

A Study of Skill Development Scenario in India

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Abstract-Skill development is one of the essential ingredients for India's future economic growth as the country transforms into a diversified and internationally-competitive economy. Skill development is going to be the defining element in India's growth story. Firstly, we need to re-define the relationship of education, employment and skills development. Secondly, as a very large population, India would never be able to upskill all of its youth across the country through the conventional education framework.

Government alone cannot accomplish this task. It calls for a concerted effort of government, private players and NGOs to address the issue in a comprehensive manner. If India is to gain its rightful place in the world, reap equal benefits and opportunities for all and rise from the debris of poverty and several other pressing issues, skills development will require to be given a place right on top of national priorities.

In the Union Budget 2013-14, the government has doubled its allocation of funds for skills development under the National Skill Development Fund (NSDF) to Rs 1,200 crore, raising the corpus of the fund to Rs.2,700 crore.

Key Words: VE, VT, HDI, MES.

I. Introduction

Labour transition, decent income and utilization of demographic dividend have a common requirement in skill inculcation. In Section 4 on 'Indian Employment Scenario', it was mentioned that the Planning Commission anticipates creation of 50 million additional jobs in the non-farm sector during XII Plan periodⁱ (2012-17). Additional jobs proposed are around 12 million in the manufacturing sector, 25 million in the construction, 7 million jobs in trade, transport & hotels and 4.5 million in finance, banking and real estate. The purpose is to bring down employment in agricultural sector to 45% and move the excess labour to more productive and better-paid jobs (organized and self-employed) in the manufacturing and services sectors. Further, it has also been planned to increase the rate of job creation in manufacturing so as to create 100 million additional jobs by 2022ⁱⁱ. There could be openings in the organized and the unorganized sectors. For realizing these estimates, large scale skill inculcation is a requirement. Yet another motivating factor for skill enhancement comes from the demographic factorⁱⁱⁱ. The Boston Consultancy Group predicted in 2007 that by 2020 India would have a surplus of 56 million working people, while there would be a shortage of 47 million working people around the world. Further, demographic trend indicates that by 2022, India will have 63% of the population in the working age band. India will experience the demographic advantage up to 2040, whereas it would start narrowing down for China from 2015. The situation calls for stupendous efforts towards development of skills appropriate to the market needs.

In this context, awareness of skill provision scenario through ITIs could enable the university curriculum planners to provide appropriate curriculum options and vertical educational links to the eligible graduates of ITI system facilitating career progression. We provide definitions of the terms, 'skill', 'job' and 'occupation' (adopting the document on National Classification of Occupations^{iv} - 2004

published by the Directorate General of Employment & Training, Government of India), and ‘vocational training’ (adapting Collins English Dictionary^v).

- ❖ Skill - the ability to carry out the tasks and duties of a given job
- ❖ Job - a set of tasks and duties performed by one person
- ❖ Occupation - a set of jobs whose tasks and duties are of a similar nature
- ❖ Vocational training - Training provided for the inculcation of skills needed for an occupation, trade, or profession

Generally, the terms, ‘vocational education’ and ‘vocational training’ are used interchangeably. By practice, vocational education (VE) stipulates equal or significant focus on theoretical aspects apart from hands-on skills. VE is provided by educational institutions, which are part of School or University system. In contrast, vocational training (VT) has greater focus on hands-on skills than on theoretical concepts. Vocational training is offered by accredited institutes (like ITIs) or non-accredited institutes (like private computer training institutes), and does not fall under the School or university system of education.

II. Congruence among education, employment and income

In Section 4 on ‘Indian Employment Scenario’, it was seen that during 2009-10, 72% of the workforce had educational level of 8th the Standard or below, while 84% were 10th Standard or below. Significant drop-out %age at the School education level was cited as the reason. Nearly 60% of the workforce in 2011-12 was engaged in agriculture and construction, major part of which account for low income levels and informality of employment. It was stated in Section 1 on ‘Indian Socioeconomic Status and Demography’, that the number of poor in India is estimated to be around 269.3 million in 2011-12; it is more than the population of Indonesia or Brazil or the combined population of Japan and Germany. The socioeconomic position of India could become evident by considering its Human Development Index in comparison with some emerging economies.

