

Skill Development in Punjab: Challenges, Strategies and Concerns

Anjali Pathak* and Jaswinder Singh Brar**

*Department of Economics, Punjabi University, Patiala

**Centre for Research in Economic Change, Punjabi University, Patiala

Abstract

As India moves progressively towards becoming a knowledge based economy, skill development plays a very important role in human productivity, employability and efficiency. Introducing skill development in the education becomes the great need as giving the general education is not sufficient to get the employment. Skilled human resource at all levels is essential for inclusive growth. With the introduction of vocational in action in our education system, demand-supply mismatch decreases. With the help of training, workers do their work more efficiently. The paper deals with the ITIs and actual intake, district wise reservation of sanctioned seats, group wise staff position, employment scenario in Punjab, expenditures on skills and training. The present paper will mainly focus on demand supply gap, manpower requirement, ITI capacity, challenges, government schemes and policies for the state of Punjab.

Keywords: *Skills, Employability, Skill mismatch, Training, Schemes*

JEL Classification: *I2, I28, J24*

Introduction

Technology and skill has always been a handmaiden of human beings in every stage of the evolution of civilization (Singh, 2013). As India moves progressively towards becoming knowledge based economy, skill development plays a very important role in human productivity, employability and efficiency. Today there is requirement of skilled workforce in all economies for the advancement of technologies in both the native and emerging industries for attainment of higher level of economic growth and resultant development. However, in actual

practice the human resources have been facing a serious problem in terms of advancement of education, health, skill and employability. Skill development is an instrument to improve the effectiveness of labour to the total production systems. India is one of the youngest countries in the world, having huge stock of workforce in the age group of 15-59 years. Skill development on a large scale is of utmost importance to enjoy the fruits of demographic dividend. This dividend could be utilized meaningfully only by equipping the workforce with those of skills consistent with the needs of the productive sectors of the economy. However, according to the present status, it has been reported that only two per

cent of the total employees in India have undergone skill training (Prasad et al., 2010).

For realization of inclusive growth, the skill development is important as it ensures the participation of young people from diverse backgrounds in the process of development. Initiatives such as *Swachh Bharat*, Digital India, *Namami Gange* and some other programmes will require an army of skilled specialists. The vision of 'Make in India' has given major incentives to skill development. Government of India has raised the skill ecosystem in close partnership with the private sector, international agencies like World Bank, OECD, ILO, and EU among others. The country has taken up the task of skill development in a serious manner during the last about decade or so. With the formulation of the National Policy on Skill Development (NPSD) during 2009, skill development activities in the country have started taking formal shape. The target under the NSDP is to skill 500 million people by 2022 (Aggarwal et al., 2012).

The contribution of skills in economic progress is immense and multi-dimensional. The skill trainings are important because of number of considerations, such as skill and knowledge are required for the progress of any country and individual, skill training is essential to provide skilled and competent workforce to industries which will make them competitive and will enable the youth of Punjab to get jobs concerned with industry, with the help of skill training, individuals earn their livelihood and attain their potential, and skill training makes individual independent (Saini, 2015). The higher levels of education and skills provide better chances of employment and it will also increase the wages. Punjab has accorded the highest priority to skill development among its youth with explicit objective to make them

employable. It has decided to institutionalize the program of skill development in the state by establishing Punjab Skill Development Mission in line with the National Skill Development Policy, 2009. Some specific policies have been drafted for technical education and skill development like Private Training Provider Policy, Technical Education and Skill Development Policy, etc. To understand the numerous skill gaps and requirements of the industry Punjab Skill Development Mission (PSDM), with its three tier structure at state, district and block level, is playing an active role in addressing the skill related issues. The aim of the Punjab Government was to skill 15 million people by 2022 and 2 million people by the end of Twelfth Five Year Plan, i.e. March 2017 (PSDM, 2015-16). It was also realized that this goal can be attained only if the industry, academia and government come together and form a golden triangle. The presence of unskilled labour in the market has been a concern at the local, regional, national and global level. There is an issue of low employability of graduates which has to be addressed through appropriate up-skilling with the consideration of requirement of local industry in order to ensure availability of industry prepared manpower. The mismatch between existing training infrastructure and human resource demand indicates substantial capacity expansion requirement for semi-skilled category through vocational education in Punjab with the excess pool of unskilled and greatly skilled workforce (Ramaswamy et al., 2013).

Data Sources and Methodology

Data for the present study has been collected from Economic and statistical organization (ESO), Department of technical education and industrial training, GoI,

Chandigarh, Deloitte Touché Tohmatsu India Pvt. Ltd. and Punjab state planning board (PSPB). Simple statistical tools like averages and percentages were used to interpret the results.

