The Challenges Facing Skill Development in India: An Issues Paper

Institute of Applied Manpower Research

Planning Commission, Government of India

Prepared for the International Workshop "Skill Development: Policy Learning and Exchange", India Habitat Centre, New Delhi, May 6-7, 2010 organized by the Institute of Applied Manpower Research (IAMR) and Network for Policy Research, Review and Advice on Education and Training (NORRAG), Geneva

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IAMR is grateful to Prof. R. Srivastava (JNU), Dr. T. Sarkar (MSME Foundation), Renana Jhabvala (SEWA) and Prof. K. King (Edinburgh University) for comments on an earlier draft. The usual disclaimers apply.

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Executive Summary

India has among the lowest proportion of trained youth in the world. The quantitative dimension of India's skill development challenge is that 80 percent of new entrants to the workforce have no opportunity for skill training. Against 12.8 million per annum new entrants to the workforce, the existing training capacity is only 3.1 million per annum. The Prime Minister's National Council on Skill Development has endorsed a Vision to create 500 million skilled people by 2022, whereas, at present, only about 2 percent of the workforce has skill training.

The paper focuses on four theme areas of skill development in India, i.e. (1) Vocational Education, (2) Vocational Training in the Unorganized Sector, (3) Vocational Training in the Organized Sector, and (4) Financing of Vocational Training.

1. The Current Status of Skill Development in India

Vocational Education (VE)

Formal VE in India is implemented at senior secondary school level, and funded by the Ministry of Human Resource Development (MHRD), Government of India.

There are 9,583 schools offering 150 vocational courses of two-year duration in broad areas of primary, secondary, and tertiary sectors of the economy. In addition, National Institute of Open Schooling (NIOS) also imparts VE in 80 courses. Total enrolment in VE courses of all these schools is roughly 6,00 000.

Vocational education 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 percent of all Grade 11-12 students.
- Absense of linkage with changing market needs – dominance of supply-side factors;
- Qualitative aspects – poor infrastructure, absence of qualified staff, obsolescence;
- Low-esteem for VE – low priority, lack vertical mobility
- Absence of private sector in strengthening VE

Skill development in the unorganized sector

India's unorganized sector accounts for a 395 million workforce constituting 86 percent of the total workforce. The sector cuts across all economic activities and includes rural and urban areas and contributes to about 60 percent of the country's GDP. This workforce is characterized by low skills, poor productivity and poor income. Merely 2.5 percent and 12.5 percent of the workforce were exposed to formal and informal vocational training respectively. One-third of them are illiterates and fall below the

poverty line. Another one-third of them have studied upto primary & middle school level. Hardly 2 percent of the workforce has attained technical skills. There is a severe deprivation of skills based on gender and rural/urban divide. Further, the skill profile of India's labour force in the young-age bracket (15-29 years) is very disappointing.

There are a number of challenges of skill development in the unorganized sector. Facilities for training in the informal and the traditional sectors are grossly inadequate. Only about 9 per cent of the workforce are technically trained, most of them only upto the ITI level. The opportunity cost of training for the workers in this sector is high. Poor literacy and numeracy along with high training costs often prevent informal sector workers from participating successfully in training programmes.

There are a number of recent initiatives of skill development (SD) for the unorganized sector:

- Government of India has responded to the growing challenges of the unorganized sector, and trying to give concrete shape to the policy structure on SD through three apex bodies, viz (i) PM's National Council on Skill Development, (ii) National Skill Development Coordination Board, and (iii) National Skill Development Corporation.
- Several policy options are in place to prepare a 500 million skilled labour force by 2022 with a focus on the unorganized sector to meet domestic and global skill requirements.
- A Modular Employable Skills (MES) programme has started to impart short-term market-oriented skills through a Skill Development Initiative (SDI).
- Capacity building of 6,600 clusters (micro-enterprises and artisan clusters) through skill enhancement efforts by government and enterprises is planned.

Vocational and technical training in the organized sector

Vocational training broadly refers to certificate level crafts training and is open to students who leave school after completing anywhere from grades 8-12. Roughly 150 trades catering to agriculture, manufacturing and service sectors are being conducted under two principal schemes, viz., Craftsmen Training Scheme (CTS) and Apprenticeship Training Scheme (ATS).

Under the CTS, there are 2,129 Industrial Training Institutes (ITIs), and 5,855 Industrial Training Centres (ITCs) with a total capacity of more than one million intake. These ITIs and ITCs are managed by government and private people respectively. The duration of the course varies from one to three years depending on the type of trade. The ATS provides training to more than 2,00,000 trainees every year at the worksite in enterprises. The duration of training varies from six months to four years, depending upon the types of trade. Many private and NGO-administered institutions provide vocational training in select skills/trades.

Training for workers in the organized sector suffers from a number of constraints and structural deficiencies:

i) Mis match between training and employment: several empirical studies revealed that the labour market relevance of the training was in doubt

ii) Imbalances in demand and supply: many trades have lost their relevance to present market demands of skills due to technological and industrial advancements

iii) Obsolete curricula & infrastructure

iv) Absence of Industry-Institute interaction/collaboration

v) Regional imbalances in public and private provisioning & location of ITIs /ITCs

There have been a number of recent initiatives for strengthening the training system:

- Upgradation and converting of ITIs into Centres of Excellence (COE) with a greater role for industry and academia to manage these centres
- Short-term training through Modular Employable Skills (MES)
- To start skill development centres in the regions/locations considering the skewed distribution of existing ITIs & ITCs
- To cover at least 30 percent of the women in the ambit of training and to remove gender imbalance

Financing of vocational training

Since vocational training is a concurrent subject in the Indian Constitution, both the Central and State governments share the responsibility of financing vocational training. The Central Government has created a Skill Development Fund with an initial corpus of Rs. 99.5 billion for supporting the activities of the National Skill Development Corporation (NSDC) to provide financial support to skill development initiatives emanating from the private sector. The corpus of the fund is expected to go up to about Rs.150 billion as it is intended to garner capital from governments, public and private sector, and bilateral & multilateral sources.

The financing of training takes place in three forms: a) financing of pre-service training; b) financing of in-service training; and c) financing of on-the-job training.

a) Financing of pre-service vocational training: It is provided through Industrial Training Institutes (ITIs) (fully government funded), Industrial Training Centres (ITCs) (self-financing) and an Apprenticeship Training Scheme (ATS) (cost-to-industry basis).

b) Financing In-service Training: About 17 Ministries/Departments sponsor/fund these training programmes directly or through NGOs in many trades.

c) Financing On-the-Job Training: The informal vocational training (on-the-job training) is financed by the beneficiaries/workers who are put on jobs for training or work.

There are a number of new initiatives of the Government of India in financing of training:

- Upgradation and funding of 500 ITIs into Centres of Excellence (COE) with domestic as well as World Bank funding to the tune of Rs. 20 billion with cost sharing between Central and State governments at 75:25
- Upgradation of 1,396 Government ITIs through PPP mode with Rs. 35.5 billion
- Establishment of Skill Development Centres (SDC) in PPP mode at a cost of Rs. 1,115 billion

In each of the above schemes, a Institute Management Committee (IMC) has been constituted with government, industry, and academic persons to effectively utilize funds and to improve the quality of training.

2. Issues for Discussion

Vocational Education

The following issues are worthy of discussion in the area of vocational education:

- What steps are needed to bring the targeted 25 percent senior secondary students into the VE stream?
- How should labour market information systems (LMIS) ensure that continuously changing market demand for skills are captured in LMIS? How to collaborate with industry for developing efficient LMIS?
- How to integrate it with mainstream general education to encourage and attract students towards VE? What mechanisms for vertical and horizontal mobility of VE for skill enhancement are needed?
- What adaptations are needed if successful international models of VE are to fit the Indian system of education?
- There is a need to dovetail vocational courses with other technical streams (e.g.ITIs). How it can be made possible?
- Should there be differences between rural and urban schools in respect of curriculum in Vocational Education?

Skill development in the unorganized sector

The issues that need discussion in respect of skill development in the unorganized sector are:

- What are the strategies/programmes of skilling of the unorganized workforce keeping in view the following: sheer size, heterogeneity, broad age range, wide geographical coverage, poor educational & income status, gender & social disparity?

- Most unorganized sector artisanal workers have traditional skills, but there are few mechanisms to ensure the certification of such traditional skills? What needs to be done?

- Challenges in Training of Trainers (ToT) keeping in view the following: several local languages/dialects, social characteristics, issues of pedagogy.

- Modalities of imparting emerging skills keeping in view the following constraints: limitations of the workers, their theoretical knowledge, traditional skill-set.

- What mechanisms and institutions are needed to ensure certification and accreditation of courses in the informal sector?

- To attract informal sector workers for training: how do governments and employers address the issue of high opportunity cost to the trainee – subsidizing full or part of the wages during the tenure of training and the effectiveness of such financial support?

- Whether training should be treated as a worker's right on the lines of right to education. If so, what would be the financial burden and the onus on local governments?

- Some structural changes are taking place within the organized sector, i.e. outsourcing and contractualization/casualization of workforce. This is happening in sectors like services, construction, hospitality and security services. In such cases, the increasing presence of informal/unorganized workforce with no or less skills is alarming. Whether there should be any provisions/enforcement for such organized sector/companies to provide skills to indirect-workforce, whether training of such workforce by the employer can be made compulsory? What are the mechanisms of training?

- Better coordination among training providers within government: training is offered by a large number of Ministries and agencies. There is little coordination or learning from each other's effort. Is there a large world-view of training shared across different players, and an attempt at synergizing strategies and efforts? How can turf issues be addressed?

- How can governments and employers in the organized sector utilize the capacity and resources of the formal sector to strengthen training in the unorganized sector?

- Service sector as an area of special thrust: the service sector is the fastest growing area of employment with considerable potential share for the unorganized sector.

Would a special thrust on service sector occupations, particularly those that are likely to be in the unorganized sector, not help?

Vocational and technical training in the organized sector

The following issues deserve further discussion by both policy makers as well as employers:

- What should be the suitable model for effective and successful public-private partnership to ensure training for a larger number of workers?
- Emulating the best practices in other countries: how this might be achieved?
- Quality of training, qualified trainers, better infrastructure, latest equipment in the domain of private providers: How to enforce and gauge the quality in such institutes?
- Sector-specific skill councils could be a way forward in the organized sector: what needs to be done to create them? What role can they play?
- What could be an effective mechanism for certification, accreditation of all formal training programmes which automatically minimize the role of government in day-to-day activities?
- At present, only residual students join vocational training Institutes in India. Whether vertical or horizontal integration of vocational training to higher professional/ technical education can make the vocational training more popular and prestigious?
- How to ensure placements and employability of pass-outs? Whether Industry-Institute interaction can address this? How to achieve Industry-Institute interaction?
- Whether regular surveys on skill mapping, market-survey, demand-supply analysis is necessary? Who does it? How to do it? What is the role of enterprises in such surveys. And the responsibility of government?
- How to document and strengthen the in-house training capabilities of Indian firms? How to capture data on investments towards in-house training? What are the incentives for investments and what is the role of government?

Financing skill development

The following issues will need resolution in respect of financing of VET:

- How does one mobilize funds to meet the skill shortage and to prepare a skilled labour force of 500 million by 2022?

- What role can private players be assigned since the government alone has always been a major financier of vocational training?
- Mechanism and modalities of fund administration by industry-managed bodies?
- What role can the Government play in encouraging industry participation in private financing (ITCs) of vocational training?
- A funding and cost sharing formula for the Centre as well as the States needs to evolve so that the financing pattern is not ad hoc;
- Can we devise a model for training institutes to generate income by selling goods and services as a 'by-product' of the training process?
- At presents, equity considerations have been followed by the government while making financial allocations to industrial training institutes (ITIs). This has led to concentration of vocational training institutes in western and southern states. The question, therefore, is how to build equity considerations in the financing of vocational training institutes?
- Evolving a cost-sharing formula between training providers and trainee, and rationalizing the cost-to-beneficiary;
- Considering the socio-economic condition of the beneficiaries while deciding the cost-sharing formula, should the model be based on cross-subsidization?

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Skill Development in India: An Issues Paper

I. Introduction

Skills and knowledge are the driving forces of economic growth and social development of any country. They have become even more important given the increasing pace of globalization and technological changes taking place in the world. As India moves progressively towards becoming a "Knowledge Economy", it becomes increasingly important that vocational education and training (VET) create and nurture a skill development system. The issue of skill building has been at the forefront of policy debates in recent years. Unprecedented scope for skill development in the country arises from the unique 25-year window of opportunity, called India's demographic dividend. Skill enhancement of the younger generation is imperative to trigger economic development in India. Moreover, it is expected that the ageing economy phenomenon in rich countries will globally create an acute shortage of skilled manpower approximately 56.5 million by 2020. Therefore, by getting the skill development act right, India can have a skilled manpower surplus of approximately 47 million (Planning Commission, 2008).

India has the lowest proportion of trained youth in the world. The quantitative dimension of India's skill development challenge is that 80 per cent of new entrants to the workforce have no opportunity for skill training. Against 12.8 million per annum new entrants to the workforce, the existing training capacity is only 3.1 million per annum. The Prime Minister's National Council on Skill Development has endorsed a Vision to create 500 million skilled people by 2022, whereas, at present only about 2 percent of the workforce has formal training (plus another 8 percent with informal training) as against 96 percent in Korea, 75 percent in Germany, 80 per cent in Japan and 68 percent in the United Kingdom. This clearly highlights the gaps in the skill development system and the need for adequate resources and resource funds to fill these gaps.

Skill development brings returns to the individual, the employing enterprise and the economy as a whole. Therefore, all stakeholders, the Government–both at Centre and State levels, the enterprise (public and private) and the individual should share the burden of mobilizing financial or in-kind resources for skill development.

The government has taken due recognition of the skill gaps and plans to take new initiatives for bridging them. In this regard, the National Policy on Skill Development

(GOI, 2009) provides a direction for skill development in the country. Some of the innovative measures include: (i) using innovative delivery models such as decentralized delivery, mobile training, distance learning, e-learning and web-based learning; (ii) involving panchayats, municipalities and other local bodies in skill development and employment generation at the local level in collaboration with Self Help Groups (SHGs), cooperatives and Non-government Organisations (NGOs); (iii) establishing sector-specific Labour Market Information System (LMIS) and Human Resource Planning at national and state levels, and area-specific planning at local levels with the help of Sector Skill Councils (under National Skill Development Corporation) to undertake labour market analysis; (iv) establishing a 'National Vocational Qualifications Framework' to facilitate standardized and acceptable, international comparability of qualifications; and (v) strengthening and upgrading Employment Exchanges under the National Employment Service to provide counselling, guidance and placement services to employment seekers. However, all these are actions to be taken in the future.

This paper focuses on various aspects of skill development in India: Vocational Education, Vocational Training in the Unorganized Sector, Vocational Training in the Organized Sector and Financing of Vocational Training. Accordingly, the paper is divided into four sections spelling out the current scenario, international models and experiences, structural deficiencies, and issues for discussion for each of these four themes.