III. Human Development Index studies on India

The write-up and the data provided in this part are based on the Human Development Report published by UNDP^{vi} on India during the year 2013. Human Development Index (HDI) is a summary measure for assessing long-term progress in three basic dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living. A long and healthy life is measured by life expectancy. Access to knowledge is measured by: i) mean years of schooling for the adult population, which is the average number of years of education received in a life-time by people aged 25 years and older; and ii) expected years of schooling for children of school-entrance age, which is the total number of years of schooling a child of school-entrance age can expect to receive if prevailing patterns of age-specific enrolment rates stay the same throughout the child's life. Standard of living is measured by Gross National Income (GNI) per capita expressed in constant 2005 international dollars converted using purchasing power parity (PPP) rates. Table 1 gives trends of HDI and its components during 1980-2012.

Table 1: Trends in India’s HDI component indices - 1980-2014

Year	Life expectancy	Expected years of schooling	Mean Years of schooling	GNI per capita (2005 PPP\$)	HDI value

1980	55.3	6.3	1.9	880	0.345
1985	57	7.1	2.4	1007	0.379
1990	58.3	7.4	3	1191	0.41
1995	59.8	8.2	3.3	1389	0.438
2000	61.6	8.3	3.6	1702	0.463
2005	63.3	9.9	4	2190	0.507
2010	65.1	10.7	4.4	3009	0.547
2012	65.4	10.7	4.4	3175	0.551
2014	65.8	10.7	4.4	3285	0.554

Source: The Rise of the South: Human Progress in a Diverse World. India. Human Development Report 2015. p. 1- 4. UNDP. Table2 shows increase in HDI, income and educational attainment in India through the years. Still, HDI and component parameters are much lower as compared to other rapidly emerging economies grouped as BRICS (Brazil, Russia, India, China and South Africa) and IBSA (India, Brazil, and South Africa).

Table 2: India’s HDI indicators for 2014 relative to countries from the BRICS and IBSA groups

Country/Economic Group	HDI Value	HDI rank	Life expectancy at birth (years)	Expected years of schooling (years)	Mean years of schooling (years)	GNI per capita (2005 PPP \$)
Brazil	0.730	85	73.8	14.2	7.2	10,152
China	0.699	101	73.7	11.7	7.5	7,945
India	0.554	136	65.8	10.7	4.4	3,285
Russian Federation	0.788	55	69.1	14.3	11.7	14,461
South Africa	0.629	121	53.4	13.1	8.5	9,594
BRICS	0.655	--	69.8	11.5	6.6	6,476
IBSA	0.588	--	66.4	11.2	5.0	4,401

Source: The Rise of the South: Human Progress in a Diverse World. India. Human Development Report 2015. p.1- 4. UNDP.

The congruence among the low levels of educational attainment, inadequate income and informality of employment is generally inescapable. The possible way-out is to enhance the educational and skill levels of the Indian population.

IV. Two Structural Streams for Skill Inculcation

In India, the skill inculcation takes place through two basic structural streams—a small formal one and a large non-formal one.

- The skill development through formal structure includes:
 - ❖ Higher Technical Education imparted through Professional Colleges (primarily in the areas of agriculture, education, engineering and technology, and medicine)
 - ❖ Vocational Higher Secondary School (VHSS) system (i.e. grades 11 and 12);
 - ❖ Technical training in ITIs and Polytechnics ;we shall discuss regarding ITIs under ‘Craftsmen Training Scheme’ (CTS)
 - ❖ Apprentice Training Scheme (ATS) – we shall discuss it in Section 6 on ‘Indian Apprenticeship System and Modification through NEEM Regulations’
 - ❖ Modular Employable Skills (MES) under Skill Development Initiative (SDI) Scheme of MoLE
- The non-formal structure of skill development includes transfer of skills from one generation to another in traditional crafts or acquiring skills on the job. Non-governmental organisations, KrishiVigyanKendras and other institutions also impart skills at various levels.