Results and Discussion

Skill Infrastructure in Punjab

There are a number of educational institutions in Punjab, both private and public, that deliver specialised skill training. There are five government aided engineering colleges, 96 self-financed engineering colleges, 124 management institutes, 34 pharmacy institutes and 94 self-financed polytechnic colleges. There are 115 government ITIs and 234 private ITIs (ESO, 2017). The industrial training wing of Department of Technical Education and Industrial Training (DTE&IT) has been given the exclusive responsibility of imparting vocational training in engineering and non-engineering trades. These trades are provided under craftsman training scheme and apprenticeship training scheme and the aim of these schemes is to satisfy the need of the industry in respect of skilled workers. National Council for Vocational Training at Central level and State Council for Vocational Training at State level are responsible for coordination of an integrated development of vocational training. As many as 362 Memoranda of Understanding on Technical Education side and Memoranda of Understanding on Industrial Training side have been signed by Institute & Industry to further improve the quality of training and to make the human resources of these technical institutions adequate to the industry. At the same time, it also helps in attaining the high productivity for the industry for facing the challenges of a new liberalized and globalised economy¹. The department has started a fully centrally sponsored and funded Hi-Tech Training

Scheme at ITI (W) Mohali under which hi-tech training is being imparted to the candidates sponsored by the local industries. Under the NABARD, an outlay of Rs. 81.76 crores has been accepted to upgrade two engineering colleges, three Government Polytechnics and one ITI at Sultanpur Lodhi. Skill training centres are also established in some districts of Punjab like in Amritsar, Barnala, Bathinda, Faridkot, Ferozpur, Jalandhar, Ludhiana, Pathankot, Sangrur, Muktsar Sahib and Tarn Taran (Ramaswamy et al., 2013).

For the preparation of skilled workforce, a skill training academy is being established at Ropar and also there is establishment of an institute for training of trainers at Lalru near Chandigarh. As many as 22 Multi Skill Development Centers (MSDC) would be set up in collaboration with NSDC one each at district headquarter ITI with the first one being set up at ITI, Ludhiana at a cost of Rs.7.5 crores. The government of Punjab government has established Multi Skill Development Centres in five districts namely Amritsar, Ludhiana, Hoshiarpur, Jalandhar and Bathinda. It has also established three Health Sector Skill Development Centres (HSDCs) in three districts namely Patiala, Amritsar and Faridkot. To provide skill training at the door steps of rural youth, Punjab government has also taken a unique initiative of setting up of 200 Rural Skill Centres (PSDM, 2015-16). These centres are located in premises of government high/senior secondary schools across the state with at least one Rural Skill Centres in each block. As many as 25 out of 200 Rural Skill Centres have been dedicated for skill training of rural girls to be called *Nanhi Chhaan Skill Centres*. The main focus of these centres was empowerment based on self employment opportunities. There has been the inauguration of *Nanhi Chhaan Skill Centres* at village Salani, district Fatehgarh

Sahib, Rural Skill Development Centre at Village Gehri Mandi, district Amritsar on 13 November, 2016. In order to spread the wings of ITIs, the 2010-11 scheme of Punjab Government introduced the new area under the hospitality sector which will provide good carrier opportunities to the emerging youth and will meet the demand of skilled labour of industries and services. In this line, Government of India has approved 11 ITIs, viz. ITI (W) Kharar, ITI Shaheed Bhagat Singh Nagar, Patiala, Phagwara, Pathankot,

Table 1. Number of Government Industrial Training Institutes in Punjab, District-Wise

S. No.	District	1980-81	1990-91	2000-01	2010-11	2014-15	2015-16	2016-17
1	Gurdaspur	4	4	6	6	8	8	8
2	Pathankot	-	-	-	-	3	3	3
3	Amritsar	5	5	7	6	10	11	11
4	TarnTaran	-	-	-	2	3	3	3
5	Kapurthala	2	2	3	4	6	6	7
6	Jalandhar	3	3	2	3	6	7	6
7	S.B.S. Nagar	-	-	2	2	3	3	3
8	Hoshiarpur	3	3	3	3	7	7	7
9	Rupnagar	2	2	2	3	6	5	6
10	S.A.S. Nagar	-	-	-	1	5	6	5
11	Ludhiana	3	4	6	5	12	13	13
12	Firozpur	2	2	3	3	3	3	3
13	Fazilka	-	-	-	-	2	2	2
14	Faridkot	3	3	2	2	5	5	5
15	Muktsar	-	-	1	1	4	4	5
16	Moga	-	-	1	1	4	4	4
17	Bathinda	2	2	1	1	3	3	3
18	Mansa	-	-	1	1	2	2	2
19	Sangrur	2	3	3	2	7	7	7
20	Barnala	-	-	-	1	2	2	2
21	Patiala	6	6	5	5	8	8	8
22	Fatehgarh Sahib	-	-	1	1	2	2	2
Total Government ITIs (1-22)			37	39	49	53	111	114
Overall ITIs		-	-	-	-	-	-	349

Jalandhar (W), S.A.S. Nagar (W), Bathinda, Sunam, Amritsar and Ludhiana to initiate the courses in hospitality sector (PSPB, 2015-16). It is reported that 19,158 candidates (i.e. 43.97 per cent) were selected out of appeared 43,569 candidates in the Job Fest/Campus Interview during the session 2013 to 2017. Punjab Government has launched *Ghar Ghar Rozgaar and Karobaar*, a state Employment Mission to provide every household in the State with at least one job to the eligible youth in the family. The Mission has put employment as the principal factor of the government's social and economic planning and policies. Recently, government of Punjab has opened up the next stage of skills called '*Hunar hai taan kadam hain*' with more energy and more colour. For celebrating world class excellence in skills and an opportunity to the youngsters to showcase their functional and vocational skills, the skill competition titled 'Punjab Skills Competition' 2018 will be the main ground. The winners will represent the state at the national skill competition 2018, which will open gateways to the 'World Skills 2019' at Kazan, Russia. Table 1 shows that from 1980-81 to 2016-17, in each district there is an increase in the number of ITIs from time to time. For example, during 1980-81, the number of government ITIs was 37 which increased to 115 during 2016-17. This increase in the number of industrial training institutes is due to more focus of the government on skill development which can be attained through the ITIs. Ludhiana shows fabulous increase in the number of industrial training institutes by four times, but it is observed from the table that no increase is there in the number of ITIs in Firozpur from 2000-01 to 2016-17. The highest number of ITIs during 2016-17 was in Ludhiana followed by Amritsar. The reason behind this stationary position can be the border location of the district. The number of overall ITIs was 349 during 2016-17 of which