II. Vocational Education (VE)

In India, skill acquisition takes place through two basic structural streams - a small formal stream on the one hand and a large informal stream on the other. The formal structure includes:

a) Vocational education in schools at post secondary stage (i.e. grades 11 and 12);

b) Technical and professional education imparted through professional colleges;

c) Technical training in specialized institutions such as Industrial Training Institutes (ITIs) and Polytechnics;

d) Apprenticeship training in factories.

The informal structure of skill development includes the transfer of skills from one generation to another in traditional crafts or acquiring skills on the job. NGOs, Krishi Vigyan Kendras (KVKs) and other institutions are also taking initiatives in imparting skills at various levels.

The programme of vocational education is under the aegis of Ministry of Human Resource Development (MHRD). The MHRD has the responsibility of formulating policy, developing training standards and procedures, certification and coordination, while the actual implementation is largely the preserve of State Governments. The All-India Council for Vocational Education (AICVE) under MHRD, is responsible for planning, guiding and coordinating the programmes at the national level. State Councils for Vocational Education (SCVEs) perform similar functions at the state level.

Work education is included in the primary (grades 1–5) and upper primary (grades 6 – 8) standards to make the students aware of the concept of work. Pre-vocational education is imparted in classes IX and X (secondary level) with a view to providing the students a measure of familiarity with the wide spectrum of world of work. Vocational education, as a distinct stream, starts in the classes XI and XII (senior secondary).

The vocational education programme at secondary school level was introduced in the year 1976-77 as a state scheme. However, it was later introduced as a Centrally Sponsored Scheme of Vocationalisation of Secondary Education during 1987-88 and revized in 1992-93. It provides for diversification of educational opportunities for enhancing individual employability and reducing mismatch between supply and demand of skilled manpower.

Vocational education in schools at senior secondary level is offered generally by government schools, though in some states, e.g. Gujarat, many private schools are offering these courses. Most of the courses are school-based. However, some of these have been perceived on a collaborative model with industry. The theory part and some basic skills are developed in schools with further refinement of skills in the industry. The coverage of the vocational education in different parts of the country can be assessed from the following table:

Table 1: Vocational Education in India (State-wise): Number of Schools with Vocational Stream and Enrolment Capacity

S.No.	Name of State/UT	No. of Schools	Enrolment Capacity
1.	Andhra Pradesh	668	94000
2.	Arunachal Pradesh	4	200
3.	Assam	225	25500
4.	Bihar	251	37600
5.	Chhattisgarh	-	-
6.	Delhi	38	4650
7.	Goa	43	5300
8.	Gujarat	364	51600
9.	Haryana	170	43350
10.	Himachal Pradesh	40	4100
11.	Jammu & Kashmir	38	1900
12.	Jharkhand	-	-
13.	Karnataka	564	71350
14.	Kerala	363	50400
15.	Madhya Pradesh	465	65360
16.	Maharashtra	1141	174000
17.	Manipur	19	2850
18.	Meghalaya	10	1000
19.	Mizoram	17	2550
20.	Nagaland	8	800
21.	Orissa	231	46200
22.	Punjab	282	42300
23.	Rajasthan	155	23250
24.	Sikkim	7	450
25.	Tamil Nadu	700	107000
26.	Tripura	12	600
27.	Uttar Pradesh	910	117500
28.	Uttaranchal	-	-
29.	West Bengal	39	1950
30.	Andaman & Nicobar Islands	3	150
31.	Chandigarh	17	2900
32.	Dadra & Nagar Haveli	2	100
33.	Daman & Due	2	250
34.	Lakshadweep	-	-
35.	Pondicherry	12	800
	Total	**6800**	**979950**

Source: *Annual Report, Ministry Of Human Resource Development 2002-03*

There are now about 9,583 schools (as of 2007) offering about 150 educational courses of two years duration in the broad areas of agriculture, business and commerce, engineering and technology, health and paramedical, home science and, science and technology (Planning Commission, 2008). In addition, competency based curricula are being developed in floriculture, agricultural engineering, general insurance, air transport, logistic management, retail marketing management, marketing and salesmanship, health and nutrition, crop production, plant protection, and computer hardware repair and maintenance.

The XI Five Year Plan laid out an Action Plan for Vocational Education to be implemented by MHRD. It includes:

Expansion of VE from 9,583 senior secondary schools to 20,000 schools. That means the intake capacity, that is year-one enrolment, should go up from 1 million to 2.5 million.

Ensuring partnership of all VE schools with employers for providing faculty/trainers, internship, advice on curriculum setting in skill testing and certification.

Bringing about in a phased manner, a shift from the unviable 2-year stream, commencing after class X, to a stream that captures class IX drop-outs. Later on, the same course can bring into its fold class VII drop-outs. In addition, focus will be given on last mile employability related soft skills, viz., English language skills, quantitative skills, computer literacy, spreadsheet, word processing, computer graphics, presentation skills and behavioural and interpersonal skills. However, three years since the plan started (April), there has been little or no forward movement on the expansion of VE to cover 20,000 schools.

The Working Group on Secondary and Vocational Education suggested that the Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE), Bhopal can serve as a National Resource Institution for policy planning, implementation and monitoring of VE programmes and also develop a National Vocational Qualification in the country. The Institute may be expanded to include 17 more departments such as a Department of Animal Husbandry, Department of Research, Policy, Manpower Planning; and Department of Information and Communication Technology etc. However, this is currently not the case. In fact, the country's Central Institute of Vocational Education has in place only half of the sanctioned strength. For the last several years it does not have a full-time Director.

The secondary school system (including the vocational stream) is managed by the State government. But there are parts of the secondary school system which are funded and controlled by the central government: the Central Board of Vocational Education and the National Institute of Open Schooling. The Central Board of Secondary Education (CBSE), with a view to giving a new dimension and direction to vocational stream, has ventured upon vocational courses in its Senior School Curriculum. At present, the CBSE offers 28 packages comprising 85 subjects in the vocational stream. Of late, CBSE has launched a

new vocational package called Financial Market Management, with the collaboration of National Stock Exchange Limited. Efforts are also being made to introduce a few new courses like Health Care Sciences, and revise courses related to fashion studies and Auxiliary Nursing and Midwifery courses.

The Secondary and Senior Secondary, and Vocational Courses of National Institute of Open Schooling (NIOS) are offered through 3,300 Study Centres. The vocational education programmes of NIOS offer about 80 vocational education courses in the areas of agriculture, business and commerce, engineering and technology, health and paramedical, home science and hospitality management, teacher training, computer and IT related sectors. On-line admissions for VE courses have also been introduced. During 2008-09, NIOS admitted 1, 54,940 students on-line and 2, 03,392 students through the Study Centres (MHRD, 2008-09).

The National Curriculum Framework for School Education, National Council for Educational Research & Training (NCERT, 2005) emphasizes the links between work education, and pre-vocational and vocational education. According to it, the scope and focus of vocational education must be extended beyond the organized sector of employment to the vast unorganized sector of self-employment. In addition, vocational courses should be designed as self-contained modules, containing theoretical aspects or basic scientific principles and the practical operational details. Vocational education programmes may also cater to the requirements of adults – neo-literates as well as semi-skilled and non-skilled workers; and should be specially geared to the need of the out-of-school girls. For catering to such a variety of target groups, multi-entry and multi-exit modular courses of varying duration need to be planned (NCERT, 2007).

International Models of Vocational Education

Vocational education has taken different forms in different countries depending upon their historical, social and political milieu. There are basically three types of vocational systems – the American, the French and the German systems.

In the American system, general high schools keep all students in the same school till the end of secondary level irrespective of their aptitudes, and add vocational programmes to the academic curriculum differentiating their learning paths. According to Gasskov (2000), more than 60 per cent of high school students in the United States enrol in at least one vocational subject. Variants of this system are in vogue in other countries like Sweden and the United Kingdom. The French system consists of separate vocational and technical schools along with general education schools separating the students in the lower classes into the two streams depending on their aptitudes. The 'dual system' operating in Germany combines training in industry with part-time instruction in vocational schools and is promoted by employers. Again, different countries have opted for variants of vocational education and training systems involving combinations of these three systems.

While the above classification of vocational education is on the basis of institutional arrangements and content, The World Employment Report, 1998-99 (ILO, 1999) distinguishes between three major types of training systems operating in different countries using a classification based on the inter-se responsibilities of the social partners and the impetus for training. These are (a) co-operative, (b) enterprise-based, and (c) state-driven systems. Other classifications based on source of financing vocational education are also possible.

In China, a Law on Vocational Education was adopted in 1996 with a goal to have equal number of students in vocational and academic secondary schools. Vocational education is offered in lower and upper middle schools with lower middle schools largely in the rural areas. There are three types of upper middle vocational schools: (i) specialized secondary schools, (ii) skilled workers school, and (iii) vocational high schools. In 2007, there were 14,832 upper middle vocational schools with an enrollment of 19.87 million students. As compared to this, in India, 3,80,000 students in classes XI and XII were enrolled in schools under vocational education in 2005-06.[1] In China, tertiary VE is also offered in vocational colleges for students enrolling from general and vocational middle schools, thus enabling vertical mobility. The VE was earlier considered a dead-end. China addressed this problem by starting *key schools* offering better quality facilities and pathways for progressing beyond secondary education (Adams, 2009).

In countries with large vocational education systems, there is a trend towards increasing generalization of the vocational curricula to make the system non-terminal. In New Zealand, for example, the first step towards this end was to make 13 years of education (general and basic education, including one year of pre-school) compulsory for the entire population. Similarly, in Korea, streaming into vocational education was delayed till high school (for three years after grade 11).

Some key findings on international experience of vocational education are:

- Vocational subjects are desirable on general education grounds but they should not detract from efforts to improve the quality of core subjects.
- Vocationalization is costly. Most variants of vocational education are more costly per student per class period than general education subjects, primarily because of small classes and the greater cost of facilities, equipment, and consumables. Unit costs of VE are roughly 60 per cent higher than that of general secondary education.
- Enrollment in some types of vocational courses is often strongly gender biased. Many skills taught are culturally identified with one gender only; for example, domestic science and secretarial skills with girls, and industrial art skills with boys.
- It is hard to implement vocationalization effectively (Johanson & Adams, 2004).

[1]Compilation of Information on Vocational Education and Training received from various States/UTs for Management Information System (MIS), PSS Central Institute of Vocational Education, NCERT

Addressing Constraints and Structural Deficiencies

(i) Scope and Coverage

Not more than 8 percent of all Senior Secondary Schools in the country impart VE and that too with considerable State level variation. The implementation (a state responsibility) is, however, not uniform throughout India.

Moreover, there are about 2,484 vocations in India which can be clubbed into about 462 'vocational families'. Not more than 100 such 'vocational families' are actually covered by the existing vocational training infrastructure in total' (Chadha, 2004). The coverage under vocational education at school level is much lower. The enrolment of students in various vocational courses has been dismally poor. The MHRD's original intention was to place 25 percent of all Grade 11-12 students into vocational courses by the year 2000. However, recent studies suggest that the enrolment figure is less than 3 percent of the students attending Grades 11-12 (World Bank, 2006).

(ii) Lack of adequate links with market demand

Vocational education in India is largely a supply side intervention in contrast to the other developing countries like Korea, Malaysia, and Singapore. There is inadequate, if at all, interaction with industries to assess the current demand for various skills. Most of the vocational courses are in the manufacturing sector, only a few being in the rapidly expanding services sector. There is a need to identify and flag vocations that have labour market demand. Even though district level vocational surveys determining the trades in demand are supposed to be the basis for introducing vocational courses, mismatch between demand and supply develops due to inflexibility or delays in altering either the courses or the course content or the training capacity. There is also a need for a labour market information system that enables organization of demand-oriented vocational education. The supply side also is not a well-coordinated effort, there being no networking with other institutions organizing skill development programmes in the non-government sector or even other government organizations.

(iii) Qualitative Aspects

Apart from the quantitative aspects of demand, there are issues relating to the quality of the vocational education imparted in the school system. Inadequate infrastructure and equipment, absence of qualified staff in adequate numbers, and persistence of obsolete trades, all make for qualitative deficiencies. There is often segregation of students into vocational streams without assessment of their specific aptitudes and interests. In addition, the inadequate career counseling arrangements providing only work knowledge rather than motivating the students, leads to lack of interest in the pursuit of vocational courses. Qualitative aspects are also to be assessed in terms of curriculum and its modifications from time to time, and practical orientation of the vocational courses.

One qualitative aspect is that the curriculum for VE focuses on information and ignores the theoretical basis of this information (NSDB, 2010). Under such circumstances, the learner will not develop personal understanding.

Similarly, textbooks in VE have not made any leap in the wake of the National Curriculum Framework, 2005. Further, no major government agency is working to improve textbooks for VE, and there are almost no major publishers in the private sector either. Finally, students are taught by teachers who generally lack formal pedagogic training or qualifications. Many VE teachers are hired on a contractual basis and are given salaries which are much less than their counterparts teaching academic subjects.

(iv) Status given to Vocational Education

Vocational education at school level is given a low priority and low status and not treated at par with the arts, science and commerce streams. It is considered as the less acceptable option for students not performing well at the secondary stage. Moreover, students passing out from this stream at the +2 stage do not have direct access to higher tertiary education in a related discipline. As mentioned earlier, VE is perceived as a dead-end and therefore not considered as an attractive option by the students.

(v) Vocational Courses and Skill Development

There is hardly any mapping of status of skills and specific skills needed for entering into the employment market in various sectors. Vocational education also lacks in accreditation as there is no accreditation policy in vogue.

(vi) Organisational Difficulties

Organisational responsibility for skill development in the country is scattered over a number of agencies, often without adequate coordination. This leads to avoidable wastage of resources, duplication of effort and lack of uniformity in certification of quality of skills attained. For instance, there is a good deal of overlap between the vocational course in engineering trades (such as fitter) offered in the schools at the +2 stage and those provided in the ITIs. It is not certain whether the levels of skills attained after completion of the courses in the two modes are equivalent. While, there is no uniformity in skill certification even in the formal training systems, there is no skill certification system at all for the skills acquired informally.

(vii) Limited Private Sector Presence

The private sector represented in the Joint Council for Vocational Education is only marginally involved in setting course contents & curricula, and managing the vocational schools.

Significant commitment on the part of policymakers is required to make the existing vocational system relevant to market needs. Sweeping reforms are necessary for restructuring the system. Some of the key reforms as proposed by the 2005 Central Advisory Board for Education (CABE) Committee Report on Universalization of

Secondary Education are:

Ensuring private sector participation in management of vocational education institutions and in curriculum design – to ensure a direct connection to the labour market for graduates, and an effective medium for bringing about organizational and productive innovations.

Strengthening the general education component of vocational education programmes providing sound basic knowledge in humanities and sciences, preparing students to work in various occupations, teaching students to be problem-solvers and encouraging them to continue learning.

