who have regular wage earnings are engaged in education (32 percent) and health/ social work (23 percent).

In general, regular salaried persons who have attended VET courses earn more per month than others (Table 7). But there is very little difference between earnings of formal and Other VET workers. In case of females, formal VET qualified females earn less than the Other VET workers or who have general education. Also, there

exists a wide gender gap in the earnings. Hence, it is clear that VET education is not effective in reducing the gender inequality in earnings.

Table 6: Average daily earnings of casual workers by educational background, NE States (Rs/ day)

Type	July-September 2017	October-December 2017	January-March 2018	April-June 2018	Annual average
Male					
Formal VET	383	326	400	335	361
Other VET	305	327	348	301	319
All VET	318	326	359	308	328
General	258	278	287	308	281
Elementary	242	288	291	273	272
Female					
Formal VET	-	200	-	160	188
Other VET	280	-	150	156	158
All VET	243	200	156	157	159
General	-	155	175	127	134
Elementary	140	160	199	207	173
Person					
Formal VET	383	308	400	328	353
Other VET	303	327	256	286	283
All VET	316	322	275	294	295
General	255	272	286	294	276
Elementary	227	267	281	265	259

Source: PLFS 2017-18

Next, we analyse the earnings of self-employed persons. The largest employer of self-employed skilled workers is agriculture, forestry, and fisheries (28 percent). The second-largest employer is textile (9.5 percent) and wearing apparel (12 percent), especially among self-employed women. Around half of the women in this category are employed in these two sectors.

A similar trend is observed in the monthly earnings of self-employed persons as in the case of casual and regular wage earners. Overall, the VET educated self-employed persons earn a higher monthly income than the workers who received only general education. But the earnings of female workers who have VET are less than women who have only a general degree. Among VET workers, self-employed females earn around one-third of the average income of males. Moreover, among males, Other VET workers earn higher than formal VET workers.

Table 7: Average earnings of regular salaried workers by educational background, NE States (Rs/ month)

	July- September 2017	October- December 2017	January- March 2018	April- June 2018	Annual average
Male					
Formal VET	23415	16305	34754	29462	27084
Other VET	22303	28929	26542	26057	26494
All VET	23083	24517	29375	27233	26731
Technical	28135	31731	36026	35940	34373
General	21188	23180	23265	23702	23063
Elementary	10685	10382	10200	9634	10240
Female					
Formal VET	13604	13810	14708	11848	13440
Other VET	7134	22719	21554	22428	17885
All VET	9820	17875	19292	18346	16068
Technical	19704	33998	32886	31323	31081
General	18359	13061	15636	19673	16849
Elementary	4685	4434	4774	4625	4622
Person					
Formal VET	20448	15261	30021	24987	23061
Other VET	13366	27125	25304	25249	24002
All VET	17476	22338	26915	25155	23621
Technical	25012	32370	35194	34589	33424
General	20355	20523	21118	22663	21378
Elementary	9058	8637	8690	8386	8653

Source: PLFS 2017-18

Table 8: Average earnings of self-employed workers by educational background, NE States (Rs/month)

Type	July- September 2017	October- December 2017	January- March 2018	April- June 2018	Annual average
Male					
Formal VET	7496	10178	13804	10890	10340
Other VET	10549	23431	16008	18435	17062
All VET	9168	20214	15584	16849	15327
Technical	17268	21899	22334	22125	21905
General	9685	11119	11273	12325	11259
Elementary	7716	8141	8958	9795	8720
Female					

Formal VET	4681	6797	6773	5462	5940
Other VET	5856	5650	6350	5209	5669
All VET	5498	5842	6459	5261	5729
Technical	-	16000	-	15862	15973
General	3922	8097	7405	7096	6630
Elementary	2747	3992	4015	3857	3635
Person					
Formal VET	7051	9083	11656	8897	9107
Other VET	9320	15753	13767	13527	13420
All VET	8368	14338	13327	12559	12353
Technical	17268	20590	22334	21989	21519
General	9102	10900	10938	11827	10846
Elementary	6888	7587	8297	9004	8004