Further, the Ministries of Rural Development, Micro, Small and Medium Enterprises, Health, Tourism and several others under the Central and State Governments have established units for skill inculcation through formal and non-formal means.

The CTS, ATS and MES of MoLE and the initiatives of the Ministries of Rural Development, Micro, Small and Medium Enterprises, Health, Tourism are broadly classified as Vocational Training (VT). The Ministry of Human Resource Development (MHRD) has formulated policy guidelines for offering skill based academic programs, which are known under the name, Vocational Education (VE). The Polytechnics, Community Polytechnics and VHSS offer VE programs under the administrative control of the State Governments, even if owned privately.

The Directorate General of Employment & Training (DGE&T) in the Ministry of Labour and Employment (MoLE), Government of India initiated Craftsmen Training Scheme (CTS) in 1950 by establishing about 50 Industrial Training Institutes (ITIs) for imparting skills in various vocational trades to meet the skilled manpower requirements for technology and industrial growth of the country^{vii}. The features of CTS^{viii} are stated below: Training is imparted in 70 engineering and 63 non-engineering trades. ITIs function under the administrative control of the respective State Governments./Union Territories / Private Organisations. The period of training for various trades varies from six months to two years, and the entry qualification varies from 8th to 12th class pass, depending on the requirements of training in different trades. The institutes are required to conduct training courses as per the curriculum prescribed by National Council for Vocational Training (NCVT). The admission to the new courses is made in the month of August every year. The trainees, after completion of the training period, are required to appear in the All India Trade Test conducted under the aegis of National Council for Vocational Training. The successful trainees are awarded National Trade Certificate which is recognized by the State and Central Governments for the purpose of recruitment. The courses offered for persons with 10th standard pass or below serve the purpose of skill provision to those who could have otherwise become unskilled school drop-outs. The State-wise ITI data as on December 31, 2014 are

reproduced below from the Annual Report of the Ministry of Labour and Employment^{ix} for the year 2014-15 (Table 3).

Table 3: State-wise Details of ITIs as on December 31, 2014

NORTHERN REGION							
S.No.	Name of States/UT	No. of Govt. ITIs	Seating capacity (Govt.)	No. of Pvt. ITIs	Seating capacity (Pvt.)	Total ITIs	Total Seating capacity
1	Chandigarh	2	968	0	0	2	968
2	Delhi	16	11132	62	5052	78	16184
3	Haryana	89	23720	106	11624	195	35344
4	Himachal Pradesh	75	11796	128	11948	203	23744
5	Jammu & Kashmir	37	4087	1	110	38	4197
6	Punjab	98	21332	250	33296	348	54628
7	Rajasthan	115	15696	876	111167	991	126863
8	Uttar Pradesh	315	32460	1433	169934	1748	202394
9	Uttarakhand	59	7147	49	4918	108	12065
	Sub- Total	806	128338	2905	348049	3711	476387
SOUTHERN REGION							
10	Andhra Pradesh	148	28590	593	119668	741	148258
11	Karnataka	179	30914	1289	102494	1468	133208
12	Kerala	40	16476	488	53946	528	70422
13	Lakshadweep	1	96	0	0	1	96
14	Pondicherry	8	1432	9	508	17	1940
15	Tamil Nadu	61	23288	653	67790	714	91078
	Sub-Total	437	100796	3032	344406	3469	445202
EASTERN REGION							
16	Arunachal	5	512	1	96	6	608