Allowing greater cost-sharing i.e. moving from a system which is exclusively financed by the government to a system which is increasingly financed by the private sector, who would be willing to do so if it sees the system producing relevant graduates. Students are unlikely to contribute if they do not see accrual of labour market benefits from vocational education.

Ensuring that vocational education is not a dead-end–allowing well performing students in the vocational education track to proceed onto higher education will ensure that the vocational stream is not seen as an option of last resort by prospective students.

Vocational education has been instituted by the policy makers as a parallel stream at the Plus Two stage (classes 11 and 12), primarily as a strategy for diverting a substantial proportion of students away from the 'academic' stream. Also, no inter relationship has been conceived even at the theoretical level between work-centred education on the one hand, and vocational education on the other. Therefore, there is a dire need to reconstruct the entire school curriculum from the pre-primary to senior secondary stage with a view to making productive work a pedagogic medium for *knowledge acquisition, developing values and multiple-skill formation*. "A *common core curriculum* incorporating work-based pedagogy initially until Class X and, within the foreseeable future, upto Class XII for all children, will be the objective. A set of work-related generic competencies (Basic, Inter-personal and Systemic) will be pursued at all stages of education and also inform the redesigning of evaluation parameters as well as the assessment system, including the public examinations. Generic competencies will include, among others, critical thinking, transfer of learning, creativity, communication skills, aesthetics, work motivation, work ethics of collaborative functioning and entrepreneurship-cum-social accountability." This will provide a firm foundation for building up a relatively more evolved and intense programme of work-centred education called '*Vocationalized* Education' (to be distinguished from '*Vocational* Education') at the secondary/senior secondary stages (NCERT, 2007).

Issues for Discussion

The school system is the most extensive network for education in the country. It is, therefore, essential to put this organization to use to expand the skill base of the

labour force rapidly. What steps are needed to achieve a quantum jump in the outreach of vocational education in the school system? A large number of students are pursuing studies through the open school system. How can these students be covered under vocational education?

The existing labour market information systems for assessing the continuously changing market demand for skills have not proved efficient. What institutional mechanisms are required to be put in place a strong and efficient labour market signaling system in collaboration with industry?

Vocational courses presently are strait-jacketed with rigid course curricula. They must be devised with an in-built flexibility to allow students to switch courses with changes in demand patterns. What can be the modalities to deal with such qualitative aspects of vocational education?

How would various successful international models suit the Indian psyche with or without adaptations to make VE programme a success and impact skill development as per labour market demands?

There is a need to dovetail the vocational courses with other technical streams on the one hand and networking of institutional arrangements for forward and backward linkages and mobility, on the other. How it can be made possible?

How can an element of compulsion on part of schools to offer vocational streams at the higher secondary stage for all students be introduced, with a provision for continuation in the vocational stream depending upon individual interests, irrespective of performance in academics?

While moving towards the creation of a Knowledge Economy, it is important to reduce regional as well as rural-urban inequalities in gaining access to VE. Thus, a model that brings rural and urban education levels closer would be required.

III. Skill Development in the Unorganized Sector

As per 61st NSSO Survey, 2004-05, the total workforce in the Indian economy was 459 million of which the unorganized sector accounted for 395 million, constituting 86 percent of the total workers (and 433 million, i.e. 93 percent of the total workforce was in informal employment).[2] The sector cuts across all economic activities and includes rural and urban areas. It contributes to about 60 percent of the country's Gross Domestic Product (GDP). The unorganized sector is dominated by own-account workers; workers and apprentices in micro enterprises; unpaid family workers; casual labourers; home-based workers; peripatetic workers and migrant labourers; out-of-school youth and adults in need of skills; and farmers and artisans in rural areas. These groups are characterized largely by low skills, poor productivity and, low and uncertain income.

Skill Profile of Unorganized Sector Workforce

As a large chunk of the workforce is in the unorganized/informal sector, the structure and characteristics of this workforce need to be examined in a nutshell. This sector is highly heterogeneous comprising a wide range of people, technologies and geographical areas. It has both very poor and well-to-do persons, who may be either poorly or well educated. It involves usage of both traditional and formal sector technologies, some of them being high-tech and demanding higher level skills. As per the National Commission on Enterprises in the Unorganized Sector (NCEUS) merely 2.5 percent and 12.5 percent of them have formal and informal vocational training respectively (NCEUS Report, 2009). Further, the educational attainment of India's workforce revealed that one-third of them are illiterates and fall below the poverty line. Another one-third of them have just a primary & middle school education. Hardly 2 percent of the workforce has attained technical skills.

The unprecedented opportunity for skill development arises from a unique 25-year window of opportunity, called India's demographic dividend (Planning Commission, 2008). The demographic dividend consists of three elements of demographic trends fortuitously coinciding at a time when the economy is growing at 9 percent plus: (i) a declining birth rate means fewer people will be joining the work force in coming years than in previous years, (ii) a very slow improvement in life-expectancy around 63/64 years of age means an ageing population surviving fewer years beyond 60 years of age than in other countries, (iii) the baby-boomers generation having now crossed the age of 20, the demographic bulge is occurring at the age bracket of 15-29. All these trends combine to result in India having the world's youngest workforce with a median age way below China and Organization for Economic Cooperation and Development (OECD) countries. The skill profile among this largest labour force in this young-age bracket is very distressing as reported by the NSSO 61st Round survey.[3] The following

[2] Informal sector employment involves employment in both organized as well as the unorganized sectors.
[3] Computed from unit level data of NSS 61st Round 2004-05, Employment-Unemployment Survey

table gives the dismal figures of exposure to training at different levels i.e. formal, informal, gender, rural and urban among the youth. There is severe deprivation of skills based on gender and rural/urban divide. A large chunk of the labour force is deprived of any kind of training-either formal or informal–according to the data.

Table 2: Population in the Age Group of 15-29 by Formal an Informal Training, 2004-05 (In Millions)

	Rural			Urban			Total		
Training	Male	Female	Total	Male	Female	Total	Male	Female	Total
Formal	2.6	1.7	4.3	4.2	2.6	6.8	6.8	4.3	11.1
Informal	9.6	6.1	15.7	4.6	2.0	6.6	14.2	8.1	22.3
No Training	88.3	88.9	177.3	40.4	36.1	76.5	128.7	125.0	253.7

Source: *NSS 61st Round 2004-05, Employment-Unemployment Survey*

Challenges of Skill Development in the Unorganized Sector

The bulk of the production activity takes place in the unorganized sector. It is this sector that is likely to absorb increasingly large proportions of the labour force to which the benefits of skill development and the consequent augmentation of productivity should increasingly be extended. At a time when skill development has become a buzz word in the country we must focus on appropriate skilling for the 86 percent of the working population in the unorganized sector. In a globalizing economy, the Indian workforce particularly that engaged in informal sector activities will have to contend increasingly with internal and external competition from products and services coming from relatively better skilled workers. Mere survival in the market demands retention of one's competitive edge through acquisition of skills and constant upgradation of the skills acquired.

The unorganized sector is vast and varied, and the training requirements resultantly differ very widely across occupations. Though the contribution of this sector towards GDP of the country is about 60 percent, due recognition to the needs of the sector has been slow.

While there is a large (though inadequate) institutional network of training and skill development of workers in the formal sector, the facilities for the informal and the traditional sectors are grossly inadequate. For instance, surveys have revealed that only about 9 per cent of the workforce in small scale industries are technically trained–most of them only to the ITI level. Again, an evaluation of the Prime Minister's Rozgar Yojana[4] conducted by the Institute of Applied Manpower Research (IAMR) in 2000

[4] To promote self-employment, Prime Minister's Rozgar Yojana was launched in 1993-94 to provide financial and technical assistance to the poor educated unemployed youth in setting up their own activities. It commenced as a programme in the urban areas replacing the scheme of Self-employment for Educated Unemployed Youth, but was extended to the rural areas as well.

revealed that more than 50 per cent of the applications from potential beneficiaries were rejected on grounds of inadequate skills. The ongoing skill development programmes meant for certain specific areas of the informal sector are too disjointed and routine-oriented to have a significant impact. Empirical studies showed that the courses offered by Khadi & Village Industries Corporation (KVIC) were not employment-oriented (IAMR, 1997).

An effort, the first of its kind, was attempted by IAMR in 2006[5] to conduct skill mapping based on economic activity involving rural areas in 50 backward districts of the country. Large-scale empirical studies conducted upto the village level in those 50 districts proved the need to devise short-term training programmes in emerging as well as locally sustainable skills to arrest the out-migration of local youth. Realising the role of NGOs to meet the above task, and as a spin-off of the findings, IAMR has also conducted orientation programmes towards Capacity Building of NGOs.[6]

Training and development of job seekers and workers in informal sector cannot be easily accommodated within the framework of existing strategies for vocational training. The opportunity cost of training for the workers in this sector is high – they cannot afford to forego wages during training. State interventions must address this important area.

India will experience economic and skill development challenges in the next two decades. The coupling effect of economic and skill development has to be fully understood in the overall context of India. There will be four major transformations taking place in the near future according to the survey of Team Lease Services (India Labour Report, 2008), i.e. shift of the economy from (i) farm to non-farm, (ii) rural to urban, (iii) unorganized to organized, and (iv) subsistence self-employment to decent wage employment. All these four transformations will have a direct impact on skill enhancement of the Indian labour force.

Indian government and policy makers at the apex level have responded to the growing challenges of Indian labour force facing the unorganized sector, and trying to give a concrete shape to the policy structure for SD. Three apex bodies, viz. (i) PM's National Council on Skill Development, (ii) National Skill Development Coordination Board, and (iii) National Skill Development Corporation are in place and examining various policy options so as to prepare 500 million skilled people by 2022, with a focus on the unorganized sector with sufficient skills to meet the domestic and global requirements. The Government of India in a recent policy paper on skill development (GOI, 2009) has contemplated to take action for encouraging skill development and training for unorganized workers.

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[5]Skill Mapping in Backward Districts of India: District Reports submitted by IAMR with the sponsorship of Centre for Advancement of People's Action and Rural Technologies (CAPART), Ministry of Rural Development, Government of India.

[6]Capacity Building of Voluntary Sector: Orientation Programmes conducted by IAMR and sponsored by CAPART, Ministry of Rural Development, Government of India.

The salient features of the policy are:

a) Various avenues/institutions, including schools and public/private training institutions/civil society organizations/NGOs will be encouraged to conduct skill development programmes for the unorganized sector.

b) Mobile training vans will also be deployed in rural and remote areas where training infrastructure is very deficient.

c) Skill development centres will conduct skill development programmes primarily to support services needed in the unorganized sector.

d) Public training institutions will be given greater managerial and academic autonomy to design and offer programmes that meet the requirements of the local economy and specific target groups.

e) Skill development programmes will be devised in existing/traditional skills and knowledge. Mechanisms will be evolved to upgrade them into modern skill areas.

f) Skills of local trainers will be upgraded in modern techniques, technologies and pedagogy. They will be trained and developed into master craftsmen. Opportunities for linking these arrangements to formal training institutions will be explored to extend expertise, pedagogical support and tools & equipment.

g) Skill development initiatives for the unorganized sector will include a definite component on literacy, basic education and soft skills.

h) Emphasis on skill development for gainful and decent employment for unorganized sector workers.

i) Competency standards and certification systems will be developed for unorganized sector workers and incorporated in the national testing and certification system.

Key Issues of SD in the Unorganized Sector

Poor literacy and numeracy along with high training costs often prevent informal sector workers from participating successfully in conventional training programmes, even if they perceive the need for training. Working hours are long and any time off from productive work means loss of income, which would affect the willingness of workers to join a training programme, even if it is relevant and easily available. Looking at the heterogeneity of the unorganized sector, multiple models of training have to be designed by closely examining various models of other countries of similar economic and social background. The training needs of different segments of informal workers also have to be factored in. There is no systematic assessment of demand for training in the unorganized sector of the economy. Most assessments of such demand have been made by, or on behalf of segments of (organized) industry. These do not go into the overall need to educate and train the predominantly informal sector labour force in India.

Institutional Domain of Informal Training

There are innumerable training institutions catering to the short-term and long-term

training needs of unorganized sector.[7] Few such schemes are listed under the references. These programmes are intended to provide skills to facilitate decent wage and self-employment to the vulnerable sections of society.

While the majority of the labour force is employed in the informal sector, the current programmes at the central and state levels are quite inadequate to meet the training needs of the large workforce in the informal sector. The formal training system, because of its entry requirements and urban bias, is not designed to offer skills to low-educated people and particularly not to those in the rural non-farm sector. Most workers continue to learn trades on the job through informal apprenticeships at their place of work from other low-skilled craft people.

Recent Initiatives of SD for the Unorganized Sector

Due to ineffectiveness of the existing programmes, Government of India has come out with a Skill Development Initiative (SDI) in 2007 as a five-year project. During this period, one million persons would be trained on their existing skills, tested and certified under a Modular Employable Skills (MES) framework.[8] The objectives of the scheme are to provide vocational training to school leavers, existing workers and ITI graduates to improve their employability by optimally utilizing the infrastructure available in government, private institutions and industry. Existing skills of the persons can also be tested and certified under this scheme. In addition, the Scheme aims to build capacity in the development of competency standards, course curricula, learning material and assessment standards in the country. The National Policy on Skill Development suggests that public training institutions will be given greater managerial and academic autonomy to design and offer programmes that meet the requirements of local economy and specific target groups in the unorganized sector.

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[7]Several Ministries/Depts. directly and through NGOs operate the training programs. Some of the schemes with brief background are:

i. Jan Shikshan Sansthan (JSS): Adult education program aimed at improving the vocational skills and quality of life of workers and their family members.
ii. National Institute of Open Schooling (NIOS): It provides opportunities to those who would have otherwise missed out with focus on vocational skills. NIOS has 731 training institutes to deliver vocational education.
iii. ITI and ITCs: These institutions 6000 in number also provide short term vocational training to the school drop-outs governed by State Council of Vocational Training (SCVT) and National Council of Vocational Training (NCVT).
iv. Community Polytechnics: They are nearly 1500 in number, and address the market-driven skill needs of the surrounding villages and their village-folks. They reach out to nearly half a million rural workers in a year.
v. Ministry of Rural Development through large no. of schemes address the skill needs of unemployed youth, women, NGOs, Trainers etc.
vi. Khadi & Village Industries Commission (KVIC): Conducting 120 courses throughout India catering to nearly a lakh beneficiaries.
vii. Dept. of Women & Child Welfare: Reaching to more than 2.5 lakh youth and women every year mainly in rural areas.

[8]Ministry of Labour and Employment has devised this novel method of skilling of labour force of unorganized sector under MES. No data is available yet on the efficacy and effectiveness of this recent initiative of Government of India.

MES would benefit different target groups like: (i) workers seeking certification of their skills acquired informally[9], (ii) workers and ITI graduates seeking skill upgradation, (iii) early school drop-outs and the unemployed, and (iv) previously child labourers and their families. The minimum age limit for persons to take part in the scheme is 14 years but there is no upper age limit. However, there are no outcomes available to critically analyse the effectiveness of this latest SD initiative.