Source: PLFS 2017-18

Our analysis shows that in general, workers who received VET earns higher than those who have general or elementary education. There is no clear wage premium for formal VET qualified workers in NE India. (This is in contrast with all-India level picture, where, as Figures A1- A3 in Appendix shows, a substantial wage premium exists for formal VET workers vis-à-vis Other VET workers). Interestingly, in many cases in NE States Other VET workers earn a higher income (e.g., self-employed male/ regular wage employed female) or there is very little difference between formal and Other VET (e.g., self-employed female/ regular wage employed male). Moreover, in case of self-employment, the earnings of formal VET workers are even less than workers with general education. This raises serious questions about the quality and effectiveness of current VET courses in NE in raising employability and entrepreneurship skills. As we have earlier mentioned, and also reflected in the audit reports of Comptroller and Auditor General of India, most of the vocational training institutes like ITIs in the NE States suffers from the lack of basic facilities like classrooms, laboratories and equipment. Guidance on career development, employment services, entrepreneurship, and linkages with the industry are missing almost everywhere. Moreover, majority of the courses are affiliated to State Councils of Vocational Training (SCVT) where the standards and contents of the syllabus are far from satisfactory. The certification process under SCVTs is often a long-drawn affair and sometime even takes one-year after the assessment. The Author's field visit in few ITIs in Manipur and Nagaland found that placement cells are non-existent in many cases. All these factors have a negative impact on the earnings and career prospects of the students.

Quality of Employment among VET Holders

Quality of jobs is an integral part of the well-being of workers. Many decisions like

whether to work or quit, how much effort to put, etc. crucially depend on the quality of the jobs in the market. However, the quality of job is a multi-dimensional concept. From an individual's perspective quality of employment refers to the conditions, ethics, working time arrangements, monetary and non-pecuniary benefits associated with employment and the non-working life of an individual (UNECE, 2013). It is generally expected that the good quality of employment is available to skilled workers. In this section, we have analysed access to quality jobs by VET holders in the NE States. Here the quality of employment is measured in terms of type and duration of job contract, availability of social security benefits, and eligibility of paid leaves.

Table 9: Type of job contract of VET holders and others in NE States

Type of contract	VET	Elementary	General	Technical
Male				
No written contract	42.5	88.2	42.7	31.0
Written contracts for:				
<=1 year	3.2	0.7	1.5	1.0
>1- 3 years	4.5	0.9	2.8	2.7
>3 years	49.8	10.3	52.9	65.3
Female				
No written contract	44.1	58.5	28.8	28.0
Written contracts for:				
<=1 year	3.3	0.1	2.1	0
>1- 3 years	4.6	0.4	6.6	4.9
>3 years	48.0	41.0	62.4	67.0
Person				
No written contract	43.0	84.3	38.5	30.2
Written contracts for:		0.0		
<=1 year	3.2	0.6	1.7	0.8
>1-3 years	4.5	0.8	3.8	3.3
>3 years	49.2	14.2	56.0	65.7

Source: PLFS 2017-18

Distribution of workers with formal VET and other education categories by the type of job contracts is shown in Table 9. Around 43 percent of the workers with formal VET are working with no written job contracts. The condition of formal VET workers is certainly better than the workers with only elementary education but still worse than general or technical degree holders. Even in terms of job security which can be measured as the length of the contract, general and technical qualified workers are better off than formal VET holders as a higher proportion of these two education

categories have secured job contracts of more than three years.

Data shows that a very high proportion of workers who received formal VET do not have access to any social security benefits (39 percent) (Table 10). Gender differences in access to social security benefits are stark. Nearly half of the female VET workers are not eligible for any of the social security benefits listed. Only 19.3 percent of female workers have access to all kinds of benefits. A little over one-fourth (27.9 percent) of the VET qualified female workers have access to maternity benefits.

Table 10: Availability of social security benefits to VET trained workers in NE States (ps+ss)

Type of benefits	Male	Female	Person
Only PF/ Pension	20.4	12.4	17.9
Only gratuity	5.3	2.1	4.3
Only health care and maternity benefits	0.5	2.1	1.0
Only PF/ Pension and gratuity	0.2	0.0	0.1
Only PF/pension and health care and maternity benefits	1.5	3.4	2.1
Only gratuity and health care and maternity benefits	0.6	5.2	2.0
PF/pension, gratuity and health care and maternity benefits	34.0	19.3	29.4
Not eligible for any of the above benefits	33.9	50.2	39.0
Not known	2.7	2.9	2.7

Source: PLFS 2017-18

In terms of social security benefits among skilled workers, NE States seem to have been more inclusive than all India, but this better performance is entirely due to comparatively higher access of NE males to such benefits. If we consider only the case of females, NE States are more disadvantaged than average female workers in India. E.g., nearly half of the skilled women workers of NE in regular and casual employment are excluded from any social security benefits such as those listed in Table 10. As compared to females the position of males is much better- 34 percent of NE males are excluded from any form of social security benefits which is much lower than 54 percent at all India level. Such patterns are observed in case of access to paid leave as well. In comparison with all India figures (38 percent), skilled workers in the NE States (58 percent) have better access to paid leave. The scenario is just opposite in case of females. At the all-India level, 52 percent of women workers are eligible for paid leave, as against 42 percent in NE. Thus, it can be seen the achievements of women in social sectors falls short in strengthening their positions in the workplaces.

