

CHAPTER-X

SKILL DEVELOPMENT

INDIAN LABOUR FORCE

There is an increasing demand of skilled labour. This is on account of globalisation, changes in technology as well as work processes. Production has been getting globalised and financial markets the world over, are becoming integrated. Information Technology has been primarily instrumental in increasing the speed of communications and reducing its costs. Globalisation, in turn, has led to intensified competition, technological diffusion and adoption of new forms of organisation. As a result of the heightened competition and economic change, developing nations are facing a tough challenge in maintaining the employability of large segments of their labour force. Simultaneously, competition and economic change also provide an opportunity for economic growth and employment

expansion. To take advantage of these opportunities, the level and quality of skills that a nation possesses are critical. Moreover, rapid technology changes and transition to a more open economy entails social costs. These can be restricted only through equally rapid upgradation of the capabilities of the workforce.

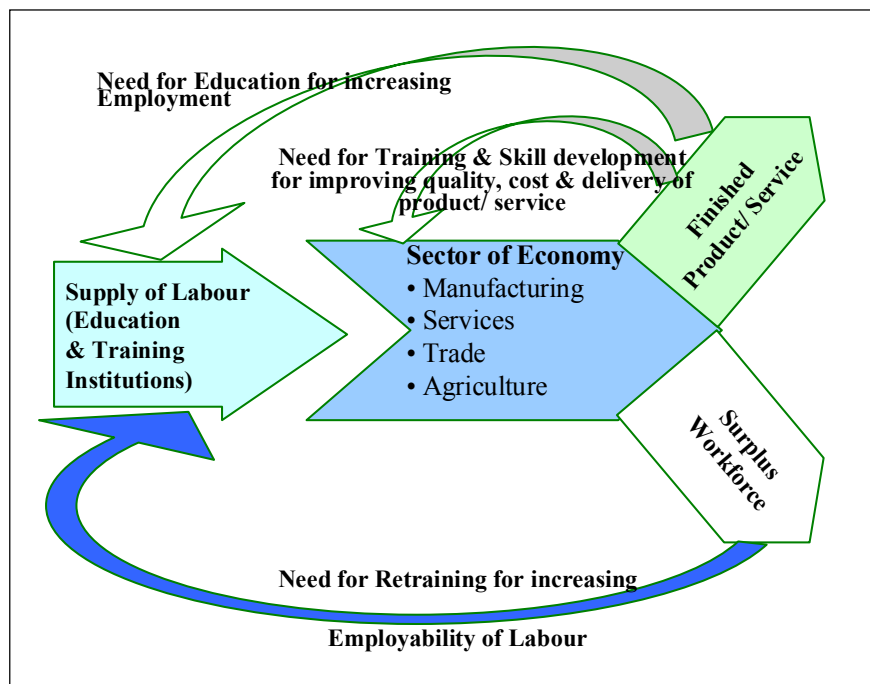
10.2 Against this backdrop, countries like India, which have opened their economy in the last decade, need to invest in the skill development, training and education of their workforce. As technological change, shorter product cycles and new forms of work organisation alter the environment, training systems come under pressure. To counter these pressures on training, incentives for training systems need to be considered. These will help the country's industry to adapt successfully to ongoing economic change.

DYNAMICS OF THE INDIAN LABOUR SYSTEM

10.3 The entire dynamics of the Indian labour system has been depicted in Figure 10.1. At present, labour is used as an input in the various sectors of the economy to produce a visible output viz. the finished product or the service. It may be mentioned that these sectors of the economy also produce surplus workforce, which may be arising out of various reasons like:

- a) Companies turning sick
- b) Closure of companies
- c) Recession leading to reduced workforce
- d) Process automation
- e) Shift of labour from Manufacturing sector to Services sector
- f) Mergers & Acquisitions
- g) Obsolescence of skill sets e.g. typing

Figure 10.1
Dynamics of the Indian Labour System



Source: Study Group Discussions

10.4 The surplus workforce that arises in the system therefore needs to be retrained for better employability. While retraining is one aspect, there is also the need for skill development and training for improving quality, cost and delivery of product/service. Training institutions thus, have to serve as the means for meeting the needs of skill development, training, retraining and education of the workforce.

10.5 As we have been pointing out in every chapter of this Report, 93% of the Indian workforce is employed in the unorganised sector. The growth rate of labour in the unorganised sector has been far higher than the growth rate of employment in the organised sector, as the latter has often become increasingly capital and skill intensive.

INDIAN LABOUR FORCE SKILLS – PRESENT STATUS

10.6 Framework for Segmentation: The entire labour force can be segmented in a 4X2 matrix with the Degree of organisation of labour on the x-axis and the Type of sector of economy on the y-axis. Based on this, we can represent the distribution of various occupation/jobs of the workforce across organised and unorganised segments and in the sector of the economy. The segmentation is depicted in Figure 10.2. This figure shows some examples of the various jobs/occupations/enterprises that can be considered in the organised or unorganised sector.

Figure 10.2

Segmentation of Labour

<i>Type of Sector of Economy</i>	Agriculture	<ul style="list-style-type: none"> • Agriculture • Suppliers on seeds, manure 	<ul style="list-style-type: none"> • Agroprocessing • Fertilizers & pesticides
	Trade	<ul style="list-style-type: none"> • Self employed footloose hawkers & vendors • Contract/ casual wage earner 	<ul style="list-style-type: none"> • Petrol Pumps • Transporters
	Services incl. Infrastruct.	<ul style="list-style-type: none"> • Construction • Self employed service provider e.g. courier, STD booths, Road mechanic 	<ul style="list-style-type: none"> • Utilities (Electricity, Water, Telephone etc. • Hotel & Tourism • IT, Telecom, Mines
	Mfg. sector	<ul style="list-style-type: none"> • Home based enterprises • Factory based small scale industries e.g. tools, woollens, Hosiery 	<ul style="list-style-type: none"> • Auto • Engg.- Light & Heavy • Industrial – Steel, cement, Refineries
		Unorganised Sector	Organised sector
<i>Degree of Organisation of Labour</i>			

Source: Study Group Discussions

10.7 As can be observed from Table 10.1, there has been a gradual shift of workers from the agricultural sector to the informal sector, as the percentage of people in the organised sector has more or less remained constant at around 7%. Substantial

employment growth is taking place in the small and unorganised sector i.e. in tiny and small enterprises. Based on the figures mentioned in Table 1 the informal sector has grown at 1.06% per annum over the period 1997-2000.

Table 10.1

Distribution of Workers by Major Sector of Economic Activity

(Numbers in millions)

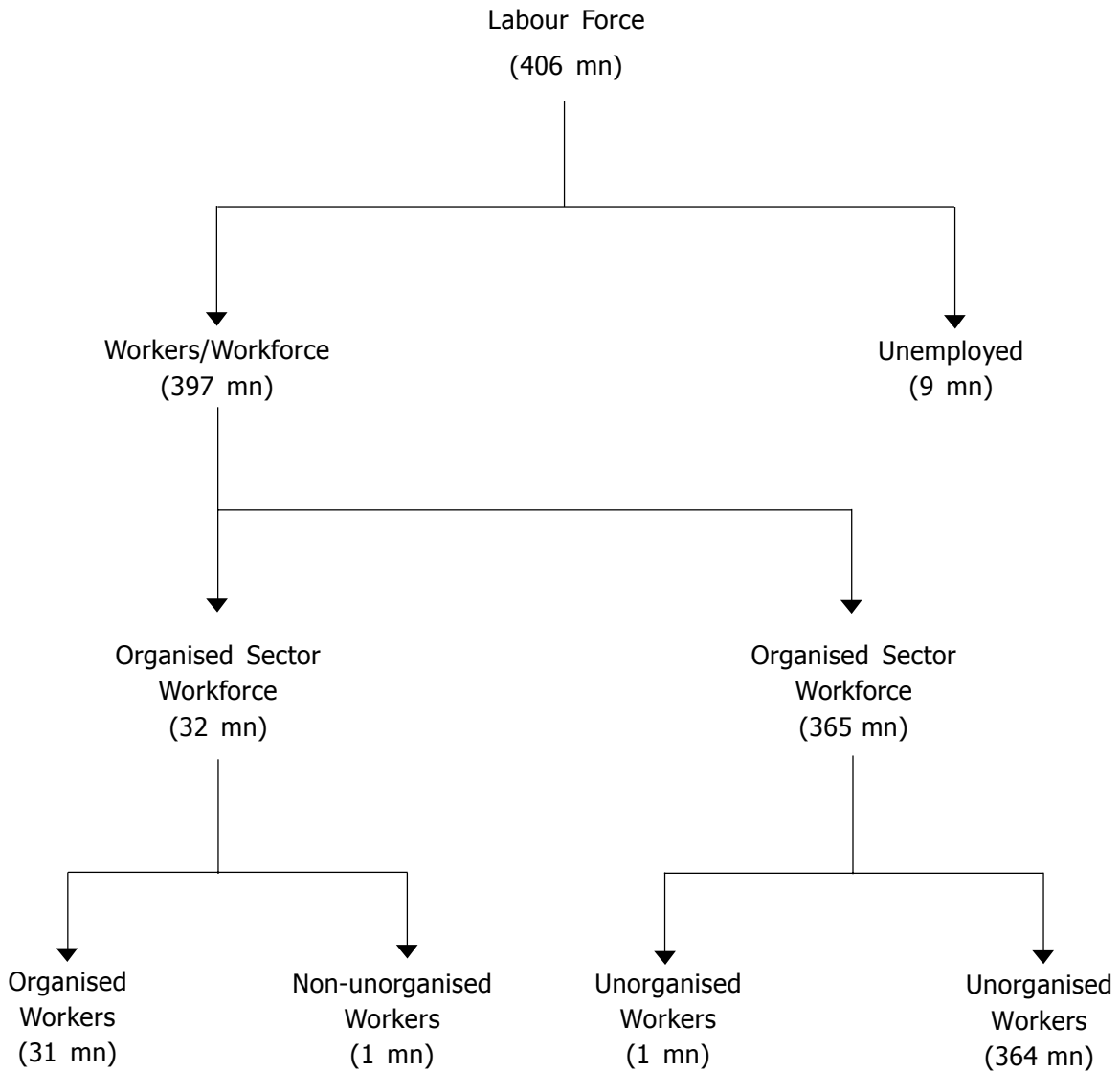
Year (%)	Agriculture (%)	Non- Agriculture		Total (%)
		Organised (%)	Informal (%)	
1972-73	175 74	18.8 8	42.5 18	236.3 100
1977-78	195 72	21.2 8	54.5 20	270.7 100
1982-83	206.2 68	24.1 8	72.5 24	302.8 100
1987-88	206.4 64	25.7 8	89.9 28	322 100
1990-91	218.4 64	26.7 8	96.8 28	341.9 100
1993-94	242.5 65	27.4 7	104.6 28	374.5 100
1996-97	243.8 64	28.2 7	110.1 29	382.1 100
1999-2000	237.6 60	28.1 7	131.3 33	397 100

Source: Manpower Profile India: Year Book 2000, Institute of Applied Manpower Research, New Delhi

A numerical overview of the strength of the Indian labour force in the

organised and unorganised sector is given in Figure 10.3

Figure 10.3
Distribution of the Labour Force



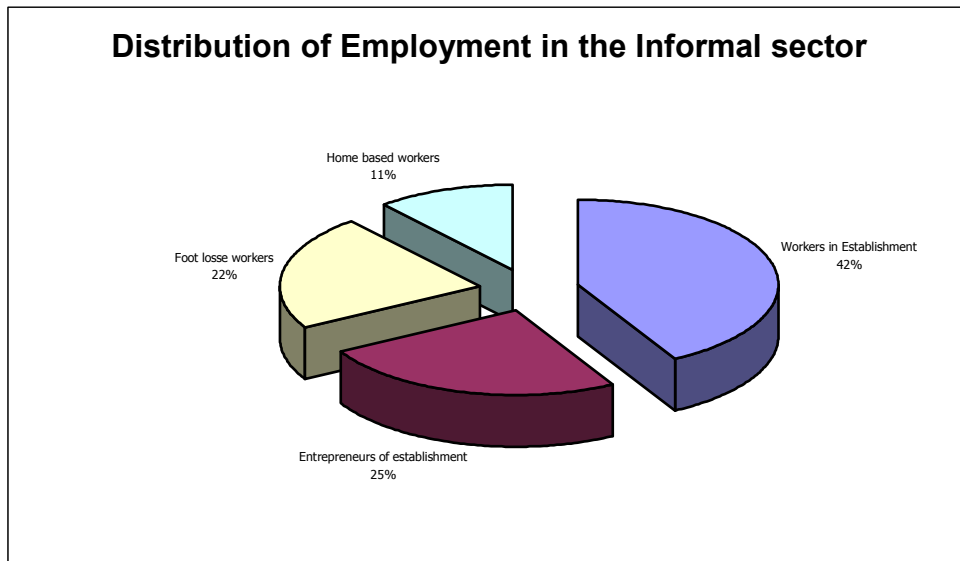
Source: Based on information collected from Manpower Profile India: Year Book 2000 and Annual Report of Ministry of Labour

10.8 The distribution of employment in different segments of the informal sector is given in Figure 10.4. Approximately

67% of the workers are employed in the establishments either as workers, or as entrepreneurs.

Figure 10.4

Distribution of Employment in Different Segments of The Informal Sector



Source: Employment in the Informal sector: MS Ramanujam et. al, Institute of Applied Manpower Research

10.9 It may be mentioned that as data on skill levels is not readily available, it is difficult to quantify the level of skills in the labour force. However, a snapshot of the education levels of the Indian labour force in

1999-2000 reveals a dismal picture (refer Table 10.2 on educational attainments of the labour force) with about 44.0% of all workers being illiterate. It may be observed from the table that 51.3% of the total rural

area workers is illiterate while only 21.5% of the urban area workers is illiterate. About 22.7% of the total workforce had schooling only up to the primary level. Considering that workers need to have schooling at least up to

the middle level and higher level for performing in the market, then only 33.3% of the workforce can be termed to be adequately qualified.

