

Skills Development System: A Micro Level Evidence

Shashi Bala



V.V. Giri National Labour Institute

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Preface

Education and technical skill are two most important keys to human resource development. In a globalising economy, which faces unpredictable competition from many quarters, a strong educated and technically skilled manpower can withstand the pressures of competition without many upheavals in the society and economy.

Today though India has a comparatively strong edge in respect of education in comparison with many developing countries, yet the proportion of labour force with technical skill is very low, as almost 90 percent of its labour force do not have any marketable skills. In the case of the workers in the informal sector almost 97 percent do not have any technical education. Keeping this aspect in view the government has been taking up different measures to increase the technical skill base of human resource and also launching specific programme to enhance the capability of technical skill imparting institutions.

In India, the skill is imparted to both formal and informal sectors in diverse manners. Training to informal sector is mostly given through, inter alia, hereditary system; on the job training; vocational training linked to development programmes; and also through some forms of training organized by different Non Governmental Organizations. For the formal economy, training is provided by institutions and organizations promoted and managed by the government, such as Institutes of Technology and Engineering, Polytechnics and Industrial Training Institutes (ITIs). Among these institutes, Industrial Training Institutes occupy a significant position, as there are over 4800 Industrial Training Institutes (ITIs) in India. These Institutes have been imparting training in over two score engineering and non-engineering trades. Of these, over 1800 are in the Government sector and the remaining are in the private sector. In addition, there are several Regional Vocational Training Institutes (RVTIs), as well as a National Vocational Training Institute (NVTI) who also impart skill training.

The main aim of this study was to review the existing skill formation systems in the country and to study the existing formal and informal training institutions. The main focus was to examine the correspondence between skill acquired in the institution and skill requirement in the workplace.

The study attempts to assess the skill development process at micro-level in several institutions located in two districts, namely, Karnal in the state of Haryana and Dehradun in the state of Uttarachal. The micro level finding shows that there are gaps between skills that are supplied by the institutions and the skills demanded in the market by different establishments. As a result, there is a mismatch between the supply and demand. This forces many job aspirants opting for jobs for which they were not trained. The study also finds that the institutions imparting different skills in different trades do not have trade

components on soft skills, like enterprenurship development, accounting, management of establishment, etc. These components would have helped the trainees to set up their own businesses, thereby increasing the scope of profitable self-employment. This sort of situation could be avoided by proper market information about the jobs and its skill requirements. Besides, in order to enhance the quality of skills, institutions imparting vocational education and training, need to be upgraded by adding new teaching aids, additional infrastructure, and incorporating soft skills required for starting enterprenurship, etc.

It is hoped that the present study will prove to be useful to all those concerned with skill development issue and will help researchers and policy makers in some way to design policy and programmes for the betterment of technical skill levels of the workforce.

Uday Kumar Varma

(Uday Kumar Varma)

Director

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Chapter 1

Introduction

Prologue

The various policies and developments associated with the process of globalization have profound effects on employment and labor market across the different countries (ILO, 1998). In spite of high economic growth experienced by several countries in the post globalization phase, especially during the 1990s, employment growth has been low in many countries leading to complicated situation. (UNDP, 1999). Unemployment is rising, as the new job entrants to the labor market are unable to find productive and remunerative jobs. More and more workers are eking out a living in informal, low paid employment and in the poor working conditions. Economic liberalization and the resulting competitive environment make the situation even more complex. Developing strategies to address the widening inequalities in income and to perform efficiently in the increasing competitive environment is thus becoming very crucial. It is being increasingly recognized that putting in place policies related to the skills and knowledge of the workforce is important to meet the emerging challenge. This warrants a 'decentralized approach' in the sense that the emerging nature and characteristics of the labor market and employment patterns of different sectors/regions are explicated in detail so that it provides the needed information base to launch various skill developments programs (Kumar and Abraham, 2002). It is in this context the present study attempts to highlight the skills of the labour force and skill development systems in two urban districts of Dehradun in Uttaranchal and Karnal in Haryana.

We are aware of the situation that the shrinking of the organized sector has been accompanied by the expansion of the informal sector. The present study attempts to look at the nature of jobs of workers working in these two districts. There are several methods of skill development prevalent in India for both informal and formal sector. They can be broadly categorized as follows.

Skill Development in Informal Economy

- (i) *Hereditary Skill*: This is the most common method of acquiring contemporary skills. Most of the workers inherit skills from their parents' occupational activities and subsequently passing to their progenitors.
- (ii) *On the Job Training*: Workers learn in the course of their employment at work places.
- (iii) *Vocational Training Linked to Development Programs*, e.g. schemes for the training of women by the Department of Women and Child

Development Skill Development programs by Khaki & Village Industries Commission, training programs of the Department of Small Scale Industry.

(iv) *Training by the N.G.O.s*

Skill Development in Formal Economy

Vocational Training is a concurrent subject matter. Central and the State government share the responsibility. At National level Directorate General of Employment and Training (DGE&T) is the nodal department for training while at the state level the state government departments look after the training. Two tripartite bodies, the central apprenticeship council (a statutory body) & the National Council of Vocational Training (non statutory body) advise the Government on formulation of policies and procedures and prescribing of standards and norms in respect of the Vocational Training Schemes. Corresponding State Councils advise the State Government's in respect of vocational training at state level (Ministry of Labour, 2002).

There are 4877 ITIs in India which impart training in 49 engineering and 49 non-engineering trade (Annexure No 1 & 2). Of these 1863 are in the government sector and the remaining 3014 institutes are in the private sector (Ministry of Labour, 2004). Beside this, there are National Vocation Training Institute (NVTI), Regional Vocational Training Institute (RVTI), and Polytechnic imparting skill training for the formal economy.

Conceptual Framework

The viability of unorganized sector as the major provider of employment is determined by the ways to increase the productivity and job quality of labor through skill development. It is being increasingly realized that globalization has led to intensified competition. Because of which the country is facing a tough challenge in maintaining the employability of the large segments of the labor force. This competition also provides an opportunity for economic growth and employment expansion. For this, the level and quality of skills need to be upgraded. Within this context, the present study tries to look at the issues of skill development in the urban districts of Dehradun and Karnal.

Area of Study

Uttaranchal is a hilly, industrially small and new state. On the contrary to Haryana, is a plain, industrially large and developed state. One district from each state, Dehradun in UTTRANCHAL and Karnal in HARYANA were selected as the area of study.

Objectives

The objectives of the study were:

- 1) To review the existing skill formation system in the country
- 2) To identify the training and training needs of workforce in informal sector
- 3) To study the existing formal and informal training institutes
- 4) To examine the correspondence between skill acquired and skill required in the Workplace

Methodology

Data were collected from both secondary and primary sources using different tools and techniques. For secondary sources the information was collected from IMAR Report (Annual Technical Manpower Review), MOL (Annual Reports and Tracer study), NSSO data, and DIC (District Industrial Centers) data.

For primary sources survey (501 Questionnaires) was carried out in order to understand the employment potential of skilled workers at district level. The primary data collection was primarily based on methods as below:

- (i) Qualitative data collection through FGD, and interviews; and
- (ii) Quantitative data collection through questionnaires / schedule.

Sample

In order to examine various aspects of skill training three categories of respondents were selected from the study areas, namely:

- (i) Current Trainees at ITIs from Karnal and Dehradun
- (ii) Trained and working pass out from ITIs from Karnal and Dehradun
- (iii) Non-trained workers working in Karnal and Dehradun in different establishments (non-ITians).

The distribution of the samples from respective universe is given below:

Table 1.1
Distribution of the samples

Sl.No.	Category	No. at Karnal	No. at Dehradun	Total
1.	Current trainees	55	65	120
2.	Trained working pass outs	84	77	161
3.	Non-ITians	120	100	220
	Total	259	242	501

Source: Field Survey

Sample Selection

With regards to selection of the first category of the respondents, it was made from total 584 trainees from ITIs in case of Karnal, which constituted 10 per cent of the total trainees. With respect to Dehradun the respondents were selected from a total 1218 trainees. Since it was difficult to trace the respondents, effort was made, given the time and resources, to pick trainees as and where they could be traced. This worked out 5 per cent of the total current trainees.

With regard to selection of respondents from working graduates, similar exercise was made. However, a great deal of snowball method was adopted.

With regard to selection of non-ITians, they were selected from establishments located both in Karnal and Dehradun, the present study areas.

Scheme of Presentation

The study has been presented in eight chapters.