the government was 115, i.e. 32.95 per cent.

Table 2 shows the district wise actual intake in the government ITIs of state. It is clear from the data that there is increase in the actual intake and Ludhiana is the district in which number of ITIs and actual intake was highest as Ludhiana is the industrial hub of Punjab. There are some districts in which actual intakes have not increased that much as per the requirement like in Fatehgarh Sahib, Tarn Taran and Firozpur. It is also clear that actual intake has decreased in Jalandhar, SBS Nagar, SAS Nagar, Moga and Mansa from 2015-16 to 2016-17. In overall it seems that the actual intake is on very lower side as just during 2016-17, as many as 22,664 persons were admitted for training by the government sector ITIs.

Table 3 shows the district wise percentage distribution of actual intake among the government ITIs in the state. From 1980-81 till 2010-11, Gurdaspur topped in actual intake but in 2016-17, it decreased by 4 per cent but still has more actual intake as compared to its population share of 5.77 per cent in total population of Punjab. Besides that, Hoshiarpur, Rupnagar and Patiala also have more actual intakes as compared to its population. In 2016-17, Ludhiana topped in actual intake but when compared it with its population, it was actually less. Moreover, Kapurthala, SBS Nagar, Faridkot, Moga, Muktsar and Sangrur have actual intakes in tune with their population.

Table 4 provides the over period number of institutions and change in the actual intake in the state. It is clear that initially the actual intake declined from 1980-81 to 1990-91 and from 1990-91 to 2000-01 which may be due to non-awareness about these institutions or more importance given to general education

Table 2. District-Wise Actual Intake in Government Industrial Training Institutes in Punjab, 1980-81 to 2016-17

S. No.	District	1980-81	1990-91	2000-01	2010-11	2014-15	2015-16	2016-17
1	Gurdaspur	1,366	1,129	958	1,715	1,842	1,732	2,059
2	Pathankot	-	-	-	-	1,062	1,067	1,091
3	Amritsar	1,114	796	523	959	1,837	1,929	2,120
4	TarnTaran	-	-	-	529	395	302	368
5	Kapurthala	230	194	290	479	793	825	873
6	Jalandhar	862	610	252	258	812	885	814
7	S.B.S. Nagar	-	-	228	369	579	469	465
8	Hoshiarpur	1,058	776	670	1,106	1,932	1,757	2,020
9	Rupnagar	736	562	582	881	1,238	1,326	1,396
10	S.A.S. Nagar	-	-	-	110	632	767	683
11	Ludhiana	794	694	778	1,463	2,477	2,491	2,757
12	Firozpur	704	441	459	838	456	394	452
13	Fazilka	-	-	-	-	359	286	329
14	Faridkot	752	527	201	323	674	648	707
15	Muktsar	-	-	21	130	598	485	720
16	Moga	-	-	312	540	482	625	618
17	Bathinda	757	575	272	615	658	751	833
18	Mansa	-	-	164	396	534	634	491
19	Sangrur	270	257	258	567	1,139	1,154	1,061
20	Barnala	-	-	-	147	297	452	440
21	Patiala	1,270	1,055	744	1,306	1,891	1,874	1,980
22	Fatehgarh Sahib	-	-	246	375	270	230	357
Total (1-22)		9,913	7,616	6,958	13,106	20,957	21,083	22,664

Source: ESO (2017).

but thereafter the actual intake increased. In the case of the change in the number of ITIs, initially there was negligible increase in the number of institutes, i.e. only 2 from 1980-81 to 1990-91, but in the next decade, it increased by 10. In the year 2010-11, the number increased by 4 but during 2014-15, the number increased by 58. But very less increase happened in number of institutions from 2014-15 to 2016-17. Per institution actual intake

varied over the period and it was 197 during 2016-17. But, the private sector has dominant share both in number of institutions and actual intake, i.e. 67.05 per cent and 55.09 per cent respectively (Table 5).