It is estimated that there are about 6,600 clusters in the country, of which more than 6,000 are classified as artisanal and micro-enterprise clusters, and around 600 are traditional manufacturing clusters. Based on the interventions made, need for skill up-gradation has been found to be all pervasive both in the artisanal as well as in traditional manufacturing clusters.[10] Further, the Ministry of Micro-Small and Medium Enterprises (MSME) has a plan to promote skill development by setting up District Skill Development Centres (DSDC) in 6000 blocks of the country.[11] In order to dovetail the existing cluster development programmes and the proposed District Skill Development Centres, it has to be recognized that a cluster is an important component of develop-ment in the unorganized sector. Therefore, a process of skill development focused at the district level should explicitly take into account the needs of clusters in the district. In addition, absence of industry associations and lack of soft infrastructure (trust and cooperation among cluster participants) prove to be a hurdle in clusters' performance. Thus, a cluster based capability building programme, evolving a combination of hard and soft interventions must achieve a collaborative management structure.

International Experience and Need for Policy Learning and Exchange

With the above background, it is imperative to look for international experience relevant to the status of existing practices in India. While it is crucial to look at the effectiveness of the latest SD initiatives of India, it is pertinent to explore policy initiatives of other countries simultaneously.

Notwithstanding lessons from international experiences, the need for India is to achieve a major turn-around in its skill profile. The sheer magnitude means that no single experience might be directly relevant or replicable. This is because the initial conditions

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[9]MES is a novel method of imparting skills. DGE&T will appoint assessing bodies to assess the competencies of the trained persons. The assessing body will be an independent agency, which will not be involved in conducting the training programmes. This, in turn, will ensure quality of training and credibility of the scheme. Keeping in view the target of providing training / testing of one million persons through out the country and to avid monopoly, more than one assessing bodies will be appointed for a sector in an area (http://dget.nic.in/mes/curricula/MES-Soft_Skills3.pdf)

Bodies will be appointed for a sector in an area (http://dget.nic.in/mes/curricula/MES-Soft Skills3. pdf)

[10]A cluster of enterprises may be define as a typical geographic concentration of micro, small, medium and large firms producing same or similar range of products (goods or services) and facing same or similar set of threats and opportunities. Apart from the principal firms (who produces the cluster product), a number of support firms, technical and financial institutions, service providers, associations, etc.are also important constituents of a cluster.

[11]There are five levels of administration in the country: the central government, the state government, the district administration, the block and finally the village (for rural areas) and the town (for urban areas).

(in terms of regional and economic diversity and heterogeneity among States) that India is faced with are very different from those that confronted either the OECD countries or the East Asian economies as they went about developing their skill and training systems. Therefore, while international experience can provide ideas and guidelines, the typical nature and structure of India's diversity, geographical areas, specific skill needs of the unorganized sector, and economy, have to be kept in mind.

Issues for discussion

(i) Sheer size

The 433 million workers in the unorganized sector are potential targets for training, which would have to be offered not once but at repeated intervals. The task would be put in perspective if one recognizes that at present only 5 percent of the labour force between 20-24 years have received skills through formal vocational training.

(ii) Too heterogeneous, broad age range, unorganized, widely distributed

In organized sector training, the target group is relatively homogeneous in terms of age range, educational preparation, and the nature of training sought. By contrast, the target group in unorganized sector training is very heterogeneous; young as well as old persons are in the range; they are widely and unevenly dispersed through the length and breadth of the country and the fact that they are unorganized unlike the organized sector workers, makes it doubly difficult to harness them.

(iii) Generally poor educational level

Many do not have formal education; many others have limited educational preparation. Their learning abilities are not sufficiently developed to benefit from formal education and training approaches. This makes provision of training considerably harder. Educational attainment of rural/urban, male/female population is shown in the following table (NCEUS Report, 2009). Under the present scenario of dismal performance of educational attainment, coverage of workers to a certain level of training is practically not possible.

Table 3: Educational Attainment of Persons in the Age Group of 15 & Above (2004-2005)

	Rural			Urban			Total		
	M	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**
Illiterate & Below Poverty	44.5	67.7	56.0	19.7	35.6	27.1	36.7	58.3	47.2
Primary	15.3	10.1	13.1	12.6	12.1	12.3	14.4	11.2	12.8
Middle	19.1	11.3	15.3	19.4	16.8	18.2	19.2	12.9	16.2
Secondary & Above	21.1	10.2	15.7	48.3	35.6	42.3	29.7	17.6	23.8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: NSS 61st Round 2004-05, Employment-Unemployment Survey

(iv) Trainers must know and be able to communicate in local language.

Trainers have to be drawn from the local environment. Too large a gap in the social characteristics between the trainer and the trainee inhibits communication. Use of local language is crucial in effective training interventions.

(v) Existing skills have been acquired largely through informal apprenticeship.

Little systematic theoretical knowledge is built in the process. Skills acquired are generally inadequate) and inappropriate practices may have been picked up. The biggest limitation is that in such arrangements skills can be developed only for occupations which are well entrenched. Skills for emerging opportunities can hardly be generated in these informal apprenticeship arrangements.

(vi) Competencies not certified

In informal skill development arrangements, there is no possibility of certifying the competencies that the trainees acquire. In the absence of certified competencies, potential employers may be unwilling to take a risk with them. Further, the range of competencies may not be sufficient for the occupational requirements. How the issue of certification for informal trainees has been dealt with in other countries?

(vii) High opportunity cost to trainee

In informal apprenticeship arrangements, the trainee may not be paid for years and be treated as an unpaid worker. Those already working may have to forego earning for the duration of training. Even a small cost of training may represent a large proportion of their normal earning. There is thus a need for income support during training. It is interesting to contrast the situation with training for the organized sector, where, generally, trainees are better off, there is little opportunity cost since they are not workers, the costs are largely subsidized by the public authorities, and many receive scholarships.

(viii) Training as worker's right

Should training not be seen as a right of the worker on par with the right to education? The rationale for declaring education as an individual's right is even stronger when applied to training. It can be argued that education builds an individual's generic capacities whereas training helps to convert them to a livelihood.

(ix) Should training not be a requirement for employment in the organized sector?

The organized sector often employs large numbers of unskilled workers, e.g. in construction sector. If training is made a condition of employment in the organized sector, this action, apart from raising the productivity of the sector, may stimulate training activity across the board which would also benefit the labour in the unorganized sector.

(x) Research in Training pedagogy and delivery issues

Organized sector training approaches and pedagogy would not easily carry over into the unorganized sector training. Research would be needed in a number of issues, such as: appropriate training pedagogy to suit the characteristics of the unorganized sector trainees, appropriate institutional mechanisms for delivery as normal institution-based training would not be of much help, strategies for harnessing large number of trainers from among actual practitioners who also speak the language, making apprenticeship training effective and possibly combining it with off-the-job learning, and mechanisms for financing training and the trainee. Can such a model be devised that provides forward and backward linkages of organized sector training to the unorganized sector?

(xi) Training coordination

Training is offered by a large number of Ministries and agencies. There is little coordination or learning from each other's effort. Is there a large world-view of the training, shared across different players, and an attempt at synergizing strategies and efforts? Would turf issues continue to be the spoilsport? How this kind of coordination has been achieved in other countries?

(xii) Requiring formal sector training institutions to work also for unorganized sector

Could the formal sector education and training institutions not be obliged to cater to unorganized sector training? Community polytechnics are a good example. These polytechnics cater to the organized sector primarily but also provide training for the unorganized sector in their hinterland. The role of formal sector training institutions may not only be in direct delivery of training. They could also be involved in a variety of other roles such as: planning, research, building sound pedagogy, building competency standards, testing competencies and certification, backstopping the delivery agencies, training the delivery agencies, interfacing with NGOs involved in direct training provision, monitoring and evaluation, policy making, analyzing labour markets to support planning of training provision, establishment and running of Labour Market Information Systems at district, state and national levels as appropriate. It is important to recognize that the responsibility of formal sector training institutions does not end with some contribution to the organized sector, and that their capabilities and capacities can be usefully harnessed in the service of unorganized sector training as well. What role has the organized sector played in building capacity for unorganized sector workers in other countries?

(xiii) Service sector as an area of special thrust

Service sector is the fastest growing area of employment with considerable potential share for the unorganized sector. Would a special thrust on service sector occupations, particularly those that are likely to be in the unorganized sector, not help?

(xiv) Methodological and Logistical problems in carrying out surveys

There are skill gaps in the unorganized sector, but there is no way of determining their magnitude until surveys are conducted for this purpose. However the exercise of carrying out surveys faces issues of methodology and logistics. It is very difficult to survey the highly fragmented clusters spread throughout the country. Moreover, unlike the OECD countries where the demand for labour is determined by surveying the employers, there is no possible way of determining the demand for labour in the unorganized sector in the absence of any industry associations. Out of the 6600 clusters in the country, only around 600 are traditional manufacturing clusters. How can the demand for labour be determined for these 6000 clusters that have no industry association and are highly fragmented?

IV. Vocational and Technical Training in the Organized Sector

Traditionally vocational education in India has always been a family activity and passed down by the parents to their children. Most of the vocational skills are acquired through heredity, often in the unorganized environment.

Vocational training is the concurrent responsibility of both Union and the State Governments. However, since independence in 1947, while the development of training schemes, laying down of training norms, evolution of policy, conduct of examination and certification are the responsibility of Central government, implementation is largely the responsibility of State Governments. The Directorate General of Employment and Training (DGE&T), Ministry of Labour and Employment, is the nodal agency at the Central level. A number of training schemes are being operated under DGE&T to ensure a regular supply of skilled manpower at different levels.

The Principal Schemes

Vocational training broadly refers to certificate level crafts training (in India) and is open to students who leave school after completing anywhere from grades 8-12. Programmes are administered under two principal schemes, viz., Craftsmen Training Scheme (CTS) and Apprenticeship Training Scheme (ATS). For implementing these programmes, Central Government has set up specialized institutions which are directly under the control of DGE&T (Annexure II). The National Council for Vocational Training (NCVT), a non-statutory body, and Central Apprenticeship Council (CAC), a statutory body under the Apprenticeship Act, 1961 are the two advisory bodies of Government of India for policy formulation, deciding training standards, testing and certification, while the State Councils advise their respective State governments on policies and procedures.

Craftsman Training Scheme. Programmes under CTS focus on industrial trades and are operated by Industrial Training Institutes (ITIs) and Industrial Training Centers (ITCs). At present, there are 7,984 ITIs/ ITCs[12] (2,129 ITIs and 5,855 ITCs) with a seating capacity of 1.1 million and imparting training in 114 engineering and non-engineering trades. This is in comparison to 5,114 ITIs/ITCs (1,896 ITIs and 3,218 ITCs) with a seating capacity of 7,42,000 at the beginning of the 11th plan (Planning Commission, 2008) which suggests an impressive increase in the number of such institutions in the country.[13] The courses conducted by these institutions are open to those who have

[12] Industrial Training institutes(ITI)are training providers established by the government, whereas industrial Training Centres (ITC) are training providers managed by private players on self-financing mode. These ITCs are sanctioned and regulated through the craftsman Training Scheme (CTS) by Directorate General of Employment & Training (DGE&T), Ministry of Labour, Government of India.

[13] However, it remains unclear whether such a large and sudden increase in the number of ITI/ITCs is a real increase, or simply because the statistical data collection has improved, and hence previously unrecorded institutions are now in the database. Given that barely three years have elapsed since the 11th Plan period began, this appears like an unusually large increase in such a short span. However, the rapid growth of the country may well have occasional an escalation in demand.

passed either class VII or X depending on the trade. The duration of the courses varies between 6 and 24 months. In addition to ITIs, there are six Advanced Training Institutes (ATIs) to provide training for instructors in various trades and two ATIs for offering long and short courses for training skilled personnel at technician level in the fields of Industrial, Medical and Consumer Electronics, and Process Instrumentation.

Apprenticeship Training Scheme. The Apprenticeship Training Scheme (ATS) and the training of skilled workers under the Advanced Vocational Training Scheme are implemented jointly by Union Territories/State Governments and the Central Government. The ATS provides training to a semi-skilled worker who is 8-10 standard pass and whose minimum age is 14 years. Duration of the training varies from 6 months to 4 years, depending upon the trade. It is obligatory on the part of the employers in public and private sector establishments having required training infrastructure, as laid down by the Apprenticeship Act 1961, to engage trade apprentices.

In-service Training. In-service training in India has not received much attention by policy-makers. Not more than 17 percent of manufacturing establishments in India provide in-service formal training. This is less than half the average for Europe, East Asia and Latin America. The training deficit is even more pronounced when India is compared to individual countries in East Asia, such as Malaysia (training levels are easily three times higher) and China (four times higher). Not more than 7 percent of employees received training in a given year. The proportion of workers in India being trained is especially low among micro and small firms where fewer than 4 percent of employees have received training. In medium and large firms, the figure rises to around 17 percent for managers and professionals, and about 11 percent for less-skilled groups. In addition, there is a wide variation in the incidence of formal in-service training among States. Only 11 percent of firms provide training in West Bengal, Punjab and Uttar Pradesh as compared to 27 percent in Andhra Pradesh and Karnataka (Tan & Savchenko, 2005).

Initiatives for Upgradation of ITIs

Union Finance Minister in his Budget Speech 2004-05 (and 2005-06) announced measures for upgradation of 500 ITIs into Centres of Excellence (CoE). Subsequently, upgradation of 100 ITIs was taken up from domestic resources and 400 ITIs through World Bank assistance under the 'Vocational Training Improvement Project (VTIP)'. The scheme of upgradation of 100 ITIs into COE aims at introducing multi-skilling courses with Broad Based Basic Tranining (BBBT) of one year duration, followed by advanced/specialized modular courses based on an industry-wise cluster approach. The latter will involve a public-private partnership (PPP) for each ITI in the form of an Institute Management Committee (IMC), with representatives from the industries, government, and academic organizations.

In the Union Budget 2007-08, a scheme for upgradation of 1,396 Government ITIs into

Centres of Excellence through PPP[14] was announced. The latest initiative of the DGE&T is to set up 1,500 ITIs and 5,000 Skill Development Centres (SDCs) in the un-serviced or disadvantaged blocks of the country on a PPP model. The ITIs will be established in the un-serviced blocks where no ITI/SDC exists. The SDCs will be integrated with the Common Service Centers (CSS).[15] The State governments concerned will provide land, whereas the Central government will provide Viability Gap Funding[16] and the private partners will build the facility, operate for an agreed period of time and then transfer these institutions (Build–Operate-Transfer model) to the government on a concessional basis.