Table 10.2

Composition of Workers of Age 15 Years and Above by Level of Education 1999-2000

(All figures in percentage)

	Not Literate	Literate & Schooling upto primary level	With schooling upto middle & higher level	Total	Share in Workforce
Rural Areas					
Male	39.6	27.3	33.1	100	49.7
Female	74	15.5	10.5	100	25.8
Person	51.3	23.3	25.4	100	75.5
Urban Areas					
Male	16	22	62	100	19.7
Female	43.9	17.6	38.5	100	4.8
Person	21.5	21.1	57.4	100	24.5
All Areas					
Male	32.9	25.8	41.3	100	69.5
Female	69.3	15.8	14.9	100	30.5
Person	44	22.7	33.3	100	100

Source: National Sample Survey on Employment & Unemployment, 55th Round

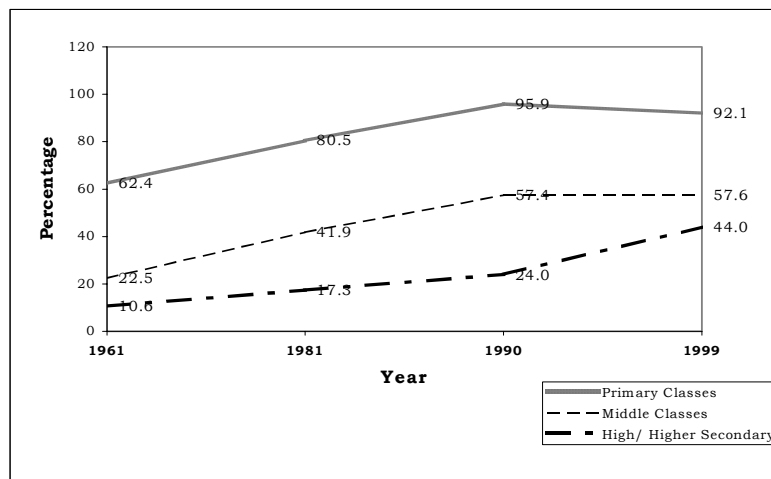
10.10 Further, the category "middle school and above" includes all those who have had some middle school education even though they may have dropped out of the school before completing middle school. The provisional drop out rate at middle school levels was quite high at 42% in the year 1998-99. As per a rough estimate from the 52nd round (1995-96) survey of the National Sample Survey Organisation (NSSO), only 20% of the population in the age group of 14-16 years actually completes secondary school the present.

education.

10.11 These figures indicate the deficiencies in the general education level of the labour force. Figure 10.5 shows the enrolment in different stages of education as percentage of population in the appropriate age group. The overall trend of enrolment in middle classes and higher secondary classes has been growing over the years and it can be inferred from the increasing trend that the new entrants to the labour force will be significantly better educated than

Figure 10.5

Enrolment in Different Stages of Education as Percentage of Population



in the Appropriate Age Groups

Education Stage	Age Group (in years)
Primary Classes	6 - 11
Middle Classes	11 - 14
High/ Higher Secondary	14 - 17

Source: Compiled from data from Manpower Profile of India, Year Book 2000 & Report of Task Force on Employment Opportunities

10.12 While general education is required for most jobs, possession of "marketable skills" (or specific skills) is a must for the labour force for obtaining employment. The NSSO Survey on Employment & Unemployment (1993-94) gives information on the possession of 30 specific marketable skills, by persons in the labour force and the results are summarised in the Table 10.3. In the rural areas, only 10.1% of the male workers, and 6.3% of the female workers possessed specific marketable skills and in the urban areas, 19.6% of males and 11.2% of females possessed marketable skills. As per the report of the Task force on Employment Opportunities set up by

the Planning Commission, about 12.3 million persons are expected to enter the labour force per year, aggregating 86.2 million persons between the year 2000 and year 2007 (Table 10.4). After allowing for underutilisation of seats in training institutions and some overlaps, the percentage of those entering the labour force with some degree of formal training is about 12% gross of the new entrants (about 1.5 million per year) into the labour force. It is estimated that a significant number of new entrants will be absorbed in various types of unskilled labour in agricultural & non-agricultural occupations, while the rest will enter the market with some skills.

Table 10.3

Percentage Distribution of Persons by Possession of Marketable Skill; 1993-94

(All figures in percentage)

Possessing	Rural		Urban	
	Male	Female	Male	Female
No Skill	89.9	93.7	80.4	80.4
Some Skill	10.1	6.3	19.6	11.2
Total	100	100	100	100
Sample Persons	(183464)	(172835)	(109067)	(99283)

Source: National Sample Survey on Employment & Unemployment, 50th Round (1993-94)

Table 10.4**Entrants to Labour Force Between 2000-2012**

(million persons)

Entrants to Labour Force	2000 to 2007 7 years	2007 to 2012 5 years
Rural Areas ¹	52.40	40.30
Urban Areas ²	33.80	28.10
All India	86.20	68.40

Source: Report of the Task Force on Employment Opportunities set up by the Planning Commission

Notes: a. Corresponds to 1.8% per annum labour force growth scenario

1. excluding migrants from rural areas
2. including migrants to urban areas

10.13 It may be mentioned that only 5% of the Indian labour force in the age category 20-24 years, has obtained vocational training. The corresponding figure in other industrialised nations is much higher, lying between 60% and 80%, except for Italy, which is 44%. The corresponding percentage for Korea is very high at 96%. Even if India is benchmarked against developing nations, the Indian

figure of 5%, is far behind Mexico at 28%, Botswana at 22% and Peru at 17%.

PRESENT METHODS OF SKILL ACQUISITION

10.14 At present, persons entering the labour workforce acquire skills from a variety of methods as given below.

- a) Hereditary Skills Acquired In The Family. In traditional family based crafts e.g. pottery, carpet weaving, etc. the younger members of the family learn the art of the craft from senior members in the family. This is also the most common method for acquiring contemporary skills viz. tailoring, repair work etc.
- b) Induction Training: In most organisations, immediately after an employee joins the organisation, he or she is sent for an induction which involves rotation through various departments and familiarisation with the normal practices of the department and method of work.
- c) On The Job Training: This is the most popular method in the informal sector, wherein workers join as unskilled or semi-skilled workers and learn specific skills in the course of their employment. Larger industrial units also impart on the job training in a more structured manner through in-house training facilities
- d) Vocational Training In Specialised Institutions: Vocational skills are also acquired through formal vocational training in specialised institutions. There are 4274 Industrial Training Institutes (ITIs) in India, which impart training in 43 engineering and 24 non-engineering trades. Of these 1654 are in the government sector and the remaining 2620 institutes are in the private sector. The total seating capacity in these ITIs is 6.28 lakhs. Further, there are 6 Advanced Training Institutes (ATI) which are managed by the Central Government that provide training for instructors in ITIs and ATIs for Electronics & Process Instrumentation offering long and short courses for training of skilled personnel at technician level in the fields of industrial, medical and consumer electronics and process instrumentation. There are also proprietary

institutes organised as businesses, which provide training of various types in areas such as computer applications, readymade garments and hardware maintenance

- e) **Formal Apprenticeship :** Historically, apprenticeship was the principal means of training semi-skilled workers. At its simplest, it is by far the predominant mode of acquisition of trades, crafts and occupations. The most famous is the German "dual system" where apprenticeship is combined with school - based education. The Indian Apprenticeship Act, 1961, requires employers in notified industries to engage apprentices in specified ratios in relation to the workforce. Apprentices get trained for periods ranging from 6 months to 4 years and at the end of the period they are trade-tested by the National Council for Vocational Training. The Apprenticeship Act thus serves

two purposes: A) to regulate the programme of training apprentices in industry so as to conform to the prescribed syllabi, period of training etc. and B) to fully utilise the facilities available in industry for imparting practical training with a view to meeting the requirement of skilled workers.

- f) **Vocational Training Linked To Development Programmes:** These are specifically designed to provide training in the informal sector e.g. the schemes for the training of women by the Department of Women & Child Development, Skill development programmes by the Khadi & Village Industries Commission (KVIC), Training programmes of the Department of Small Scale Industry (SSI) etc.

10.15 The vocational education and training system in India at a glance is given in Table 10.5 and the total annual training capacity of various training providers is given in table.

Table 10.5
Vocational Education & Training System in India at a Glance

UNDER GOVERNMENT AUSPICES					OTHER THAN GOVERNMENT
Department of Education, Govt. of India	DGET, Ministry of Labour, Govt. of India	DWCD, Ministry of HRD, Govt. of India	Ministry of Rural Area & Employment	Ministry of Industry, Govt. of India	Industrial Enterprises * In-plant Training
* Vocational Education Secondary School Lower school First degree level	* Craftsmen training scheme	* Norad Assisted Programme	* Training Rural Youth for Self-Employment (TRYSEM) -now replaced by other programmes	* Training through DCSSI institutes	Private Training providers * Private Proprietary Training
* Apprenticeship (for graduate engineers, diploma holders & vocational school pass out(s))	* Apprenticeship Training Scheme (trade apprentices)	* Condensed courses of education & vocational training		* Training under National Renewal Fund (NRF)	Non Government Organisations * Informal sector training
* Technical Education	* Advanced vocational training scheme	* STEP ¹		* Training activities of KVIC	Employers Organisations * Support to Industry Training activities
* Community Polytechnic project	* Vocational Training Programme for women				
* Shramik Vidyapeeths	* CSTR * CSMI * CITS * FTIS				

Source: Report of the Task Force on Employment Opportunities set up by the Planning Commission

¹STEP: Support to Training & Employment Programmes for women

Table 10.6**Annual Training Capacity of Various Training Providers**

Department/ Institution	Figures in lakhs
DGE&T, STATE GOVERNMENTS ETC.	
- Industrial Establishments	2.27
- Seats in it is	6.28
DEPT. OF SEC. & HIGHER EDUCATION	
- Polytechnics	2.20
- Arts & Crafts	2.20
- Vocational Stream	5.00
- Community Polytechnics	3.07
- Vocational Courses under National Open School	0.20
DEPT. OF WOMEN & CHILD LABOUR	
- Support to Training & Employment programmes for women (STEP)	0.10
DEPT. OF SSI & RURAL INDUSTRY	
- EDP	0.16
DEPT. OF RURAL DEVELOPMENT	
- SGSY	2.14
DEPT. OF URBAN EMPLOYMENT & POVERTY ALLEVIATION	
- SJSRY	2.00
MINISTRY OF TEXTILES	N.A.
MINISTRY OF INFORMATION TECHNOLOGY	0.35
MINISTRY OF TOURISM	
- Hotel Management	0.024
TOTAL CAPACITY	25.99

Source: Data collated from the Report of the Task Force on Employment Opportunities and Report of the working group on Skill Development & Training set up by the Planning Commission

VOCATIONAL TRAINING

10.16 Vocational Training could be:

- a) Institutional pre-employment training
- b) In-plant Training
- c) Apprenticeship Training
- d) Post employment /In-service/Job Related training
- e) Advanced / Specialist training

10.17 The Indian Trade Apprenticeship Act 1961 was implemented to cover training of trade apprentices. The responsibility of implementation of the Act is with the Central Apprenticeship Advisor/Director of Apprenticeship Training in Directorate General of Employment & Training, Ministry of Labour. The Act was amended in 1973 to cover Graduate & Diploma holders in Engineering and Technology as Graduate and Technician Apprentices. In 1987 the Act was amended again to cover training of students passing out of the 10+ vocational streams, as Technical Vocational Apprentice. As on

June 30, 2000, only 1.65 lakh seats were utilised out of a total of 2.27 lakh seats for apprenticeship training in central or state/ private sector enterprises combined.

10.18 The lacunae in the present trade apprenticeship training can be summarised as follows:

- a) Inadequate coverage of skill requirements
- b) Mismatch in demand and supply relation
- c) Lack of flexibility in the engagement of Trade Apprentices within the same Trade Group
- d) Lengthy and clumsy administrative procedures of record keeping and filling up of return
- e) Lack of incentives to encourage industries to modernise their training facilities
- f) Inadequate and poor quality of training facilities as well as training staff
- g) Small establishments unable to engage apprentices

Present & Future Challenges of Labour

10.19 Having discussed the needs and the current status of the Indian workforce, we can summarise the seven key existing and future challenges for Indian labour.

- a) **Challenge of Globalisation:** The Indian economy has opened up in the last decade. India has also become a member of the World Food Organisation (WTO). In order to remain competitive, the organised sector has commenced outsourcing. The use of casual and contractual labour has increased for meeting varying production levels. Globalisation has also thrown up a challenge in the form of exposure to new technologies and products, which are perceived as a threat to the traditional areas, particularly in the unorganised sector. The lessons from this exposure need to be assimilated by the workforce.

Challenge of Labour Competitiveness vis-à-vis China and

Other Nations: India has been facing competition from China and other South East Asian nations in various sectors including toys, electricals and handlooms. The workforce of these nations is disciplined and cheaper as compared to the Indian workforce. With China becoming a member of the WTO at the November WTO meeting at Doha, Qatar, the challenge to the Indian workforce to remain competitive has increased manifold.

As per the World Competitiveness Report (1994), which examines competitiveness of human resources based on skills, motivation, flexibility, age structure and health of people, India is ranked to be the least competitive amongst the 10 Newly Industrialised Countries. In India the quality of skilled labour, according to the Report, is good. But the proportion of skilled labour in the total labour force of the country is too small. With the result, though the country ranked first among the 10

Newly Industrialised Countries, in terms of quality of skilled labour, with regard to their ready availability it ranked 7 out of 10.

second view treats people as a source of competitive advantage. It leads organisations to invest in skill development.

b) Challenge of Redeployment of Surplus Manpower from Agriculture and Manufacturing to Services & Trade (within self-employed and wage earners): Due to a variety of reasons, there is surplus manpower arising from the organised sector. These persons need to be retrained and made employable. The shift may largely require attitudinal orientation and skill based training.

The industry therefore needs to recognise labour as Human Capital and invest in training. The labour too must make their effort to gain clear acknowledgement from industry and society of their competence, commitment and contribution. Global competitiveness as a nation is a joint task and can be achieved only through the sense of common endeavour between employers and the employed. Short-term programmes to upgrade the skills and output quality of the labour force may be devised by industry associations, which include cross-functional skills.

c) Challenge of Recognising Labour as Human Capital rather than as a Cost: Two views can be taken of human resources, one being that they are a cost and the other being that they are an investment. The first view translates into attempts to keep wages low and to spend as little as possible on training and human resource development. The

d) Challenge of Continuous Employability of Labour: With rapid changes in technology, markets and environment, skill obsolescence is growing. Employment is contingent on

employability. Employability is contingent partly on skills and largely on attitude. The best insurance against job loss is to effectively nurture and nourish a culture of multi-skills in place of mono-skills. This provides career resilience and career self-reliance.

In certain sectors of economic activity in India, labour does not get employment throughout the year, and there are idle periods. The challenge is to ensure they are continuously employable throughout the year and also over their working life. Higher levels of workers' education will allow possibilities of their pursuing more than one occupation during the year, as per seasonal demand. Multi-skilled labour can be utilised for various work

e) Challenge of Enlarging and Utilising Effectively the Infrastructure for Education and Training: While the existing infrastructure for imparting

vocational training and education needs remedial attention, these facilities also urgently need to be expanded. Only then can they meet the increased challenges before them to equip and orient large numbers of the workforce with the latest techniques and operational skills.

f) Challenge of Absorption of New Technologies by Labour Using Education and Training: The Indian workforce has been faced with new production concepts like Computer aided design (CAD), Computer aided manufacturing (CAM), Robotics, Just-in-time (JIT) and Flexible Manufacturing Systems (FMS), which require increased knowledge to be imparted to them. Likewise, in the white-collar segment, MS-Office, Desktop Publishing, Accounting Software etc. have become ubiquitous and vocational institutes must include them in their curriculum. Some of the skill sets tend to become insufficient by themselves for employment e.g. typing.

