Skill development mission in vocational areas – mapping government initiatives

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There exists great demand for a skilled workforce, especially in the context of globalization and when Indian economy is growing at an unprecedented rate. Availability of such skilled workforce is closely associated with the kind of vocational education and training system existing in the country. This article maps the various government initiatives towards skill development by reviewing and analysing the prevailing programmes/schemes under various institutional arrangements, to promote a meaningful and employable skill development system. In doing so, it is found that skill deficiency is present across all levels despite new institutional arrangements from the government and several ongoing schemes and programmes operating in the country. Finally, the article makes an attempt to identify the limitations in the above-mentioned context and suggests some mechanism to fill the existing gaps in the skill development area.

Keywords: Government initiatives, skill development, vocational education and training.

GLOBALIZATION has created a great demand for a skilled workforce which is responsive to emerging market needs and is equipped with knowledge. Although the Indian economy has experienced rapid growth over the recent period, the low level of education and formal training of the workforce are matters of concern. In India, the informal sector employs nearly 90% of the workforce[1], most of whom are either non-skilled or inadequately skilled, and there is very little investment or opportunity for formal 'skilling'. To get productive employment, especially in the informal sector, it is crucial to acquire skill sets with strong labour market linkages.

This article highlights various government initiatives towards skill development by reviewing and analysing the prevailing programmes/schemes under various institutional arrangements, to promote a meaningful and employable skill development system.

Status of vocational education and training in India

Vocational education and training (VET) basically consists of practical courses through which one gains skills and experience directly linked to a career. Vocational education is generally offered at school, or to drop-outs at post-schooling level and sometime on-the-job. Vocational training is directly related with specific skills that many employers look for. Thus VET has been known to increase productivity of individuals, profitability of employers and aid on national development. According to a National Sample Survey Organization (NSSO) report[2], two types of vocational training are available in India: (i) formal and (ii) non-formal. According to the NSSO report, vocational training is received by only 10% of persons aged between 15 and 29 years[3]. Out of this, only 2% receives formal training and non-formal training constitutes the remaining 8%. In case of formal training received by that particular age group, only 3% is employed. Vocational training in India is being undertaken by the Directorate General of Employment and Training (DGET), under the Ministry of Labour and Employment (MoLE), Government of India (GoI). The DGET is the apex organization of development and coordination at national level for all programmes relating to vocational training through the following schemes:

- Craftsman Training Scheme (CTS) – Industrial Training Institute (ITI)/Industrial Training Centre (ITC) Training.
- Apprenticeship Training Scheme (ATS).
- Craftsmen Instructor Training Scheme.
- Advance Vocational Training Scheme.
- Women Training Scheme, Research and Staff Training.
- Instructional Material Development Programme and Hi-tech Training Scheme.

Vocational training is primarily imparted through public ITIs and privately owned ITCs from grade 8 onwards. The present capacity of both ITIs and ITCs (region-wise) is shown in Table 1 and reflected in Figure 1.

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Table 1. Total capacity Industrial Training Institutes (ITIs) and Industrial Training Centres (ITCs) in India

State	No. of government ITIs	Seating capacity of ITIs	No. of private ITCs	Seating capacity of ITCs	Total no. of ITIs and ITCs	Total seating capacity of ITIs and ITCs
Northern region	770	115,122	1,554	169,041	2,324	284,163
Southern region	361	86,732	2,660	289,646	3,021	376,378
Eastern region	194	47,450	810	138,989	1,004	186,439
Western region	797	178,862	740	68,922	1,537	247,784
Total	2,122	428,166	5,764	666,598	7,886	1,094,764

Source: Annual Report 2008–09, Ministry of Labour and Employment, Government of India, as of 31 December 2009