Chapter One gives a brief idea about skill development and introduces the methodology of the study.

Chapter Two reviews the skill development system in India.

Chapter Three provides demographic and geographical profile of the study areas.

Chapter Four reviews the status of employment exchange institution and examines the registration and placement of the trainees at Karnal and Dehradun.

Chapter Five deals with various aspects of trades, profiles of the trainees, etc., both at Karnal and Dehradun.

Chapter Six discusses the occupational profile of the pass out trainees in terms of education, changes in job and trade-wise distribution of trainees.

Chapter Seven deals with the workers engaged in various technical occupations that have not been formally trained in the technical schools and also examine the correspondence between training and employment in various trades.

Chapter Eight provides conclusion and suggestions and recommendations based on the study.

Period of Survey

The survey was conducted during the months between October, 2003 and March, 2004.

Limitations of the Study

There are several limitations within which the study was carried out. They are:

- 1 Study period was short
- 2 The universe was also quite large
- 3 Tracing of the trainees and workers were very difficult as they were scattered in many places. Hence, it was difficult to locate them.
- 4 In-depth study of the respondent's households could not be conducted.
- 5 Cohort analysis could not be attempted as year-wise data could not be collected.
- 6 A comparative study with other training institutes could not be attempted.
- 7 An analysis of unit cost should have been attempted to examine the cost variables.

Chapter II

Skill Development in India

Modern world is propelled by technology. Every aspect of our life is touched by technology driven activities. Without technology life today is unthinkable. More precisely, without the development of technology the progress of human civilization could not be possible any more. As Leonard puts it "Technology is a vital and pervasive feature of modern society. As an integral part of almost every field of activity, it imposes on us daily and in multiple ways, making it virtually inconceivable to get through a day, let alone a life time, without experiencing its profound influences"(Leonard, 2003).

And technology and its uses require skills. Without skill even the best technology could not be of any use. Therefore, for rapid progress in the society and economy through technological innovation and use, what is prerequisite is the availability of appropriately skilled human resource. Hence a strong economically relevant stock of any society provides the most important means for economic progress.

Today it is most important because of emerging global phenomena of which one of the most important characteristics is the global competition both among factors and products market.

However, before going into details of skill formation system in the country an examination of general education will be of importance here to get an idea on which skill base is based on. The general education system provides the bedrock for skill development. In fact without proper general education system, the development of technical manpower for increasing development may not be possible. Tables 2.1, 2.2 & 2.3 illustrate the magnitude of infrastructure and its capacity for a period spanning from 1990-91 to 2002-03 for imparting education to the people in the country.

It may be seen in Table 2.1 that the numbers of primary and upper primary schools have substantially increased from 560935 in 1990-91 to 651399 in 2002-03. Correspondingly, the enrollment figures have also increased from 131401287 to 169082310.

With regards to secondary education it may be seen in Table 2.2 that the numbers of secondary and higher secondary schools have increased from 60594 and 19209 in 1990-91 to 91517 and 46137 in 2002-03 respectively. The total enrollment figures also almost doubled from 19057399 in 1990-91 to 33302332 in 2002-03.

Table 2.1
Elementary education in India

Year	No of primary schools	%Increase	No of upper primary schools	%Increase	Total Enrollment	%Increase
1	2	3	4	5	6	7
1990-91	560935	-	151456	-	131401287	-
1996-97	603646	7.61	180293	19.04	146441950	11.45
1997-98	619222	2.58	185961	3.14	149811886	2.3
1999-00	641695	3.63	198004	6.48	155677739	3.92
2000-01	638738	-46	206269	4.17	156636983	.62
2001-02	664041	3.96	219626	6.48	158711295	1.32
2002-03	651399	-1.90	245710	11.88	169082310	6.53

Source: Ministry of Human Resource Development (2004) Selected educational statistics (2002-03) Department of Secondary and Higher Education, Government of India.

Table 2.2
Secondary education in India

Year	No of secondary schools	%Increase	No of Hr. Sec. Schools	%Increase	Total Enrollment	%Increase
1	2	3	4	5	6	7
1990-91	60594	-	19209	-	19057399	-
1996-97	74339	2.26	28902	50.46	23987892	25.87
1997-98	76663	3.13	30477	5.45	25390051	5.85
1999-00	82273	7.32	34547	13.35	28214457	11.12
2000-01	87675	6.57	38372	11.07	28843989	2.23
2001-02	91435	4.29	42057	9.06	30507215	5.77
2002-03	91517	.09	46137	9.70	33302332	9.16

Source: Ministry of Human Resource Development (2004) Selected educational statistics (2002-03) Department of Secondary and Higher Education, Government of India.

With regards to higher education institutions it may be seen in table 2.3 that the number of institution was 6528 in 1990-91 which increased to 13758 in 2002-03. The enrollment figures also increased from 4924868 in 1990-91 to 9516773 in 2002-03.

Table 2.3
Higher education in India

Year	Total higher education institutes	Total higher education institutes(%)	Total Enrollment in higher Education	Total Enrollment in higher Education (%)
1	2	3	3	4
1990-91	6528	-	4924868	-
1996-97	9940	52.27	6842598	38.94
1997-98	10678	7.42	7260418	6.11
1999-00	11865	11.12	8050607	10.88
2000-01	12806	7.93	8399443	4.33
2001-02	13150	2.69	8964680	6.73
2002-03	13758	4.62	9516773	6.16

Source: Ministry of Human Resource Development (2004) Selected educational Statistics (2002-03) Department of Secondary and Higher Education, Government of India.

Another important indicator of skill base is the level of education among the workers. According to NSSO 55th round report as given in Table 2.4 we find that in 1999-2000, out of the 1000 employed rural male 40 percent were not literate. With regards to female in same category, it was 75.30 percent.

In urban areas 16.10 percent employed males were not literate and for female it was 43.70 percent during the same year. The education level of the rest could be seen in the table 2.4.

Workers are the backbone of development, and their education is the important pre requisite for the progress. Today the vast majority being illiterate and less educated can be big handicap for proper progress of nation. Hence, the skill base of the country is yet not in commensurate with its gigantic requirement of the emerging competitive world economy. This is clearer from the figures in table 2.4.

It can be noted in the table 2.5 that in case of rural male, that 89.9 percent did not possess any marketable skill and the rest possessed some skill only. With regards to rural females who did not possess any skill, the figure was as high as 93.7 percent.

With regards to urban males 80.4 percent did not possess any marketable skill and the same proportion of female also did not possess the same.

Table 2.4
Per 1000 distribution of the usually employed of age 15 year and
above by education category-All India

Education Category/Round		Rural				Urban			
		Male		Female		Male		Female	
		PS Workers	All Workers	PS Workers	All Workers	PS Workers	All Workers	PS Workers	All Workers
1	2	3	4	5	6	7	8	9	10
Not Literate	55	400	396	753	739	161	160	437	439
	50	444	473	799	785	185	184	483	439
Upto Primary	55	274	273	151	155	220	291	171	176
	50	294	291	138	142	260	258	185	197
Middle	55	161	163	57	62	188	188	94	103
	50	134	137	37	43	173	173	74	84
Secondary	55	92	93	21	28	169	169	87	88
	50	72	75	16	19	153	155	78	76
Higher Secondary	55	41	42	7	9	93	94	59	55
	50	31	33	6	6	86	87	52	47
Graduate & Above	55	32	33	7	6	168	168	152	139
	50	25	26	5	4	143	143	126	106
All		1000	1000	1000	1000	1000	1000	1000	1000

Source: NSSO (2004) Sarvakshna.Oct2001-March2002

This clearly indicates that the low skill level could be a problem as well as an opportunity for the country. It could be a problem if no effort is made to impart skills to the non-skilled. It could be a great opportunity if these non- skilled people are provided skills appropriate to the emerging need of the economy and technology.

Table 2.5
Percentage Distribution of Persons by Possession of Marketable
Skills, 1993-94

Skill	Rural		Urban	
	Male	Female	Male	Female
No Skill	89.9	93.7	80.4	88.8
Some Skill	10.1	6.3	19.6	11.2
Total	100.0	100.0	100.0	100.0
Sample Persons	183464	172835	109067	99283

Source: National Sample Survey Organization 50th Round (1993-94), Employment and Unemployment situation in India.