	Pradesh						
17	A & N Islands	1	273	0	0	1	273
18	Assam	30	5776	4	288	34	6064
19	Bihar	34	11433	618	87881	652	99314
20	Jharkhand	20	4672	161	36216	181	40888
21	Manipur	7	540	0	0	7	540
22	Meghalaya	5	622	2	320	7	942
23	Mizoram	1	294	0	0	1	294
24	Nagaland	8	944	0	0	8	944
25	Orissa	28	12848	590	100068	618	112916
26	Sikkim	4	580	0	0	4	580
27	Tripura	12	1696	0	0	12	1696
28	West Bengal	52	13836	54	6136	106	19972
	Sub-Total	207	54026	1430	231005	1637	285031
WESTERN REGION							
29	Chhattisgarh	92	11120	57	6656	149	17776
30	D & N Havelli	1	228	0	0	1	228
31	Daman & Diu	2	388	0	0	2	388
32	Goa	10	3264	5	412	15	3676
33	Gujarat	157	57804	393	24360	550	82164
34	Madhya Pradesh	173	26158	236	28626	409	54784

35	Maharashtra	390	108680	417	49380	807	158060
	Sub- Total	825	207642	1108	109434	1933	317076
	Grand Total	2275	490802	8475	1032894	10750	1523696

In spite of VET and VT initiatives undertaken by the State and the Central Governments, the results are grossly inadequate. It is evident from the unemployability of the educated, economic deprivation amidst the less educated, distress migration of labour across the unorganized sector, lack of competently skilled persons in practically all the sectors, decreased productivity and perennial labour issues.

V. Extent of Vocational Training

XII Plan document^x provides data on the %age of formally and non-formally vocationally trained workers (*ps+ss*) in the age group of 15–59 within primary, secondary and tertiary sectors during 2013–14 (vide Table 4). The service sector and the manufacturing sectors occupy first and second position in relation to %age of vocationally trained workers. The non-manufacturing activities, which include construction, have the lowest % of vocationally trained workers. But the important thing is that vast majority of workers received non-formal vocational training. The proportion of workers with non-formal vocational training was the highest in agriculture and it was primarily in the form of hereditary transfer of knowledge. Dependence on non-formal vocational training to such an extent highlights the grossly inadequate system of vocational training. Only in services is the share of those with non-formal training lower than those with formal training.

Table 4: Distribution of Formally and Non-formally Vocationally Trained Workers^{xi} (*ps+ss*) in the age group of 15–59 Within Primary, Secondary and Tertiary Sectors (%) in 2013–14

	Agriculture & Allied	Manufacture	Non-Manufacture	Service	Total
Receiving formal vocational training	18.7	16.6	5.5	59.2	100
Received vocational training: Formal	7.8	19.8	8.1	64.4	100
Received vocational training: Non-Formal	31.9	35.0	11.0	39.7	100
Received vocational training: Non-Formal, Hereditary	56.9	26.3	4.1	12.6	100
Received vocational training: Non-Formal, Self learning	26.4	33.5	9.2	30.8	100

Received vocational training: Non- Formal, Learning on the Job	11.1	45.1	14.5	29.3	100
Received vocational training: Non- Formal, others	22.0	33.6	7.0	37.4	100
Total	26.8	31.4	8.7	33.1	100

Source: Computed from NSS (66th Round), 2013–14. Cited by Planning Commission, Government of India. Twelfth Five Year Plan (2012–2017) (2014). Social Sectors Volume III. p. 142. Ibid.

VI. Contemporary Skill Development Issues

We have evaluated the skill development measures and work out remedial measures. It will be relevant to consider the findings on the theme from a few documents/studies.

1. National Knowledge Commission Reports^{xii}
2. National Skill Development Mission^{xiii}
3. The World Bank Report on ‘Skill Development in India - The Vocational Education and Training System’ prepared in 2007^{xiv}
4. XI Five Year Plan document on Skill Development and Training^{xv}
5. Research Paper by the Institute of Applied Manpower Research, Planning Commission^{xvi}
6. Compilation of information on Vocational Education and Training by Dr. Suniti Sanwal, PSS Central Institute of Vocational Education, Bhopal^{xvii}
7. The Efficiency Study Report on Industrial Training Institutes of India^{xviii}
8. XII Five Year Plan (2012–2017) (2014). Social Sectors Volume III^{xix}.