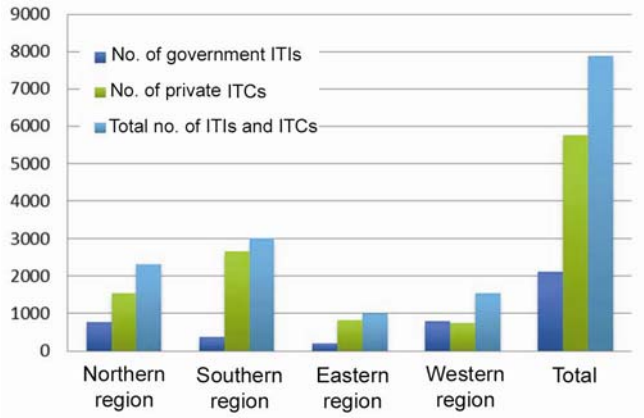

Figure 1. Region-wise distribution of Industrial Training Institutes (ITIs) and Industrial Training Centres (ITCs).

Vocationalization of secondary education

Vocational education in a much broader sense covers education and skill development at all levels from post-primary to tertiary education through both formal and non-formal programmes. Vocational education at the higher-secondary stage develops competencies required by a specific occupation or a group of occupation, through diversified vocational courses. It especially prepares students for self-employment. A centrally sponsored scheme on vocationalization of secondary education by the Ministry of Human Resource Development (MHRD) provides for diversification of educational opportunities so as to enhance individual employability, reduce the mismatch between demand and supply of skilled manpower and serve as an alternative for those pursuing higher education. The scheme provides financial assistance to the states to set up administrative structures, conduct area vocational surveys, in the preparation of curriculum, textbooks, workbook curriculum guides, training manuals, teacher training programmes, strengthen technical support system for research and development, training and evaluation, etc. Under the scheme:

- Vocational education is provided in 9,619 schools covering about 1 million students. It is proposed to expand vocational education to 20,000 schools and the intake capacity to 2.5 million by 2011–12.
- About 150 job-oriented courses at the higher-secondary level are being provided in the areas of agriculture, business and commerce, engineering and technology, home science, health and paramedical, social sciences, humanities, etc.

The vocational education system in India is centralized with MHRD and MoLE primarily taking care of education and training respectively, an overview of which is provided in Figure 2. Besides, some other ministries are also involved in conducting various training programmes.

There are around 15 more ministries/departments (other than MHRD and MoLE) which provide and finance VET programmes in India. Their total annual training capacity is around three million students, with a wide variation between programmes offered by different ministries in terms of scope, target groups, curriculum, duration, and testing and certification, but there is no coordination among them. In many cases, a number of courses are offered in an ad-hoc manner and are need-based; however, more industry participation and demand-driven training programmes are required. Moreover, there are certain sectors where skill requirement is high, but there is no institutional mechanism involved in promoting such skills, for example, areas such as construction sector, IT-enabled services, consumer and retail sector, financial sector, etc. Beside this, there is a set of emerging occupations for greener economies which also requires attention.

Skill deficiency in India

According to the estimates of the National Skill Development Policy[1], presently skills base of the Indian economy is quite low compared to other developed economies of the world. The present vocational training capacity is estimated to be around 3.1 million whereas 12.8 million persons, according to the 61st round of the NSSO (2004–05), enter the labour force every year. The unorganized sector in the country constitutes nearly 90% of the workforce. Skills in the unorganized sector are acquired through informal apprentice system and the prevailing formal training system does not take care of the required skills. This eventually has led a huge gap in skill