The Ministry of Labour & Employment has launched the Skill Development Initiative (SDI) scheme with an objective of meeting the growing requirement of skilled manpower of the industry through short-term courses. The Modular Employable Skills (MES)[17] (i.e. short-term employable skills) scheme is part of the Skill Development Initiative Scheme (SDIS), and aims at minimizing the gap between the unskilled and skilled labour force. Under this scheme, about 1,108 Modular Employable Skills (MES) course modules have been developed covering 48 sectors of the economy. Since its inception, 5,203 Government/ private/other vocational training providers have been registered and 4,67,277 persons have been trained, tested and certified. More than 2,42,000 persons have found employment in the financial year 2009-10, while the target was only 1,20,000 persons. To address the issue of school drop-outs, multi-skilling, multi-entry and exit, and linkages to skill upgradation opportunities will be established.

According to the Skill Development Report of the 11th Five Year Plan (2007-2012), India is witnessing an unprecedented growth in infrastructure, including construction, power, airport development; services, including retail, tourism, hospitality, aviation; and manufacturing, including automobiles, textiles, computer hardware. To make training demand driven, it is important that short-term and long-term skilled manpower requirements of these emerging sectors be given priority and skill gaps in terms of quality and quantity are defined so that the same could be met through necessary initiatives.

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[14] The scheme envisages that an industry on partner will be associated with each government ITI to lead the process of upgradation. Under the scheme, an Institute Management Committee (IMC) will be constituted with industry partners and registered as a society for upgrading the training infrastructure of 300 ITIs up to 31st March, 2010. The IMC is entrusted with the responsibility of managing the affairs of the ITI under the scheme, including the option of financing, its upgradation, supply of state-of-the-art machinery and tools and equipment.

[15] The CSCs scheme was started by Government of India in 2004 with a view to developing these centres as a front-end delivery point for government, private and social services to rural citizens of India in an integrated manner. The objective is to develop a platform that can enable government, private and social sector organizations to align their social and commercial goals for the benefit of the rural population in the remotest corners of the country through a combination of IT-based as well as non-IT-based services.

[16] Funding the gap between cost and end value of the project.

[17] Details of MES Scheme are available at http://dget.nic.in/mes/index.htm official website of the DGE&T.

ILO conducted an assessment of vocational training programmes in 2002-03 to examine the internal and external efficiency of ITIs and ITCs in the States of Orissa, Andhra Pradesh and Maharashtra. Following are the key findings of the study:

- The internal efficiency of ITCs is higher than that of ITIs. As compared to ITIs, ITCs have better performance in terms of student retention, graduation rate, capacity utilization and student-teacher ratio.

- In terms of external efficiency, neither ITI nor ITC graduates perform well. According to the study, employment of ITI/ITC graduates in the organized sector is very low. The unemployment rate of ITI graduates in Andhra Pradesh was found to be around 33 percent and more than 70 percent for ITC graduates; in Maharashtra these rates were 23 and 27 percent respectively.

- However, the labour market success rates of ITI graduates were found to be somewhat better than those of ITC graduates even though internal efficiency is lower. This could be because ITIs have a screening mechanism that admits better students into the institutes. Alternatively, they may be more stringent in terms of grading or that the trades they offer may be more in demand in the labour market as compared to the trades offered by ITCs (ILO, 2003).

Polytechnics and Rural Development and Self-Employment Training Institute (RUDSETIs)

In addition to ITIs/ ITCs that cater to youth who dropped out of school after class 8 and sometime during secondary school, and prepare youth essentially to be either self-employed or join the shop floor in organized industry, there are also the polytechnics where the minimum entry requirement is a completed secondary education. There are 1,244 polytechnics in India under the Ministry of Human Resource Development (Government of India), with a capacity of 2,95,000. They offer three-year diploma courses in branches of engineering with an entry qualification of 10th grade pass. Since 2000, these have been converted into what is being called Community Polytechnics to cater to neighbouring villages and the youth in the vicinity. The scheme of Community Polytechnics (CPs)[18] was introduced in phased manner starting from the year 2000 with

[18] Main objectives of CPs are:

(i) Socio-economic survey planning of surrounding villages:
- To identify the felt needs in rural areas for the purpose of forward planning.
- To identify specific training needs of unemployed youth

(ii) Skill Development & Training Programmes:
- Based on the outcome of survey, training programmes are planned and implemented for self and wage employment of unemployed youth. All these programmes are modular, upto 6 months duration, and non-formal.

(iii) Technical Support Services:
- Service centres to serve cluster of villages
- Technical service camps in villagesin market-driven skills
- Extending consultancy services at village level

fund from Ministry of Human Resource Development (MHRD), Government of India. Implemented as a Direct Central Assistance Scheme, there is a provision of a one time non-recurring a grant of Rs.20 lakhs in every Five Year Plan, and a recurring grant of not exceeding Rs.17 lakhs per annum. But anecdotal evidence suggests that the Community Polytechnic idea has barely taken off, with little impact on the ground.

The Ministry of Human Resource Development (MHRD), according to the 11th Plan document, is responsible for upgrading 400 polytechnics; setting up 125 new polytechnics in PPP mode in hitherto unserved districts; run all polytechnics in two shifts to double the capacity utilization; encourage a much large initiative in the private sector since the demand for junior engineers is enormous; and state governments for encouraging engineering colleges to start polytechnics in evening shift to turn out junior engineers.

Finally, in the public sector, the Ministry of Rural Development supports the creation of Rural Development and Self-Employment Training Institute (RUDSETI) – atleast one per India's 631 districts – to encourage entrepreneurship and skill building of rural youth for self-employment. The success rate of this programme is 70 percent (Planning Commission, 2008) as it concentrate its activities in area with a pre-existing market for the goods/services produced. State governments are to provide land, the Government of India to meet 75 percent of capital costs, banks to meet 25 percent of capital cost and also provide hand-holding services (e.g. business counselling, incubation assistance, marketing, sourcing of credit and raw material supply).

Private provisioning of Vocational and Technical Training

Many private or NGO-administered institutions provide vocational training offering short non-formal and non-standard courses, focusing on a few types of skills and occupations. A study conducted by EdCIL (2005), covering training facilities in eight States[19], suggested that apart from ITCs, India has a small non-public training market. It found only 364 providers–212 privately owned and 152 managed by NGOs. Over 60 percent of the private providers and about 40 percent of the NGO providers were accredited by a variety of government agencies. While 35 percent of all institutions in these states were in the private sector they enrolled 22 percent of students. The study extrapolates that approximately 800,000–1,000,000 individuals are enrolled in such non-public training institutions nationally (EdCIL, 2005).

Unlike in ITIs/ITCs, a majority of students enrol in non-engineering and IT-related trades. Only about 15 percent were enrolled in engineering-related trades, as compared to over 80 percent in ITIs and ITCs. This is similar in other countries where private providers are more prevalent in 'soft' sectors. It should be noted that though the proportion of private institutions engaged in engineering related trades is relatively low,

[19] Assam, Gujarat, Haryana, Kerala, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal. The institutions covered did not include ITCs.

it is still higher than in many other developing countries, implying that private sector is willing and able to provide training in 'hard' sectors.

While the average duration of courses in ITIs is about two years, close to 90 percent of students in private or NGO institutions are in courses shorter than one year– with about 40 percent enrolled in courses shorter than three months. In addition, about 45 percent of students are enrolled in part-time courses. Because most non-government institutions operate 'for-profit', the student–teacher ratios are significantly higher in private institutions. The average student–teacher ratios in ITIs are around 10:1; and it is about 25:1 for institutions in the private non-profit sector(EdCIL, 2005).

Around two-thirds of the institutions and almost 90 percent of private institutions, surveyed in the EdCIL study, are financed through fees. About 20 percent (mainly in the NGO sector) are dependent on the government as a major source of revenue. Moreover, no institutions received resources from private industry – implying limited interaction with the private sector.

Thus, the discussion on the present scenario of the vocational training in the country suggests the following action points:

- The percentage of the trained workforce is to be increased;
- The framework and structure for addressing skill development needs for the various segments of economy is to be developed;
- The functioning of the ITIs is to be improved;
- The curriculum is to be revamped;
- Upkeep of machinery and equipment is to be ensured;
- Training and development of the faculty is to be stressed;
- Shortage of trained instructors is to be attended to;
- Industry is to be motivated to identify and communicate shorts, medium and long-term requirements of skilled workforce.

An interesting aspect of vocational training in India is that the Industrial Training Centres (ITCs) which are private training providers are concentrated in a few states in the southern part of the country, while more densely populated states in other regions are lagging behind in this respect. It is notable that the densely populated regions experience acute unemployment and large scale migration of youth and the presence of private training providers are negligible. States like Andhra Pradesh, Tamil Nadu, Kerala, Karnataka and Orissa that have a share of 25 percent in the country's population account for more than 51 percent of all the institutes(ITIs and ITCs) (Annexure III gives the state-wise distribution of the ITIs/ITCs). Even the 100 ITIs to be upgraded through domestic funding have been distributed in 22 States/ UTs in proportion to the number of existing Government ITIs in these States, which further enhances skewness.

Table 4: Region-wise Distribution of Number and Seating Capacity of ITIs and ITCs (percent)

Name of State/Uts	Number of Govt. ITIs	Seating Capacity (Govt.)	Number of Pvt. ITIs	Seating Capacity (Pvt.)	Total ITIs/ ITCs	Total Seating Capacity
		NORTHERN REGION[20]				
SUB-TOTAL	35.3	26.46	22.73	19.78	26.37	22.64
		SOUTHERN REGION				
SUB-TOTAL	16.93	21.05	49.44	48.53	40.04	36.77
		EASTERN REGION				
SUB-TOTAL	9.66	11.41	14.18	20.4	12.87	16.56
		WESTERN REGION				
SUB-TOTAL	38.11	41.08	13.65	11.29	20.72	24.04
G. TOTAL	**100**	**100**	**100**	**100**	**100**	**100**

Source: *Annual Report 2008-09, Directorate-General of Employment & Training, Ministry of Labour, Government of India.*

This regional imbalance and lack of skill development centres in some parts of the country is, however, recognized by the Government. In order to provide more equitable access across the country, the National Policy on Skill Development suggests that special efforts will be made to establish training facilities in deficient regions and various mobile training arrangements will be deployed to reach out to remote and difficult areas.

A further disappointing aspect about these ITIs/ITCs is that there are a negligible number of training institutes for women trainees. Women face a multitude of barriers in accessing skills and productive employment. National Policy on Skill Development, however, aims at raising women's participation in skill development and employment to atleast 30 percent by the end of the 11th Plan by pursuing a policy of non-discrimination. In addition, the Policy also intends to (i) overcome barriers and facilitate women's participation by adopting proactive measures like hostels for women, scholarships,

[20] Northern Region: Chandigarh, Delhi, Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Rajasthan, Uttar Pradesh, Uttarakhand

Southern Region: Andhra Pradesh, Karnataka, Kerala, Lakshadweep, Pondicherry, Tamil Nadu

Eastern Region: Arunachal Pradesh, A & N Island, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Sikkim, Tripura, West Bengal

Western Region: Chhattisgarh, D & N Haveli, Daman & Diu, Goa, Gujarat, Madhya Pradesh, Maharashtra

transport, training materials and loans; (ii) expand the Women's Vocational Training Programme; (iii) eliminate gender stereotyping in vocational courses to encourage women's participation in non-traditional occupations. Regarding disadvantaged groups and minorities, the Policy aims at devising innovative schemes and measures to ensure full and effective participation by these groups, as well as the accrual of real benefits from skill development initiatives, and expansion of skill development opportunities particularly in Minority Concentrated Areas (MCAs).

International Experience: Some Lessons

Vocational training systems around the world indicate a shift from the old paradigm of VET and an active search for new responses. Some of these are: (i) emphasis on employability rather than on training per se, (ii) multi-skilling, (iii) demand-driven approach, (iv) participatory governance and social dialogue. International experience suggests that the role of Government and the Non-Government sectors need to be well defined with greater autonomy to the industry players.

A major reform in Australia was the establishment of the Australian National Training Authority (ANTA) by the Federal and State governments. The authority was established as a company, with the Federal and State governments being equal shareholders, recognizing that the role of government in managing VET reform could not supersede the role of employers and workers. In addition, Australia ensured extensive coordination among the relevant government VET agencies at the federal level for more coherent policy making and allocation of public funds (Abrahart, 2000; Clarke, 2005).

Experiences in Brazil underscore the importance of ownership and employer participation. A chronic gulf between supply and demand was bridged by giving control of training to its users. The National Industrial Apprenticeship Service (Serviço Nacional de Aprendizage Industrial [SENAI]) was created to operate under the ownership of the Federation of Industries (IADB, 2005).

The government of Zambia is changing its role in training from provider, regulator, and coordinator. It has transferred control of 21 public training institutions to autonomous Management Boards and devolved greater responsibility to local authorities (Johanson & Adams, 2004).

There are some lessons that Indian industry has already learnt from the international experience (see Box 1 – An Indian Success Story) .

Box 1: An Indian Success Story

India has achieved a huge success in high-tech areas, ranging from computer software to R&D. India actually had 1,02,000 engineering graduates in 2002 and this went up to 2,22,000 in 2006. In 2007, India's five largest IT service companies added 1,20,000 engineering jobs, IBM and Accenture added another 14,000. Vivek Wadhwa in 2008 in the Harvard Business Review discovered that Indian companies were first disciples, learning from best practices from the western companies in India (IBN and Accenture). Then Indians innovated and improved training and management systems in such a way that 'disciples turned gurus'. "Indian companies had innovated skill training to the point where they now had much to teach the US" (Harvard Business Review, 2008).

The Infosys Global Education Centre at Mysore trains about 13,500 people at a time. For arts and science recruits, Tata Consultancy Service provides an additional three months of training. This low-cost training has been transformed into an international advantage, giving India a competitive edge in high-tech exports.

The constant skill upgradation has motivated Indian companies to undertake innovative and R&D activities. "In aerospace, Indian companies are helping design everything from engines to in-flight entertainment systems. In pharmaceuticals, Indian companies are discovering drugs and doing clinical research for the largest multinationals. In autos, India has not just designed components for Detroit but also created the Nano. Over one lakh Indians are now in advanced R&D. General Electric has spent $50 million on making India its largest R&D base in the world."

We have trained engineers and managers in India available locally that foreign returnees would have a hard time replacing them.

Source: Swaminathan Aiyar, "Training: the Secret of India's High-tech Success", *Times of India,* 25th April, 2010.