STANDARDS OF EXCELLENCE²

10.20 Based on the above challenges, the knowledge, skill and

attitudinal requirements of the labour force are expected to attain the following standards of excellence:

Standards of Excellence	Knowledge Requirements (what the job holder must know and understand)	Skill Requirements (what the job holder must be able to do and demonstrate)	Attitudinal requirements (how the job holders must conduct themselves with others)
Service	Optimisation of the equipment usage for the benefit of end users	Customise services to suit individual and end users	High level of teamwork, ability to constantly learn new skills
Product	Requirements of the market place including niches	Ability to prototype product fast	Focus on the market place and customers
Market	Market dynamics of changing user tastes	Shortest time to market product/ service	Speed is of the essence
People	High level of specialised domain knowledge	Ability to work with one's own hands	Positive attitude and national pride
Control	Should know source of new knowledge and set it online	Should be able to change skills fast	Passion to excel and handle one's emotions

2. Based on the paper received by the study group

RECOMMENDATION : NEW APPROACH TO VOCATIONAL TRAINING

10.21 Training Systems: Training targeted at achieving global competitiveness can be successful only through a sense of shared purpose between employers and the employed. The Study group examined the training systems of various countries, which are found to be broadly of three types – “co-operative,” “enterprise based” and

“state-driven.” These have been summarised in Table 10.7 In the co-operative system there is no single institution responsible for the planning and delivery of the training system. Instead, the employers’ organisation and trade unions cooperate strongly for producing the desired result. Germany is one of the successful examples of this system. The details of operation of the German “Dual System” are given as Appendix - I.

Table 10.7

Training Systems

System	Countries	Main Feature
<i>“Co-operative”</i>	Austria, Germany, Switzerland, many countries in Latin America	Pressures to undertake training resulting from strong co-operation amongst employers’ organisations, the state and trade unions
<i>“Enterprise-based”</i> - Low labour turnover	Japan	Low labour mobility, lifetime employment for many staff, ‘long-termism’ arising from absence of stock market pressure. Wage system based on seniority and enterprise-based trade unions
- Voluntarist	United Kingdom, United States	Few institutional pressures on firms to provide training

System	Countries	Main Feature
"State- driven" - Demand-led	Hong Kong, Malaysia Republic of Korea, Singapore, Taiwan, China	State plays a leading role in coordinating the demand for and supply of skills. Operates in an open and competitive economic environment
- Supply-led	Economies in transition; many developing countries, especially in Asia & Africa	Government takes on a prime responsibility for formal sector training in training institutes. Little or no pressure on employers to train

Source: World Employment Report 1998-99

10.22 In the "enterprise based system," as prevalent in Japan, the educational system provides a foundation of basic skills, which is then built upon by employers through intensive off-and on-the-job training. While vocational and technical schools provide some initial training, the bulk of skills development is provided and financed primarily by employers. Employees with few industry-specific skills on entry are shaped by the system into a highly skilled workforce that is very adaptable to change.

10.23 In the "state-driven system" of the demand-led type, which is prevalent in the East and South East

Asian economies, the education and training systems of these economies have to respond to rapid changes in the demand for skills. In this, the governments have played a key role, especially in meeting the demand for higher-level skills. In Singapore, the Skills Development Fund has financed a vast expansion of continuous training for all types of workers and has been an effective instrument of skill upgradation. In the "state-driven system" of the supply-led type, which was operational in many of the centrally planned economies of Eastern Europe and the erstwhile USSR, the training system was sustained through government

financing. It puts little or no pressure on employers to train and instead the government takes on the prime responsibility of running training institutes.

10.24 There are different training systems prevalent abroad. It would be suitable for India to adopt a system that gets participation from government, industry and trade unions, as and when required. The study group appointed by us has recommended a new modular approach to vocational training, which will aid multi-skilling, impart skills attuned to the needs of the labour market, and in consonance with the latest technology. We endorse these recommendations.

NEW APPROACH TOWARDS VOCATIONAL TRAINING ENABLING MULTI - SKILLING

10.25 New approaches towards vocational training have become imperative because of the expectations of the industry from the employee. Firstly too narrow a specialisation or inflexible training arrangement restricts the scope for trained persons to improve upon their competencies while working as

employees. Secondly, the existing informal system of skill development does not meet the career aspirations of the workers in terms of retraining and upgradation of skills. Thirdly, there is a mismatch between the supply of skills through the formal system of education and training and the demand of skills by the industry.

10.26 There is also a distinct shift in the skills from old craftsmanship and physical dexterity of individual trades to mental/intellectual skills which call for logical/abstract thinking and willingness/ability to learn new things quickly, as the technological changes are expected to be continuous in future. Multifunction skill is also another requirement of the future. To display versatility and absorb these higher skills, a worker needs to have an open mind, proper attitudes and be quickly adaptable to any change in working conditions or operational areas.

10.27 The primary objectives of the new approach towards vocational training will be as given below.

- a) Development of proper work culture/work attitude as well as knowledge of diverse technical fields rather than of single skill learning.

- b) Multi-skilling which will help in increasing the employability. This is also important from the perspective that within the working lifetime of an individual, he or she may have to cope with increasing demands of technology on the one hand, and changing skills on the other.
- c) Training should provide flexible pathways to individuals for moving between training and employment sectors.
- d) The final training phase must be conducted in a real work environment or in an environment which is as close to the real as possible, so that the trainees apply all their skill in performing the relevant tasks at the threshold entry level of performance which is acceptable to the employer.
- e) Certification of trades/skills should be done by an authorised agency or licensed competent performer who is external to the training institute (discussed in later paragraphs).

Framework for the new approach

10.28 In order to meet the objectives required in the new approach, the Study Group has recommended a modular approach to training. Such an approach will cater to the diverse vocational needs and workplace requirements. It will also offer flexibility to individuals to move through the levels of education and training. We endorse this recommendation.

10.29 Some of the key parameters to be considered while developing a new approach are given below.

- a) Effectiveness of training should be measured in terms of quality. The proposed approach can set specified minimum standards of quality for satisfying the qualification needs for skilled manpower in various sectors of the economy.
- b) Training to be imparted in small result-oriented modules to develop proper work attitudes all through - emphasis on discipline, cleanliness, order-liness & accuracy.

- c) To impart inputs to develop the ownership concept and to create a safe and pleasant working environment, by adopting the '5S'³ concept- to reduce the rate of accidents and loss of man-hours due to damage, with a goal of zero accidents.
- d) Team to learn to identify and eliminate non-value adding activities and all kinds of waste.
- e) Develop training Module on TPM – Total Productive Self initiated Maintenance - involving total participation to achieve overall equipment effectiveness.
- f) Training should focus on teaching Cause - Effect Analysis with inputs on mechanism of a machine or equipment to understand the effect of its malfunctioning and effect of improper tooling / defective processes on quality of product.
- g) Motivate the trainees to evaluate themselves and their own work with accuracy and to assume responsibility for faultless operation with a Goal of zero rejection/first time OK – Self Inspection & Self Certification.
- h) Inputs on KAIZEN⁴ - to achieve significant continuous improvement in performance through elimination of all waste. Trainees to be motivated to take up small KAIZEN events and encouraged throughout.
- i) Train to learn Team Work:
 - Trainee to be assigned individual exercises and to be guided by the instructor to plan, execute and evaluate performance.
 - Trainee to be taught to assume responsibility of planning, execution and evaluation of his

.....

3 . "5S" is a technique used to establish and maintain a quality environment in an organisation. The name stands for five Japanese words, meaning, Sort, Simplify, Scrub, Standardise and Self-discipline. It is also the starting point for many common quality initiatives such as ISO 9000 and TQM. Practising '5S' develops a pleasant workplace that is high in quality and productivity, keeps cost down, ensures delivery on time and is safe for people to work. It eliminates search time and stoppages and delays in looking for and develops a feeling of ownership in the minds of workers raising their morale high.

4 . "Kaizen" means improvement - Continuous small improvements in personal life, home life, social life and working life involving everyone. Kaizen signifies all improvements made in the status quo as a result of ongoing efforts. The implementation of Kaizen helps to generate a process oriented way of thinking and in developing strategies that assure continuous improvements involving people at all levels. Kaizen is an ongoing process. Kaizen covers a wide spectrum of work, starting with the way a worker works on the shop floor to improvements in the machinery and facilities and finally improvements in the systems and procedures. Kaizen once put into practice makes the worker a "thinker", always looking for better ways to do their work.

own task. Ability to think for oneself. Shift from Dependence to Independence.

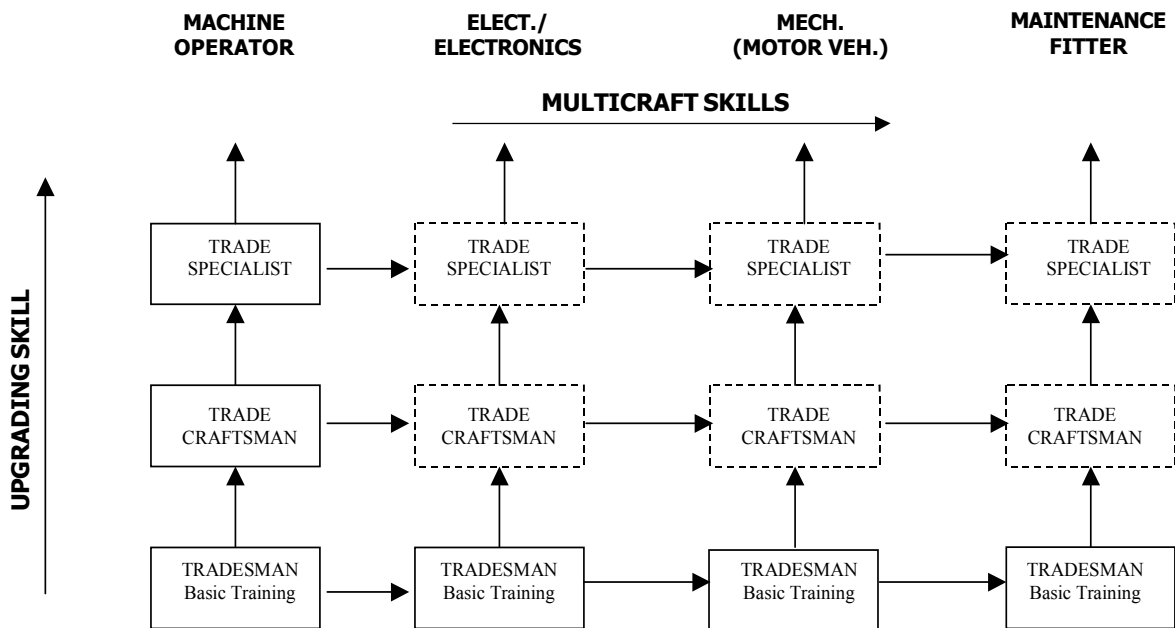
- Trainees to be exposed to Team Work by assigning small projects to a group of trainees. Required to plan, execute and evaluate the task assigned collectively.
- j) Market driven approach: The courses would have to be supported by a system of certification (currently the certification system for vocational trades does not enjoy acceptability from the users. The students

carrying certificates are being re-tested/retrained in the same trade.). Certification system has been discussed separately in later paragraphs.

MODULAR APPROACH

10.30 The proposed training approach (Manufactng Sector) is denoted graphically in Figure 10.6. A relevant example from the services sector (Paramedical) is denoted in Figure 10.7. A detailed note on the proposed training relating to the figure is given below.

Figure 10.6
Proposed Training Approach (Manufacturing sector)

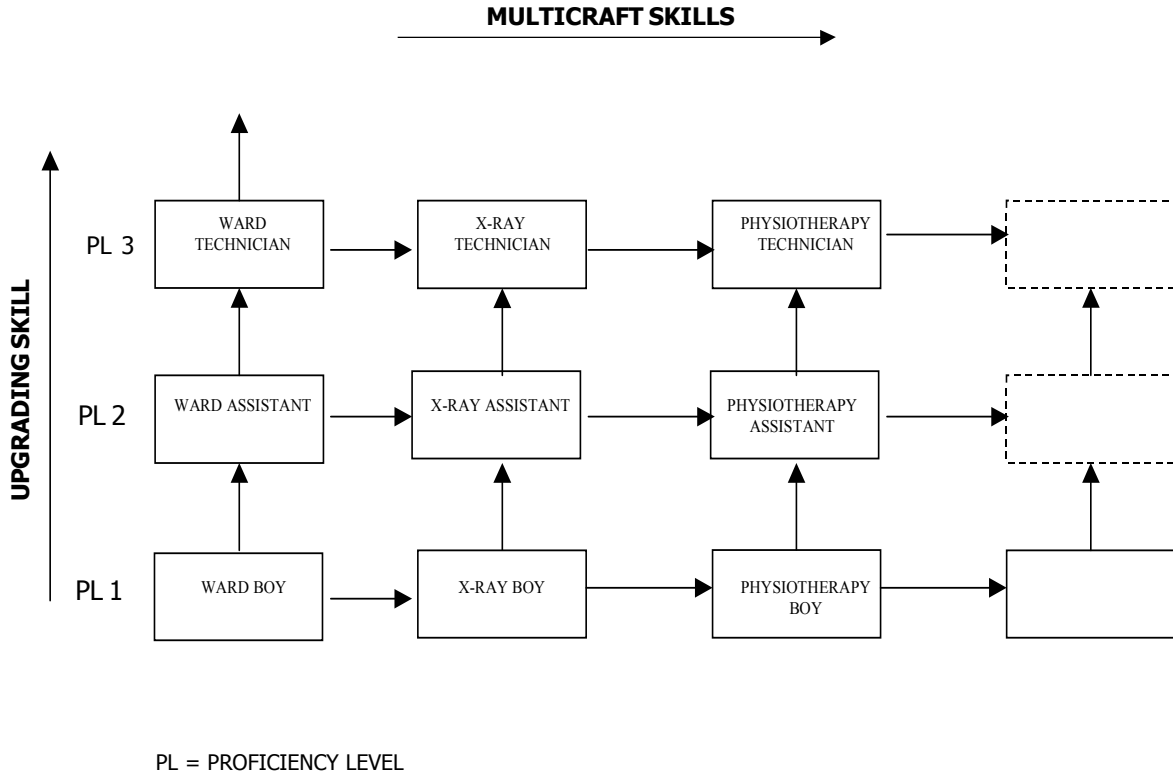


PL = PROFICIENCY LEVEL

Note: Wherever feasible, an individual can also move diagonally across various crafts/ vocations

Source: Study Group Discussions

Figure 10.7
Proposed Training Approach (Paramedical)



Source : Study Group Discussions.

a) PL₁, PL₂, PL₃ etc. are proposed Modules with increasing proficiency levels for a particular group of trades such as, say Machine Shop. Each module will be a cluster of sub-modules, which are designed as a learning element. Each sub-module will represent the smallest possible segment of a required body of knowledge and skill for which

measurable learning objective can be defined. These sub-modules will have a learning objective, a list of exercises to be performed, tools and equipment, standards of performance expected and a mechanism for continuous checking of progress and definite period.