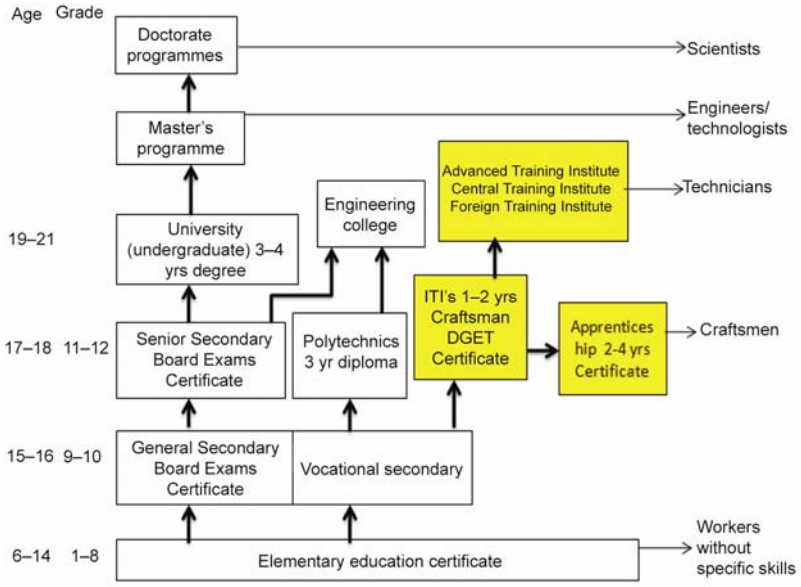

Figure 2. Academic, technical and vocational parallel training structure/system in India.

demand and supply. A study conducted by Confederation of Indian Industry (CII) and Boston Consulting Group (BCG) estimates that India is likely to increase deficit of 5.25 million employable graduates and vocationally trained workforce by 2012 (ref. 1). On the contrary, another study by BCG has estimated that by 2020 the world will have shortage of 47 million working people, but India will have a surplus of 56 million people[1]. However, in order to reap the benefits of demographic dividend, India will have to equip this manpower to meet the requirement of skilled manpower across geographies. In this context CII has conducted a study in selected sectors of economy in the following states:

- Punjab – Textiles, auto/auto components, light engineering, food processing, real estate and construction, retail and location based entertainment.
- Tamil Nadu – Textiles, construction, auto/auto components, light engineering, IT/IT-enable services (ITES), leather.
- Andhra Pradesh – Construction, textiles, tourism, healthcare, engineering, IT/ITES, pharma, biotech, paper, minerals.
- J&K – Handicrafts, hospitality, agro-processing, construction, ITES, repair servicing.

On the basis of this study CII has projected the requirements of skilled workers at different levels by 2015 (Table 2)[1].

VET is often considered to be essential to cater to the needs of the industrial sector, as evident from the CII report. Agricultural sector, which has remained weak in terms of human resource base, also remains neglected as far as VET is considered. Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE), Bhopal has been the backbone in providing academic support to VET programmes in this sector. Although 32 competency-based curricula for vocational courses in the discipline of agriculture are available across diverse areas, enrolment in such courses falls behind the set targets. Several modules have also been developed by the Institute across a wide range of disciplines in the agricultural sector covering hundreds of occupations, but they fail to be delivered due to non-availability of ITIs and polytechnics; the apprenticeship scheme is also not taking care of this sector. The non-formal system of VET in agriculture takes place under the aegis of various departments/ ministries that have established the training centres, e.g. Krishi Vigyan Kendras, Khadi and Village Industry Centres, State Institutes of Rural Development, Extension Training Centres, etc. There exist several associated schemes under which training programmes are conducted. About 119 skills/modules in six areas, i.e. agriculture, poultry, sericulture, fisheries, animal husbandry, and food processing and preservation are available under the modular employable skill programme of MoLE, which aims to equip people with marketable skills. However, the non-formal system often suffers from limitations, e.g. problem of standardization, crisis of recognition, etc.