Equity among the various socio-economic strata remained the hall mark of policy based on the principle of growth with justice. The public policy designing in the

Table 3. District-Wise Percentage Distribution of Actual Intake in Government ITIs in Punjab, 1980-81 to 2016-17

S. No.	District Population	1980 -81	1990 -91	2000 -01	2010 -11	2014 -15	2015 -16	2016 -17
1	Gurdaspur	13.78	14.82	13.77	13.09	8.79	8.22	9.08
2	Pathankot	0.00	0.00	0.00	0.00	5.07	5.06	4.81
3	Amritsar	11.24	10.45	7.52	7.32	8.77	9.15	9.35
4	TarnTaran	0.00	0.00	0.00	4.04	1.88	1.43	1.62
5	Kapurthala	2.32	2.55	4.17	3.65	3.78	3.91	3.85
6	Jalandhar	8.70	8.01	3.62	1.97	3.87	4.20	3.59
7	S.B.S.Nagar	0.00	0.00	3.28	2.82	2.76	2.22	2.05
8	Hoshiarpur	10.67	10.19	9.63	8.44	9.22	8.33	8.91
9	Rupnagar	7.42	7.38	8.36	6.72	5.91	6.29	6.16
10	S.A.S.Nagar	0.00	0.00	0.00	0.84	3.02	3.64	3.01
11	Ludhiana	8.01	9.11	11.18	11.16	11.82	11.82	12.16
12	Ferozpur	7.10	5.79	6.60	6.39	2.18	1.87	1.99
13	Fazilka	0.00	0.00	0.00	0.00	1.71	1.36	1.45
14	Faridkot	7.59	6.92	2.89	2.46	3.22	3.07	3.12
15	Muktsar	0.00	0.00	0.30	0.99	2.85	2.30	3.18
16	Moga	0.00	0.00	4.48	4.12	2.30	2.96	2.73
17	Bathinda	7.64	7.55	3.91	4.69	3.14	3.56	3.68
18	Mansa	0.00	0.00	2.36	3.02	2.55	3.01	2.17
19	Sangrur	2.72	3.37	3.71	4.33	5.43	5.47	4.68
20	Barnala	0.00	0.00	0.00	1.12	1.42	2.14	1.94
21	Patiala	12.81	13.85	10.69	9.96	9.02	8.89	8.74
22	Fatehgarh Sahib	0.00	0.00	3.54	2.86	1.29	1.09	1.58
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: ESO (2017)

country involves special considerations by reserving development opportunities for women and disadvantaged groups of society.

Table 6 shows the district wise reservation of sanctioned seats for women and SC candidates in case of government sector ITIs. Out of

Table 4. Over Period Number of Institutions and Actual Change in Intake in Punjab

Year	1980-81	1990-91	2000-01	2010-11	2014-15	2015-16	2016-17
Actual Intake	9913	7616	6958	13106	20957	21083	22664
Change in Actual Intake	-	-2297	-658	6148	7851	126	1581
Number of Institutions	37	39	49	53	111	114	115
Change in Institutions	-	02	10	04	58	03	01
Per Institution Actual	268	195	142	247	189	185	197

Intake

*Source: ESO (2017).***Table 5. Comparison between Government ITIs and Private ITIs (2016-17)**

Industrial Training Institutes	Number of ITIs	Actual Intake
Government ITIs	115 (32.95)	22,664 (44.91)
Private ITIs	234 (67.05)	27,800 (55.09)
Total	349 (100)	50,464 (100)

Source: Official Website, Department of Technical Education and Industrial Training, Government of Punjab, Chandigarh¹

25,028 sanctioned seats, 6152 were reserved; of which 5504 for women and 648 for SC candidates. It means 24.6 per cent seats were reserved for SC and women candidates. Five institutes have been reserved exclusively for scheduled castes students at Garhshankar, Fatehgarh Churian, Faridkot, Mansa and Muktsar (W) of which one exclusively for SC women candidates (Kumar, 2012). Muktsar topped in terms of percentage of reserved seats out of total, i.e. 87.5 per cent and Mansa is the only district in which there was no reservation for SC and women candidates. Among all the districts, Gurdaspur, Hoshiarpur, Faridkot and Muktsar were the only four districts where there exists reservation for SC candidates.

Table 7 shows the group wise staff position of Industrial Training Wing. Group A comprises Deputy Director, Assistant Director and Principal Art and Craft Institute. Group B comprises Superintendent Grade-2, Principal

(Engineering Trade), Principal (Non Engineering Trade), Superintendent (Tech), Group Instructors, Headmistress, Senior Assistant and Instructors. Group C comprises Junior Assistant, Junior Scale Stenographer, Steno Typist, Pharmacist, Store keeper, Hostel Superintendent, Librarian and Driver and Group D comprises Peon. It is clear that there was shortage of staff in the industrial training wing. Of all categories, 66.87 per cent seats were filled. The maximum percentage of vacant seats was in Group A, i.e. 55.45 per cent. In another way, 33.12 per cent seats were vacant in all the four categories stated above.

Table 8 shows the estimates pertaining to the gap between supply of and demand for both skilled and semi-skilled personnel in various districts of Punjab during two periods, viz. 2012-17 and 2017-22. The data shows considerable variation among the districts so far supply of skilled and semi-skilled

Table 6. Reservation of Sanctioned Seats in Government ITIs, 2011, District Wise

District	Reserved for SC Candidates	Reserved for Women Candidates	Total Reserved	Sanctioned Seats	Reserved (Per Cent)
Gurdaspur	168	546	714	3142	22.7
Amritsar		512	512	2184	23.4
TarnTaran		160	160	812	19.7
Kapurthala		220	220	1044	21.1
Jalandhar		398	398	1114	35.7
S.B.S.Nagar		48	48	580	8.3
Hoshiarpur	272	256	528	1908	27.7
Roopnagar		180	180	1484	12.1
S.A.S.Nagar		416	416	852	48.8
Ludhiana		430	430	2462	17.5
Firozpur		290	290	1650	17.6
Faridkot	84	80	164	776	21.1
Muktsar	124	408	532	608	87.5
Moga		200	200	820	24.4
Bathinda		182	182	1046	17.4
Mansa		0	0	268	0.0
Sangrur		356	356	1036	34.4
Barnala		128	128	272	47.1
Patiala		646	646	2470	26.2
Fatehgarh Sahib		48	48	500	9.6
Total	648	5,504	6,152	25,028	24.6