One of the most important realities is that there is now an increasing demand for skilled labour. This is on account of several reasons, such as globalization, changes in technology as well as changes in work processes. Productions of goods and services have been getting globalize and financial markets, the world over, are becoming integrated. Information and communication Technology has been primarily instrumental in increasing the speed of communications and reducing various aspects of costs. Globalization, in turn, has led to intensified competition, technological diffusion and adoption of new forms of organization. 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, though not correspondingly, competition and economic changes also have been providing some opportunity for economic growth and employment expansion. To take the advantage of those opportunities, which are likely to be initiated by globalization, one of the critical factors is the possession of quality and relevant skill by the workers. Moreover, rapid technology changes and transition to a more open economy entails social costs. These can be restricted only through equally rapid up gradation of the capabilities of the workforce (GOI, 2002a).

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 organization altered the environment. As a result, training systems have 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 (Ibid, 2002).

The government of India, in order to meet the need of technical power equipped with relevant skills has been operating a very complex system and two different ministries - the Ministry of Human Resources Development (MHRD) and the Ministry of Labour, carry out its operation.

The Ministry of Human Resources Development generally operates through All India Council for Technical Education (AICTE). The Council, set-up in 1945 as an advisory board, was given a statutory status through an Act of Parliament in 1987. The technical education system in the country is thus planned and coordinated by AICTE. The technical education in the country is implemented through large number of institutions, which are as below:

Sl. No.	Institutions	No.
1.	Indian Institutes of Technology (Institutions of National Importance)	7
2.	Indian Institute of Management	6
3.	Deemed to be universities (i) Indian Institute of Science (ii) Indian School of Mines (iii) School of Planning and Architecture (iv) Indian Institute of Information Technology and Management (v) Indian Institute of Information Technology	5
4.	National Institutes of Technology	17
5.	Other Technical Institutes in the Central Sphere	4
6.	National Institutes of Technical Teachers Training and Research	4
7.	Boards of Apprenticeship Training	4

Apart from these institutions there are other schemes at the central level such as programme for Apprenticeship Training (Scholarships and Stipends); Assistance to Universities for Technical Education; Community Polytechnic Education; Technical Education Quality Improvement Programme of Government of India; Polytechnic for disabled persons.

In addition, there are several other programmes and Institutes through which technical education is promoted and imparted like, Payment for Professional Special Services; Direct Central Assistance to the Central Institutions, namely, Research and Development, Modernization and Removal of Obsolescence of Engineering Laboratories and Workshops and Thrust Areas of Technical Education; Human Resource Development in Information Technology; support to distance and web-based education; National Programme for Earthquake Engineering Education, Indian National Digital Library for Science and Technology Consortium; Asian Institute of Technology, Bangkok; Expenditure on Foreign Delegations and Foreign Experts; Technology Development Mission and Services through Educational Consultants India. Through these institutions and programme a massive effort is being made in the country to produce technical manpower.

Along with these efforts vocational education is also made available at +2 levels. The main purpose is to diversify, vocational educational "opportunities so as to enhance individual employability, reduce the mismatch between demand and supply of skilled manpower" and provide "an alternative for those pursuing higher education" (MHRD, 2004:229).

Similarly, the Ministry of Labour through DGET operates schemes like, the Craftsman Training Scheme under the National Vocational Training System. The scheme was introduced in 1950. The objectives of the scheme are to:

(i) ensure steady flow of skilled workers for the domestic industry; (ii) raise the quality and quantity of industrial production by systematic training of potential workers; (iii) reduce unemployment among educated youth by equipping them suitably for industrial employment; and (iv) cultivate and nurture a technical and industrial attitude in the minds of younger generations (IAMR 2002). The salient features of the Craftsmen Training Schemes are:

1. Training in Govt. ITIs is provided at affordable tuition fee. There is a provision to grant stipend and workshop uniform to all the trainees of Govt. ITIs. They are also provided with library, sports and medical facilities. Some State Governments do not charge any tuition fee from women, SC & ST candidates for their better participation.
2. Seats are reserved for SC/ST candidates in proportion to their population in respective State/UT. Guidelines for reserving 3% seats for Persons with disability and 25% for women candidates have been issued to State Governments and these could be filled based on the general reservation policy of each State/UT. Seats are reserved for the wards of defense personnel. Seats for OBC candidates have also been reserved in proportion to the seats reserved for them in Govt. Services in the respective States and total reservation is limited to 50%.
3. Broad-Based Modular Training is offered in four Central Model Industrial Training Institutes (MITIs). This pattern of training has the advantage of re-orienting the training modules as per the changing skill requirements of the Industry.
4. Training is imparted in 98 trades viz. 49 Engineering (27 Service sector & 22 Manufacturing sector) and 49 non-Engineering trades (41 Service sector & 08 Manufacturing sector) through it is/ITCs spread all over the country. List of trades available at DGE&T website www.dget.nic.in.
5. The period of training for various trades varies from 6 months to three years and the entry qualification varies from class 8th pass (7th class pass where terminal examination is in 7th class) to class 12th pass, depending on the requirements of training in different trades.
6. About 70% of the training period is allotted to practical training and the rest to subjects relating to Trade Theory, Workshop Calculation & Science, and Engineering Drawing, Social Studies including IT Primer 1, environmental science & family welfare.

Another important scheme to supplement the trained manpower need is the scheme of Apprenticeship Training. The scheme, under the Apprenticeship Act 1961, is in operation since 1963. The objectives of the scheme are to:

- (i) utilize fully the facilities available in the industry for imparting practical training with a view to meeting the requirements of skilled manpower for the industry; and

- (ii) Regulate the programme of training of apprentices in the industry so as to conform to the prescribed standards laid down.

These efforts have contributed significantly to the country's stock of skill manpower. But yet the proportion of skilled manpower output from institutional framework is very low if compared to the total labour force of the country. The skill development system operated by Ministry of Labour is presented in Fig.2.1.

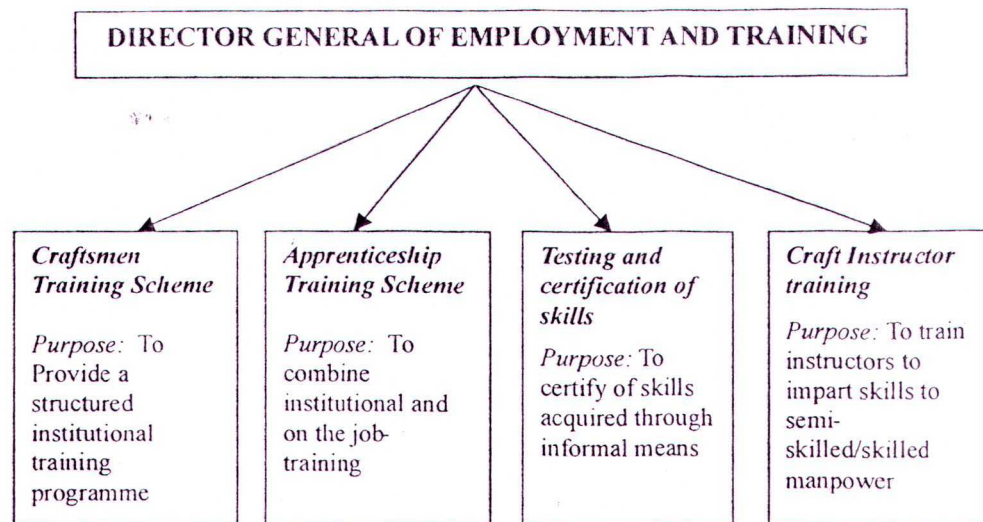


Fig. 2.1: Skill Development System in India

Apart from trained manpower, a substantial proportion of the labour force also acquires skill from hereditary practices, on the job training, etc.

It is however not easy to quantify the level of skills in the labour force because data on skill levels is not easily available. What available is information on the educational attainments of the labour force. Besides, the spatial distribution of skill manpower in terms of rural urban category is much skewed. For instance, in the rural areas, it was found that only 10.1 percent of the male workers and 6.3 percent of female workers possessed specific marketable skills (GOI, 2002a). Another aspect of the reality is that the level of vocational skill acquisition in the labour force in India compares poorly with the position in other countries. Among the percentage of younger members of the labour force (age group 20-24), which have vocational training, only 5 percent of the Indian labour force in this age category has vocational skills whereas the Proportion in industrial countries is much higher, varying between 60 percent and 80 percent, except for Italy, which is 44 percent. For Korea, which has recently been categorized as an industrialized country, this ratio is exceptionally high at 96 percent. Even if we compare the skill of India's labour force with other developing countries like Mexico and Peru, the ratio for the latter countries is higher than India. For example, in Mexico it

was 28 and in Peru it was 17 percent. Differences in definition may make inter country comparison somewhat unreliable, but the level in India is clearly far too low. One reason why the comparison may exaggerate the difference is because it is based on those having received training in formal institution (GOI, 2002a).