- b) The first Module PL1 would be for a broad based foundation training and common to various trades from a particular trade group. Through this a trainee could be prepared for undertaking a wide range of jobs demanding basic skills rather than too specific skills.
- c) An apprentice after completing first module will be tested to confirm the acquisition of a defined competency/proficiency level – All India Trade Test may be conducted at this stage under the aegis of National Council for Vocational Training (NCVT) to certify the acquisition of 1st level of proficiency. This first certification by National Council for Vocational Training (NCVT) would qualify the trainee for employment.
- d) The trainee, after completing the first module will have a choice to undertake a higher proficiency module, which will give him vertical mobility. This will be up gradation of his skill in the selected trade area. It is further proposed that examinations at higher 'P' levels may be conducted by respective States under the aegis of State Council for Vocational Training (SCVT). The trainee may also have a choice to undergo training across other trade areas. This will provide him horizontal/lateral mobility i.e. an apprentice from machining skill group undertaking 1st module from Electrical group. By undergoing such courses the trainee becomes more versatile/ multi-skilled.
- e) Thus, a trainee with modular approach can pick up either high skills (skill promotion) or greater variety of skills (versatility–mobility across trades). An apprentice of a course will be required to fulfil certain qualifying norms such as certain number of years of shop floor experience etc. for undergoing training at higher proficiency level or across the trades.
- f) Figure 10.8 gives the break-up of a Module into sub-Modules. A module for a Machine Shop Operator has been considered for the sake of example. Sub-modules A, B C would be

common for other modules at PL1 level in other trade areas. Thus, by completing only the sub-module D, E, F from other trade area, the trainees can achieve the performance level

PL1 across the trades. They, in turn, save time (20 weeks in the example taken) and become skilled in one more area. Continuing this, they can become multi-skilled.

Figure 10.8

Break-up of Modules into sub-Modules

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	A			B		D						Task To Be Completed By Group Team Work E	
2												C	
3													
4													

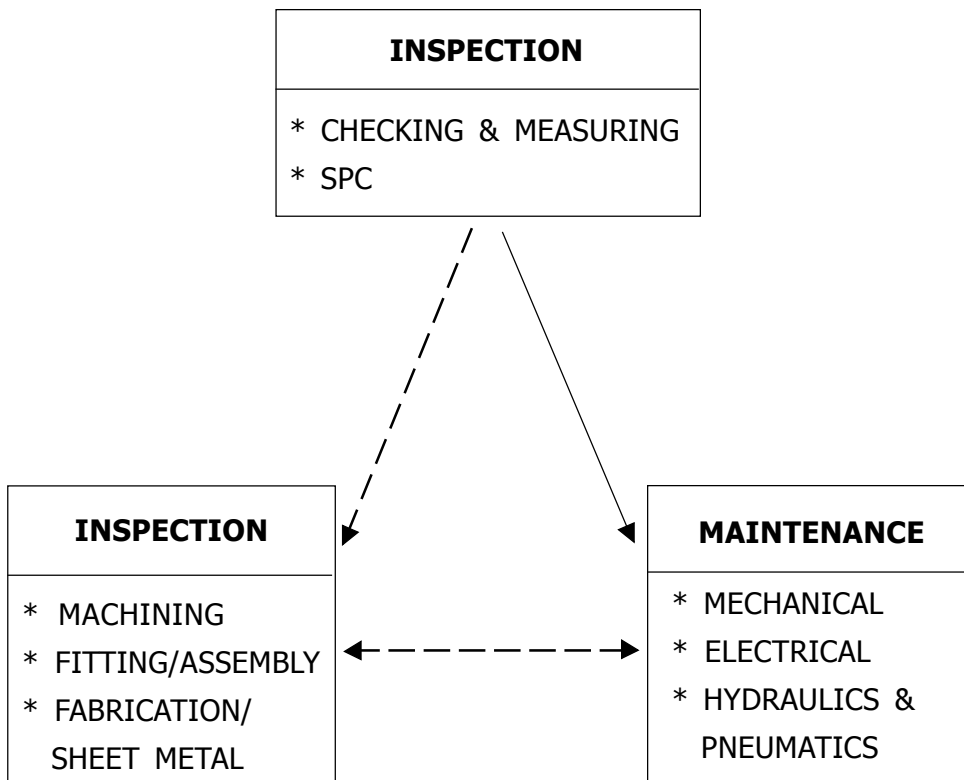
		DESCRIPTION	WEEKS
MODULE	A	Basic and allied skills	12
	B	Maintenance skills	4
	C	Inspection skills	4
	D	Basic trade skills including hi-tech areas	24
	E	Project to be completed by team	4
	F	Project to be completed by working on multi machines simultaneously by trainee	4
		TOTAL	52

g) Figure 10.9 indicates the modular approach towards cross-functional training. A trainee from the 'Production' area may be able to move to 'Maintenance' or 'Inspection' group, by selecting and undertaking appropriate modular

training on fulfilling the necessary qualifying norms and at appropriate time. This cross-functional training would help a person to move up into Supervisory or Technician positions.

Figure 10.9

Modular Approach to Cross-Functional Training



Source: Study Group Discussions

- h) Thus there is an inherent motivational dimension incorporated in modular training approach and the ongoing modular programmes may enhance the career prospect of the individuals.
- i) The concept of continuing Vocational Training will be possible with this module system and then it will become an accepted part of career growth and development.
- j) Once the modular concept is accepted the structure modules could be designed. The existing facility available at ITIs could be rearranged/realigned to make these modules available to the trainees. Establishments having basic training facilities also could take up this new system of modular training. Individuals on their own can take up these modules if employed even after working hours. Facilities at ITIs could be made available on part-time basis for employed persons. Industries may also sponsor the workmen to undergo training in appropriate modules considering their own skill requirements of future at ITIs or they may impart training according to modular plan in their own premises and allow workmen to appear for final examinations and certification.
- k) Fig. 10.10 shows a rotational programme for various trade groups to ensure the optimum utilisation of facilities. It has been observed that the present Apprenticeship Training Programme recommends a set of machines / equipment for each trade. To cite an example Lathe, Milling, Grinding, Drilling machines are prescribed for each of the trades like Turner, Machinist, Grinder, Fitter, Tool & Die Maker, and Millwright Mechanic etc. It is seen that a cluster of such machines are made available in the respective trade training areas at ITIs. These machines remain idle once the respective skills are imparted. This could be avoided by a rotation plan, which makes training cost effective.

Figure 10.10

Cost Effective Training Plan (Optimal use of Training facilities)

ALLIED TRAINING : ROTATIONAL PROGRAMME								
WEEK NO ->	1	2	3	4	5	6	7	8
TRADE	AREAS OF TRAINING							
GROUP :1	MILLING	TURNING	GRINDING	WELDING	ELECTRICAL	SHEET METAL WORKING	TPM	INSPECTION
GROUP : 2	INSPECTION	MILLING	TURNING	GRINDING	WELDING	ELECTRICAL	SHEET METAL WORKING	TPM
GROUP : 3	TPM	INSPECTION	MILLING	TURNING	GRINDING	WELDING	ELECTRICAL	SHEET METAL WORKING
GROUP : 4	SHEET METAL WORKING	TPM	INSPECTION	MILLING	TURNING	GRINDING	WELDING	ELECTRICAL
GROUP : 5	ELECTRICAL	SHEET METAL WORKING	TPM	INSPECTION	MILLING	TURNING	GRINDING	WELDING

Source: Study Group Discussions

MODULAR APPROACH TO THE SERVICE SECTOR

10.31 The modular approach mentioned above is also applicable to the services sector. As an illustration, the approach for the paramedical field is shown at Figure 10.7. The broad level occupations and the course

content (as illustration) are mentioned subsequently.

- a) Few Occupations under Para-Medical field are:
 - i) Ward Technician
 - ii) Operation Theatre Technician
 - iii) X-ray Technician
 - iv) Ophthalmic Technician
 - v) Medical Lab. Technician

- | | |
|---|---|
| <ul style="list-style-type: none"> vi) Life Support Care (ICU) Technician vii) Occupational Health Centre Technician viii) Dressers / First Aiders ix) Physiotherapy technician x) Dental technician | <ul style="list-style-type: none"> vii. Aseptic precautions / Sterilisation of Instruments, Dressings, Linen viii. Patients handling / Communication with patients & relatives ix. Basic 'Bio-chemistry' x. Training in day to day working like measuring body temperature, administering injection, dressing, bandaging etc. xi. Housekeeping and sanitation in hospitals / Labs etc. xii. Preparation of beds xiii. Safety precautions while handling patients, instruments xiv. Basic 'First-aid' treatment xv. General Lab Management and Ethics |
|---|---|
- For the occupation of Ward Technician, the basic module for the Ward Boy at Proficiency Level PL₁ can be as follows (given as illustration only):
- | | |
|---|---|
| <ul style="list-style-type: none"> b) Course Contents covering both Theory and Practice – Hands on experience in Hospital / Laboratories / Clinics / Physiotherapy Centres. i. Study/ understanding of the 'Human Body..' Different parts and their functions ii. Understanding of common anatomical terms iii. Surface Anatomy iv. Study of function of different organs (Basic Physiology) v. Human health and disease vi. Acquaintance with Medical Terms used in 'Clinical Practice' | <ul style="list-style-type: none"> c) On completion of the entire training course in one of the occupations, the trainee may have wage employment or self-employment as illustrated below (for the occupation of medical laboratory technician): |
|---|---|

OCCUPATION : Medical Laboratory Technician

Wage Employment	Self Employment
<ul style="list-style-type: none"> ● Technician / Lab. Technician in ● Blood Bank ● Public Health Lab ● Pharmaceutical Labs / industrial or Occupational Health Centres ● Taluka, District Hospitals ● Private Hospitals, Nursing homes & diagnostic Labs ● Primary Health Centres ● Dental / Pharmacy Colleges ● Micro biology / Bio-chemistry / Pathology Dept. of Medical Colleges & Hospitals etc. ● Physiotherapy clinics ● Municipal Dispensaries 	<ul style="list-style-type: none"> ● Diagnostic Laboratory ● Sale of Readymade treatment kits / medicine ● Distributor for Lab chemicals ● Distributor for lab wares, equipment / spare parts.

TRAINING MODULES FOR SELF EMPLOYMENT

10.32 While developing modules based on proficiency levels PL₁, PL₂ etc. (Fig 10.6), one sub-module, covering necessary inputs useful for the trainee to engage themselves in

selfemployment on completion of training, could be designed wherever possible, depending upon the trade group areas. Separate training modules suitable for only self-employment could otherwise be designed keeping the modular approach in mind.

10.33 The institutes may develop small sections with appropriate training facilities in the selected self-employment areas. To illustrate this point a sub-module on "Plumbing Skills" may form part of the main module of Assembly Fitter or Maintenance Fitter (these details are available from PSS Central Institute of Vocational Education, Bhopal – an NCERT division). Initially, a trainee will learn all plumbing skills in the well developed/equipped section and then practice on live jobs. The Institute may provide on the job training by exposing the trainee to real life situations. For example, the trainee can be put on the job by the institute, if the institute has an annual repair contract with the Bungalow Owners or Housing Societies in the neighbouring residential areas. Institutes thus, would continuously get repair jobs in plumbing; the customer would get prompt service and trainees would get the opportunity of real life experiences and on the job training.

10.34 With this approach towards training for self-employment the institute would be able to earn 'Revenues.' The institute may, at its

discretion, pay a small portion of the earning to the trainee to motivate them to perform well. Trainees will also learn how to communicate with the customer and develop self-confidence in doing repair jobs independently. They can also be trained to keep accounts, spare part inventory and to take proper care of tools and equipment. Such modules would certainly help in developing and consolidating the necessary skills of entrepreneurship.

10.35 Many such modules covering the service sector like "Repairs of Electrical Domestic Appliance" or "House Wiring" or Motor Winding, which form a part of main module of "Mechanic Electrical and Electronics," could be designed to promote self-employment.

10.36 The modular approach to vocational training is applicable to the labour force both in the organised and the unorganised sectors. As has been indicated in the illustrative examples pertaining to manufacturing (machinist) and service (paramedical – ward boy) sub sectors, this system is applicable for horizontal, vertical and diagonal upgradation of skills.

This system results in creating a multi-skilled workforce as well as in increasing the employability of the workforce.

**RECOMMENDATION : COMPE-
TENCY BASED TRAINING SYSTEM**

10.37 **Salient Feature:** In order to meet the new challenges facing the Indian workforce, the Study Group has recommended setting up of a competency based continuing training system covering all sectors of the economy. The training system will have a well-defined certification system for the competencies acquired during the program. It will help in providing learning, training, retraining, assessment and accreditation opportunities, with desired academic flexibility to those who wish to achieve higher skill standards and performance at the work place. This means that the trainees are free to leave the training and join work as and when they feel that they have received adequate amount of training. After some time, they can again join in for training if the situation demands or they feel a need to upgrade or shift laterally.

10.38 The purpose of competency

based training (CBT) is to develop a competent workforce which will consist of individuals who can consistently perform work activities to the standards required in employment over a range of contexts or conditions.

10.39 CBT differs from the traditional training on the basis of which the training cycle is operated. In CBT, the basis of training design is explicit, standards of performance are measurable and reflect the actual expectations of performance in a work role.