Addressing Constraints and Structural Deficiencies

Despite the success story described in Box 1 for the organized sector, there still remains a number of constraints and structural deficiencies.

i. Imbalances in training and employment

A 2003 DGE & T study of graduates of apprenticeship training concluded that the labour market relevance of the training was in doubt. Although a significant proportion of those surveyed were employed, close to two-thirds of them were not employed in the trade for which they were trained – a third of these had been trained in obsolete trades. For example, a student who is trained in mechanical skills may actually be working in the computer field (DGE&T, 2003). In spite of the increased supply from ITIs and ITCs, prospective employers still face the problem of finding the right person for the right job. This is not merely limited to ITIs and ITCs. Employers face similar problems in recruiting the right candidates from various polytechnics and engineering institutions. The 11th Plan and the Skill Development Mission intend to engage in 20 high growth

manufacturing and services sectors.[21] However, the real problem is ensuring quality in the higher education and training institutions to suit the needs of the employers. Research by McKinsey Global Institute (MGI) shows that India's vast supply of graduates is smaller than it seems once their suitability for employment by multinational companies is considered. The Study estimates that only 25 percent of Indian engineering graduates are good enough to work for multinationals (and only 15 percent of finance graduates and 10 percent of those with degrees of any kind) (McKinsey Quarterly, 2005).

ii. Imbalances in demand and supply

The limited relevance of vocational training in the organized sector is due to imbalances between demand and supply on several counts like numbers, quality and skill types. Much of the training provided in the ITIs is for skills that are in limited demand. The DGE&T study compared the ratio of graduates from public and private training institutions to the number of people currently employed in different trades in the organized sector. For a large number of trades, this ratio was over 0.5 (against an international experience closer to 1).[22]

iii. Outdated curricula & courses

A great part of curricula followed in the institutions has become obsolete and does not meet the requirements of industry resulting in increased unemployment among vocationally trained students/youth. The ITIs need to revamp their curricula to suit present industrial needs. In addition, most of the courses are in basic industrial trades. There is a noticeable reluctance among State Directorates of Technical Education and other institutions to offer courses in more marketable services or trades.

iv. Infrastructural Constraints

The facilities and infrastructure in most ITIs are inadequate, with obsolete equipment in laboratories and workshops. Maintenance is poor. These deficiencies reflect the scarcity of resources available to State Governments. They have been exacerbated by a tendency to create new institutions in places where they do not exist, even though existing institutions are under-funded and under-utilized. In addition, there is a

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[21] Manufacturing sectors: (i) automobile and auto components (ii) electronics hardware (iii) textiles and garments (iv) leather and leather goods (v) chemicals and pharmaceuticals (vi) gem and jewellery (vii) building and construction (viii) food processing (ix) handlooms and handicrafts (x) building hardware and home furnishings.

Services sectors: (i) ITs or software services sector (ii) ITES—BPO services, (iii) tourism hospitality and travel trade (iv) transportation/logistics/warehousing and packaging (v) organized retail (vi) real estate services (vii) media, entertainment, broadcasting, content creation, animation (viii) healthcare services (ix) banking/insurance & finance (x) education/skill development services.

[22] This implies that every year training institutions were turning out over half the stock of trades worker in the organized sector and that graduates in many trades would have to find employment in the unorganized sector or, if they were not willing to do this, find themselves unemployed.

shortage of suitably trained teachers in most ITIs (Planning Commission, 2002). Sixty-one percent of teachers in ITIs had less than 12 years of schooling and a third of them had no industrial experience. A more shocking revelation is that about two thirds of the instructors had not received any training in the past five years.

v. Lack of industry participation

The ITIs lack attention to market requirement and this can be attributed to the lack of involvement from industry in the management of the ITIs. The training system is typical of government, supply-led systems where the government has prime responsibility for formal sector training. There is little or no pressure and few incentives for employers to train. Moreover, the regulatory regime governing institutions inhibits any kind of autonomy, innovation and responsiveness to demand on part of the private sector, and needs to be reformed substantially.

vi. Imbalances in public and private provisioning

Unplanned public provision often crowds out private supply. Because of sheer ignorance more public sector units for vocational training are set up in areas where private enterprises already exist. This could lead to over-crowding, unhealthy competition and exploitation.

Constraints faced by private training centres

Private training centres appear to suffer from similar problems with quality as do public providers and links with industry are relatively weak. Only about one-third of the institutions send students to industry for practical training and less than 10 percent involved industry in designing courses(EdCIL, 2005). Although this interaction of private institutions with industry is more than that by government institutions, it is still quite minimal. More attention needs to be paid to inputs if there are to be quality improvements among private providers. Private providers put more emphasis on inputs than public institutions but it is still inadequate. Although ITCs spend a much lower proportion of their resources on salaries than ITIs, the reality is that they are understaffed, with teachers who lack experience (only 30 percent have at least five years experience as against 80 percent in ITIs) or training (25 percent versus 74 percent respectively). Furthermore, while ITCs spend a greater proportion of resources on teaching/learning, materials and maintaining facilities than ITIs, expenditure on these items is still low.

Lack of access to credit, and financing of initial investments in the private training centre are key constraints in setting up new training centre, upgrading the existing ones and in providing training in the 'hard' sectors. In addition, excessive government regulations (in registration of training institutions, as well as in accreditation and certification of courses) are a major concern for the private sector. Due to excessive bureaucracy, a significant proportion of institutions often end up being unaccredited and this is a major reason for the poor quality of private training. Close to 50 percent of the sampled private sector and NGO institutions in the eight states by the EdCIL survey were unaccredited.

Thus the poor outcomes of vocational training are a result of the many constraints faced by the system. These include a lack of accountability and responsiveness to the needs of the labour market, limited involvement of the private sector in managing training, poor coordination among those managing the sector, and limited flexibility for institutions.

Limitations of PPP

Even, though PPP is considered an alternate method of provisioning the existing systems, but it also is not devoid of weaknesses.

- An increased private sector role in the vocational training area could mean higher costs rendering it beyond the reach of the economically backward sections of the country while they in fact have the actual need to join the courses.
- Low paying capacity of learners and reluctance of industry to train workers for fear of losing them later often results in chronic deficiency in private investment in this area.
- If the right mix of PPP is not developed, the sector may face problems because of the inertia of the public sector and the over-enthusiasm of the private sector.

Issues for Discussion

- What can be the framework for effective and successful public private partnership models?
- Quality improvement of vocational training is the basic issue. The quality improvement involves qualified and experienced teacher, good and latest training/teaching equipments and material, standardization of curriculum, effective delivery system, and quality infrastructure. How can these components of quality improvement be assured in government as well as private vocational training Institutes i.e. ITIs and ITCs?
- All decisions regarding content, duration and delivery of vocational training are taken at the central level. The Institute neither has any say in these decisions nor any interest. As a result, vocational training has lost its market relevance. Can autonomy and accountability in functioning of the Institutes improve relevance of vocational training/trades to market needs?
- At present, only residuals (i.e. those not joining the formal education stream and drop-outs) join vocational training Institutes in India. Could vertical or horizontal integration of vocational training to higher professional/technical education make the vocational training more popular and prestigious?
- At present, everyone who joins vocational training Institutes ultimately gets a certificate of pass-out. Such an arrangement produces graduates with low employability/skills. Can an effective and efficient policy of monitoring, evaluation and certification improve the employability of pass-outs of the vocational training institutes?
- In what way can training institutes and enterprises mutually benefit from each other

in reducing the existing gap of market demand and supply by skill mapping, skill development and skill upgradation?

- Strengthening the in-house training capabilities of Indian firms should be a priority for policymakers. What needs to be considered to develop employer-targeted training policies to address the under-investment in the in-service training?

V. Financing of Skill Development

Since vocational training is a concurrent subject, both the Central and the State governments share the responsibility in financing VET. While the State government meets the maintenance expenditure, the Central Government is responsible for financing of development activities as well as the maintenance and promotion of quality of training, certification and evaluation. The 11th Five Year Plan earmarked Rs. 127 billion ($2.85 billion)[23] for vocational education and Rs. 228 billion ($5 billion) for skill development to launch a major 'Skill Development Mission' (Planning Commission, 2008). The Working Group on Secondary and Vocational Education estimates the financial requirements of vocational education and training to be Rs. 68.8 billion ($1.55 billion). Recurring and Non-recurring expenditures are estimated to be Rs. 58.5 billion and Rs. 10.3 billion respectively (Annexure V gives component-wise breakup of the cost estimates).

The Central Government has created a Skill Development Fund as a Government owned Trust, with an initial corpus of Rs. 99.5 billion ($2.24 billion) for supporting the activities of the Skill Development Corporation to provide financial support to skill development initiatives emanating from the private sector. The corpus of the fund is expected to go up to about Rs.150 billion ($ 3.37 billion) as it is intended to garner capital from governments, the public and private sector, and bilateral & multilateral sources.

The financing of training takes place in three forms: a) financing of pre-service training; b) financing of in-service training; and c) financing of on-the-job training.

Financing of pre-service Vocational Training: The pre-service training is arranged mainly for school leavers at various stages. It is provided through two schemes: Craftsman training scheme and Apprenticeship training scheme.

Financing of Craftsman Training Scheme: The scheme is implemented through industrial training institutes and industrial training centres (ITIs & ITCs). The funding of ITIs comes mainly from the State governments. The contribution to financing of fees from students is negligible. The establishments also do not provide any significant financial contribution towards financing of ITIs even though PPP mode has brought enterprise representation through the Institutional Management Committees (IMCs), responsible for improvement in administrative academic and development activities of the Institutes. The ITCs are private self-financing Institutes. The total cost of these ITCs is met through fee contribution by the students. Even the contribution of donations and financing of ITCs are close to nil.

Financing Apprenticeship Training: Apprenticeship training scheme is financed by the Directorate General of Employment and Training (DGE&T), Ministry of Labour, and the Ministry of Human Resource Development (MHRD) (Planning Commission, 2008). The

[23] Figures in Rs. are converted to US $ at the current exchange rate.

beneficiaries who are registered through DGE&T for apprenticeship get 100 percent funding from the employing establishments, while the beneficiaries registered through MHRD get 50 percent of their apprenticeship fee from MHRD and the remaining 50 percent from establishments. It is obligatory on the part of employers, both in public and private sector establishments to have the required training infrastructure as per the Apprentices Act, 1961 to engage trade apprentices.

Financing In-service Training: There are about 17 ministries and departments which finance (Planning Commission, 2008) vocational training courses for skill development and skill upgradation in India. Among these, the major vocational training course for school students at secondary level is financed by the Ministry of HRD. The community polytechnics, Jan Shikshan Sansthan, and about 157 centres for vocational training run by NGOs also get financing from the MHRD. Hudco (the Housing and Urban Development Corporation) and some other organizations in construction (mainly National Bridge Construction Corporation, Hindustan Construction Corporation, Larsen & Toubro, ECC and CIDC) finance short-term training courses (1 to 6 months) for construction workers and supervisors. The Khadi and Village Industries Corporation (KVIC) finance about 35 types of courses of 2 months to 12 months for unemployed youth, job artisans and prospective entrepreneurs. World Bank (2006) indicates that the total annual public expenditure on vocational training in India is estimated to be in between $ 180-225 million. The State-wise cost of vocational training in ITIs can be perused at Annexure IV.

Financing On-the-Job Training: The informal vocational training (on-the job training) is financed by the beneficiaries/workers who are put on jobs for training or work. The workers under this training indirectly meet the cost of training as they either work without payment, or are paid very minimal amounts during the training period.

Financing the new initiatives of Government of India

Various new initiatives have been taken by the Government of India for improving the quality of vocational training. The financing of these initiatives involves:

Upgradation of 100 ITIs into Centres of Excellence (COE) with domestic funding: The total cost of the project/scheme is Rs.1.6 billion ($36 million) (for each of the upgraded ITIs with the Centre's share being Rs.1.2 billion ($27 million), with the rest coming from State governments, in the ratio of 75:25. The funds are available for a) Civil work (Rs. 4 million), b) procurement of equipment (Rs. 7.5 million), c) other expenditure including honorarium to guest faculty, assistance for professional development of staff, curriculum development and development/procurement of training material. This suggests that funds are only available to meet the infrastructural requirements and no attention appears to be given to quality improvement of teacher related activities (Annexure – VI&VII).

Upgradation of 400 ITIs through World Bank Assistance – Vocational Training Improvement Project: Total cost of the project funded as an interest free from the World

Bank is Rs.15.81 billion ($355 million) out of which Rs.12 billion is the Centre's share while Rs.3.8 billion is the States' share. This means each of the ITIs under this scheme is given approximately Rs 39 million for upgradation. One hundred ITIs were taken up during 2006-07 under retroactive financing (i.e. 100 ITIs were selected before the actual commencement of the scheme). Out of remaining 300, 150 ITI each were selected during 2007-08and 2008-09 (Annexure – VI& VIII). The Average utilization of funds by the ITIs is about 40 percent.

Upgradation of 1,396 Government ITIs through public private partnership: The total outlay marked for the scheme was Rs 35.5 billion ($798 million) (Rs. 34.9 billion for upgradation of 1,396 ITIs @ Rs. 25 million per ITI and Rs. 0.6 billion for management, monitoring and evaluation of the scheme). Each Institute Management Committee society was given Rs. 25 million ($0.56 million) as interest free loan (Annexure VI& IX).

The Skill Development Initiative (SDI) Scheme since its inception in May 2007 aims at building capacity in the area of a) development of competency standards, b) course curricula, c) learning material and d) assessment standards in the country. Nearly Rs. 0.16 billion were spent during the first year (2007-08) of implementation of the scheme. The expenditure increased to Rs. 0.45 billion during 2008-09. The estimated cost of establishing 1,500 ITIs and 5,000 Skill Development Centres (SDCs) in PPP mode in the unserved areas is Rs. 115 billion (Rs. 90 billion for 1,500 ITIs @ Rs. 0.06 billion per ITI and Rs. 25 billion for 5,000 SDCs @ of Rs. 5 million per SDC). The indicative annual cost for an ITI and SDC will be Rs. 2.5 - 3.0 million and Rs. 0.3 million respectively. The state government will provide land free of cost to ITIs and SDIs. Details regarding financing of skill development scheme can be perused (Annexure – VI).

The National Policy on Skill Development suggests that financing be separated from delivery. In this regard it proposes that National Skill Development Corporation will support private development initiatives by exploring the following options:

a) Link financing to outcomes: Today public and private training is financed largely on inputs viz. number of courses, number of students, faculty, etc. Efforts would be made to move towards Government financing linked to placement ratios and outcomes.

b) Focus funding on candidates: The focus would be on funding the candidates rather than institutions to create choice. This could be structured as a scholarship, skill voucher, or outcome based reimbursement.

International Models of Financing VT- Some Lessons

In People's Republic of China, fees paid by the students of public vocational secondary schools are among the highest in the world (ADB, 2006). In addition, there co-exist some student support schemes that either provide free boarding and lodging to needy students or waive their tuition fees. The Vocational Education Law in China mandates that enterprises spend 1.5 percent of the workers' total annual salary on training. In

additions, the country promotes partnership between schools and enterprises. Efforts are made by schools to be engaged in partnership with enterprises for mobilizing private resources for training and improve the match between the demand and supply of skills. The partnership between schools and enterprises provides apprenticeship and internship opportunities for trainees (Adams, 2009).

A well-known example of combining training with income generating activities is the Botswana brigades (Franz, 2005). Brigades are community based independent development organizations involved in providing training, employment opportunities and services to the local community. Brigades offer commercial services to the communities, such as auto repair, general mechanics, plumbing, construction, electricity, horticulture, etc. run workshops and participate in public tenders (e.g. Construction). It is assumed that the production activities of the brigades recover at least 20 percent of the recurrent training cost.