Skill Development: A Critical Appraisal

Here a brief review has been attempted to examine how the skill development system has been faring in the emerging economy. Author like Sajitha (2002) while discussing the current educational and skill level of workers in Karnataka found evidence of skill mismatches between demand and supply. He argues that prolonged unemployment among skilled labour is not due to the shortage of skilled labour but due to the poor quality of education and training. Sasikumar (2002) in his study pointed out that IT has worked well as compared to ITIs. But this may not be so, because if we compare the trades IT is providing training, to the same trade in ITI, they are also working well. Overall recruiting power of this institute has decreased very much. During 1995 a lot of programming job were available in the market. At present even engineers and MCA are working with call centers which is a low profile job as compared to their educational qualification (Bala, 1999). Sasikumar (2002) further argues that private institutes impart better training (Ibid). This may not be always the case as in many respects, Indian top Technical Institutes like IIT, IIM, NIT, and IIS are all Government and they have done excellently well in many fields of industry in the country.

Yadav (2002) points out that people are more interested in government jobs rather than a private one. This is of course due to security of government jobs. While Ramachandran (2002) mentions that the state requires a robust manpower information system in order to reduce the mismatch between the supply and demand for labour with different skills. To a certain extent, labour market information system for the engineering professionals is in place and functional. But information regarding the outturns from the industrial training institutes and from other unorganized training facilities is sporadic and limited to a few case studies. Due to this information bottleneck, more often job seekers though qualified, do not get jobs in time thus remaining unemployed (Bala, 1999).

It is clear that the expansion in intake capacities bears no relationship between labour market demands insofar as skilled manpower at different levels is concerned. The number of unemployed engineers has been increasing over the years and at the same time intake capacities at both degree and diploma levels have also increased. Why is it that the engineers are not able to find a job within two years after obtaining their degree/diploma? The answer could be one or more of the following:

1. The intake capacities (and therefore the outturns) of engineering institutions are higher than the labour market demand;

2. The skill level of the outturns is different from (also lower than) the labour market needs; and
3. The type of skill needed and type of skill supplied are different.

All these three appear to be responsible for the decreasing rates of labour market absorption of engineering manpower. In a recent sample survey of facilities in Delhi for Craftsmen's training for Industrial Employment (IAMR, 2002; Bala, 1999) it has been reported that besides emerging popular vocations, many other skills are in demand when one considers employment potential. For example, of the male trainees, 80 percent of the craftsmen (civil and mechanical) trained in the ITIs were absorbed in the trade within three years, most of them within the first year after graduation. In fact, the absorption rate of computer operator/programming assistants was slightly lower. Similarly, of the female trainee's absorption of over 60 percent were noted in the areas like commercial art, cutting and tailoring. Other vocations such as instrument mechanics, machinist, plumbers, maintenance of refrigerators and air-conditioners had absorption rate of about 55 percent. The study also found that apprentice training, which is the most logical course of activity to pursue for skill up gradation, attracted as many as 73 percent of the sample outturn. Despite the fact that a significant proportion of the respondents were unable to secure employment of their choice and liking, as many as 87 percent felt that the training received at the ITIs is quite relevant to their area of work. In the opinion of the employers the work done by ITIs-trained workers were good in relation to their job needs. The study also concludes that with the increasing share of private sector in the market on the one hand and the evident deterioration in the quality of employment conditions (e.g., casualisation, higher working hours, low pay, etc.) on the other, the trend is indicative of an ability of adjustment in the vocationally trained workers to the changing labour-market conditions (Bala, 1999; IAMR, 2002,).

A recent study of ISI Calcutta revealed that (i) the waiting period for getting first employment is less than six months in the case of 44 percent trainees, about 21 percent had to wait for more than 18 months for getting their job; (ii) training system mainly caters to organized sector which employs less than 10 per cent of the workforce. The study also points out that employment opportunities are related with industrial growth of the state. The private ITIs are more successful in the placement of their trainees since they concentrate on a few popular trades and have better interaction with the industry (IAMR, 2002; Bala, 1999).

Apprenticeship training is not taken up seriously by the employers, as it is seen as an imposition and the apprentices view this as a temporary employment and the employers tend to use the trainees as cheap labour (Mamgain and Parashar, 2002). Coverage of vocational training system continues to be disparate and inadequate in terms of population and area. The six states of Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Maharashtra and Gujarat had about 68 percent

of ITIs in 1998-99, although these six states accounted for only 38 percent of the country's population as per the 1991 Census. The regional disparity is important in the case of lower order skill level since the migration of labour force at such levels are limited as compared to labour force with advanced degrees. While courses are designed keeping in view the labour market needs, with modifications in the curriculum from time to time, the extent up to which they are able to adopt to the fast changing technological developments, are found inadequate. Consequently, unemployment among ITIs-trained labour force is very high. It is further revealed that the training programmes at the ITIs level are comparatively less sensitive to technological changes than those at higher levels (diploma and above) and that a large percentage of employees at these levels get trained on-the-job, a fact corroborated by the practices followed by the establishments as observed in the Establishment Survey Report (IAMR, 2002).

Thus, it is imperative to reorient the training at ITIs in the light of current labour-market signals. The study also identifies trades with demand for admission among existing courses. It also identifies many new areas (emerging) in which courses at ITI levels needs to be introduced. Out of the total trades covered at the ITIs, some 12 trades emerge as meriting expansion in terms of their intake capacity at the ITIs. In addition, the trades which have shown indications of employability albeit of a lower order include traditional areas. Highly educated manpower, having witnessed brief but unrealistically highly paid employment prospects, are now facing real problems in securing suitable employment opportunities. The feared bleak employment outlook in a period of liberalized economic regime, despite the impressive growths during nineties (an average of 6.25 percent increase in GDP during 1998-2000), has suddenly revealed harsh realities warranting a paradigm shift in addressing issues of manpower planning.

The unorganized sector workforce (92 percent) dominates the employment composition in India. With the policies of contractualisation, VRS, abolition of vacant positions, etc., the share of organized sector workers is expected to further decline. Thus, if the decade of 1990s was one of job less growth and of growing casualisation, the first decade of the current century is set to witness a gradual and further reduction of organized sector employment.

This brings to focus the standards of social security provisions. Issues of reorienting skill development programmes and establishing social provisions on the fronts of health/medical care, education and employment, and construction/housing are the areas where policy emphasis are in crucial need.

Vocational education programmes in India could thus be viewed largely as a set of supply side interventions. Such programmes of vocational education bereft of a consideration of labour market and industry-interface is partial and inadequate. The areas which have not received the level of attention that they deserve are: (a) Focus on higher order generic skills which hinders acquisition of higher order

specific skills; (b) Training related to service sector; (c) Training of trainers and facilities for improvement of qualifications of trainers; (d) Skill training linkages with the community; (e) Assessment of demand and supply of skilled workers including qualitative dimensions of skill and wage structure; (f) Dropout rates of those admitted to formal and non-formal streams of Vocational Training; and (g) Improvement of library facilities and modernization of equipment in ITIs.

Establishment of labour market information systems (LMIS) particularly for graduates/outturns of vocational education streams (e.g., ITIs) is important to provide essential inputs for policy formulation. Preparation of a Human Resource Map with a 10 to 20 year perspective needs to be initiated. Effectiveness of technical education and training in enhancing productivity and the pace of economic growth is also dependent upon the type of technical education and training system prevailing in the economy.

Recently the technical education system in India has been facing criticism due to prevalence of unemployment among the high level technical manpower, especially engineering graduates. The government appointed a committee headed by Prof. U.R. Rao. The committee has made several recommendations, namely, reduction in enrolment of students in the Engineering and levying of cess on industries using technical manpower of the country. It also recommended setting up of an independent board entrusted with the task of distribution of cess. It further recommended that the fees should be at Rs. 6000/- (G.O.I., 2004). The Report of the Committee for Review of National Policy on Education 1986(1990) also critically examined the technical education and found that a large number of habitation were with out any facilities for technical education. It was also stated that most of the technical institutions were located in a few regions and many institutions were sub standards. Besides, the intake of girls was very low. It also found" a mismatch between production and demand for technical manpower. Against this backdrop, the committee recommended improvement of standards and quality at all levels; up gradation of infrastructure facilities linkages with industries and national laboratories; technology world and manpower assessment; prevention of brain drain; research and development; cost effective needs; programme for SCs/STs, women and the physically handicapped; entrepreneurship development; and continuing education (G.O.I, 1990:243). These recommendations have been criticized widely, and many have expressed their doubts about its relevance.