The key features of this approach are:

- a) Competencies to be demonstrated are derived from the job function/ roles of different categories of employees
- b) The methodology for assessing the performance is based upon achieving specified competencies and is made public in advance
- c) The rate of progress through

the training programme is determined by demonstration of competency rather than time required for completion

- d) The learning programme is individualised as far as possible, through the use of instructional modules for each competency, which offer different instructional alternatives
- e) Some of the competencies like leadership, team work will be developed in group situations

during the contact sessions

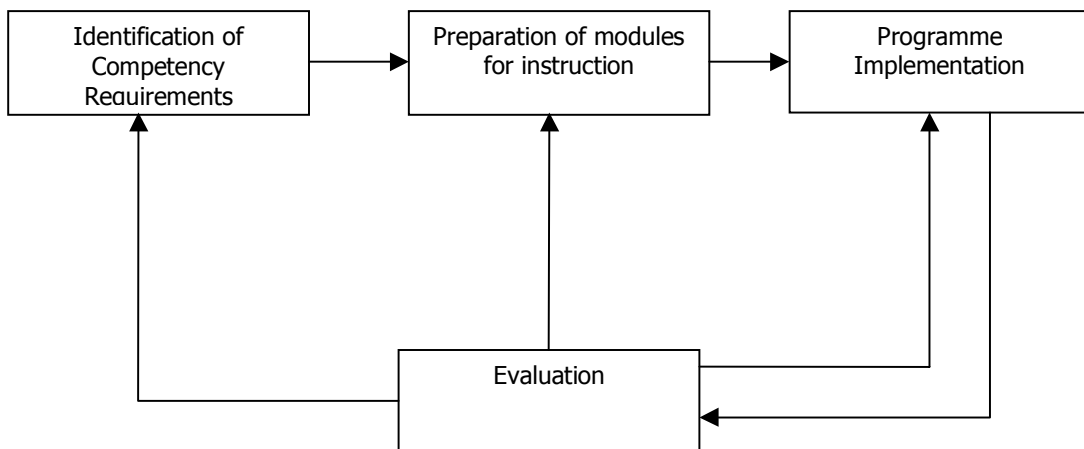
MODEL FOR COMPETENCY BASED TRAINING

10.40 A model for Competency based training for developing required competencies is given as Figure 10.11. It consists of 4 core areas:

- a) Identification of Competency Requirements
- b) Preparation of Modules for Instruction
- c) Programme Implementation and Evaluation

Figures 10.11

Model for Competency Based Training (CBT)



Source: Model for Designing Competency Based Training, Prof. PC Jain et.al.

IDENTIFICATION OF COMPETENCIES

10.41 The first step in the development of this CBT method is the identification of the target group for which the CBT programme is being designed. The target group is that category of the people, which has to undertake a specific vocation (occupation) after the stipulated programme of study. Their occupation (when technical education is considered) could be at various levels such as craftsmen/ technicians/ engineers etc. Every occupation consists of a number of jobs (roles) that are to be performed.

10.42 Identification of competencies is done by analysing the job functions, receiving feedback from allumini employers and trainers looking into

personal growth needs and assessing the future requirements of the occupation. Identification of competencies will also provide us with a list of attitudes, which are desirable for performing the job proficiently. Desirable attitudes represent those qualities relating to the readiness and willingness in the employee to use cognitive and practical skills in the work situation (without much hesitation, ability to work as a team member, to take leadership, to be sensitive to the environment) and those qualities, which deal with feelings, emotions and interests.

10.43 An example of the competencies required by a Plumber attendant at the lowest level (new entrant) is summarised in Table 10.8.

Table 10.8**Plumber Attendant (Competencies)**

S. No.	Task	Knowledge	Skills	Personality Traits
1.	Handling of plumbing tools	- Types of plumbing tools	- Identification of plumbing tools - Handling & uses of tools	- Carefulness - Alertness
2.	Various Operations involved in plumbing e.g. cutting, threading, jointing etc.	- Types of pipes - Types of various operation	- Identification of pipe - Laying of pipe - Types of jointing - Installation of plumbing fixtures	- Hard work - Skilfulness - Accuracy
3.	Fitting of various fixtures and domestic appliances	- Types of fixtures/ domestic appliances such as cocks, showers, traps, water meter, valves, sink, fitting, basin, bath tub, urinal posts etc.	- Identification of fixtures domestic appliances, selection of fixtures - Handling of fixtures - Assisting the plumber in all plumbing operations	- Keeness - Accuracy - Carefulness

Source: Compendium of Occupations based modules, PSS Central Institute of Vocational Education, Bhopal

10.44 The next step is to identify who should be deciding the group of competencies to be included for a particular level of job/role. A systematic and scientific process calls for a group consisting of all the stakeholders such as representatives from the industry and educational institution that will undertake this work. Alternatively, Needs Assessment Boards (NABs) comprising the stakeholders can be established. Their function will be focussed on assessing, compiling and standardising competencies required for selected occupations, on a continuous basis, for both the near and the far future of the labour force of unorganised sector.

PREPARATION OF MODULES FOR INSTRUCTION

10.45 After identification of competencies, skills and enabling objectives for a given training programme, development of instructional modules will start. The instructional process is through modules and the module will have the following characteristics:

a) The focus is on a competency consisting of distinctive identifiable skill/ skills.

- b) Modules are individualised to allow the learner to work at his own place.
- c) It would blend theory and practice, reading, reflecting and acting.
- d) It would include an objective assessment procedure to the extent possible, whether self-monitoring or requiring partner/observer or both.

It would be reality oriented involving the learners in real or simulated situations fairly directly and immediately.

PROGRAMME IMPLEMENTATION

10.46 The three critical factors on which the success of the implementation of competency-based training depends are given below.

a) Feedback on programme: A CBT programme will function effectively if appropriate strategies are put into place which will gather information leading to modifications in the programme. Such strategies could include normal feedback

channels from learners, their employers and the faculty involved in implementation. Yet another strategy could be research into the job performance of employees before and after attending the CBT programme. It may also be possible to explore a mixture of such strategies to provide reliable data on which decisions could be based.

- b) **Resource Mobilisation and Delivery:** The modular approach with its emphasis on individualised instruction demands a great deal of updated learning materials. Hence, there should be planned generation of resources such as filmstrips, slides, video CDs, apart from the usual print material. Provision has to be made for competency testing at different stages, as the concept of an end or terminal examination is no more valid. Further, considering the need to provide basic occupational competencies to a large number of learners in a short time, it may be possible to identify a select group of competencies to be included in

the first phase of the CBT programme, which may be about one to two months duration or more, depending on the needs of the clients. In subsequent phases, optional competencies could be offered. An achievement of about 75% of the competencies offered could lead to career advancement.

- c) **Commitment:** Another key factor for the successful implementation of the CBT programme is the commitment of the institutions and the individuals responsible. Such commitment could be ensured by involving the entire faculty at each stage of development and implementation and by adopting a group strategy.

10.47 **Evaluation:** The evaluation in the CBT model means evaluation of learners and evaluation of programme effectiveness.

- a) **Evaluation of Learners:** Competency assessment is carried out through post test(s),

for each competency. A learner who demonstrates performance of the competency up to a pre-determined proficiency level is declared successful (pass).

Separate tests may be designed for evaluating the knowledge component, skill component and attitude assessment. The knowledge component can be assessed by a written test using objective and short answer questions. It is not necessary that every competency will have a component of knowledge assessment. This will depend upon specific requirements of the competency. The skill component may consist of assessment of cognitive skills and/or psychomotor skills depending upon the requirement of the competency. This assessment can be either in a simulated situation and/or real life situation. For the attitude assessment, no standard questionnaires are suggested. However, the instructor will assess this component by responses got through the questions/ exercises from each

learner during the classroom/ field exercises and formal and informal interactions.

- b) Evaluation of Programme Effectiveness : As mentioned earlier, the success of the CBT method depends partly on obtaining the feedback and using it to modify the programme. A programme can be modified from time to time to refine the module objectives, improve the learning experience for the trainees, and upgrade the learning materials it uses. The programme evaluation should also attempt to address the criteria for performance assessment and objective attainment.

The competency based training system is applicable to the labour force both in the organised and the unorganised sectors. As has been indicated in the illustrative example pertaining to plumber attendant, this system can be effectively used to develop competencies in any job/vocation in all sectors of economy, such as manufacturing, service, trade and

agriculture.

**RECOMMENDATION : COMPE-
TENCY BASED CERTIFICATION
SYSTEM**

10.48 Many developed and developing nations the world over, have evolved a standard of certification of competencies at

different levels. Applicable normally to formal education and training programmes, it can be extended to courses or modules in informal training programmes, as and when required. Some of the certification systems as they exist in foreign countries have been mentioned as

Table 10.9.

Table 10.9

Certification Systems in some countries

United Kingdom: United Kingdom (UK) has evolved a National Vocational Qualification (NVQ) at five levels. These proceed from NVQ-I, at the certificate level, to NVQ-5, at the Higher Diploma level, passing through stages of advanced certificate, diploma, advanced diploma. The basis here is to recognise performance at higher complex levels of advanced skills at par with those offered in formal education programmes, depending upon their levels such as diploma, degree etc.

The colleges of higher education offer competency based vocational education with modularisation of curricula. They conduct conventional courses, general academic programmes, access programmes, retraining and outreach programmes, and short training and recreational courses. NVQ originally assessed performances in work place, pass or fail. At present they have modified it to include college-based courses and assessment at colleges also.

South Korea: South Korea conducts three months to one year training programmes for (full time or part time) for developing job skills. The Ministry of Education accredits the training institutions for equivalence of qualification with those of the formal system of technical and vocational education and training. Skill certification is done by Korean Skill Certification Corporation based on proficiency in skills as a skilled worker or a technician. Skilled workers are given grades of Master, Grade- I, Grade- II and Assistant. Technicians are graded as Master, Grade-I and Grade- II.

Philippines: Philippines conduct non-formal education for literacy, employability, development of technical skills and for development of values and attitudes. Many Ministries and Boards offer non-formal vocational training programmes and accreditation/certification is according to standard criteria.

Singapore & Mauritius: These countries have evolved a policy for certifying skilled workers at three levels starting from National Training Certificate (NTC)-III at the lowest, NTC-II and NTC-I levels. These are considered as equivalent to certificate, advanced certificate/diploma and higher diploma levels.

USA: In USA, certification is done normally at State/District Levels. The informal education consists of a bewildering set of different activities and programmes. These are provided by employers, labour unions funds and secular philanthropic groups as well as by schools and colleges through extension and continuing education.

10.49 In India there is a large network of ITIs, Vocational Schools, Institutions, Export Promotion Councils, Commodity Boards, KVIC/ KVIBS, KVKs, Community Polytechnics, Extension Centres of Agriculture/ Horticulture, Universities, NGOs, Professional Bodies & Associations, Chambers of Commerce and Industries, Confederation of Industries at district, state, regional and national levels etc., conducting a large variety of formal and non-formal training programmes. These sectors

include: Agriculture and allied activities, Mining & Quarrying, Manufacturing, Electricity, Gas & Water Supply, Construction, Trade, Hotels, Tourism, Transport and Communication, Financial, Real Estate and Business Services, Community & Social Services and Personal Services. The annual training capacity of the various formal training providers has been given before in Table 6.

10.50 In order to make the infrastructure more productive and efficient, a national level certification for different trades/skills is recommended. An independent professional body needs to implement competency standards in all vocational trades. Active user involvement in defining quality standards and ensuring that these are duly implemented can be done only by involvement of user associations or individual experts from user sectors.

INDEPENDENT REGULATORY AUTHORITY

10.51 We, therefore, recommend that an independent regulatory authority be constituted by the Government, whose functions shall, among other things, include setting standards for skills required for a particular competency, standards for programme implementation and standards for accreditation of institutions imparting training programmes for skill development and retraining. Such an authority needs to have statutory powers in the formulation of policies (including the mechanism of fees and funding), action plans and programmes for

providing a continuing, coordinated and fully integrated skill development programme. A case in example is the National Council for Vocational Qualifications (NCVQ), which was created in 1986 in the United Kingdom (UK). The NCVQ, in turn, accredited over 150 industry associations to develop standards for their industries. Supplementation of the NCVQ in UK gained momentum, though slowly, and by 1998 about 2.2 million NCVQ certificates were awarded. The NCVQ is now known as Qualification and Curriculum Authority (QCA). It enters into contracts with the National Training Organisation (NTO) to develop standards and provide training.

10.52 The independent National Authority will have the following functions:

- a) Formulation of policies, action plans and programmes for providing a continuing, coordinated and fully integrated skill development programme
- b) To set sector-wise standards for skill acquisition, development and training programmes

- c) To work out plans for more participation and involvement of industry in vocational education
- d) To allocate resources amongst programmes and schemes
- e) To monitor and review various vocational education programmes and make changes based on the feedback
- f) Accreditation of training institutions/ organisations

10.53 The National Authority can also seek support of another agency, which will solely focus on qualification and curriculum development. This institution may be made responsible for accreditation of training providers and setting up of sector-wise skill standards on which the curriculum gets developed. It may be mentioned that the training providers/institutions which will be accredited for providing certification will be required to get their systems and processes revalidated after a prescribed period of time.

CERTIFICATION SYSTEM

10.54 A person who has gained relevant knowledge and skills, formally

or informally in a designated occupation can undertake an Evaluation Test for certification and recognition of his/her qualification (of competencies). This means that certification of trainees/learners is competency based. Accredited persons and institutions, can conduct the tests at specified intervals. As the training is modular, credits will be assigned after completion of each module depending on the performance at the test. The agency for qualification and curriculum development will also prescribe minimum credits essential for job positions belonging to categories of technical workforce and would include compulsory accumulation of a minimum number of credits related to one's job.

10.55 The credits will be valid for a pre-defined period, thereby necessitating revalidation of the competency. In case a person already possesses competencies, gained hereditarily, formally or informally, through distance learning systems such as internet, self-learning modules, previous work in a work place or training in an organisation, he/she can appear for the test with

the accredited person (assessor) or organisation for testing and certification of the level of prior learning. This would help a person in assessing competencies in a particular field and also in deciding the modules to be offered for obtaining a particular qualification. Accreditation of prior learning can be done through the formal or informal education and training method. It could be obtained by an individual in an institutional setting or a course undertaken at an industry training centre or 'on-the-job.'

10.56 It is also desirable that certification of competencies be done with actual involvement of the user organisations like employers, industry and other user systems. A conscious effort must be made to involve the trade unions to contribute effectively in this endeavour.

10.57 A case in example is of TAFE, Australia where a competency-based certificate is issued in a modular manner upon completion of a unit of up to 40 hours of training in a week. Such units can be accumulated over time and can be used for certification based on modules completed.

ENTRY QUALIFICATIONS AND RE-CERTIFICATION OF INSTRUCTORS

10.58 In order that the training is effective at the grass root level, it is essential that the trainers are highly skilled and they also are subject to re-certification of their skills after a set period of time. There is a need to strike a balance between the skill level of the trainer and his/her pedagogical abilities. If the trainer is not a master craftsman, it might turn out that the focus is more on the theoretical aspects and the practical part gets less attention. Also, the trainers/ instructors are to be re-trained in a planned manner for keeping up to date with the changes taking place both in their skill development field as well as the methods of training for skill development. The industry itself can prove to be an appropriate source from where training talent can be recruited for a full time role as skill developers.

10.59 Thus, competency based certification system is applicable to the labour force both in the organised and the unorganised sectors. It is not only the trainees who have to be

certified, but also the trainers under this system. It will also enable persons, who have acquired skills hereditarily, by experience on the job without formal education or by acquiring skills through self learning, Internet as well as other methods (as outlined in section 2.3), to get certification. They can use this certification to enhance their earnings as well as employability.