With the new emerging areas of skill development like green food production, hi-tech floriculture, precision farming, protected cultivation, post-harvest management and value addition, development of vocational and entrepreneurial skills among the farmers and rural youth is essential. National-level interventions like Rashtriya Krishi Vikas Yojana (RKVY) and National Food Security Mission (NFSM) aiming at holistic development of agriculture have been initiated. Such initiatives recognize skills of people employed in the farm and non-farm sector (this sector alone provides employment to 41.89 million

Table 2. Estimated requirement of skilled workers at different levels by 2015

Sector	Demand (in millions)	Skill level break-up
Auto	2–2.5	Specialized skills – 5% Skill category level II – 25% Skill category level I – 30% Minimal education skillable – 40%
Construction	15	Specialized skills – 2% Skill category level II – 11% Skill category level I – 12% Minimal education skillable – 75%
Retail	4–5	Specialized skills – 6–8% Skill category level II – 32–43% Skill category level I – 45–50% Minimal education skillable – 10–15%
Healthcare	4–4.5	Specialized skills – 10% Skill category level II – 40% Skill category level I – 16% Minimal education skillable – 43%
Banking and financial services	4.5–5	Specialized skills – 5% Skill category level II – 15% Skill category level I – 65% Minimal education skillable – 15%
Creative industry	0.5–0.8	Specialized skills – 5% Skill category level II – 20% Skill category level I – 65% Minimal education skillable – 10%
Logistics	Drivers: 51 million Warehouse managers: 8000	
Total	81–83.8 million	

Source: National Skill Development Policy, March 2009[1].

rural people and would necessarily require induction of new skills) in rural areas as one of the important components to be addressed. But all such initiatives require synergy with the National Skill Development Mission (discussed earlier) in effective implementation of programmes and Mahatma Gandhi National Rural Employment Generation Act (MGNREGA) which could ensure job opportunities for passouts.

National policy on skill development

To respond to the existing skill gaps and to identify skill needs, the Eleventh Five-Year Plan has taken the initiative to launch a National Skill Development Mission. Under this mission a National Policy on Skill Development[4] has been formulated by MoLE. The objective of this policy is to create a workforce empowered with improved skills, knowledge and internationally recognized qualifications to gain access to decent employment and ensure India's competitiveness in the dynamic global labour market. It aims at an increase in the productivity of the workforce both in the organized and the unorganized sectors, seeking increased participation of youth, women, disabled and other disadvantaged sections and to synergize efforts of various sectors and reform the present system.

At present, the capacity of skill development in India is around 3.1 million persons per year. The Eleventh Five-year Plan envisions an increase in that capacity to 15 milion annually. Thus, there is a need for increasing capacity and capability of skill development programmes. Under the mission several measures have been initiated by the government at various levels catering to different sectors of the economy. Following is a brief discussion of these important initiatives.

Institutional arrangement

A three-tier institutional structure has been set up to take forward the skill development agenda (Figure 3). The first tier is the Prime Minister's National Council on Skill Development, the second being the National Skill Development Co-ordination Board and the National Skill Development Corporation (NSDC) in the third tier.

The NSDC aims to undertake the following functions: (a) Identification of skill development needs, including preparing a catalogue of type of skill, range and depth of skills to facilitate individuals to choose from them. (b) Development of a sector skill development plan and maintain skill inventory. (c) Determining skills/competency standards and qualification. (d) Standardization of affiliation and accreditation process. (e) Participation in affiliation, accreditation, examination and certification. (f) Plan and execute training of trainers. (g) Promotion of academies