Keeping in view the large number of unemployed engineers, it may be worthwhile to suggest two approaches for revitalizing the technical education of the country. The first approach should be to enhance the quality of institutes imparting high level technical education; and to create wide-ranging infrastructure to create job opportunities in the countries.

Vocational Education – The Magnitude: In case of India, technical and skill oriented education has, by and large, been based on the second model with the spectrum ranging from Industrial Training Institutes (ITIs) and craft Schools at the lower end to Polytechnics, Engineering Colleges, Indian Institutes of Management (Aims) and Indian Institutes of technology (Its) at the upper end. At present, among the specialized vocational training Institutions, there is:

1. Industrial Training Institutes (ITIs) which number 4274, of which 1654 are government run while the remaining 2620 are privately managed. Their training capacity is for 6.26 lakh students.
2. There are 6 Advanced Training Institutes (ATI), managed by the Central Government, which are meant for training instructors for the ITIs. There are two specialized ATIs for Electronics and Process Instrumentation.
3. While ITIs and higher-level institutions impart a broad spectrum a technical education, in order to give the knowledge acquired an operational shape; on the job training is of crucial significance, whose key role in enhancing productivity was brought out prominently in the pioneering work of (Becker 1964). It is background that one has to appreciate the significance of the 1961 Apprenticeship Act; employers in notified industries have to engage apprentices in a predetermined ratio to their total workforce. At the end of their apprenticeship period, the apprentices are tested in their knowledge acquired by them in their specific trades by the National Council for Vocational Training. However, total apprenticeship capacity is not being fully utilized since out of a provision of 2.27 lakh seats in central and state level enterprises, only 1.65 lakh seats or (72.3 percent) were utilized.
4. There are also channels of training meant specifically for the informal sector workers. These include schemes for training of women by the Department of Women and Child Development, skill development programmes, which are run by the Department of Small Scale Industries.

In view of the strength of the third model outlined in the previous section, an attempt was made to switch over to the third model of vocational instruction in nineteen seventies when secondary school level education was sought to be vocationalised. Although formally the system of vocational education had been introduced and it has continued, but in reality the scheme for vocationalising school level education at the plus two stages never caught on. But in the context of the current economic reforms in which technical skills shall be a major factor determining the competitive strength of the economy, if such a system of vocational education had been pursued earnestly, it could have provided a valuable support in providing occupation based knowledge and skills capable of meeting the challenge of fast changing new technologies (Mathur, 2002).

Singh (2002) in a perceptible article discusses the importance of skill in modern economics and in economic policy discourse and his arguments are widely acknowledged, for example, one of his argument is that the change in skills has a key role to play in economic growth and the changing distribution of wages observed in many industrialized countries in the recent times.

Similar views have also been held by Borghans, et al., 2001. It also is an accepted view now that changes in the nature of work and the workplace in the post-industrial economy, due to technology, management innovations and competition in the global market, are transforming the kind of knowledge, skills and attitudes needed for successful employment and work performance (Stasz, 2001). Because a more flexible system of work organization that provides customized products requires a workforce with higher skills (Cappelli and Rogovsky, 1994). Employees now need higher skill levels or must be multi-skilled. This thus means there is a need for more enterprise-level training and life-long training. Another aspect which is emerging is that there is also an increased polarization in the low-wage labour and/or worsening unemployment situation of the less skilled (ILO, 1998). High education and skill levels are essential factors in attracting investment from external sources, i.e., multinational corporations (MNCs), which tend to invest in areas with readily available skills.

In India, the existing educational system directly produces trained persons in disciplines where professional qualifications are needed (e.g., doctors, lawyers, engineers, MBAs, etc.). General academic degrees also satisfy basic educational requirements for a number of managerial and administrative positions, where subsequent on-the-job or in-house training is provided. However, there is always a mismatch between the number of generalist graduates being produced and the availability of jobs for such graduates in the employment market. General education can generate marketable skills if vocational training is integrated into the school syllabus, as is the case in some countries. The level of vocational skills among the labour force in India compares poorly with that in the other countries. For instance, if one considers the age group of 20-24 years among the labour force, then in the late 1990s only 5 percent of the Indian labour force had vocational skills, while in the industrial countries the ratio was much higher than in India. For example, it was as high as 96 percent in Korea. Even the developing countries like Mexico, Botswana and Mauritins have significantly higher proportions of skilled labour force that had undergone vocational training (more than 20 percent) than India (ILO, 1998). These indicate that education and skill levels of Indian labour force are relatively low as compared to other fast growing developing countries and also lack the current requirements of economy (see Singh, 2004). This is because the system is excessively oriented towards general academic education with little or no vocational orientation. The preference for general education is driven primarily by the perception that an academic degree is necessary to obtain a government job, which is highly valued, because it

provides virtually complete job security and pay scales are typically much above market wages. The net result is that the educational system has neglected the need to provide vocational skills and also to generate awareness and demand among students for acquiring marketable skills. However, it is important to draw a distinction between schooling and skills. A match between individual human capital and the characteristic of the job does matter. On the whole, the level of skill endowment among new entrants to the labour force in India is clearly not consistent with triggering a process of rapid economic growth and high quality employment generation.

The NSSO 50th Round on Employment and Unemployment provides information about marketable skills (about 30 types of skills) which the labour force possesses. The results indicate that more than 80 percent of the Indian population has no marketable skills whatsoever (Table 2.5). In the rural areas the percentage of such persons is over 90. The percentage of females without skills is also over 90 (NSSO, 1993-94).

Training systems in developing countries are generally scattered in nature with less homogeneity, with preponderance of traditional and informal methods of learning and tailor made training programmes to suit specific situations and market demand. They generally lack focused approach and compatibility with changing labour market demands, often leading to imbalances between demand for and supply of labour. These gaps are not only quantitative but also qualitative as well with increasing emphasis on quality of training and skills and also of changing structures of organizations. There is a shift in requirement from the traditional single skill specialization to more flexible multi-skilling, which encourages job rotation and spirit of group work.

Industrial Training Institutes: Caught in the web of global competition India too has been adopting new forms of work organization with consequent impact on skill requirements, but low literacy and poor quality components — a small formal and a large informal. The formal structure includes: (a) vocational training at school level and higher technical and professional education which is imparted through professional colleges; (b) technical training in specialized institutions; (c) apprenticeship training in industries; and (d) Vocational training in secondary schools along with general education. The experiment, though continuing, has not been very successful so far due to various supply side problems such as non-availability of necessary equipment, non-demand due to the considerable social premium on higher technical and general education. Formal vocational training in a number of engineering and non-engineering trades is being imparted through a network of industrial Training Institutes (ITIs), some of these trades being exclusively for women. Some National and Regional Vocational Training Institutes has been providing quality training exclusively to women. Net works of Institutes, both under the central and state sector, have been set up for this purpose.

Today the total seating is 3232 in the central sector. In sector the total seating is about 46658 (GOI, 2004). Recently, a pilot programme on 'Decent Employment for Women in India' has been jointly implemented the ILO and DGET, Ministry of Labour. The US Department of Labour has funded this programme. By now 1700 women have been trained and they have been placed in self-employment (Ibid, 2004).

The ITIs are operated both by the government as well as in the private sector and there is a system of affiliation of the latter for recognition of the training and certification. In addition, there is a programme of Part-time Training to Industrial Workers in operation to act, as a bridge between workers in the industry and the training institutes, but it is very small in scale. There is also a superstructure in the form of Advanced Training Institutes and Foremen Training Institutes for shop floor supervisors and foremen sponsored by the industry. Apprenticeship training, being provided under the Apprentices Act 1961, covers a number of industries and trades, engineering and non-engineering and is also extended to degree and diploma holders in engineering. The seating capacity of the 4,274 ITIs is about 0.63 million (in 2000) while the apprenticeship programmes has 0.23 million training places located (GOI, 2002c). Besides these training programmes, for which the Ministry of Labour at the national level and its counterparts in the states are responsible, a number of other government agencies either implement themselves or financially support private initiatives in imparting formal and informal training in a wide variety of areas like computers (Ministry of Information Technology), hotel management (Ministry of Tourism), and skills needed for self-employment under the self-employment schemes of the Department of Rural Development and the Department of urban Employment and Poverty Alleviation. Tables 2.6 and table 2.7 provide some ideas about the vocational education and training system in India under government set up.