Many of the findings and recommendations are common across the above documents. Consequently, the collective summary of the above documents, except for some specific suggestions. Generally, the countries with higher and better levels of skills adjust more effectively to the global challenges and opportunities. India has the lowest proportion of trained youth in the world. Against 12.8 million per annum new entrants to the workforce, the existing training capacity is only 4.5 million per annum, causing annual increase in unorganized labour and low income groups. The majority of new entrants to the workforce have no opportunity for skill training. It leads to low productivity and quality of work and lack of capacity to innovate or acquire new work practices. The proportion of trained youth is much higher in industrialized countries varying between 60% and 96% of the youth in the age group of 20–24 years. It is clear that efforts need to be taken to provide some type of skill training to the candidates who drop-out of education at various levels without taking up higher education, failing which they may be forced to enter the world of unorganized labour. Further, the following issues are worthy of attention.

Issues in Vocational Education

The VE in India suffers from a number of constraints and structural deficiencies. Merely 8 percent of all Senior Secondary Schools in India impart VE. Only 3 percent of the students are under the ambit of VE against the target of 25% of all Grade 11-12 students. The enrolment in vocational stream is

quite low in Indian Schools compared to China, Russia, Indonesia, Mexico and South Africa. Absence of linkage with changing market needs and dominance of supply-side factors are significant. Employability of the pass-outs is a critical issue. The institutions suffer from poor infrastructure, absence of qualified staff and obsolescence. The stream is under low-esteem being a low priority of choice among parents and students. There is lack of vertical mobility through appropriate university programs. Seeing the public reaction and the clientele category, the private sector participation is not much in strengthening VE.

Issues in vocational training for workers in the organized sector: Many of the issues discussed in VE sector are relevant for VT sector as well. There is mismatch between training and employment. Several empirical studies have expressed serious concern about the labour market relevance of the trades in the context of technological and industrial advancements. The curricula and infrastructure are obsolete. There is imbalance of demand and supply. The absence of Industry-Institute interaction/collaboration is striking. There are regional imbalances in public and private provisioning and location of ITIs. The management of the system is fragmented and shared between the National and State Authorities for vocational training. Institutions do not enjoy autonomy in curricular issues.

Issues in skill development in the unorganized sector: It is desirable to shift unorganized labour into service sector, which provides more openings for formal employment. Keeping in view the size, multiplicity of languages, age dispersion and geographical spread of the target group, the facilities for training in the non-formal and the traditional sectors are grossly inadequate. The opportunity cost of training for the workers of this sector is high. Poor literacy and numeracy along with high training costs often prevent informal sector workers from participating successfully in training programs. Majority of the secondary and tertiary level institutions are not involved in training the unorganized labour. Appropriate pedagogy is not developed. Opportunities for training in emerging areas are far less. Procedure does not exist for certification of non-formally acquired skills.

The National Skill Development Mission has envisioned creating 500 million skilled people by 2022. The situation calls for effective measures for education and inculcation of skills at all levels, so that employment with moderate-income can be secured. Labour market information system needs to be integrated into VE/VT system in order to maintain supply-demand match.

VII. Conclusion

During the Twelfth Five Year Plan (2012–17), 50 million non-farm employment opportunities are proposed to be created and at least equivalent number of persons needs to be provided skill certification. The existing annual training capacity in the country is 4.5 million. It needs to be more than doubled to achieve the target. As per the report of the **National Skill Development Corporation^{xx} (NSDC)** on 'Human Resource and Skill Requirements in the Education and Skill Development Services Sector (2022)', there would be a need for 112 million workers between 2008 and 2022 across industries and services. The NSDC Report provides activity-wise skill requirement for each of the sectors.