ADDITIONAL RECOMMENDATION ON SKILL DEVELOPMENT, TRAINING & WORKERS EDUCATION

10.60 In the previous paragraphs we have already referred to the:

- (a) Modular Approach to Vocational training enabling Multi-skilling
- (b) Competency based Training System
- (c) Competency Based Certification System

These are applicable to labour force both in the organised and unorganised sectors. Apart from these, we would like to make the following additional

recommendations as given below.

INCREASING LITERACY LEVELS OF LABOUR

10.61 Keeping in view the fact that 44% of the Indian workforce is illiterate, the current literacy programs initiated by the central and state governments should also be targeted at the future entrants into organised and unorganised labour market.

ASSESSMENT OF TRAINING NEEDS THROUGH COMPETENCY ASSESSMENT BOARDS/ GROUPS FOR THE UNORGANISED SECTOR

10.62 For the implementation of Competency Based Training across all sectors of the economy, it is imperative that the competencies for various occupations are established. This also requires imparting attitudinal training requisite for the occupation for which the learner is being trained. Competency Assessment Board should be established at the National Level. This will focus on assessing, compiling and standardising competencies required for selected occupations on a

continuous basis. The competencies will be identified by interactions with the industry associations, detailed regular surveys aimed at projecting the nature and characteristics of the unorganised sector activities and its workers. It will also focus on curriculum development including attitudinal training requirement for the various occupations.

10.63 The competencies will be identified by interactions with the industry associations, by utilising the services of various specific institutions, and through detailed regular surveys. The aim of these surveys will be to project the nature and characteristics of the unorganised sector – its activities and its workers. They will contribute information that is relevant for structuring the curricula of Competency Based Training programmes.

SELF-EMPLOYED TRAINING IN THE UNORGANISED SECTOR

10.64 As has been observed in this report, a large part of the employment is being generated in the services sector and, there too, mostly in the self-employed sector. The self-

employed sector requires additional skills in the area of accounting and marketing which cannot be imparted through structured formal training. It is felt that 'mentors' in actual business conditions will help in the development of skills. The Bhartiya Yuva Shakti Trust, which is a Confederation of Indian Industry (CII) initiative established in 1991, is one of the relevant models in this context. (The details of this model are available in Appendix-VI of the Chapter). The Trust fosters entrepreneurial activity by providing seed capital loans and practical business advice through mentors. About 1700 people have been employed in 500 ventures between 1991-2000 spread over rural and urban areas. However, it is worth noting that the loan recovery rate is 94%, indicating strong economic viability. Skill development and Training in the construction trades and a three-step approach for achieving it, has been given in Appendix – II.

TRAINING OF RURAL LABOUR

10.65 In order to undertake development of rural areas in the true sense, the country would be

required to establish training institutions at the doorsteps of the rural masses. It would be appropriate to establish Block Level vocational educational institutions in a phased manner in each block, so that the country can economise on the creation of a large infrastructure for such institutions. These institutions are to be set up with the financial support of Government, Non Resident Indians, corporate sector, NGOs. These institutions should aim at two important levels: (a) spread of literacy and (b) spread of vocational education with a view to creating marketable skills and continuous employability of rural labour.

ROLE OF TRADE UNIONS, NGOS & OTHER INTEREST GROUPS

10.66 The objective of achieving a skilled workforce is possible only when all the stakeholders act as partners in training. Trade unions at the national, regional, industry and plant level should all have a say in the running of workers' education programmes.

10.67 The Non Governmental Organisations (NGOs) provide an effective interface between the organised sector and the unorganised

sector. NGOs provide the most conducive means for providing training at the small and micro level. The workers in the unorganised sector require training linked to specific production activities. The NGOs play a vital role in achieving this objective. The Government's decision to support voluntary organisations from the VIIth Plan period onwards was based on the realisation that voluntary organisations not only provide a new modal approach to the rural development but also secure the involvement of families living below the poverty line in the developmental efforts.

10.68 The role of the NGOs assumes more importance in view of the fact that India is a vast country with immense occupational and cultural diversity. With a vast population of Indians living in the rural areas being illiterate, training by formal means becomes difficult. The NGOs are also equipped for capacity building as they can introduce innovation and experimentation since they are unencumbered by Government Rules and Regulations.

10.69 Our Study Group conducted

two workshops especially in the Unorganised Sector on Skill Development, Training and Workers' Education (inviting participation from Non Government Organisations, Trade Unions and Academia), to share the experiences of the participants in providing skill development and education in the unorganised sector. The findings from these workshops have been mentioned as Appendix - III.

FORECASTING OF MARKETABLE SKILLS THROUGH THE ESTABLISHMENT OF A LABOUR MARKET INTELLIGENCE SYSTEM

10.70 For better matching of demand and supply of marketable skills, a labour market intelligence system needs to be set up. This system will forecast the demand of various marketable skills at the national level and at the district level through the existing government machinery, but in consultation with the industry associations, entrepreneurs, experts, NGOs etc. on a continuous basis. This system would take into consideration existing and emerging business opportunities in India and abroad. It will also be applicable for forecasting of marketable skills in both

the organised and unorganised sectors.

STRENGTHENING OF ITI'S AND AUGMENTING THE SUPPORT FROM THE INDUSTRY

10.71 At present, there is insufficient capacity in the areas of skill development and training. Hence, there is a pressing need to enlarge the training infrastructure as well, so as to effectively and productively utilise the existing infrastructure. While infrastructure is available in the form of 4274 Industrial Training Institutes (ITI), there are a number of problems with the ITIs. They need to restructure and reorient their courses at a much faster rate so as to respond effectively to current and future needs of the labour market. Further, the Industry-Institute interaction continues to be weak. So far, inputs from the industry into ITIs are merely of advisory nature, which are not very effective. It is necessary to see that advisory inputs are supplemented with managerial inputs.

10.72 We, therefore, recommend that ITIs need to:

- (a) Run market-driven courses

- (b) Review, and if necessary, revise curriculum every 5 years to keep it contemporary
- (c) Give refresher training on new technologies and tools to teachers at ITIs
- (d) Discontinue obsolete (not required by market) courses

10.73 Further, to ensure effective involvement of industry in the training process, we recommend that some ITIs may be selected, on a pilot basis, for development into Institutes of Excellence. They should be managed jointly with the industry. In this regard, institutionalisation of Industry-Institute interaction and empowerment of training institutions would be important.

10.74 It may be mentioned that in 1997, a study was made in eleven ITIs in North India with the participation of senior officers from Directorate General Employment & Training (DGE&T), State Directorates, Confederation of Indian Industry (CII) and local industry representatives. In January 1998, CII organised a workshop on 'Industry-Institute Interface for the years 2000 and beyond. One of the major

recommendations of this workshop was to set up an Institute Managing Committee (IMC) with the participation of local industry for at least one ITI in each State. It was also proposed that a Steering Committee at the State level, be constituted, which would decide the powers to be devolved to the IMCs. The suggested composition of the IMC with roles and responsibilities is mentioned as Appendix - IV.

10.75 The IMC model has been already tried successfully in ITIs located in the Northern States.

10.76 Broad areas of co-operation and key areas of responsibilities of Industry and Institute are given as follows:

RESPONSIBILITIES OF INDUSTRY

- 10.77 a) The local industry will assist in recommending and monitoring the future needs of the local areas and suggest the courses which the institute should focus on
- b) Selection of candidates at the entry level
- c) Development of training

curriculum and up gradation of existing and new courses

- d) Faculty upgradation and development
- e) Industrial visits of Trainers and Trainees
- f) Providing slots for actual hands on experience
- g) Joint Research and Development Projects
- h) Sharing of testing and inspection facilities
- i) In-plant training of faculty/students
- j) Advise on generation and utilisation of revenue for the institute
- k) Participation of experts from industry in invigilation and as part-time lecturers
- l) Assistance in placement
- m) Accreditation of Institutes and Faculty
- n) Organising continuing educational programmes for working professionals

Recognition of blue collar workers by way of special awards and publicity material.

RESPONSIBILITIES OF THE INSTITUTE

- 10.78
- a) Ensuring quality of theoretical inputs
 - b) On- the -job training to the students
 - c) To encourage faculty for upgrading their knowledge through visits or short-term training courses
 - d) To generate revenues through short term training courses for the existing workers of the local industry
 - e) Proper maintenance of building and workshops of the institute

NEW TRAINING DELIVERY SYSTEMS

10.79 In order to expand training capacity as well as to provide training anytime and anywhere, new delivery mechanisms such as computer based training, web-based training, distance

learning etc. can be adopted which would offer flexibility in timings, pace of learning, and customisation of content to serve the varying needs of the different target groups.

INTEGRATING VOCATIONAL EDUCATION AT SCHOOL LEVEL

10.80 In view of the large number of individuals entering the workforce, vocational education should be integrated at the school level. This will also help in standardisation of training courses. It is relevant to consider, in this context, whether vocational training should be added onto the general school system or whether it should be imparted through separate schools. However, school students should be allowed entry into courses on some trades such as masonry, after the 8th standard (due to low skill level requirement).

INCENTIVES FOR THE CREATION OF TRAINING FACILITIES

10.81 In order that skill development and training get the due focus, it is felt that fiscal incentives should be extended to industry and other

providers of training. They can be given incentives by the government in the form of providing land at concessional rates, a part-funding of the capital cost, tax benefits on the amount spent by them for training and skill development, awards, teachers' training, provision of training material etc. The same can also be extended by way of tax concessions on the amount spent on training and skill development.

10.82 We also recommend that the entire expense in training should be treated as a revenue expense and all capital expenditure on training and infrastructure should be eligible for an accelerated depreciation equal to 1.5 times the amount spent during the same financial year. The investment in training and infrastructure is made to encourage the culture of training and to improve the skills and attitude of performance.

SKILL DEVELOPMENT FUND (FOR THE NEXT 10 YEARS; SUBJECT TO REVIEW)

10.83 As per the World Bank report on Skills Development, well-designed levy-grant schemes can induce firms

to train. Several East Asian economies have effectively used direct reimbursement of approved training expenses, funded out of payroll levies, to encourage firms to train their employees. Successful schemes—such as those in Singapore, Malaysia and Taiwan are flexible, demand-driven, and often accompanied by an information campaign and a programme of technical assistance to smaller firms. The introduction of such a scheme in Taiwan led to dramatic increases in the volume of training, which continued even after the program was terminated in the 1970s. The Study Group set up by us has thoroughly reviewed such programmes, which are prevalent in Singapore and Malaysia, besides the system prevalent in other countries. References in detail made in Appendix - V.

10.84 In order to provide for:

- (a) Retraining of workers rendered surplus/obsolete by layoffs, retrenchment and Voluntary Retirement Schemes/Early Separation Schemes, and
- (b) Training of labour in the

unorganised sector,

We recommend the establishment of a Skill Development Fund (SDF), in the manner in which it has been established in Singapore.

10.85 The key features of the Skill Development Fund are as below.

- (a) The fund will be contributed by organisations which are eligible to contribute Provident Fund either through the Provident Fund office or through their own trust.
- (b) The amount of contribution to be paid by such organisations will be 2.0% of the provident fund contribution by the employer. In addition, the employee will also contribute 1.0% of his/her provident fund contribution. The government will also contribute every month, two times the amount collected from the employer and employees to this Fund. A proposed source of the government's contribution is by way of amount received from

disinvestments in public sector units.

- (c) For the purpose of collection of the contribution, we propose it be routed and administered through the Regional Provident Fund (PF) Office (as per the system prevalent in Singapore), so as to avoid extra administrative burden. The PF office will receive the contribution along with the Provident Fund and deposit the same into a separate account within a week of the receipt. We endorse the view of the Group that no new collection mechanism involving additional government machinery should be devised.
- (d) The respective individuals/ organisations making this contribution to the SDF will be given tax concession for an amount equal to the amount contributed to the SDF.
- (e) At all points of time, 25% of the total amount in the SDF will be invested in a corpus with high safety and reasonable return.

The balance amount in the SDF will be used for purposes that have been mentioned in preceding paragraphs.

- (f) The collections to this SDF shall continue for a period of 10 years. It is expected that by that time the SDF corpus would be self-sustaining. Thereafter, contributions to the SDF may be discontinued. However, this is subject to review based on the requirements of the labour situation at that point of time.
- (g) The utilisation of the amount so collected in the SDF, should be monitored by persons of eminence and reputed industry associations in association with the Central and State Governments.

10.86 Further, for granting the amounts to be paid by the Fund as an incentive to the organisations, certain norms may be required to be set. The organisations fulfilling the norms make an application, giving details of the training efforts being put by them. After evaluation of the quality

of training efforts and the quality of trainees turned out, a committee may prescribe the grants. Guidelines for committee formation and identifying norms can be explored further in consultation with experts.

10.87 The grants offered to organisations by the Skill Development Fund as an incentive for promoting skills would also help in developing a training culture among employers as well as employees and ultimately, we believe it would help to build a world-class workforce for the nation. The fund would also encourage industries to further strengthen their training infrastructure and commitment towards training. Efforts could be directed towards identifying high-end skills, critical for economic growth and encouraging employers to invest in such skills. This will help in increasing the reach of training, to promote skill deepening and in enhancing the employability of the workforce.

COORDINATION OF TRAINING EFFORTS

10.88 Various Ministries of the Government of India are providing vocational education and training

systems in India (refer table 10.6). The Government should find out ways and means to coordinate the work of the Ministry of Human Resource Development, Ministry of Labour, Ministry of Rural Development and Ministry of Industry, to avoid duplication.

WORKERS' EDUCATION

10.89 Workers' education is a special kind of education designed to give workers a better understanding of their status, rights and responsibilities as workers, as union members, as family members and as citizens. It differs from vocational and professional education, which is for individual advancement in that, workers' education places emphasis on group advancement. Workers' education also enables the workers to assess the approaches and technical skills of professional management.

THE IMPORTANCE OF EDUCATION AND TRAINING

10.90 The emerging economic scenario has brought great changes not only to the ways of working and transacting business but also to the

management of households, upbringing of children, cultural activities, leisure and social relationships. The success of all technical training will depend not only on the acquisition of work skills but also on the values and attitudes imparted by general education. Education and training also have other objectives in addition to vocational ones, because they open up access to culture, to knowledge and to political and social life and are essential factors in the development of the individual and the values that guide the life of the individual and social groups. If the training of workers is purely technical, they are unable to adjust to new values, new concepts of the nature of work, new ways of interacting with their peers, colleagues and with work itself. This brings out the fact that workers' education has to continue, and needs to upgrade itself, to meet the expectations of the target groups in order to achieve their goals.