It has been estimated that all these interventions provide vocational education or training, formal or informal, to around 2.6 million persons per annum (Mathur, 2002), amounting to roughly one-fourth of the annual additions to the labour force. This by itself is not insignificant, but two factors need to be taken into account, firstly, the huge backlog of untrained labour force and secondly, the quality of training, particularly in the informal mode, where the skills acquired could be minimal and transient. Recently, there has been mushrooming of various private institutes imparting training in various fields, sometimes recognized by the government. In a number of cases such institutes are informal in nature without any recognition. The quality of training of such institutions is also doubtful. Table 2.6 below describes the environment of various department and ministries in training for specific sectors.

Table 2.6
Involvement of Central Government Ministries/ Departments in
Training for Specific Sectors

Rural agricultural sector	Non-farm Rural Sector	Training for Women	Worker Edu. and Labour Dev Related Training	Training for Industrial Sector	Training for Infra-structure Sector	Training for the Service Sector
Ministry of Agricultural	Ministry of rural Area & Employment	DWCD (other than Step & Norad assisted Programme)	Central Board of Worker Education (Ministry of Labour)	Ministry of Industry	Ministry of Power	Ministry of Supplies
Department of Bio-Technology	Department of youth Affairs & Sports	Women Labour Cell, Ministry of Labour	National Labour Institute (Ministry of Labour)	Department of Economics	Ministry of Railways	Ministry of Information & Broadcasting
Department of Non-Conventional Energy Sources	Department of Biotechnology	TREAD	DGFASLI (Ministry of Labour)	Ministry of textiles	Ministry of Surface transport	Department of Personnel & Training
Ministry of Rural Area and Employment	Department of Non-conventional Energy Sources	Programme of Ministry of Industry	Institute of Labour Development (IFCI)	Ministry of Environment & Forests	Ministry of Aviation	
	Ministry of Health		NSTEDB (Ministry of Science & Technology)	Ministry of	Ministry of Urban Development	Ministry of Home Affairs
						Ministry of Parliamentary Affairs

Source: Government of India (2002) Report on the National Commission of Labour, New Delhi, Ministry of Labour.

It cannot be denied that government is a major provider so far as the question of imparting skills to the large masses is concerned. However, it cannot be the sole provider also. Other social partners have to join in the mission. Hence, there is a need to have coordination of all training programmes so that: (a) duplication is avoided; (b) the resources are optimally utilized; and (c) adequate attention is paid to quality.

Linkages can be established in schools and ITIs. Apart from domestic needs, quality in training is required for international competition. The influence of Indian IT sectors worldwide is mainly due to high levels of skills attained by software professionals. Now another emerging area is nursing. Though nurses have been going to Middle East for a long time, the demand for highly skilled nurses in advance countries like USA, UK, Australia, New Zealand is a recent phenomenon (Rao, 2001). There are other informal channels of skill formation too without the intervention or assistance of the state.

Table 2.7
Vocational Education and Training System in India at a Glance

Under Government Auspices					
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	Other than Government Industrial Enterprises In-Plant training
Vocational Education Secondary School First Degree Level	Craftsmen Apprenticeship (trade apprentices)	STEP Norad-assisted programme	TRYSEM (now replaced by other programmes)	Training through DCSSI Institutes	Private Training Providers Private Proprietary Training
Apprenticeship (For graduate engineers, diploma holders and vocational School pass-out (s))	Advanced Vocational training scheme	Condensed courses of education & vocational training		Training under NRF	Non-Govt. organizations informal Sector Training
Technical Education Community Polytechnic Project	Vocational Training Program for women CSTRI, SCMI, CTIS, FTIs			Training activities of KVIC	Employers organizations
Shramik Vidyapeeths other training activities administered by central and state govt. department.					Support to industry's training activities

Source: Government of India (2002) Report on the National Commission of Labour, New Delhi, Ministry of Labour.

Table 2.8
Distribution of Number of Institutions and their Sanctioned Intake
by States

S. No.	State	Degree (Engg.) #		Diploma (Engg.) \$		ITI *			
		Instt.	Intake	Instt.	Intake	Instt.	%	Intake	%
1	Arunachal Pradesh	1	210	1	180	2	0.04	368	0.05
2	Andhra Pradesh	214	62730	93	17605	569	12.24	109177	15.55
3	Assam	3	720	10	1348	27	0.58	4620	0.65
4	Andaman Nicobar	0	0	2	230	1	0.02	204	0.02
5	Bihar	6	1335	13	2250	41	0.88	12968	1.84
6	Chandigarh	2	480	4	640	2	0.04	984	0.14
7	Delhi	14	3120	26	5237	55	1.18	10760	1.53
8	Goa	3	710	7	1100	15	0.32	2912	0.41
9	Gujarat	24	9265	41	11571	233	5.01	75190	10.71
10	Himachal Pradesh	3	650	7	815	57	1.22	5413	0.77
11	Haryana	33	8800	31	5215	102	2.19	14617	2.08
12	Jammu & Kashmir	5	1185	11	2950	38	0.81	4156	0.59
13	Karnataka	111	40385	201	33655	507	10.97	46188	6.58
14	Kerala	67	16538	52	9320	535	11.56	81628	11.63
15	Madhya Pradesh	44	12745	46	7854	157	3.37	21214	3.02
16	Maharashtra	151	46486	156	38110	613	13.19	93699	13.35
17	Meghalaya	1	135	2	280	7	0.15	926	0.13
18	Manipur	1	150	3	215	7	0.15	540	0.07
19	Mizoram	1	120	3	390	1	0.02	294	0.04
20	Nagaland	0	0	2	120	3	0.06	404	0.05
21	Orissa	39	9335	27	4739	167	3.59	18740	2.67
22	Punjab	33	8530	41	12870	145	3.12	16379	2.33
23	Pondichery	5	1690	5	742	14	0.30	1680	0.23
24	Rajasthan	30	7784	28	2943	110	2.36	10236	1.45
25	Sikkim	1	420	2	240	1	0.02	140	0.01
26	Tamil Nadu	245	75107	213	51664	672	14.46	81628	11.63
27	Tripura	1	160	1	200	4	0.08	400	0.05
28	Uttar Pradesh	83	21861	90	10893	293	6.30	48472	6.90
29	West Bengal	45	10284	43	6126	61	1.31	12416	1.76
30	Chattisgarh	12	3205	11	1685	127	2.73	14320	2.04
31	Jharkhand	7	1690	28	1590	27	0.58	3944	0.56
32	Uttanchal	10	2570	19	1944	50	1.07	6656	0.94
33	Daman, Diu	0	0	2	270	2	0.4	388	0.05
	Total	1195	348400	1221	234991	4645	100.00	701661	100.00

Note: As on July 2002 \$; As on January 2002*; As on October 2002.

Source: NTMIS-IAMR, Annual Report, MOL.

Skills are transferred from one generation to another in traditional crafts prevailing in various parts of the country like handlooms and handicrafts, brassware, carpet weaving, Jute work, Madhubani paintings are but a few examples. Other than in the manufacturing sector, children acquire skills in agriculture and animal husbandry, construction and a variety of personnel and repair services from their parents and other seniors and acquire these skills on the job. Many of these are threatened by the advent of free imports of goods and technology. These informally trained people are not able to compete with global technology and upgrade their skills due to lack of linkages between informal and formal training. Table 2.7 describes vocational education system in India and Table 2.8 presents the status of various training institutes and intake in India.

The figures in Table 2.8 present the distribution of institutions and their intake capacity for the year 2002 by states in India. The figures reveal that Tamil Nadu has the largest concentration of institutes (14.16) followed by Maharashtra (13.19), Andhra Pradesh (12.24), Kerala (11.56), Karnataka and so on. With regards to intake, the largest concentration could be found in Andhra Pradesh (15.55) followed by Maharashtra (13.35), Tamil Nadu (11.63) and so on.