Discussion

The above analysis shows participation in VET is very low in the NE States and the situation has remained unchanged for more than a decade. There are several explanations for this low participation. Some of them has to do with the poor access

(due to poor connectivity and lack of hostels), deficient physical infrastructure, tools, equipment, non-availability of courses that are in high demand among youth and continuing with old fashioned courses that have no relevance in the market.

Perhaps one of the most important reasons for lower participation in formal VET courses is the poor job placement records. We have seen that VET has been successful in improving LFPR among both males and females but the unemployment rate is also higher. The incidence of unemployment is much higher among those who received formal VET than those who received Other VET. There are several plausible reasons for this. Most of the Other VET holders are self-employed where knowledge and skills are passed on hereditary and acquired through self-learning or employed in informal sectors and have acquired skills by learning on-the-job. In case of formal VET, as a case study by Dey and Devi (2019) in Cachar district of Assam has shown, although there was the high placement of candidates initially, many of them chose to leave the job due to dissatisfaction with salary, far away workplaces, and skill mismatch in terms of training imparted and work requirements. Especially, the placed females expressed their inability to continue in their jobs due to distant workplaces. Also, aspirations of youth increase after receiving formal VET, and if personal finances permit people can afford to remain unemployed to wait for better opportunities.

The other important fact to note is that formal training programmes are not always effective in raising the earnings of the trained candidates. Partially this has to do with the underdevelopment of manufacturing industries in the NE States. The mining and quarrying industry which has the largest share of the skilled workforce has been highly capital intensive and has witnessed a decline in the total employment. Formally skilled labour is mostly engaged in agriculture, weaving, transport, public administration, and education. Many of these sectors are traditional, low productive, and employs large informal labour force. Agriculture still remains the one of the main sources of employment of skilled labour, but the stagnation of agricultural productivity, decline in farm incomes, and a corresponding rise in the pressure on land have marginalised rural workforce (Chakrabarti, 2019) and prevented any significant rise in earnings. Even among the formal VET trained workers engaged in education or public administration a high proportion is working without written contract or very short duration contract. So, there is always a room for questioning how gainfully employed these workers are⁹.

A large part of the explanation for lower earnings of formal vocational education programmes has to do with the poor quality of education, lack of strong teachers and pedagogy, and outdated curriculums (Mehrotra *et. al.*, 2014). Furthermore, industry participation in vocational programmes particularly in the development of

⁹ Nearly 43.6 percent and 52.9 percent of the formal VET workers in education and public administration respectively in NE are working without written job contract or less than one-year contract (PLFS 2017-18).

curriculum, and certification of competencies of the candidates is least (Mehrotra *et. al.*, 2014; Mehrotra, 2020). As a result, formal VET does not necessarily improve the earning capability of the trainees. We have explained the present situation in NE region is not different from this general picture. It would suffice to mention here that very few ITIs from NE States participate in the grading exercise Directorate General of Training (DGT)¹⁰ and their performance is far from satisfactory. The final grades of the second phase (2019-20) are not published. But the draft grades show while there were four ITIs from NE region among first 500 ranks in the first phase (2017-18), the number reduced to two in the second phase. In the first 1000 ITIs NE region had 13 in the first phase, which reduced to just 4 in the second phase.

The study has found a huge gender gap in earnings. This can be partly explained through a lack of decent work opportunities for educated women in the NE region. As Borah (2019) notes, the nature of female employment in NE seems to be distress driven and improvement in education levels have not resulted in better opportunities in the labour market. Another part of the low earnings of women has to do with less participation of women in more productive sectors of the economy. Sectors such as manufacturing; transport, storage and communication; financial insurance; business, etc.; and public administration, education, and community service, etc. are all male-dominated (Panda, 2019). On the other hand, women are mostly engaged in agriculture, construction, and domestic work which are low productive and low remunerative sectors.