10.91 Thus, a comprehensive programme of education of workers has to be established with the following key objectives:

- a) To instil a sense of belonging in the workers vis a vis their work and organisation, through a better understanding of their work and the work organisation; to inculcate amongst workers a positive sense of dedication and hard work so as to achieve higher productivity and improvement in the quality of products
- b) To improve the bargaining power of the workers, through understanding of their rights and environment, and through organising and collective bargaining
- c) To assist the worker in identifying skills he/she needs to pick up in order to improve value in the job market, and to provide the avenues for acquiring the skills
- d) To encourage the workers to look at alternatives in organisation of their work, like worker cooperatives, in order to improve their collective bargaining power and their

quality of work. Specialised programmes may also be conducted for creating interest in self-employment, or in the acquisition of skill upgradation in the situation of job loss

THE SCOPE OF THE EDUCATION PROCESS

10.92 The education programme should not be a mechanical approach of skill development towards a changing job market. It also needs to look at the vital question of allowing the workers to understand the environment and processes of which they are a part. They should be enabled to have a say in the way in which the processes affect them, through programmes that improve their individual and collective bargaining abilities.

10.93 It is in the context that the education process should specifically focus on an understanding of the economy, industry and the business organisation of which the worker is a part. The scope should include understanding the business and work processes along the supply chain. It should include the potential for

workers to keep abreast with changes in technology and work processes in the industry of which they are a part.

10.94 The education programme should also look at issues of alternative forms of organisation as ways of improving the involvement and control of workers over their work. These include forms of self-organisation, including producer and consumer cooperatives and the Gandhian value of Trusteeship. These alternatives are particularly significant in the context of current business strategies of dispersal and contractualisation of work.

10.95 The programmes should also discuss organisation of workers, and the history of collective bargaining. The new working class should be able to trace its lineage back to older worker class traditions, in order to grow organically and retain a collective identity. This collective identity is essential for developing a sense of worth, and for retaining some control over their work life.

ORGANISATION OF THE EDUCATION PROGRAMME

10.96 As is evident, such a programme cannot be confined to the classroom. There has to be a context of continuous education. The education process should allow continuous interaction and consultation between various participants in the labour movement. It should encompass the process of tripartite negotiations and collective bargaining between management, government and labour.

OWNERSHIP OF THE PROGRAMME

10.97 The involvement of workers and workers' organisations in the design, conduct and control of such a training programme is essential to its success. As such, their prominent role in the ownership of the programme is necessary. Trade unions at the national, regional, industry and plant level should all have a say in the running of the programme.

THE ROLE OF THE CENTRAL BOARD OF WORKERS EDUCATION

10.98 Since its inception in 1958, the Central Board of Workers' Education (CBWE) has done significant work in injecting an understanding and enthusiasm among workers for the

success of industrial growth, production and productivity and harmonious industrial relations.

10.99 The CBWE is a tripartite body, which is headed by a part-time non-official Chairman nominated by the Government of India. The Director, CBWE is the Principal Executive Officer who is assisted by one additional Director, 3 Deputy Directors, a Financial Advisor and other supporting staff. The Headquarters of the Board is at Nagpur and has a network of 4 Zonal Directorates, 49 Regional Directorates, 10 Sub-Regional Directorates spread throughout the length and breadth of the country, and an apex training institute viz. Indian Institute of Workers' Education at Mumbai.

10.100 Initially, the focus of the programme of the Board was on industrial workers i.e. on workers of the organised sector. As an outcome of the recommendations of the Estimates Committee of Parliament in 1971, the Workers Education Review Committee in 1975 and the Ratification of ILO convention No. 141 concerning organisation of rural workers and their role in economic and social development in the year

1977, CBWE launched programmes for workers of the unorganised and rural sectors during 1977-78. Presently, the Board organises 20 to 25 types of programmes for the workers in the organised, unorganised and rural sectors.

10.101 The Study Group has set up by us has identified certain areas where the CBWE can play a vital role which are given below.

- a) The CBWE can play an important role in creating awareness on specified skill training required for the development of the industry and availability of such training facilities. The Board may further coordinate such training programmes by bringing together workers, managements and nearby training institutes
- b) Though the CBWE organises training of trainer programmes, so far as the conduct of classes in the unit level by the trainers is concerned, the performance has not been satisfactory. A suitable mechanism needs to be devised for regular training programmes through the

trainers trained by the CBWE. The Board can play the role of a nodal agency to enforce training programmes through the trainers and also to monitor the same so as to achieve larger coverage of the target groups.

- c) The CBWE, through its wide network, may organise specialised training courses for the retrenched workers/workers who have taken VRS so as to help them in proper investment of money, which can ensure a regular income. These training programmes may also help in creating awareness regarding areas of skill development and related issues.
- d) The CBWE should become more focussed and should organise specialised, need-based programmes for the various target groups in the unorganised and rural sectors. These programmes can also help workers identify opportunities and areas for self-employment
- e) The Co-operative is yet another sector in which there is ample scope for training by the CBWE.

There is a lot of demand from this sector for the training programmes of the CBWE. The Board, may therefore give suitable training programmes to the workers in the co-operative sector.

- f) As the Panchayati Raj plays a crucial role in the Indian system of governance providing for effective local administration, the functionaries of the Panchayati Raj institutions may be trained on a regular basis by the CBWE in subjects of importance from the point of view of changing scenario.
- g) There is a need for more follow-up programmes i.e. to conduct more refresher courses, to repeat the training programmes for the same target groups by the Board as these alone can have a better impact and will sustain the effect.
- h) The Board may also involve non-governmental organisations, academic institutes etc. in conducting various training programmes. This is necessary for a larger coverage, as the

Board, with the existing strength, cannot reach the entire workforce.

LEADERSHIP DEVELOPMENT PROGRAMME

10.102 In an era of transformation, the trade union movement faces its own urgent need for adjustment, for the modernisation of its own stock of technical knowledge and operational skills, for the rethinking of policies and priorities, and for reflecting of leaders capable of forming and implementing the strategies needed to ensure that the best long term interests of workers are safeguarded. The problems of social and economic development can be surmounted only with the full, knowledgeable and responsible participation of organised labour.

10.103 A systematic re-education and training of workers based on their developmental needs and national interest demands a high place on the agenda. It is important that unions themselves take the initiative in studying these problems and that they focus attention on the long-term interests of workers. The training

programmes organised by the CBWE for trade unions must be re-designed to focus on the above areas.

INVOLVEMENT OF STATE GOVERNMENTS

10.104 At present, the Workers Education Programmes are carried out with the grants-in-aid made available by the Central Government. As the majority of workers being trained belong to the States, and as their contribution by way of improvement in skills, work culture, personality development, leadership qualities, awareness of responsibilities goes in a big way to the State's development, the State governments must also participate in the Workers Education programmes. State Governments may be approached for contribution to the scheme either by giving grants or providing infrastructure and other facilities.

10.106 The recommendations made in this Chapter have been made keeping in view the present profile of Indian labour, and the existing and future challenges that Indian labour face. As India integrates more with global markets, more business opportunities will emerge, specially in the area of knowledge based, technology driven and services industries such as Information Technology (IT) Enabled Services, IT Services, Biotechnology, Telecom, Tourism, Infrastructure, Healthcare etc. These opportunities will change our perceptions of present and future challenges. This will call for working out additional and appropriate recommendations for the labour force in the unorganised and organised sectors.

ANNEXURE - I

GERMAN DUAL SYSTEM

Definition

The Dual System of vocational training can be defined as a combination of learning in the 'serious' world of a company career and learning in the 'protected' world of the vocational school, where the companies concentrate on imparting practical knowledge, while the vocational schools concentrate on imparting theory. The term 'dual' also denotes a specific constitutional situation in Germany, in that the Federal Government is responsible for vocational education in the companies and the Länder(state) for the vocational schools.

Financing of Vocational Training in the Dual System

Financing is regulated in different ways, depending on the nature and task of the institutions involved in vocational training in the Dual System. While the (state) vocational school is financed from tax revenues, the companies (mostly private) cover the costs associated with vocational training themselves. Their expenditures for vocational training thus represent costs, and they are passed on to the prices of the products and services as far as the market permits. They also represent company expenditures, which can result in tax breaks. Companies can receive subsidies in special cases and for special groups of youths, such as for the vocational training of handicapped youths on the basis of the Labour Promotion Act or for the promotion of the vocational training of women in commercial-technical occupations.

Although, the latest figures are not available, in the year 1992, Germany spent 2.43% of its Gross national Product (GNP) on vocational education in the Federal Republic.

Transition from the Dual System to the Employment System

It may be mentioned that companies are generally not obliged to keep on the trainees after they pass the skilled workers' examination. Conversely, the young skilled workers are free to accept an employment offer or to leave the company. Alternatively, the respective job market conditions, and individual decisions and plans on the two extremes, determine what happens to the trainees after they complete their vocational training. Statistics reveal, that the smaller the companies are, the more probable it is that the trainees are either unable or unwilling to stay in the companies after passing their final examination. On the employer's side, the hiring rate is also determined by the overall economic situation and the positive or negative development trend in the respective training companies. The hiring rate is lower when business is going badly, and higher when things are going well.

APPENDIX - II

Training And Skill Formation In Construction Trade⁵

Service Nature of the Industry

The construction industry (barring real estate developers) does not really sell a tangible product; it sells a service. The service that it may provide is determined by its clients and is performed at a time and place specified by them. Contractors neither have control on the demand for construction services nor can they stimulate it. They do not even set a rate for their services as rate setting is done by clients. The financing of the construction services is also outside their control as the client, who commissions the service, does it. Only big integrated firms which employ multidisciplinary professional groups, permanent workforce and have access to national and international finance are an exception. But the vast majority of contracting firms operate in a product market where they have no control over demands, technology, materials, workplace, finance and labour supply.

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⁵ Excerpts from article by NICMAR

Skill Mix

The nature of skill mix in building trades is of significance. The skills required to perform building trades vary considerably. A 'mazdoor' could easily be used to assist a mason, concreter, painter or a carpenter. But the skill requirements begin to increase as one moves up the technological ladder. Skills required to become a formwork and centring carpenter, are different from those required in a furniture-making carpenter. Similar is the case in masonry, plumbing, concreting etc. Each of these trades is semi-dependent, though a part of the construction process.

Entry in the building job market is easy and quick at the bottom-end of the skill; the exit at this end is also easy though not as rapid. Unskilled workers keep moving in and out of the industry. But as the level of acquired skill grows, the opportunity for movement out of the industry declines. This is inevitable, as there is no demand for building skills in any other industry. They may change jobs from a contractor to an independent entrepreneur.

Existing Mechanism and Efforts of Skill Formation

The existing institutional framework for skill formation in various construction trades is inadequate. The Directorate General of Employment and Training (DGE&T) in the Ministry of Labour is responsible for vocational training in the country. It runs through state governments and private organisations ITIs all over the country. ITIs impart training in 43 engineering and 24 non-engineering trades. The engineering trades include carpentry, plumbing, masonry and plastering, which though not construction specific, may be relevant to it. As a rule, the training is oriented to the manufacturing and service sectors. Courses are of one to two year's duration and admissions are restricted to high school graduates. Very few construction workers have high school level education to qualify for admission or resources to maintain themselves over the long training period.

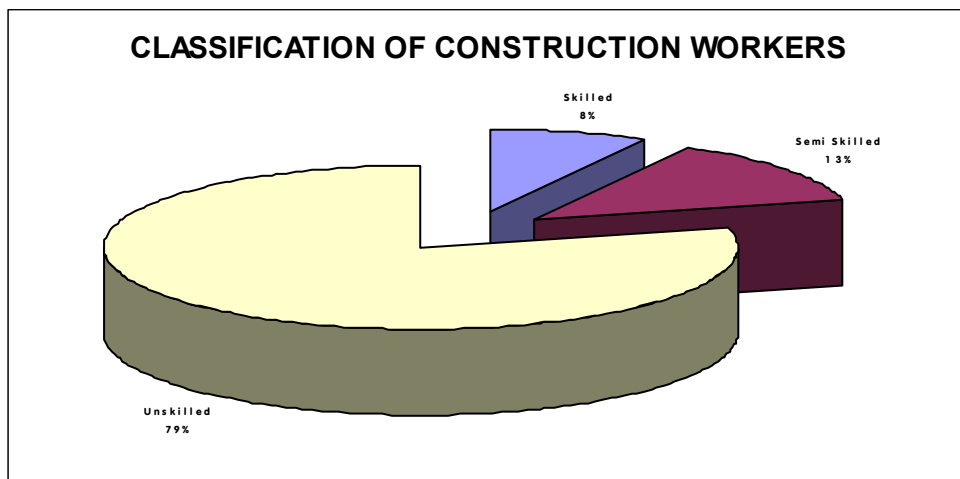
The other major programme for skill training is the Apprenticeship Training Scheme under the Apprentices Act, 1961. Of the number of trades in which apprentices may receive training, only 3 are construction specific (plumber, brick-layer and fitter). The

National Network of Building Centres also trains construction workers. As per the report of the Working Group on Skill Development & Training, about 2,50,000 construction workers are trained annually, in different trades in various 640 Building Centres of HUDCO.

In the absence of any institutional mechanism for skill formation, construction workers continue to be trained by the traditional master craftsmen. Apart from its inadequacy in quantitative terms, the traditional system neither utilises new technologies and work methods, nor does it absorb the benefits of research and development. Also, women workers are not trained in any trade and they remain head load carriers or helpers, all their working life.

Size of Demand

It may be mentioned that authoritative serial data on the size of construction workforce and its distribution by skill, are not available. It is estimated that about 310 lakh workers are working in the construction sector, of which 79% are unskilled. Out of this, 210 lakh workers are seasonal construction workers, and the balance are regular construction workers. Women constitute 23%-27% of the construction workforce. The classification of workers based on their skills is given in the following pie diagram.



Source: Report of the working group on Skill Development & Training

However, studies conducted by the National Institute of Construction Management and Research (NICMAR) bring out the following distribution over the period 1995-2005:

Category	1995-96 percentage	2004-05 percentage
Engineers	4.71	8.47
Technicians	2.46	4.43
Clerical	4.40	4.40
Skilled Workers	15.35	27.62
Unskilled Workers	73.08	55.08
Total	100.00	100.00

Source: Employment Projections in Construction Sector, NICMAR, Jan. 1996

The distribution of manpower requirement by trades in various sectors is expected to be as under:

Trade	percentage
Unskilled workers	54.43
Masons	30.42
Carpenters	7.94
Plumbers	0.32
Electricians	0.47
Others	6.42
TOTAL	100.00

Worker Training Scheme

There are two basic objectives of providing training to develop skills in construction workers:

- a) To improve performance levels, quality of work, efficiency and productivity of the construction industry and
- b) To improve the economic situation of workers in the job market, to enhance wage welfare conditions and make possible to upgrade their economic and social situation in the society.

For achievement of the above objectives, a three-step approach is suggested for training to develop skills in construction workers:

- a) Establish an institutional mechanism that imparts skills in construction trades in a manner that is acceptable to workers as well as contractors and which remains relevant to the dynamic nature of the construction industry,
- b) Create conditions that require contractors and construction firms and other employers to employ those workers whose skill levels are certified,
- c) Design a skill delivery system that gives skills to new workers, upgrades skills of the existing workforce and is flexible enough to allow certification of skills of those who submit themselves to testing and qualify.