Conclusion and Suggestions

The emergence of skill needs can be visualized from two angles: one from the point of view of meeting the demand for manpower by the economy and from the point of view of improving the quality of human resources available. Diverse skills are required to maintain the existing and anticipated production levels, improve productivity and respond to changing technologies in enterprises, to meet overseas demand and to sustain productive self-employment activities in the economy. There is also the need to improve the employability of the existing and potential labour force, raise incomes of individuals through higher skills, enhancing upward mobility and adjust to various situations of involuntary unemployment. The Task Force on Employment Opportunities (GOI 2002a), viewed the need from manpower demand side while the Special Group on Package for Creation of Ten Million Employment Opportunities Per Annum in the Tenth Plan (GOI 2002b), consider the situation from the manpower supply side. While skill development in the absence of effective demand is an exercise that would result in skill surpluses, in a country like India with massive levels of illiteracy, underemployment and poverty, the latter considerations are equally, if not more, important.

The vocational courses have to be market-relevant attracting a significantly higher proportion of students. It is important to expand the counseling services in schools substantially to achieve this diversion. A sound labour market information system that would continuously generate signals to indicate directions of change in the demand, domestic and overseas, for diverse skills is sine qua non for any efficient vocational training system. Establishing a sound labour market information system that would enable identification of marketable skills, area-wise, on the basis of

labour market signals, identify the changes in skill needs due to technological and other innovations and assess their demand (domestic and overseas) in the short or medium term.

With the shrinking of employment opportunities in the government sector in general and the public sector in particular, due to ongoing process of disinvestments, the employment situation has become quite grim. On the other hand, rising literacy levels in both rural and urban areas for male as well as female workers has resulted in higher unemployment rates for the educated persons. Unemployment among the educated may also be high because of a mismatch between the existing qualifications of the educated and those desired by the employers. It is evident that the educated and skilled workers may be able to take advantage of the changes afforded by globalization. The uneducated and unskilled workers will, however, be facing the burnt of restructuring of the economy leading to redundancy, skill mismatches and under-employment under the unstable labour market regime. In the post-liberalization period, uneducated and unskilled workers are in a great deal of trouble and even the educated workers will find it difficult to get regular jobs. The Indian economy is now moving on the fast track. In order to maintain the present tempo and to further accelerate the speed, more dynamic, productive, skilled, visionary and committed human resources are required. The onus, therefore, lies on our technical institutions for training the young graduates to face the challenges of the current century. In order to make their products (engineers) more competitive in the global job market, they will have to impart education in a multi-cultural, multi-lingual and multi-disciplinary environment. Resource generation, globalization of education, improvement in quality, better delivery systems, distance and continuous learning, virtual classrooms through Tele and video conferencing, digital libraries, flexibility in intake, courses and programmes, forging effective linkage with industry, improving infrastructure and its optimal use, flexible salary structure, hiking of tuition fees without harming the interest of poor students, collaboration with foreign institutions, and constant development of skills for life-long learning etc., would be the main concerns of technical education in this century in the wake of globalization. They have to be effectively dovetailed with economic policies, labour market and social policies and programmes for achieving higher income and employment growth.

The major objective of creating ITIs was to provide skilled and technically trained manpower to industry. The existing training institutions like the ITIs have, no doubt, been meeting significant part of the requirements of the skilled manpower of the organized industry. It, however, seems necessary that the process of restructuring and reorientation of their courses are made more expeditious with a view to quickly responding to the labour market. For skill upgradation of the workers in the unorganized sector, flexibility in the duration, timing and location of training courses would need to be introduced. To the extent a sizable proportion

of employment would have to be self-employment in tiny and small units in various sectors, the training system should also gear up not only for providing 'hard' skills in suitable trades, but also the soft skills of Entrepreneurship, Management and Marketing, as part of Training Courses" (Awasthi 2002). Sahu (2002) in his study mentions that rural industry is much labored oriented where 3/4th of the labour are involved. This is in comparison to urban workers which is 34.7 percent in this tiny industry. The situation regarding the skill up-gradation is particularly bleak. Only five percent of the secondary students' pass-outs opt for vocational training as against the target of 25 percent during the Eighth Plan (GOI 2002c). Yet, the training system suffers from limited flexibility, poor curriculum and weak links with the industry. Vocational education/training is mostly focused on the organized sector, which has extremely limited relevance for economy at large. Equal emphasis on the need for the skill manpower for the tiny and small enterprises is not the solution.

Some of the suggestions as given in the Tenth Plan for recasting the vocational education could be noted here:

1. The vocational courses in schools should be competency-based and in modular form with a credit transfer system and provisions for multi-point entry/exist
2. There is a need to establish linkage between vocational courses at the +2 level and courses at the university level. The present admission criterion for entry into vocational courses at the graduation level also needs to be changed.
3. The existing scheme should be strengthened by involving industries through memorandums of understanding, in designing of the course, development of the curriculum, training of faculty/students and certification of the courses.
4. In order to sustain the scheme, schools may consider charging fees and the courses may be designed on a self-financing basis.
5. The apprenticeship training facility needs to be utilized fully and made compulsory. To achieve this, the placement of those who have completed vocational studies for apprenticeship and training should be decided by Board of Apprenticeship Training immediately after the results of the +2 examinations are declared.
6. Before vocational courses are started in schools, local business and industry should be closely involved in studying the need and for conducting district vocational surveys.
7. Facilities for running vocational courses should become mandatory for the Kendriya Vidyalaya and Navodaya Vidyalaya school systems.

8. Persons with disabilities should be given special treatment while designing vocational courses and their needs and integration into courses should receive appropriate attention.
9. Financial assistance may be provided under the scheme for creating testing and certification systems in states in co-operation with user bodies and professional associations.
10. The All India Council for Technical Education's (AICTE) vocational education board needs to be reactivated for providing technical support to the school system and for establishing linkages with other technical institutions (GOI, 2004).

Chapter III

Demographical and Geographical Profile of Karnal and Dehradun

Profile of Karnal

KARNAL is one of the important districts of Haryana state. At present the district is known for its central location on the National Highway, i.e. Grand Trunk Road, (G.T. Road), production of rice, wheat and milk and as a center of academic institutions like National Dairy Research Institute (**NDRI**) and Wheat Directorate of Government of India. Karnal district lies on the western bank of River Yamuna which - flows about 11 km. to the east forming eastern boundary of the district. The river Yamuna separates Haryana from Uttar Pradesh.

Karnal distt. Lies between 29°09'50" and 29°50' North latitude and 76°31' 15" and 77°12'45" East longitude, its height from sea level is between 235 and 252 meters. The distt. Is surrounded by Kurukshetra district on its Northwest, Jind & Kaithal Distt. On its west, Panipat Distt. On its south and Uttar Pradesh on east. Karnal district consists of two-tehsil, viz. Karnal and Assandh comprising of six development blocks. The district is basically an agricultural one and the major dependence of the people is on land. Prior to the formation of Haryana State, the industrial development in the district was negligible and with the provision of infrastructure like roads and power, etc., by Government a number of industrial units have come up in the district. Tables 3.1 and 3.2 show the distribution of workers by main and marginal industrial category in karnal and Distribution of workers by the industrial category in Karnal during 2001.

Table 3.1
Distribution of main and marginal workers: Karnal 2001

S. No.	Category of Workers	Total Persons	% to the Total Workers
1	Main Workers	356064	78.02
2	Marginal Workers	100284	21.98
3	Total Workers	456348 (35.80)	100.00
4	Non-Workers	818495 (64.20)	-
	Total Population	1274843 (100.00)	-

Source: Census 2001.

The figures in 3.1 shows that out of the total population 35.80 per cent were total workers while the rest were non-workers. The distribution of workers by main and marginal status show those out of the total workers 78.02 per cent constituted main workers and the rest 21.98 per cent were marginal.

Table 3.2 show the distribution of workers by industrial categories. It could be seen that 26.68 per cent workers were cultivators and 23.72 per cent workers were agricultural workers respectively.

Table 3.2
Distribution of workers by the industrial category: Karnal 2001

S. No.	Category of Workers	Total Persons	% to the Total Workers
1	Cultivators	121750	26.68
2	Agricultural Labourers	108244	23.72
3	Household Industries	13034	02.85
4	Other Workers	213320	46.75
5	Total Workers	456348	100

Source: Census 2001.

Vocational Training in Karnal

Industrial Training Institute at Karnal, Polytechnic at Nilokheri is imparting technical training and skills to the students. In addition, Vocational Institutes have been set up in different parts of the district catering to the needs of rural and urban students. N.D.R.I is a leading Institute in Northern India where students study in the subjects of Microbiology, Milk products, etc.

The traditional skills available in the district are weaving, carpentry, black smithy, Tannery, shoe making etc. The main occupations of the people in the district are agriculture, trade and service. Keeping in view the demand for rice seller operators in the district, ITI has recently planned to start a 2 Years course on rice seller plant technology and maintenance.