Germany maintains a dual system of training wherein the companies directly provide for and deliver training to staff or apprentices, and also make a compulsory contribution to the national training system by way of paying a training levy or a specified amount to training institutions. It is estimated that German enterprises spend on average € 8,700 (net) on the training of each apprentice. The technology-intensive large enterprises often run their own training centres for staff training purposes. In addition, there is a voluntary contribution in the form of scholarships for certain students/trainees, or financial or in-kind contributions to individual training centres, for instance, equipment and training material or secondment of teachers.

Many African countries, including Malawi, Madagascar, Mauritius, Nigeria, Tanzania, Zambia and Zimbabwe, have introduced fees in public (TVET) institutions. In some cases these fees are nominal, while in other cases these fee are substantial. For example, fee income to the Industrial Vocational Training Board in Mauritius accounts for only 1 to 2 percent of the total revenue. In other cases, fees are more substantial, though never at a cost-recovery level. In public training centres in Tanzania, for example, fees cover about 15 percent of recurrent cost, and in Madagascar it is 27 percent. In its recently published Financing TVET Strategy, the Ethiopian Government has set the target of recovering 30 percent of recurrent training cost through fees.

Over 30 countries have introduced payroll levies with rates varying from 0.5 to 3 percent (Pillay, 2005)[24]. However, international evidence on levy schemes suggests that levies have been inequitable. Large employers have benefited more than small or medium-size employers who perceive levies as an unjustifiable tax. In addition, it has been observed in some countries that the scheme of payroll levies crowds out non-governmental providers.

[24] In Singapore, firm-based training has been promoted by the Skills Development Fund (SDF). The basic principle of the levy is to stimulate the employers to train its workers by reimbursing part or all of the training expenses from the Fund. The SDF is funded by a levy of 1% on the wages of all employees earning $2000 a month.

An alternative is to use matching grant schemes which can help in developing a training culture. The most successful matching grant schemes are demand-driven, implemented by the private sector, and aim to create sustained training markets. Chile and Mauritius have reported positive results by using private agents to administer their schemes. An increased investment in training has been matched by a reduction in enterprise failure (World Bank, 2006).

Addressing Constraints and Structural Deficiencies

(i) Ad hoc public funding

World Bank (2006) indicates that public funding for training in India is adhoc and not based on any funding formula. No transparent formula of funding is followed by any of the State governments for financing vocational training. The five new initiatives[25] under the Skill Development Policy do not specify the basis on which the amount of allocation has been decided. In addition, allocation of resources by the State governments depends on availability after meeting the financial needs of priority sectors.

(ii) Adequacy of financing

ILO (2003) indicates that in India funding of public institutes (both capital and recurrent) remains low which further inhibits their growth and improvement. Low levels of funding also constrain visits by companies, skill upgradation of instructors and recruitment of new instructors. World Bank (2006) added that, although unit costs for vocational training in India are high, the expenditure on critical inputs remains low because of limited funds. Majority of the grants are used to meet salary expenditure and very little is left for equipment, professional development of teachers and maintenance of building.

(iii) Inefficient and ineffective financing mechanism

The effective conduct of academic activities of the training institutes depends not only on sufficient/adequate finances but also on regular availability of finances in specified time. It is often observed that training providers have insufficient interest in their financial state of affairs. Student fees are retained by the respective governments and providers have no financial incentive to meet labour market needs, a common failing of supply-driven models of vocational training.

(iv) Systemic autonomy and accountability in effective utilization of finances

Systemic autonomy and accountability refer to the method of financing which gives full flexibility in utilization of funds to the users. At the same time, the user is also accountable for efficient and effective utilization of finances for achieving the goal for which the finances are given. World Bank (2006) and ILO (2003) suggest that the funding of ITIs is so structured that institutes have no autonomy in utilization of funds.

[25] (i) Making ITIs as centres of excellence; (ii) upgradation of 400 ITIs;(iii) upgradation of 1396 ITIs through Private Public Partnership (PPP) Mode; (iv) Skill development initiatives by optimally utilizing existing infrastructure facilities and skils; and (v) Establishment of 1500 ITIs and 5000 Skill Development Centres through PPP Mode.

About 80 percent of the funds are utilized for payment of salaries of the teachers. The ITIs have no incentives to mobilize resources on their own because the formula for getting grants is based on income minus expenditure.[26] Financing is also not linked to the performance of Institutes. The same levels of finances are available for poorly performing institutions with high drop-out rates as those that maintain a high quality of teaching and performance. However, steps are increasingly being taken to provide financial and academic autonomy to the IMCs to manage the affairs of the ITIs. The State Government will retain the ownership of the ITI and will continue to regulate the admissions and fees except 20 per cent admissions to be determined by the IMC. The total revised outlay of the scheme is Rs.35.50 billion ($798 million) for the 11th Five Year Plan.[27]

Issues for Discussion

- The first and foremost question that needs to be addressed is: how can additional resources be mobilized and generated to fill the skills gap? What role can private players be assigned since the government alone has always been a major financier of vocational training? Funds need to be administered by industry-managed bodies. What role can the Government play in encouraging industry participation in private financing (ITCs) of vocational training?
- A funding and cost sharing formula for the Centre as well as the States needs to evolve so that the financing pattern is not ad hoc.
- Income generated from the sale of production and service activities of trainers can constitute a useful form of additional institutional income. Is it possible to devise a model in which income may be generated as a 'by-product' of the training process itself?
- At present, no equity considerations have been followed by the government while making financial allocations to vocational training institutes. This has led to concentration of vocational training institutes in metropolitan areas and in a limited number of states which are already fairly developed. The question therefore is how to build equity considerations (horizontal and vertical) in the financing of vocational training institutes?
- In India, raising significant resources through fees in public institutions is not a common practice and consideration should be given to changing this so that all beneficiaries of vocational training bear some cost of training. How can such cost sharing formula be devised?

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[26] The financial system even within the institute is so rigid that the Head of the Institute can not write off the obsolete equipment etc. on their own. Lots of administrative formalities in the writing off process make the head of the institute reluctant to take even such small decisions.

[27] So far, an amount of Rs.2825 million as interest free loan has been released to 113 ITIs and Rs. 4675 million are expected to be released to the remaining 187 ITIs by 31st March, 2010.

VI. Concluding Remarks

India is at the cusp of a great new opportunity: the demographic dividend. The proportion of the dependent population is decreasing, and the share of the working age population has been increasing, and will continue to increase over the next two decades. If they are not productively employed, this dividend might become a demographic nightmare. On the other hand, if they are better educated and more skilled, they will be able to not only contribute to India's growth (projected at least 8 percent pa during the 2007-2012 period), but also enhance their own incomes.

India's 459 million large workforce has started with a severe disadvantage in that barely a tenth of the workforce has received any kind of training, formal or informal. If it is to participate in the growth process, and if the growth is to be inclusive, skill development has to take a quantum leap.

We have found in this paper that the elementary school system is itself creating millions of drop-outs (29 percent of primary school children and 52 percent of upper-primary school children drop out). It is hoped that the Right to Education Act, 2009, which guarantees full eight years of schooling of quality for 6-14 year olds, will deliver not only universal elementary education in quantitative terms, but also in qualitative terms as well, so that there are no longer issues about the numeracy and literacy of school-leavers who enter the workforce at age 14. Without these skills it will be difficult for them to acquire skills or benefit greatly from vocational training.

Beyond that age, the Government of India has announced a National Policy on Skill Development (GOI, 2009). The Skill Development Mission was created in 2007, with a three-tier structure: a Prime Minister's Skill Development Council, a Skill Development Board (chaired by the Deputy Chairman of the Planning Commission) with private and government members, and a private-public partnership based Skill Development Corporation, with 51 percent equity owned by the private sector, and 49 percent by the GOI. The Policy and the Mission have made a number of very laudable commitments (discussed earlier). It is now time to implement many of them, though some effort in this regard has already begun.

Of all four themes discussed in this paper, Vocational Education in India is one which is truly at cross-roads. Its coverage remains extremely small (GER at secondary level is only 57 percent), and only 3 percent of secondary school children are enrolled in the vocational stream. Despite the fact that the 11th Five Year Plan spoke about doubling the number of schools offering VE, there has been almost no change in the ground situation in this regard. In addition, serious question marks remain over its quality and its relevance for equipping school-children for the world of work. Yet, the fact that nearly 10,000 secondary schools offer the vocational streams, and have the infrastructure in place spread throughout the country, they must be used effectively to spread the skill base of workers in the unorganized sector.

The skill requirements of the unorganized sector in India remain huge, as we discussed in Section 3. India is unusual among emerging market economies in that 93 percent of the workforce are employed in the organized sector in the informal sector (86 percent in the unorganized sector). By contrast, countries in Latin America or East Asia have a much lower proportion of the workforce in informal employment (around 60 percent on average). The fact that most of these workers have had both limited education as well as limited vocational training, makes it doubly difficult for the policymaker. In addition, it is difficult because most of these workers are working in clusters that are artisanal, which do not have any industry representation, as they are highly fragmented. Without industry representation, it becomes much more difficult to initiate action for skill development. The government has already initiated cluster development to provide a range of services for a limited number of clusters; the difficulty is how to reach the fragmented artisanal clusters in the absence of any organization.

If the unorganized sector remains largely unreached, it is equally distressing that the VET available to the organized sector remains relatively limited in scale and scope (as we saw in Section 4). In fact, the biggest problem remains that there is still very little provisioning being done, pre- or in-service training, despite the desperate situation even in the organized sector. Although there has been an expansion in the number of ITIs as well as ITCs in the most recent past, we still know very little about the employability of these students.

While the GOI has initiated the Skill Development Mission, there has so far been very little shift in the ground reality. The Skill Development Corporation (with both public and private equity) has been created, but the CEO has only just been appointed. The GOI had announced 5,000 Skill Development Centres, but they are still in the process of being created. It was expected that the State governments will create a structure similar to the one that has been created by SDM at the central level, but there has been little progress in this regard too.

Funding VET has been increasing, as we saw in Section 5, but it is clear that there is still very little private contribution to the financing of VET. The needs are so enormous with no more than 10 percent of the workforce said to have formal or informal training, that the financing effort is nowhere commensurate with the requirements. Public funding, even though increasing, is going to be severely inadequate. New resources have to come from private sources. The GOI needs to think seriously about creating a fund for financing VET throughout the country, both for the organized as well as unorganized sectors. This would require a separate tax, with revenues earmarked for this fund. The resources of this fund should be largely used for financing skill development in the small and micro-enterprises that are registered, and also for the unorganized sector artisanal clusters. In addition, the Sector Councils that are likely to emerge under the auspices of the Skill Development Corporation, should be thinking of creating new mechanisms for mobilizing finances for skill development within the specific sector–but here, the resources could be used largely for medium and large enterprises.

Bibliography

Abrahart (2000), "Ausrtalia's VET System" in Gill, I., F. Fluitman. and A. Dar (eds.), Vocational Education and Training Reforms: Matching Skills to Markets and Budgets, Oxford University Press

ADB (2006), Financing of Technical and Vocational Education and Training in the People's Republic of China, Asian Development Bank

Arvil, V. Adams (2009), Economic Growth, Spatial Income Inequality and Role of Education and Training in China, South Asia Human Development unit, World Bank Discussion Paper series, Report No. 29, December

Chadha, G.K. (2004), "Human Capital Base of the Indian Labour Market; Identifying Worry Spots", Indian Journal of Labour Economics, 47(1) pp 3-38.

Clarke, P. (2005), Technical and Vocational Education systems in Australian and India: An Experiment in Cross Cultural Learning, World Bank Working Paper.

Diana Farrell, Martha A. Laboissière, and Jaeson Rosenfeld (2005), Sizing the Emerging Global Labour Market, McKinsey Quarterly, Number 3, pp. 92-103

DGE&T (2003), Tracer Study of Trained Apprentices to Assess the Effectiveness of the Apprenticeship Training Skill(ATS), Directorate General of Employment & Training, Ministry of Labour & Employment, Government of India, New Delhi

DGE&T (2008), Annual Report, Ministry of Labour & Employment, Government of India, New Delhi

EdCIL (2005), Studying the Effectiveness of Vocational Training in the Private Sector in India: Analysis of Data in Eight States, Working Paper prepared for the World Bank by Educational Consultants India Limited

Franz, J. (2005), InWEnt – Financing Technical and Vocational Education and Training, Technological Cooperation, System Development and Management in Vocational Training Division, Germany. (www.inwent.org)

Gasskov, Vladimir (2000), Managing Vocational Training Systems, ILO, Geneva

GoI (2009), National Policy on Skill Development, Ministry of Labour and Employment, Government of India, New Delhi

IADB (2005), Expanding the Knowledge Capital of Latin America and the Caribbean: An IDB Strategy for Education and Training, Inter American Development Bank.

IAMR (1997), Study of the Schemes of Khadi & Village Industries Corporation (KVIC), Institute of Applied Manpower Research, Delhi

IAMR (2006/07), Study on Skill Mapping in Backwood Districts of India : District Reports, Council for Advancement of People Action and Rural Technologies (CAPART), Ministry of Rural Development, Government of India.

IAMR (2006/07), Orientation Programmes on Capacity Building of Voluntary Sector, Council for Advancement of People Action and Rural Technologies (CAPART), Ministry of Rural Development, Government of India.

ILO (2003), Industrial Training Institutes of India: The Efficiency Study Report, Geneva India Labour Report 2008, published by TeamLease Services (www.teamlease.com)

Johanson, R. and A.V. Adams (2004), Skills Development in Sub-Saharan Africa, A World Bank Publication.

Ministry of Human Resource Development (2008-09) Annual Report, Government of India, New Delhi

National Skill Development Board(2010), Report of the Sub Committee on Vision for Vocational Education, Draft, March

NCERT (2007), National Focus Group on Work and Education, Position Paper 3.7,

NCEUS Report (2009), Skill Formation and Employment Assurance in the Unorganized Sector, www.nceus.gov.in

Pillay, G. (2005), Singapore's Vocational Education and Training Reforms, Draft Working Paper, World Bank

Planning Commission (2002), Tenth Five Year Plan (2002-07), Government of India, New Delhi

Planning Commission (2007), Report of the Taskforce on Skill Development, Government of India, New Delhi, May

Planning Commission (2008), Eleventh Five Year Plan (2007-12), Government of India, New Delhi

Tan, H. and Y. Savchenko (2005), In-Service Training in India: Evidence from the India Firm- Level Investment Climate Survey, World Bank Working Paper.