Source: Deloitte Touché Tohmatsu India Pvt. Ltd. (2011)

personnel is concerned. But it is to be noted that there were cases of excess supply in some districts in case of skilled labour which is not in the case of semi-skilled category. The existence of excess supply represents the unemployment problem in that district because of the decrease in the number of industries or it may be due to skill mismatch.

But, an excess demand represents a positive sign as it results from the expansion of industries. The perusal of data shows that Bathinda, Moga, Muktsar and Mansa shows the excess supply of the skilled labour, but as per plan of Punjab, it has been projected to reduce this gap by greater amount during 2017-2022 (Ramaswamy et.al, 2013).

Table 7. Staff Position in Industrial Training Wings of ITIs of Punjab during 2011, Group wise

Name of Post	Field Staff Sanctioned	Filled Seats		Vacant Seats	
		Number	Per Cent	Number	Per Cent
Group A	55	30	54.54	25	45.45
Group B	1963	1374	69.99	589	30.00
Group C	452	293	64.82	159	35.17
Group D	1092	685	62.72	407	37.27
Total	3562	2382	66.87	1180	33.12

Source: Deloitte Touché Tohmatsu India Pvt. Ltd. (2011)

Table 8. Gaps in Supply and Demand of Skills in Punjab (2012-22), District Wise

Region	2012-17		2017-22	
	Skilled	Semi Skilled	Skilled	Semi Skilled
Amritsar	3,408	35,176	2,473	23,367
Barnala	508	5,183	1,098	7,543
Bathinda	744*	11,933	277*	9,850
Faridkot	343*	3,519	33	5,414
Fatehgarh	620*	2,582	18	4,717
Ferozepur	2,011	19,025	1,807	13,583
Gurdaspur	1,987	25,146	1,960	18,029
Hoshiarpur	547	14,581	931	11,636
Jalandhar	5,168	36,308	5,310	30,004
Kapurthala	137	7,347	788	8,471
Ludhiana	6,441	57,622	7,396	48,937
Mansa	885*	2,976	359*	4,117
Moga	610*	7,572	25*	7,722
Mohali	1,642	14,918	2,065	15,541
Muktsar	781*	6,081	255*	6,439
Nawanshehar	2,071	15,527	1,580	10,255
Patiala	1,234	9,722	242	12,444
Roopnagar	1,333	10,016	1,456	9,414
Sangrur	181	17,749	598	14,399
Tarn Taran	3,383	13,606	3,397	12,815

*Note: Figures with * indicates excess supply.*

Source: Ramaswamy, Krishna and Gaurav (2013)

However, the remaining districts show the excess demand for skilled labour which is a positive sign for the development of that particular district. However, remarkable progress is shown by Ludhiana district during 2012-17 in which the demand for both the skilled and the semi-skilled labour very high and this gap of skilled will further be reduced during 2017-22.

Employment Scenario in Punjab

The role of Micro, Small and Medium

Enterprises (MSMEs) has been very crucial in providing employment to large sections of society. The MSME plays a significant role in developing human resources through training and skill up gradation. In the ongoing phase of globalisation, the MSME sector is facing new challenges in field of new technology, skill development and infrastructure. But, it also plays very prominent role in conducting entrepreneurship, management and skill development programmes besides providing technical assistance to the existing

Table 9. Number and Level of Employment in MSME in Punjab

Districts	2006-07			2009-10		
	Number of MSME (units)	Employment	Employment per MSME	Number of MSME (units)	Employment	Employment per MSME
Barnala	1,767	5,892	3.33	1,798	6,946	3.86
Rupnagar	2,809	12,060	4.29	2,821	12,190	4.32
Fatehgarh Sahib	3,790	21,221	5.60	3,125	19,583	6.27
Bathinda	4,186	21,775	5.20	4,261	22,744	5.34
Faridkot	2,190	13,410	6.12	2,203	14,016	6.36
Firozpur	4,330	19,502	4.50	4,356	19,884	4.56
Gurdaspur	1,767	5,892	3.33	1,798	6,946	3.86
Mansa	1,953	7,020	3.59	1,974	7,220	3.66
Moga	5,071	21,377	4.21	3,297	22,004	6.67
Muktsar	3,328	19,362	5.82	3,345	19,583	5.85
Patiala	7,658	40,433	5.28	8,009	44,300	5.53
Sangrur	17,052	50,654	2.97	10,695	53,259	4.98
Ludhiana	42,210	2,91,903	6.91	39,091	3,35,741	8.59
Jalandhar	28,744	1,52,510	5.30	20,042	1,34,280	6.70
Amritsar	83	619	7.46	181	1,880	10.39
Punjab	1,26,938	6,83,630	5.38	1,06,996	7,20,576	6.73

Note: MSME stands for Micro, Small and Medium Enterprises

Source: Ramaswamy, Krishna and Gaurav (2013)

entrepreneurs. In case of Punjab (Table 9), the number of MSMEs declined from 1,26,938 to 1,06,996 from 2006-07 to 2009-10. The overall employment in MSMEs has increased from 6,83,630 to 7,20,576 in the same years. And the employment per MSME increased from 5.38 to 6.73 persons. Moreover, in case of overall employment, large increase has been shown by Patiala and Amritsar and marginal increase by Rupnagar, Bathinda, Firozpur and Muktsar. Notably Amritsar has maximum employment per MSME (10.39) and Mansa the lowest (3.66). The maximum number of MSMEs was concentrated in Sangrur, Ludhiana and Jalandhar.