Basic Parameters

- a) Training should be a judicious mix of the formal and the informal, of on-site and classroom work, which makes more use of graphics and visuals. It should be of short duration, say 15 days, in one spell and should assume basic literacy and knowledge of local languages in trainees.
- b) Formulation of skill standards, trade tests and training procedures, qualification criteria for certifying agencies may be centralised to ensure uniformity and standardisation.

- c) Training methods and procedures and implementation may be totally decentralised with due regard to regional variations and local requirements.
- d) Contractors and their associations and trade unions may be encouraged to assume the maximum responsibility for training.
- e) Skill levels may be graded and upgraded, and formulated, keeping in view the technology, materials and methodologies of the future. The system should look ahead at least two years from the start date.
- f) Revisions in the training system may be considered perhaps at two year intervals.
- g) Skill testing and certification may be done by technically competent and credible agencies that meet the criteria laid down for the purpose.
- h) Attempt may be made to put to test the workable mechanism on the ground before commencing work. The system should evolve over a period of time, be monitored and improved as experience is gained.
- i) Three aspects may receive special attention, namely:
 - Training of trainers
 - Training of women workers
 - Training of supervisors and mistris
- j) Contractors may be required to employ trained and trade-tested workers on the jobs. This may be written into the contract document and penalty imposed if untrained workers are employed on jobs notified to be performed by skill-certified workers and supervisors.
- k) The training institutions may give more weightage to basic literacy and work experience for admission to training courses.

APPENDIX - III

Training & Education Efforts In The Unorganised Sector

The Study Group conducted two workshops on Skill Development, Training and Workers' Education in the Unorganised Sector, inviting participation from Non Governmental Organisations, Trade Unions, Self-help groups, Individual Beneficiaries and Academia. The first workshop was conducted at Bhubaneswar, Orissa and the other was conducted at Bhopal, Madhya Pradesh.

The Non Government Organisations (NGOs) which attended the workshops were primarily engaged in the development of the following categories of workers viz.

- a) Women workers
- b) Forest dwellers
- c) Brick-Kiln workers
- d) Beedi workers
- e) Poor farmers and workers in agriculture and allied activities
- f) Child workers
- g) Dealers in wholesale and retail trade
- h) Workers in handicrafts and village industries including artisans

Based on the experiences shared by the participants, the areas in which training and education was being imparted are summarised below.

Training in the areas of:

- a) Collection of Forest produce
- b) Processing of Forest produce
- c) Honey gathering
- d) Cultivation of medicinal plants

- e) Crop production
- f) Animal husbandry
- g) Food processing
- h) Mushroom cultivation
- i) Nursery & seed production
- j) Soil Conservation
- k) Multi-skilling to facilitate year long employment
- l) Training in non-farm activities to arrest rural-urban migration

Education in the areas of:

- a) Management of natural resources
- b) Sharing of resources
- c) Sustainability of resources and ecological development
- d) Diverse uses of forest resources
- e) Use of improved nets and fishing boats
- f) Irrigation
- g) Organic farming
- h) Small farmers' technology
- i) Food security
- j) Preservation of agricultural output and fruits
- k) Marketing of produce
- l) Entrepreneurial skill
- m) Living conditions improvement
- n) Promoting self-help groups
- o) Developing Labour cooperatives

Training Agents

Training and education on the above areas is currently being imparted through:

- a) Self-help groups
- b) Community voluntary organisations
- c) Bal Panchayats
- d) Peoples Associations
- e) Anganwadis
- f) Grass root level workers like village level workers, basic health workers and anganwadi workers
- g) Family as a unit
- h) Local panchayat workers/ members

Observations on the Training Efforts

- a) There was no standardisation of courses in terms of training content and curriculum, training aids and training materials or education/ generic skills.
- b) Quality of training imparted was not being reviewed.
- c) No certification or recognition of courses for employment.
- d) Follow-up of utility of training was inadequate.
- e) Selection of trainers was not systematic.
- f) Training of trainers was a neglected area.
- g) No agency for coordination of vocational training for the unorganised sector workers even at the national level.
- h) Training was not based always on training need assessment. Not every NGO assessed training needs before plunging into training.
- i) Inadequate effort in multi-skilling, up-skilling and lateral skill development.
- j) Insufficient infrastructure support for training.

APPENDIX - IV

Institute Managing Committee & Steering Committee⁶

Composition

Steering Committee For State/Union Territory

1. Three Representatives – Industry
2. Senior Representative of Joint Secretary Level of respective Ministry
3. Secretary, State Technical Education
4. Principal/Director of the Institute, (By Rotation)
5. Representative of Trade Association

Institute Managing Committee (IMC)

1. One Representative from concerned Department
2. Representative from State Directorate of Technical Education
3. Four representatives from Industry
4. Principal/Director of the Institute
5. One senior Faculty Member of the Institute
6. Representative of Trade Union
7. One student representative

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⁶ Basic Source : Report of Working Group on Skill Development & Training, Planning Commission.

Role And Responsibilities Of The Institute Managing Committee (IMC)

- a) **Generation and Utilisation of Resource:** The IMC should be free to generate funds through various projects from industry. These funds would be available to the IMC for utilisation as decided by them.
- b) **Student Selection:** The IMC may adopt various methods of selection according to the individual needs of each institute e.g. entrance test, aptitude test and viva.
- c) **Examination Supervision:** Examinations, theoretical and practical will be supervised by experts from industry.
- d) **Faculty Evaluation:** Faculty evaluation will be done by the Steering Committee, and their recommendations will be taken into consider for promotion.
- e) **Teaching Aids:** Teaching aids of the Institute will be upgraded under the supervision of IMC.
- f) **MIS System:** Steering Committee will introduce an MIS System for each Institute. The format of such MIS System has already been created by CII.
- g) **Employment:** The IMC will be responsible for advising on the possibility of employment opportunities, including self-employment.
- h) **Faculty and Staff Development:** IMC will identify the training needs of all faculty and staff member. Detailed training schedules, budget and release of personnel for training programmes will be planned by IMC.
- i) **Industrial Training:** Industrial training will be compulsory for all the students and faculty of the Institute. IMC will prepare guidelines for the industrial training with details of periods of training including projects for students and faculty. IMC will also decide about the stipend to be paid to each student and faculty by the industry providing training.

- j) Transfer of Faculty: IMC will be taken into confidence while transferring the faculty from one Institute to another.
- k) Equipment Maintenance: The equipment maintenance of the Institute for rectification of faults and replacement of the equipments will be supervised by IMC.
- l) Capital Expenditure: IMC will be consulted for the purchase of equipments including accessories and inspection equipment.
- m) Curriculum Revamping: IMC will be allowed to revamp the curriculum of any trade above the existing norms on industry needs base. IMC will be allowed to include new trades and discontinue the obsolete trades.
- n) Faculty Deputation: Deputation of the faculty from one Institute to another will be made on the recommendations of IMC.
- o) Consultancy Rules: The rules for providing consultancy by the Institute will be laid down in consultation with the Advisory Committee.

APPENDIX - V

Skill Development Fund—Other Countries

Singapore uses a levy on the wages of workers to upgrade worker skills through the Skills Development Fund (SDF). The SDF was established in October 1979 with the objective of encouraging employers to train and upgrade the skills of their employees. The SDF does this by offering grants as an incentive to companies to defray the cost of training their workers. These grants are financed by collections from the Skills Development Levy (SDL). Under the SDL Act, every employer, both local and foreign, is required to pay, monthly, a skills development levy for each of their employee whose remuneration in any month is Singapore Dollars 1000 or less. The rate of levy for an employee for any month is 1% of the remuneration or \$ 2.00 whichever is greater. The Fund's aggressive efforts- to raise awareness of training among firms, to support development of company training plans, and to provide assistance through industry associations- have led to a steady rise in the incidence of training, especially among smaller firms.

Other salient features of the SDF are as given below.

- a) No skills development levy is payable in respect of any employee whose remuneration is more than \$ 1000 for any month. For the purposes of the Act, "remuneration" includes wages, salaries, commissions, bonuses, allowances and other emoluments paid in cash.
- b) The term 'employee' includes casual, part-time and foreign workers rendering services wholly or partly in Singapore. Employers of domestic servants, chauffeurs or gardeners are also liable to pay the levy. However, private individual employers employing any of these persons wholly and exclusively for domestic purposes are not liable to pay such levy.
- c) The skills development levy should be paid to the Central Provident Fund Board. Together with the submission of the return of payroll in the prescribed

form, the skills development levy for any month must be paid by every employer within 14 days after the end of that month or by such later date as agreed by the Singapore Productivity and Standards Board (PSB).

- d) Any employer who gives any false or misleading information relating to the return on the payment of the levy or who contravenes the provisions of the Act or Regulations shall be liable, if convicted, to a fine or imprisonment or both. In addition, a penalty at the rate of 10% per annum of the amount outstanding shall be imposed for late payment.

Malaysia's Human Resource Development Fund (HRDF) is an example of a flexible, demand-driven training scheme. The HRDF is generated from payroll levy, which is 1% of employee wages. Promoted investments obtain from 70%- 100% exemptions from income tax. Reinvestment programs obtain grants of up to 40% of the capital investment for production capacity. Depending on their training needs, firms can choose flexibly from among several programs: (1) approved training courses provided by registered external institutions; (2) ad hoc in-plant or external training courses on a as-needed basis; and (3) annual training programmes. Prior approval of training courses under the second and third programs is required from the HRD Council. However, the Council's overhead costs are kept low, and filing burden on firms is reduced, by automatic approval of courses under the first programme, by using registered training institutions as collection agents of the council, and by giving firms with well developed training plans the option of filing under the annual programme. In addition, the HRDF provides firms with grants for developing training plans; organises regional courses on training need assessments, and administers a variety of subsidised programme targeting small enterprises. A preliminary analysis indicates that the scheme may have increased the incidence of training modestly.

South Korea: The huge investment in vocational and technical education is supported by the Ministry of Education by subsidising the cost of practical training laboratories, workshops and vocational schools. Also, there is large amount of funding from IBRD, OECD and other donor agencies. Many Trade Union Centres have education structures and programmes. These get financial support from national trade union bodies and public funds on mutually accepted criteria.

The financing is done through four categories:

- a) Allocation from workers' union funds
- b) Funding from public revenue by State/Local bodies or through other agencies
- c) Per capita payment from employers to union education fund
- d) International agencies and other donor agencies

United Kingdom: Very few non-formal education programmes are from public funding. Fees often cover the full cost of the courses. 13% total public expenditure is for formal and non-formal education and training programmes, but estimates of share of private resources are not available. Department of Employment and Manpower Service Commission provide special funds for training of the unemployed. There is also assistance for formal training programmes from local education authorities.

Mauritius: 1% of wage bill of employers is set apart for funding industrial and vocational training which is a training cess. All training programmes both formal and non-formal are to be approved by IVTB. For many approved training programmes, reimbursement of 30% of the training cost/fee is made to the employer. Besides, employers also get tax concession for an amount equal to twice the expenditure on training, which reimburses 40% to 60% of the training cost, depending upon the income bracket in which the employer falls.

Australia: Further education is done through TAFE colleges and schools, which are run by the State Governments. Funding is from Central and State Governments.

Appendix - VI

BHARATIYA YUVA SHAKTI TRUST (BYST)

Bharatiya Yuva Shakti Trust (BYST) is more than just a Trust which helps the disadvantaged youth. It encompasses a whole new philosophy, which is reflected in its logo. The graphic depiction of three persons, with one larger than the others, and helping them, is based on the Guru-shishya tradition. It also stands for the two kinds of help given: money and mentor. The chain effect of the figures stands for 'people helping people,' which is what BYST, is all about. It is public trust and non-profit organisation

Oh No – Another of those Trusts

BYST gives total assistance to disadvantaged youth who wish to set up, or develop their own business. This assistance includes finance, professional advice, training, education and guidance till the venture takes off.

Target Group

Young people in the age group of 18-35, who are either unemployed or underemployed, can approach BYST.

Essentially they are people who have no alternative sources of funding or assistance. They must have a sound imaginative business idea along with the will and determination to succeed.

Role of Industry and Business in support of BYST

The Indian business community has collectively got together to support the Trust. The support is either through donations, professional assistance, and sponsorship of events, assigning mentors, all on a purely voluntary basis.

The Founding Chairman was the Late J.R.D. Tata and the late H.P. Nanda was the Vice Chairman. Currently, among the eminent members of the business community, those on the Board of Trustees are Mr. Mantosh Sondhi (Chairman), Mr. Rahul Bajaj (Vice Chairman), Ms. Lakshmi Venkatesan Mr. Subodh Bhargava, Mr. Jamshyd Godrej, Mr. Rajive Kaul, Ms. Anu Aga, Mr. Sujit Gupta, Mr. Deepak Roy, Mr. Yogesh Deveshwar, Ms. Chanda Singh, and President (CII).

The Confederation of Indian Industry (CII) provides administrative support and strategic linkages. Over the years, a strong partnership has been built with the private sector for fostering Youth Entrepreneurship at the grass root level. As a Founding member of Youth Business International (YBI), UK, BYST is helping to set up similar programmes globally, enhancing its international linkages.

What makes BYST unique?

The Trust takes on applicants without asking for 'Financial Down Payments or Collaterals.' This way, it provides them with the all important seed capital as loan, which they can use alone or in conjunction with financing from banks and other financial institutions.

A loan of up to Rs. 50,000 is provided to each applicant at the special interest rate offered to small businesses by banks.

The most remarkable feature of the Trust is providing each client with a mentor on a one-to-one basis. As mentioned earlier, this follows the 'Guru-Shishya tradition' where the teacher not only teaches, but also guides and helps to develop the disciple. The mentor gives personalised advice, maintains regular contact with the business, monitors progress, and helps in solving problems and developing business. The interested professionals (mentors), in turn, get a wide range of first-hand business experience and the satisfaction of helping disadvantaged youth.

Coverage of BYST

It supports ventures both in the manufacturing and servicing sector, turning job seekers into employment generators. In the last nine years, BYST has supported a wide variety of enterprises from Doll Making to Desk-Top-Publishing, Herbal Cosmetics to Hi-Tech Electronics, enabling wealth creation.

Functioning of BYST

Business proposals from potential entrepreneurs are welcome directly or are sought by the Trust through vocational schools, entrepreneurial training institutions and well established grass root and non-governmental organisations (NGOs). BYST gives assistance to help formulate these proposals. The screening process, done by an Entrepreneur Selection Panel, (ESP), comprises of experts from industry in Marketing, Finance, Management, etc. On approval of the proposal by them, BYST provides a whole range of Business Development Services along with a Mentor, who gives guidance until the venture takes off.