Reference

- [1] Planning Commission. Government of India. Twelfth Five Year Plan (2012–2017) (2013). Social Sectors. Volume III p. 137, 141, *ibid.* New Delhi: Sage Publications, India Pvt Ltd. Retrieved from: http://planningcommission.gov.in/plans/planrel/12thplan/pdf/12fyp_vol3.pdf.
- [2] Planning Commission. Government of India. Twelfth Five Year Plan (2012–2017) (2013). Social Sectors. Volume III. p. 138. *Ibid.*
- [3] Planning Commission. Government of India. Twelfth Five Year Plan (2012–2017) (2013). Social Sectors. Volume III p. 139-140, *ibid.*

- [4] Directorate General of Employment & Training, Ministry of Labour, Government of India. (n.d.). National classification of occupations, 2004. Introduction to National Classification of occupations, 2004. p. 5; retrieved from: <http://dget.nic.in/nco/preface.pdf>
- [5] Collins English Dictionary. (2014). Vocational – Definitions. Retrieved from: Retrieved from: <http://www.collinsdictionary.com/dictionary/english/vocational>
- [6] The Rise of the South: Human Progress in a Diverse World. India. Human Development Report 2013. p. 1- 4. UNDP. Retrieved from: <http://hdr.undp.org/sites/default/files/Country-Profiles/IND.pdf>
- [7] Directorate General of Labour & Employment (DGE&T), MoLE. (October 17, 2004). Overview. Retrieved from: <http://dget.nic.in/content/innerpage/overview-cts.php>
- [8] Directorate General of Labour & Employment (DGE&T), MoLE. (October 17, 2004). Salient features. Retrieved from: <http://dget.nic.in/content/innerpage/salient-features.php>
- [9] Ministry of Labour and Employment, Government of India (n.d.). Annual Report. 2013-14. p. 243-256. Retrieved from: <http://labour.nic.in/upload/uploadfiles/files/Reports/annualreprt.pdf>
- [10] Planning Commission, Government of India. Twelfth Five Year Plan (2012–2017) (2013). Social Sectors Volume III. p. 142. Ibid.
- [11] Planning Commission, Government of India. Twelfth Five Year Plan (2012–2017) (2013). Social Sectors Volume III. p. 142. Ibid.
- [12] National Knowledge Commission, Report to the Nation 2006-2009, Government of India.
- [13] National Skill Development Initiative – March '09; retrieved from: <http://labour.nic.in/policy/NationalSkillDevelopmentPolicyMar09.pdf>
- [14] Skill Development in India - The Vocational Education and Training System; Human Development Unit, South Asia Region; The World Bank, January 2007
- [15] Planning Commission. (n.d.). XI Five Year Plan Document, on 'Skill Development and Training', Vol. 1 Ch. 5, Planning Commission of India. Retrieved from: http://planningcommission.nic.in/plans/planrel/fiveyr/11th/11_v1/11th_vol1.pdf
- [16] Research Paper on ' the Challenges facing skill development in India: An Issues Paper' submitted on behalf of the Institute of Applied Manpower Research, Planning Commission, May, 2010
- [17] Dr. SunitiSanwal, Compilation of Information on Vocational Education and Training for Management Information System, PSS Central Institute of Vocational Education (NCERT), Bhopal.
- [18] Industrial Training Institutes of India: The Efficiency Study Report, Sub-regional Office for South Asia, ILO, New Delhi
- [19] Planning Commission, Government of India. Twelfth Five Year Plan (2012–2017) (2013). Social Sectors. Volume III. p. 131. New Delhi: Sage Publications, India Pvt. Ltd. Pages 124-163. Retrieved from: http://planningcommission.gov.in/plans/planrel/12thplan/pdf/12fyp_vol3.pdf.
- [20] National Skill Development Corporation. (n.d.). Human Resource and Skill Requirements in the Education and Skill Development Services Sector (2022) A Report. p. 20, 21