Policy Implications and Agenda for Further Research

The paper has studied the recent trends of VET and labour market consequences in the NE States. The study assumes importance in view of industrial stagnation, growing unemployment, and outward migration of the region's youth. Some of the findings we wish to highlight are low coverage of VET, high unemployment among VET trained labours, the high gender gap in earnings, skill mismatch, and insignificant impact of VET (especially formal) in improving earnings. Notwithstanding the economic backwardness of the region, a poor performance of VET calls for strengthening the coverage and outreach, better planning and strong implementation mechanism. Special efforts need to be given for improving coverage of skill development programmes among numerous tribes in NE who constitute majority of the population and live sparsely populated areas in remote locations. Residential training programmes will be more effective in reaching out to the youth who live in backward regions and constrained by the underdeveloped communication and transport facilities. The Sub-group of Chief Ministers highlighted that "unless the training programmes are residential and placement linked, there may be poor response from the candidates in areas such as northeast" (NITI Aayog, 2015).

¹⁰ For more details regarding grading methodology etc. visit https://dgt.gov.in/Grading_ITI

Entrepreneurship should be made an integral part of the skill development/ vocational education (NSDC, 2012; NABARD 2019). As National Bank for Agriculture and Rural Development (NABARD 2019) notes, there is a need for boosting entrepreneurship among youth by identifying locally relevant sectors, proper handholding, convergence of schemes, and assuring linkage to markets. This cannot be more suited for any other region than NE India where opportunities for gainful regular wage employment is limited. Entrepreneurship based on locally available resources may help to rejuvenate the labour market. At the policy level, there is a need for a bottom-up approach to identify rising sectors, opportunities and aspirations of local youth; making a diverse set of schemes within the reach of youth; and convergence of schemes run by different departments on entrepreneurship development of the youth (*ibid.*).

The paper has found that vocational training programmes are still not effective in bridging the gender gap in earnings. Special care and attention need to be taken in this regard. One important policy response can be strengthening women's cooperatives and self-help groups that can go a long way in empowering women producers and giving them agency. Thus, improving women's managerial capability, entrepreneurial ability, marketing skills need to be part of every training module. A large section of women is excluded from social security benefits at workplaces. The employers are required to be sensitised about the entitlement of women workers and strict monitoring is necessary to ensure observance of the rules.

Finally, the women friendly infrastructure at ITI/ training centres need to be ramped up. There should be availability of women's hostels, toilets, boundary walls, adequate lighting, transport facilities and safety arrangements. Thus, unless adequate arrangements for enabling infrastructure is made to overcome the hurdles the participation of women will continue to remain low.

Appendix Tables

Table 1A: Proportion of population received formal VET in aspirational districts in NE States

States	Aspirational districts	All districts
Sikkim	2.10	1.18
Arunachal Pradesh	0.00	0.20
Nagaland	0.00	0.65
Manipur	0.09	2.90
Mizoram	0.17	1.13
Tripura	2.07	1.90
Meghalaya	0.00	0.65
Assam	0.02	0.58
ALL NE	0.14	0.85

Source: PLFS 2017-18

Table 2A: Distribution of population by access to vocational training, All India

Sector/ Gender	Received vocational training					Total	Did not receive vocational training
	Formal VET	Other VET					
		Hereditary	Self- learning	Learning on the job	Others		
Rural							
Male	1.5	3.0	2.6	3.1	0.4	10.5	89.5
Female	0.9	0.9	1.2	0.7	0.4	4.1	95.9
Person	1.2	1.9	1.9	1.9	0.4	7.4	92.6
Urban							
Male	4.1	5.9	2.3	5.0	0.8	18.0	86.7
Female	3.3	2.7	1.0	1.0	0.6	8.6	93.7
Person	3.7	4.3	1.7	3.0	0.7	13.3	90.2
Rural+ Urban							
Male	2.3	3.9	2.5	3.6	0.5	12.8	88.6
Female	1.7	1.4	1.1	0.8	0.5	5.5	95.2
Person	2.0	2.7	1.8	2.2	0.5	9.2	91.9

Source: PLFS 2017-18

Table 3A: Employment and unemployment status of VET holders

States	Male			Female			Person		
	LFPR	WPR	UR	LFPR	WPR	UR	LFPR	WPR	UR
Sikkim	97.6	87.9	9.7	100.0	99.0	0.98	98.7	92.9	5.80
Arunachal Pradesh	100.0	99.1	0.9	74.1	15.7	58.43	92.9	76.2	16.68
Nagaland	100.0	78.7	21.3	60.2	48.9	11.33	89.6	70.9	18.69
Manipur	77.4	72.9	4.4	54.7	53.8	0.91	64.0	61.6	2.40
Mizoram	92.9	87.0	6.0	50.6	45.9	4.74	75.3	69.9	5.45
Tripura	70.5	61.2	9.2	24.6	21.7	2.91	58.4	50.9	7.58
Meghalaya	75.8	55.9	19.8	60.5	59.7	0.88	67.9	57.9	10.07
Assam	95.9	93.3	2.6	52.5	45.6	6.91	77.0	72.5	4.47
ALL NE	89.9	84.8	5.1	52.9	48.1	4.77	73.4	68.5	4.94
ALL INDIA	95.4	91.8	3.6	54.1	53.7	0.46	83.3	80.6	2.68