Table 10 shows that during the period from 1990 to 2015, the number of technical-unemployed increased considerably in the state. The number of technical-unemployed was highest during 2000 equivalent to 45,222 up from 39,730 of 1990. But, it decreased during 2012 and 2013 but reached to 35,588 during 2014 and again declined to 30,727 in 2015. Out of total technical unemployed, the proportionate share of ITI trained craftsman with work experience was 85.84 per cent during 1990 which declined to 74.24 per cent during 2015.

In this modernised world, for the sake of

better employment opportunities, higher wages and higher standard of living, people migrate to urban areas. Table 11 shows that though over the period from 1990 to 2014, the absolute number of skilled and unskilled unemployed applicants decreased but in totality it was very high equivalent to 3,61,299 persons during 2014. Out of total unemployed applicants, the proportion of skilled unemployed was overwhelming constituting about 90 per cent. The data further shows that that there is more decrease in unemployment of unskilled applicants as compared to skilled applicants. The demand for skills will witness major transformation in both the secondary and tertiary sectors as indicated by high incremental manpower requirements associated with high investment, output growth and economic expansion in these sectors when the period of 2012-17 is compared with 2017-22 (Table 12). The incremental manpower requirement of secondary sector will go up as compared to tertiary sector where it will be estimated to decline in all the three categories namely skilled, semi skilled and minimally skilled.

Expenditure on Skills and Training

The increase in public spending on the development of industrial training can play

Table 10. Number of Technical Unemployed According to Qualifications in Punjab

Year	Engineers	Diploma Engineers	Craftsman with Work Experience	Unemployed
1990	437 (1.09)	5,189 (13.06)	34,104 (85.84)	39,730 (100)
2000	1,020 (2.25)	6,532 (14.44)	37,670 (83.30)	45,222 (100)
2012	706 (2.35)	4,074 (13.55)	25,281 (84.09)	30,061 (100)
2013	957 (3.12)	4,460 (14.53)	25,283 (82.35)	30,700 (100)
2014	1,107 (3.11)	5,838 (16.40)	28,643 (80.48)	35,588 (100)
2015	1,541 (5.01)	6,375 (20.75)	22,811 (74.24)	30,727 (100)

Figures in parentheses indicate percentages to total

Table 11: Number of Skilled and Unskilled Unemployed Applicants in Punjab:1990-2014

Year	Unskilled Applicants	Skilled Applicants	Total
1990	1,01,811 (15.44)	5,57,439 (84.56)	6,59,250 (100)
2001	34,786 (6.48)	5,01,889 (93.52)	5,36,675 (100)
2012	27,042 (7.67)	3,25,613 (92.33)	3,52,655 (100)
2013	30,147 (7.70)	3,61,327 (92.30)	3,91,474 (100)
2014	36,490 (10.09)	3,24,809 (89.90)	3,61,299 (100)

Note: Figures in brackets refer to percentage share of total.

Source: ESO (2017)

Table 12. Incremental Manpower Requirement in Punjab (IMR)

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally Skilled	Total	Skilled	Semi Skilled	Minimally Skilled	Total
Secondary	26,189	76,460	3,07,145	4,09,794	29,793	86,722	3,51,091	4,67,606
Tertiary	61,529	2,73,571	1,34,185	4,69,285	50,934	2,14,309	1,22,594	3,87,837

Note: 1. Skilled workers means those skills acquired through Professional degrees (study duration greater than 5 years after Std X),

2. Semi-skilled denotes skills acquired through vocational training (study duration greater than 3 years after Std X).

3. Minimally skilled category requires basic understanding of jobs which need minimal or no formal training.

Source: Ramaswamy, Krishna and Gaurav (2013)

decisive role in the expansion of skills. For the provision of skill development, necessary infrastructure and modern machinery is vital. So the expenditure of the government has been increasing for the replacement of old and out dated machinery, provision of new buildings for the institution which is on rent and completion of buildings of some ITIs. Table 13 shows that the actual expenditure on industrial training doubled from Rs. 1.09 crores to Rs. 2.38 crores over the period from 2007-08 to 2014-15. But, importantly during next period higher levels of outlay were approved reaching to Rs. 117.26 crores for industrial training. The expenditure on ITIs has been quite diversified in order to provide impetus to the overall programme of skill development (Table 14). For example, during 2015-16, the expenditure involves spending on infrastructure, equipment, new courses, facilities to students,

new modes of development including private partnerships, participation in centrally sponsored schemes and specialized centres of skill development, etc.