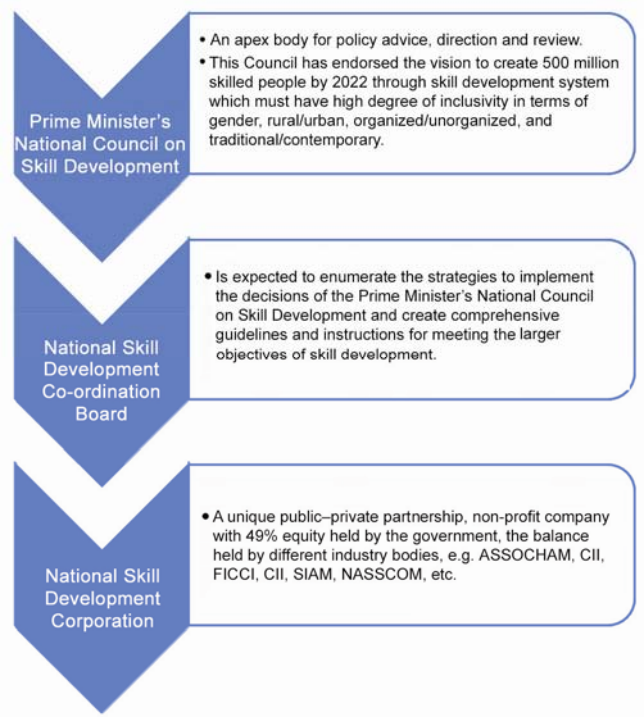

Figure 3. Institutional structure for skill development.

of excellence. (h) Establishment of a well structured sector-specific labour market information system (LMIS) to assist planning and delivery of training.

Till date, the NSDC has funded 15 projects, including one targeted at tribal youth in the ultra-left wing extremist-affected areas of Odisha. The NSDC board has also approved 14 more proposals where funding is to start soon. Combined, these 29 ventures would train over 40 million youth in diverse trades over 10 years.

Skill Development Initiative Scheme

The scheme was started in 2007–08 with an objective to train one million persons in short-term modular courses in five years at a cost of Rs 550 crore and then one million every year thereafter[5]. Under the scheme, 1,158 short-term modular courses have already been developed. These courses cover 49 sectors and range from 60 to 960 h. The entry level for these training programmes is fifth grade. Training is being imparted through 6,398 vocational training providers (VTPs) and competencies of trainees assessed by 22 independent assessing bodies. On the basis of their assessment, the National Council for Vocational Training Certificate is awarded to the trainees, which is recognized nationally and internationally[6].

This scheme has been developed in close consultancy with industry, state governments and experts in pursuance of excellence in vocational training. MES is the 'minimum skill set' which is sufficient to get an employment in the world of work. MES allows skill upgradation/formation, multi entry and exit, vertical and horizontal mobility and lifelong learning opportunities of prior learning. Considering it essential for early school-leavers and existing workers, especially in the unorganized sector, the MoLE has developed this scheme with a new strategic framework.

Till date, under this scheme (which is based on modular employable skills), 6,398 VTPs have been registered under the six Regional Directorate(s) of Apprenticeship Training (RDAT) located in Mumbai, Kolkata, Kanpur, Hyderabad, Faridabad and Chennai. Already 1,079,968 candidates are being trained under the scheme and 946,304 have been issued certificates, according to information provided by DGET. Placement for persons trained under the scheme is reported to be around 466,923 (ref. 7).

Upgradation of 2,122 government ITIs

(1) It has been decided to modernize/upgrade all 2,122 government ITIs. One hundred ITIs were taken for upgradation in 2005–06 at a cost of Rs 160 crore into Centres of Excellence. Twenty-one new courses in production and manufacturing and hospitality, automobile, electrical, electronics, construction, information technology, industrial automation, refrigeration and air-conditioning have been introduced in order to meet the requirement of these sectors. Upgradation of 400 ITIs through World Bank-assisted Vocational Training Improvement Project was undertaken in 2006–07 at a cost of Rs 1581 crore (ref. 8). Remaining government ITIs are being upgraded at a cost of Rs 3,550 crore. Under the scheme, an interest-free loan of Rs 2.5 crore is granted to each ITI. In the last three years, 900 ITIs have been taken up which are at different stages of modernization.

(2) A special Prime Minister's Package for North-East and Jammu and Kashmir has also been given in which 35 existing ITIs in the North East have been upgraded and 25 new ITIs have been set up at a cost of Rs 113.7 crore. Under the same scheme, one new ITI for women at Jammu has been set up and 37 existing ITIs have been upgraded at a cost of Rs 37 crore.