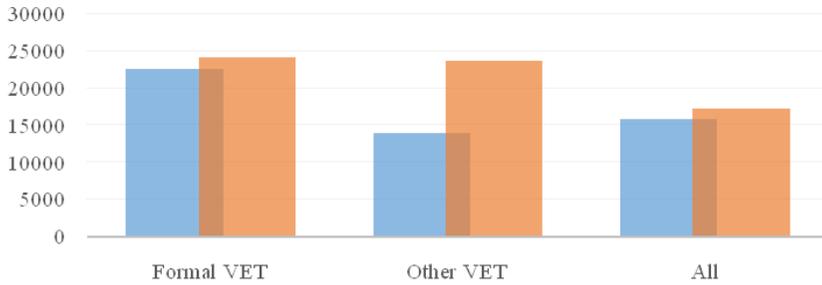
Source: PLFS 2017-18

Table 4A: Distribution of workforce across broad industry groups and the share skilled workers in total workers engaged in each in group, NE States

Sectors	Share of the sector in total workforce		Share of skilled workforce in the sector	
	2011-12	2017-18	2011-12	2017-18
Agriculture, forestry, fishing	49.9	42.3	0.9	0.2
Mining and quarrying	0.6	0.3	5.1	24.5
Manufacturing	5.2	6.4	1.6	3.3
Electricity, gas, and water	0.2	0.3	12.5	2.3
Construction	16.5	11.1	0.3	0.4
Wholesale and retail trade	11.5	13.2	1.3	0.5
Transportation, storage and communication	4.1	6.6	1.8	1.1
Finance, insurance and real estate	0.8	1.2	8.3	3.6
Community social, and personal services	11.2	18.5	3.2	3.1
All	100.0	100.0	1.3	1.2

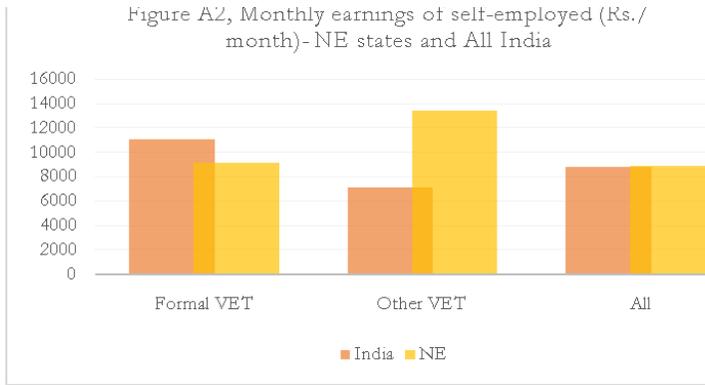
Source: PLFS 2017-18

Figure A1, Monthly earnings of regular wage employed (Rs./ month)- NE states and All India



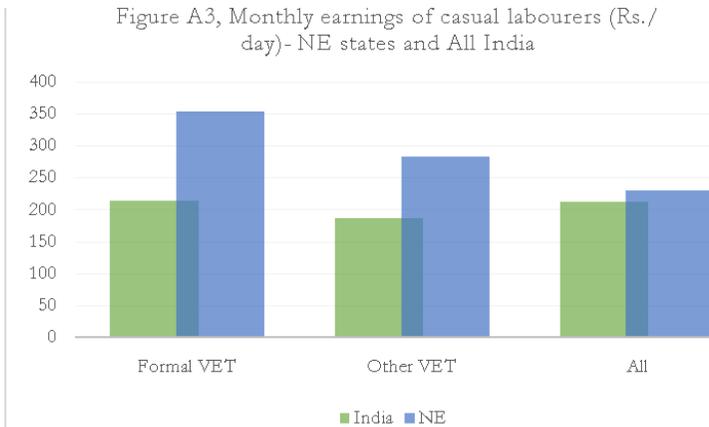
Source: PLFS 2017-18

Figure A2, Monthly earnings of self-employed (Rs./ month)- NE states and All India



Source: PLFS 2017-18

Figure A3, Monthly earnings of casual labourers (Rs./ day)- NE states and All India



Source: PLFS 2017-18

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