Major Challenges

There are some challenges that adversely affect the skill development of the state. It has been highlighted by many sources like National Skill Development Corporation report, Punjab Skill Development Mission, Department of Planning, Government of Punjab etc.

The fundamental problem pertaining to development of skills is the divergence between demand for and supply of skills. The advancement of technology brings changes in production processes. Due to this, the nature of demand for skills, both in terms of quantity and

Table 13. Public Budget on Industrial Training in Punjab, Plan (Rs. crore)

2007-08 (Actual Expenditure)	1.09
2011-12 (Actual Expenditure)	2.70
2012-13 (Actual Expenditure)	4.50
2013-14 (Actual Expenditure)	1.24
2014-15 (Actual Expenditure)	2.38
2015-16 (Approved Outlay)	72.15
2015-16 (Revised Outlay)	80.11
2016-17 (Approved Outlay)	117.26

Source: PSPB (2015-16 and 2016-17)

quality, changes. There is requirement of fewer highly qualified middle and lower level skilled personnel for modern technology. A training system is required that produce exactly this type of manpower (Saini, 2015).

Regional imbalance is also one of the challenges of skill development. Majority of formal institutions are situated in urban areas as compared to rural areas and even private sector institutions are also unwilling to work in rural areas. Hence, there is lack of formal vocational training institutions for rural population (Verma, 2016). Youth are more inclined to self-employment in industrially backward districts like Fazilka, Faridkot, Mansa, Sangrur etc. Because of the low absorption capacity of labour by industries in these areas, people prefer self-employment in Punjab (Ramaswamy et.al, 2013).

Due to the non-revision of the curriculum continuously, industries found it hard to employ candidates from different ITIs as there is a mismatch in expectations. Currently there is no formal device to periodically review and

Table 14. Break Up of Approved Outlay on Industrial Training in Punjab, 2015-16

Budgetary Head	Outlay (Rs crores)
a. Infrastructure, Machinery & Equipment Up gradation & Addition of New Buildings for Existing Government ITIs	10.00 (13.86)
b. Provision of Deficit Budget Under the 'Introduction of Hospitality Courses' With the Assistance of Ministry of Tourism, GOI	2.00 (2.77)
c. Provision of Free Text Books And Tool Kits to Scheduled Castes Students	1.95 (2.70)
d. New and Up Gradation of ITIs/Skill Development Centres at Gurdaspur, Ludhiana, Rupnagar, SAS Nagar & Fatehgarh Sahib	15.60 (21.62)
e. Skill Development Mission/Initiative Scheme	2.50 (3.47)
f. Up Gradation of Industrial Training Institutes Under Public Private Partnership of DGE & T- Establishment of SIC (100% CSS)	0.1 (0.14)
g. Up Gradation of Industrial Training Institutes Into Centres of Excellence In Punjab (75:25)	40.00 (55.44)
Total	72.15 (100)

Note: Figures in brackets refer to percentage share of total.

Source: PSPB (2015-16)

revise the curriculum which is based on industry requirements. The students who are interested in vocational education, all of them are not able to get admission in government institutes. With this, they are forced to get admission in private institutes, in which the fee structure is very high and the middle and low class families cannot afford the expenses. Dropout rates are observed after completion of school education across the state, resulting in low enrolments in higher education. The districts like Muktsar, Faridkot and Mansa have considerably high dropouts even at the school levels (Ramaswamy et. al, 2013). Most of the prospective students in the country do not go for vocational education due to lack of awareness about industrial requirements and the accessibility of corresponding vocational courses (Aggarwal et.al, 2012).

Various efforts are put forward by government and its partner agencies for the credibility of vocational courses but still it remains doubtful. There is low reputation associated with vocational courses and also low return levels among people with such skills. All these prevent the students from joining vocational education because of their unawareness about the importance of vocational courses that can develop their career prospects (Verma, 2016).

The reason for the under participation of rural population is the location of private sector institutes which are mainly in the urban areas. Besides, the weaker or disadvantaged section is not capable to get proper skill training due to high cost of these institutes. Lack of links between education and placement of that skilled workforce is also the major problem of skill development system (Saini, 2015). There is lack of proper infrastructure in many skill development institutions especially those located in semi-urban and rural areas. The gap between the

requirements of industry and the machinery being used for training becomes wide. There is need for its expansion and up-gradation so that it can provide well-organized training capabilities to potential aspirants.

There is low preference amongst parents and students for vocational education because they think that vocational education is for students of low ability. They also think that vocational education teachers are narrowly trained and less qualified. The trainers who give the skill training are not up to date with the skills and hence the result of training is not according to desired quality.

Government Initiatives

The various policies adopted for attainment of pre decided objectives got ultimately translated into practice through the medium of various specific schemes. Some of the prominent schemes introduced for the purpose are as follows:

Craftsman Training Scheme

This scheme is to provide semi-skilled/skilled workers to industry by systematic training to school leavers and to reduce unemployment among educated youth by preparing them with suitable skills for industrial employment.

Centre of Excellence Scheme

Centres of excellence are special institutes for vocational training featured by close links between institutes, other training providers and communities.

Hi-Tech Training Scheme

Hi-Tech training is being imparted to the candidates sponsored by local industries. It will upgrade the skills of existing industrial workers through short term specialised courses in the newly emerging Hi-tech area in industry.