World Bank (2006), Skill Development in India – The Vocational Education and Training System, Human Development Unit, South Asia Region, January

Annexure - I

Percentage of Persons in the Age Group 15-29 Years by Status of Vocational Training 2004-05

Number of Recipients	Rural		Urban	
	Male	Female	Male	Female
Formal	2.5	1.8	8.5	6.4
Informal	9.5	6.2	9.2	4.9

Source: National Sample Survey Report 517, Table 10

Annexure - II

Responsibilities for Vocational Training: Central & State Governments, and Industry

Training Scheme	Government of India	State Government	Industry
Craftsmen Training	• Policy and procedures, standards, duration etc. in consultation with the NCVT. • Conduct final trade tests on behalf of NCVT	• Day-to-day administration of institutions	• Render advice at Central and State Governments and institutional levels • Assist with final trade tests.
Craft Instructors Training	• Policy and procedures, standards, duration, etc. in consultation with the NCVT. • Implementation and administration of the programme in Advanced Training Institutues (ATIs). • Conduct final trade tests on behalf of NCVT	• Depute ITI instructors for training in ATIs	• Advise at Central Government institutional levels. • Assist in final trade tests.
Appren-ticeship Training	• Policy, procedure notification of industries designating trades, syllabi, standards, etc. in consultation with the Central Apprenticeship Council • Assist, co-ordinate and regulate programmes in Central public sector industries • Concurrent jurisdiction with the States of assisting,co-ordinating &regulating programmes in private industries • Conduct final trade test on behalf of NCVT	• Assist, co-ordinate and regulate programmes in State public and private sector industries • Impart related instructions • Impart basic training in the case of those industries in the private sector which employ less than 500 workers	• Implement practical training programmes in accordance with the Apprentices Act and regulations • Arrange for basic training (by employers, employing more than 500 workers) • Advise the Centre and the State Governments

Source: *Skill Development in India – The Vocational Education and Training System*, Document of The World Bank, Human Development Unit, South Asia Region, January, 2008

Annexure - III

Number of Government & Private ITIs/ITCs with Seating Capacities by State and Union Territory (As on 31.03.2009)

Sl. No.	Name of State/UTs	Number of Govt. ITIs	Seating Capacity (Govt.)	Number of Pvt. ITCs	Seating Capacity (Pvt.)	Total ITIs/ ITCs	Total Seating Capacity
NORTHERN REGION							
1	CHANDIGARH	2	952	0	0	2	952
2	DELHI	16	9660	56	3772	72	13432
3	HARYANA	81	19992	77	7064	158	27056
4	HIMACHAL PRADESH	66	6740	60	4780	126	11520
5	JAMMU & KASHMIR	37	4087	1	110	38	4197
6	PUNJAB	94	19284	123	11216	217	30500
7	RAJASTHAN	112	11568	464	42383	576	53951
8	UTTAR PRADESH*	239	29372	309	36254	548	65626
9	UTTARAKHAND	58	6331	26	2358	84	8689
	SUB-TOTAL	705	107986	1116	107937	1821	215923
SOUTHERN REGION							
10	ANDHRA PRADESH	88	22270	457	89068	545	111338
11	KARNATAKA	149	25170	903	66702	1052	91872
12	KERALA	34	15228	443	47706	477	62934
13	LAKSHDWEEP	1	96	0		1	96
14	PONDICHERRY	6	1320	9	508	15	1828
15	TAMILNADU	60	21832	615	60846	675	82678
	SUB-TOTAL	338	85916	2427	264830	2765	350746
EASTERN REGION							
16	ARUNACHAL PRADESH	5	512	0	0	5	512
17	A & N ISLAND	1	273	0	0	1	273
18	ASSAM	28	5696	3	80	31	5776
19	BIHAR	34	11433	161	22425	195	33858
20	JHARKHAND	19	4672	78	17384	97	22056
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	928	0	0	8	928
25	ORISSA	25	8176	431	70004	456	78180
26	SIKKIM	1	212	0	0	1	212
27	TRIPURA	8	816	0	0	8	816
28	WEST BENGAL	51	12412	21	1144	72	13556
	SUB-TOTAL	193	46586	696	111357	889	157943
WESTERN REGION							
29	CHATTISGARH	73	9264	23	2608	96	11872
30	D & N HAVELI	1	228	0	0	1	228
31	DAMAN & DIU	2	388	0	0	2	388
32	GOA	10	3120	4	364	14	3484
33	GUJARAT	150	55980	332	19448	482	75428
34	MADHYAPRADESH	150	24414	51	8290	201	32704
35	MAHARASHTRA	375	74268	260	30900	635	105168
	SUB-TOTAL	761	167662	670	61610	1431	229272
	GRAND TOTAL	1997	408150	4909	545734	6906	953884

MP*- 149 Government ITIs include 48 Govt. ITIs running under State Council on Vocation Training (SCVT)

UP* - 239 Government ITIs include 100 Govt. ITIs running under SCVT

Source: *Annual Report 2008-09*, DGE&T, Ministry of Labour, Government of India

Annexure - IV

Cost of Vocational Training in ITIs (2004), by State

State	No. of Institutions	No. of Students	Total Costs (Rs. Mill.)	Unit Costs (Rs.)
Andhra Pradesh	83	19683	310.02	15750
Arunachal Pradesh	3	298	12.07	40503
Assam	24	2432	92.20	37910
Bihar	28	2057	98.04	**47661**
Chandigarh	1	473	14.57	30796
Chhattisgarh	61	6969	153.60	22040
Delhi	16	7879	262.72	33344
Goa	10	1937	84.41	43577
Gujarat	133	56974	671.71	**11790**
Jammu & Kashmir	37	3300	128.84	39042
Madhya Pradesh	140	19527	337.18	17267
Orissa	24	5182	89.08	17190
Punjab	94	11909	357.61	30028
Tamil Nadu	57	11987	432.80	36106
Union Territories				
West Bengal	28	4856	184.07	37906
For all States	**741**	**156514**	**3247.19**	**20747**

Source: *Skill Development in India – The Vocational Education and Training system*, Human Development Unit South Region, The World Bank, Jan. 2006

Annexure - V

Total Financial Requirements for Vocational Education and Training

(Rs. Crore)

S. No.	Particulars	Non-Recurring	Recurring	Total
1.	Cost estimate for National Council of Vocational Education and Training (NCVET)	0.10	2.60	2.70
2.	Cost estimate for establishment of flexible delivery system in VET, development of Competency based Curricula and teaching-learning materials and promotion of Career Guidance and Counselling.	--	5.0	5.0
3.	Cost estimate for Researches in Pedagogy of Training	-	1.0	1.0
4.	Cost estimate for establishing Labour Market Information System (LMIS)	-	1.3	1.3
5.	Cost estimate for establishment of National Vocational Qualification (NVQ) System	-	200.0	200.0
6.	Cost estimate for training of target groups in Informal sector	-	100.0	100.0
7.	Cost estimate for Establishment of International Skill Training Hub	30.0	70.0	100.0
8.	Cost estimate for promotion of Open and Distance learning	50.0	150.0	200.0
9.	Cost estimate for promotion of Public-Private Partnership in VET (1 lakh per year @ Rs 5000/- per trainee)	--	250.0	250.00
10.	Cost estimate for establishment of Flexible mode of delivery	--	50.0	50.0
11.	Cost estimate for National Board of Vocational Education and Training (NBVET)	0.20	7.40	7.60
12.	Cost estimate for Expansion of PSS Central Institute of Vocational Education (PSSCIVE)	0.30	17.9	18.25
13.	Cost estimate for State Institute of Vocational Education and Training (SIVET)	113.05 (3.23X35)	22.4 (0.64 X 35)	135.45 (3.87 X 35)

14.	Cost estimate for 600 District Institutes of VET (DIVETs) (Cost for establishing one DIVET is Rs 3.87crores).	384 (0.64 X600)	1938 (3.23 X 600)	2322.0 (3.87 X 600)
15.	Cost estimate for strengthening of existing Vocational Education and Training Institutes	450.0	2340.0	2790.0
16.	Cost estimate for Training of Teachers/Trainers	--	50.0	50.0
17.	Cost estimate for motivational schemes i) Scholarship for meritorious vocational students (Rs 100 X 10 lacs students X 24 months). ii) Free boarding & lodging to 10 lakh VET trainees (Rs 1000 X 10 lacs students X 4 semester)	-- --	240 400	240 400
18.	Cost estimate for establishment of Vocational Management Information System (VMIS)	--	3.0	3.0
	Total	**1027.65**	**5848.6**	**6876.30**

Source: *Report of the Working Group on Secondary and Vocational Education for Eleventh Five Year Plan (2007-12)*, Planning Commission, Government of India, 2007

Annexure - VI

Objectives and Outlay Provided for Qualitative Expansion and Quality Improvement in Vocational Training under Five Initiatives in India

The Initiatives	Objectives	Availability of per ITI Outlay in Rs.
1. 100 ITIs to become centre of excellence through domestic funding	• Create centres of excellence for producing multi skilled workforce of world standard.	Rs. 16 Million
2. Upgradation of 400 ITIs	• Improve employment outcomes of graduates from vocational training system by making design and delivery more responsive	Rs. 39.5 Million
3. Upgradation of 1396 Government ITIs through public private partnership	• Improvement in employment outcomes of graduates from training system by making design and delivery more responsive	Rs. 25 Million
4. Skill development initiatives	• Provide vocational training to school leavers, existing workers, ITI graduates etc. to improve their employability by optimally utilizing the infrastructure available in government and private institutions and industry	N.A.
5. establishment of 1500 ITIs and 5000 Skill Development Centres (SDC) under PPP mode	• Establishing 1500 ITIs and 5000 SDCs in the un-served/ disadvantaged blocks under PPP mode	Rs. 60 million for ITIs & Rs. 5 Million for SDCs

Source: Compiled from State labour Minister's Conference, Ministry of Labour & Employment, Government of India

Annexure - VII

Upgradation of 100 ITIs with Domestic Funding – Status of Funds

(Rs. in Million)

S. No.	State/U.T.	No. of ITIs Allotted	EFC Central Allocation	Total Funds Released till date	Balance Funds to be Released to the State against EFC
1.	Andhra Pradesh	5	60	53.56	6.44
2.	Bihar	2	24	18.94	5.06
3.	Chandigarh	1	12	7.67	4.33
4.	Chhattisgarh	4	48	48.0	0
5.	Delhi	1	12	11.30	.61
6.	Goa	2	24	23.95	0.04
7.	Gujarat	8	96	91.28	4.72
8.	Haryana	5	60	59.30	0.70
9.	Himachal Pradesh	3	36	33.72	2.28
10.	Jharkhand	1	12	10.81	1.19
11.	Karnataka	6	72	72	.001
12.	Kerala	5	60	39.13	20.87
13.	Madhya Pradesh	8	96	95.91	0.093
14.	Maharashtra	12	144	144	0
15.	Orissa	2	24	22.48	1.52
16.	Punjab	8	96	53.95	42.05
17.	Pondicherry	1	12	3.35	8.65
18.	Rajasthan	5	60	29.86	30.14
19.	Tamil Nadu	5	60	53.34	6.66
20.	Uttaranchal	3	36	15.26	20.73
21.	Uttar Pradesh	10	120	117.44	2.56
22.	West Bengal	3	36	35.69	0.31
23.	CEPT IIT Delhi	-	-	1.69 **0.079**	-
	Total	**100**	**1200**	**1042.709**	**158.954**

Source: Compiled from State labour Minister's Conference, Ministry of Labour & Employment, Government of India

Annexure - VIII

Utilisation of Funds Allocated for Upgradation of 400 ITIs under Vocational Training Improvement Project, World Bank

(Rs. in Million)

SL. No.	State	No. of it is	Total (Central State)	Utilisation
1.	Andhra Pradesh	25	502.57	2.12
2.	A&N Island	1	9.77	0
3.	Arunachal Pradesh	1	11.00	5.8
4.	Assam	7	103.33	3.87
5.	Bihar	8	139.54	3.48
6.	Chhattisgarh	18	322.37	1.20
7.	Daman & Diu	1	5.33	0.00
8.	Delhi	3	59.10	4.26
9.	Goa	7	133.73	2.57
10.	Gujarat	29	695.31	5.37
11.	Haryana	16	202.93	6.25
12.	Himachal Pradesh	11	233.20	6.47
13.	J&K	10	86.53	0.47
14.	Jharkhand	3	51.88	1.52
15.	Karnataka	30	562.00	2.44
16.	Kerala	7	125.78	2.19
17.	Lakshadweep	1	2.56	0.00
18.	Madhya Pradesh	28	515.64	5.30
19.	Maharashtra	87	1384.43	5.98
20.	Manipur	2	22.89	3.06
21.	Meghalaya	1	0.00	0.00
22.	Mizoram	1	14.11	6.66
23.	Nagaland	1	5.33	0.07
24.	Orissa	9	154.29	4.55
25.	Pondicherry	1	9.33	4.53
26.	Punjab	27	545.88	1.01
27.	Rajasthan	10	153.20	0.00
28.	Sikkim	1	19.60	2.94
29.	Tamil Nadu	17	72.80	2.34
30.	Tripura	1	18.36	.96
31.	Uttar Pradesh	16	357.60	5.34
32.	Uttarakhand	10	57.87	0.19
33.	West Bengal	10	81.61	6.50
	Total	**400**	**6659.87**	

***Source*:** Compiled from State labour Minister's Conference, Ministry of Labour & Employment, Government of India

Annexure - IX

Upgradation of 1396 Government ITIs through PPP —State-wise Status of Fund Released, Expenditure Incurred (upto 30.11.2009)

(Rs. in Million)

Sl. No.	State	Total No. of ITIs	Fund Released (2007-09)	Total Expenditure Incurred (2007-09)
1.	Andhra Pradesh	56	1400.0	91.782
2.	Arunachal Pradesh	2	50.0	.140
3.	Assam	11	274.9	28.69
4.	Bihar	8	200.0	13.29
5.	Chattisgarh	22	550.0	22.73
6.	Chandigarh (UT)	1	25.0	1.83
7.	Delhi	2	50.0	0.00
8.	Gujarat	41	1025.0	66.90
9.	Haryana	26	650.0	24.33
10.	Himachal Pradesh	20	500.0	44.47
11.	J&K	11	275.0	1.07
12.	Jharkhand	4	100.0	9.43
13.	Karnataka	52	1300.0	29
14.	Kerala	10	250.0	14.93
15.	Madhya Pradesh	37	925.0	9.67
16.	Maharashtra	117	2925.0	123.65
17.	Orissa	7	175.0	.36
18.	Punjab	39	975.0	19.27
19.	Rajasthan	32	800.0	32.24
20.	Tamil Nadu	17	425.0	53.91
21.	Tripura	2	50.0	6.25
22.	Uttar Pradesh	43	1075.0	83.02
23.	Uttarakhand	20	500.0	32.10
24.	West Bengal	16	400.0	16.45
25.	Nagaland	1	25.0	0.00
26.	Goa	-	-	-
27.	D& N Haveli	1	25.0	0.00
28.	Mizoram	2	50.0	.39
29.	Pondicherry	-	-	-
30.	Daman & Diu	-	-	-
31.	Manipur	-	-	-
32	Meghalaya	-	-	-
	Total	**600**	**14999.9**	**725.902**

Source: Compiled from State labour Minister's Conference, Ministry of Labour & Employment, Government of India

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