Skill development through open and distance learning – IGNOU initiatives

The Indira Gandhi National Open University (IGNOU) has also undertaken skill development initiatives by establishing the School of VET. This school offers demand-driven and value-added courses/programmes, focusing on both formal and informal sectors. IGNOU School of Engineering and Technology has initiated pioneering efforts by launching the Vertically Integrated Engineering Programme known as IGNOU–VIEP, to encourage vertical mobility in this field. Besides engineering, IGNOU has been offering training programmes, certificate

and diploma programmes over the past five years for skill development in the field of agriculture, animal husbandry, food processing, etc.

IGNOU has also developed different skill certification programmes for unskilled/semi-skilled workers mainly in two areas, namely footwear and construction industry. Under this certification scheme, the workers are trained at industrial sites and competency-based trade certificates are given to workers and supervisors after their necessary training and evaluation, wherein a candidate is judged by his/her performance, supplementary knowledge and prior achievement accomplished.

The approach paper to the Twelfth Five-Year Plan recognizes that although institutional structure for improved training and skill development in VET is in place, there is a long way to go. Keeping in mind the significant progress made by NSDC in the Eleventh Five-Year Plan[9], it targets State Skill Development Missions in all states to be fully operational and effective in the Twelfth Plan. Reorientation of the curriculum for skill development on a continuing basis to meet the demands of the industry, improvement in accreditation and certification system, institutional mechanism for providing access to information on skill inventory and skill maps on a real-time basis, remodelling of apprenticeship training as another mode for on-job training, etc. are identified as priority in vocational education. Emphasis is given to the need for establishing learning pathways integrated to schooling on one end and higher education on the other, through the National Vocational Education Qualification Framework (NVEQF). This framework aims to bring in flexibility in programmes, delivery mode as well as training design.

The Working Group report on VET envisages that implementation of NVEQF should make necessary provisions such that the vocational students passing out of +2 level would have access to diploma programmes offered by the polytechnics and first-degree-level vocational courses at universities/colleges. Such an entry will facilitate their pathway up to the highest degree, i.e. doctorate, if so desired. The recommendations of the States and Central Advisory Board of Education (CABE) are to commence vocational education from class IX, as against classes XI–XII at present, pilots of the NVEQF have been sanctioned for launch in class IX in Haryana and West Bengal under the scheme 'Vocationalization of Secondary Education'. The working group also lays stress on a dedicated Bureau of Vocational Education (BVE) to be setup under MHRD, cutting across the Departments of School Education & Literacy and Higher Education to facilitate policy planning and implementation for seamless transition of vocational passouts from school to higher education. It also emphasizes establishment of State Coordination Cell for Vocational Education and District Vocational Education Office (DVEO) in all the States/Union Territories to enable holistic planning at State level and thereafter effective implementation and monitoring at the district level.

Concluding remarks

Taking into consideration the current scenario as regards skill deficiency in VET in India and the current initiatives at the government level, it appears that although there are various schemes and programmes dedicated to skill development in VET, there is a huge gap between demand and supply as the respective initiatives are happening in isolation. Thus, institutional arrangements are needed to address the identified gaps and bring in an effective synergy. For example, different institutes impart vocational training without any coordination among themselves. There is a significant need to review the activities on skill development under various institutes/ministries and enhance their coordination. Additionally, a network mapping of various stakeholders is also essential to bring synergy to the demand and supply of skilled manpower. Secondly, there is also an urgent need for restructuring of courses of VET as the structure of the job market is changing. Therefore, the courses should be designed in a manner that they are demand-driven, specially for emerging occupations in the area of ICT, services, green occupations, etc. Thirdly, financing of vocational institutes which occurs in an unstructured manner presently, should be performance-based to motivate the drive for innovation and excellence in the respective institutions. Finally, tracer studies should also be conducted to provide feedback on the capability and capacity building of the present VET infrastructure to enable the system to work better.

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