Skill Development Initiative Scheme

To provide skill training to school dropouts, child labour and their families, persons already working in informal sector and to upgrade the skills of industrial workers.

Centres for Training and Employment of Punjab Youth

The Department of Youth Services, Punjab has launched a scheme for the training and employment of Punjab youth to rebuild them in society by training them in various trades through short-term courses and to help them to return to normal life by starting their own ventures.

Deen Dayal Upadhyaya Grameen Kaus-halya Yojana

The program is aimed at alleviation of rural poverty through career promoting skills and placements through its sole focus under the National Rural Livelihood Mission (NRLM). The focus area is the poor rural youth as it gives importance to the disadvantaged groups.

Employability through Skill Training and Placement

The main purpose of the program is skilling the urban poor without skills along with improvement of their present skills. Special provisions will be made for poor in urban areas for establishment of ventures in self employment mode and also for absorption in private sector jobs.

Recognition of Prior Learning

RPL is the procedure in which the individual's prior learning outside the formal system is known as sufficient to meet the necessary standard of existing competency and as a result the individual can be given recognition of those skills and the appropriate certificate can be issued. RPL usually refers to a process that observes evidence of past learning and experience.

Building and other Constitution Workers (BoCW)

This scheme is a state initiative for skilling, up-skilling of the wards of construction workers and the construction workers not covered under RPL scheme. As approved in the 6th meeting of Steering Committee, PSDM held on 4.05.2016, for implementation of BoCW, NULM norms shall be valid.

Conclusion and Policy Implications

The ongoing analysis highlights the crucial dimensions of the skill development sector of the state. The skill sector of the state shows adequate diversity in terms of adoption of new schemes, programs, community specific interventions, institutional up gradation and infrastructure strengthening. Despite that, there remain numerous short comings and challenges in enhancing the employability of the pass outs. The gap between the supply and demand of semi-skilled personnel was considerably high. The higher number of vacant positions will not allow the proper utilization of existing infrastructure. The higher number of technical-unemployed particularly ITI Trained Craftsman with work experience indicates the skill mismatch and thereby deficiency of skill planning. The role of secondary sector MSMEs would be very crucial in absorbing the skilled, semi skilled and also minimally skilled personnel in the future. The lack of required expertise for certain jobs has also been reported (Chenoy et al., 2015). Skill training is the critical bond of training, information, soft skills and experience which will lead individual to productive employment. The emergent context amply proves the famous proverb 'success is not an accident' as skill generation needs careful planning in all respects. The state has to devise and evolve suitable models for proper supply of skilled resources to the industrial sector by providing enhanced supply

of public resources along with effective governance structures.

References

- Aggarwal M, Kapur D and Tognatta N 2012. The Skills They Want: Aspirations of Students in Emerging India. In: Center for Advanced Study in India, CASI Working Paper Series No. 12, University of Pennsylvania, Philadelphia, December, 2012.
- Chand D 2015. Education System in Pre-Independence India. *International Journal of Applied Research* **1**: 110-113.
- Chenoy D, Maira A, Padaki M, Garg M and Sanghi S 2015. Skill Development-Scaling New Heights. *Yojana* **59**: 5-8.
- Deloitte Touché Tohmatsu India Pvt. Ltd. 2011. Punjab Technical Education and Industrial Training Policy Project, Bangalore.
- Education Commission 1964-65. Education and National Development, Ministry of Education, Government of India, New Delhi.
- ESO 2017. Statistical Abstract of Punjab, Economic and Statistical Organisation, Government of Punjab, Chandigarh, Publication No. 956.
- Kumar S S 2012. Punjab Technical Education and Industrial Training Policy Project, Deloitte Touché Tohmatsu India Private Limited, Bangalore.
- Prasad R M, Sharma M, Agrawal R, Saha K S and Gandhi A 2010. The Challenges Facing Skill Development in India: An Issues Paper, Institute of Applied Manpower Research Planning Commission, Government of India.
- PSDM 2015-16. First Annual Report 2015, Punjab Skill Development Mission Society, Government of Punjab, Chandigarh.
- PSPB 2015-16. Annual Plan, Punjab State Planning Board, Government of Punjab, Chandigarh, Vol. 1.
- PSPB 2016-17. Annual Plan, Punjab State Planning Board, Government of Punjab, Chandigarh, Vol. 1.
- Ramaswamy N, Krishna A and Gaurav K 2013. District Wise Skill Gap Study for the State of Punjab (2012-17, 2017-2022), New Delhi: National Skill Development Corporation, pp. 1-291.
- Reid M A, Barrington H and Brown M 2004. Human Resource Development: Beyond Training Interventions, Seventh Edition, Chartered Institute of Personnel and Development, London, p.3.
- Saini V 2015. Skill Development in India: Need, Challenges and Ways Forward. *Abhinav National Monthly Refereed Journal of Research in Arts & Education* **4**: 1-9.
- Singh G 2013. A Survey of Resources and Services of Polytechnic College Libraries of Punjab and Chandigarh, Ph. D. Thesis, Department of Library and Information Science, Guru Nanak Dev University, Amritsar.
- Verma J P 2016. Need and challenges: Skill development in India. *International Journal of Multidisciplinary Education and Research* **1**: 35-38.