Common facilities center: Department of Industries, Haryana has set up a quality-marking center for leather at Karnal. Qualified persons who provide technical knowledge and guidance to the potential entrepreneurs man the center. The center also helps in upgrading the quality of the products.

Large and Medium Scale Sector

The district has at present 15 large and medium scale industrial undertakings which are detailed below:

S. No.	Name of the Unit	Item of Mfg.	Employment	Production (Rs. In Lacs)
1	Liberty Shoes Ltd., Kutail	Footwear	237	5040.86
2	Liberty Footwear Company Gharaunda	Footwear	375	632.00
3	Liberty Enterprises, Gharaunda	Footwear	625	4849.25
4	Lifo International, Gharaunda	Footwear	152	316.00
5	Liberty Tanners, Gharaunda	Finished Leather	147	1580.00
6	Chaman lai Setia Exports Ltd., Karnal	Rice	49	1617.31
7	United Rice Land Ltd., Samana, Bahu	Basmati Rice	603	19002.90
8	Modern Dairies Ltd., Shamgarh	Milk Products	106	3924.00
9	United Exports, G.T. Road, Gharaunda	Rice	52	1810.27
10	Karnal Co-op, Sugar Mills Ltd., Karnal	Sugar	876	4405.96
11	Indian Bottling Plant, Gudha	Refilling of LPG Cylinders	96	4100.20
12	A.V. Cottex Ltd., KNL	Cotton yarn	48	137.21
13	Liberty Group Marketing Division, Karnal	Footwear	290	184.78
14	Piccadilly Agro Ind. Ltd., Bhadson	Crystal Sugar	252	5123.29
15	Mishan Flora India Ltd., Karnal	Floriculture	102	105.12

Source: Field Survey.

Profile of Dehradun

While Dehradun is distinguished from most other districts in the state by the existence of a very large forest area, chiefly stocked with Sal. Thus forest products play an important role in the economy of the district. Besides, supplying fuel, fodder, bamboos and medicinal herbs, they also yield a variety of Products like honey, lac, gum, resin, catechu, wax, horns and hides. The forests account for 1477 sq. kms of area, accounting 43.70 of the total area of the district. Owing to the variation in altitudes and other aspects, the floras of the district vary from tropical to alpine species. Different types of forests and varying species of shrubs, climbing plants and grasses, are found in the district. Sal forest and coniferous forests are predominant in the western part of Dehradun tehsil. Chirr is the only coniferous species in the old reserved forests of Dehradun. Besides other associates of chirr, a few deodar trees are also seen in the district. Wide ranges of Sal forest occur in this part of the tehsil. Sal is the main timber species and is generally found towards the Siwalik ridges. A mixture of miscellaneous species is found in the lower parts.

Dehradun Institute of Technology, Polytechnic & ITIs at Dehradun impart technical training and skills to the students catering to the need of both rural and urban areas. Tables 3.3 and 3.4 describe the distribution of workers by main, marginal category and also distribution of workers by the industrial category in Dehradun during 2001.

It may be observed in Table 3.3 that out of the total workers 84.28 and 15.74 per cent were main and marginal workers respectively.

Table 3.3
Distribution of main and marginal workers: Dehradun 2001

S.No.	Category of Workers	Total Persons	% to Total Workers
1	Main Workers	337239	84.26
2	Marginal Workers	62994	15.74
3	Total Workers	400233 (31.20)	100.00
4	Non-Workers	882564 (68.80)	-
	Total Population	1282797 (100.00)	-

Source: Census 2001.

With regard to industrial category we note that (in Table 3.4) cultivators and agricultural laborers constituted 18.64 and 07.02 per cent respectively. In household industries only 2.21 per cent were engaged. The overwhelming rest was other workers (72.13).

Table 3.4
Distribution of workers by the industrial category: Dehradun 2001

S.No.	Category of Workers	Total Persons	% to Total Workers
1	Cultivators	74610	18.64
2	Agricultural Labourers	28043	07.02
3	Household Industries	8884	02.21
4	Other Workers	288696	72.13
5	Total Workers	400233	100

Source: Census 2001.

Table 3.5 below describes demographic profile of two states. It may be observed that population density of Haryana is much more than that of Uttranchal. The sex ratio in Uttranchal is high as compared to Haryana.

Table 3.5
Demographical Profile of Haryana and Uttranchal: 2001

S. No.	State	Population			Sex ratio (Female per thousand males)	Population Density (per square Km)
		Persons	Male	Female		
1	Haryana	21,082,989	11327658	9755331	861	477
2	Uttranchal	8,47,9562	4316401	4163161	864	159

Source: Census of India, 2001.

Table 3.6 below show demographic profile of the two districts Karnal and Dehradun. Population density of Karnal is much more than that of Dehradun. The sex ratio at Dehradun is high as compared to district Karnal.

Table 3.6
Demographical Profile of Karnal and Dehradun: 2001

S. No.	State	Population			Sex ratio (Female per thousand males)	Population Density (per square Km)
		Persons	Male	Female		
1	Karnal	885797	475056	410741	865	456
2	Dehradun	1279083	675549	603534	893	414

Source: Census of India, 2001.

Table 3.7 below show the literacy rate in the two districts. The literacy rate in Haryana is higher than Uttranchal. When we compare the district literacy rate we find, in Karnal, rate is lower than Dehradun.

Table 3.7
Literacy rate in the State/district: 2001

S. No.	State/dist	Persons	Male	Female
1	Haryana	81.82	87.37	75.00
2	Karnal	68.20	76.74	58.42
3	Uttranchal	72.28	84.01	60.26
4	Dehradun	78.96	85.87	71.22

Source: Census of India, 2001.

Chapter IV

Employment Exchange Institutions

The employment service institutions in Districts Karnal, Haryana and Dehradun, Uttaranchal can be broadly divided into three categories: (1) State Employment Exchange; (2) Placement through Private companies; and (3) Contractors operating mainly in the field of unskilled labour, but this is not backed by any form of data and information. This was gathered only through surveys. The private placement service institutions largely concentrate in mediating between vocational training institutions and the industry. Detailed information about their performance is given in the last chapter. The Government employment exchanges are the main source of employment information. The data generated by these exchanges provide valuable input in monitoring and evaluating the employment situations in the two districts. Since Uttaranchal is newly created state, disaggregated data for Dehradun is available for 2000-2001.

Profile of Job Seekers by Education

The distribution of the job seekers by education level shows a very interesting picture. For example it may be observed from the Table 4.1 that out of the total registered job seekers in Karnal, more than half was high school graduate (52.6%) followed by graduate, intermediate, post graduate and polytechnic.

Table 4.1
Share of Registered Job Seeker according to Level of Education:
Karnal

S. No.	Year	High School	Polytechnic	Intermediate	Graduate	Post Graduate	Total
1	1999	3146 (52.6)	108 (1.81)	1205 (20.15)	1271 (21.25)	250 (4.18)	5980
2	2000	3259 (54.3)	108 (1.8)	1395 (23.24)	1086 (18.09)	154 (2.56)	6002 {0.37}
3	2001	1727 (47.85)	69 (1.91)	740 (20.5)	811 (22.47)	262 (7.25)	3609 {-66.3}
4	2002	1346 (55.94)	34 (1.41)	622 (25.85)	341 (14.17)	66 (2.74)	2409 {-49.81}
5	2003	1459 (57.37)	43 (1.69)	557 (21.9)	403 (15.85)	81 (3.18)	2543 {5.27}

Source: Employment Exchange (KARNAL). (%) { %change }

In Table 4.2 it can be seen that the share of placement according to the levels of education at Karnal. It was found high school graduate got highest number of placement during 1999-2003. This was followed by Graduate, Post graduate, Intermediate and polytechnic pass outs. It can also be noted that during the year 2000 placement was highest.

Table 4.2
Share of placement according to Level of Education: Karnal

S. No.	Year	High School	Polytechnic	Intermediate	Graduate	Post Graduate	Total
1	1999	15 (55.55)	-	1 (3.7)	9 (33.33)	2 (7.41)	27
2	2000	36 (87.71)	-	1 (2.4)	4 (9.52)	1 (3.7)	42 {35.71}
3	2001	21 (95.45)	1 (4.55)	-	-	-	22 {-95.45}
4	2002	11 (55)	-	-	9 (45)	-	20 {-10}
5	2003	8 (100)	-	-	-	-	8 {-150}

Source: Employment Exchange (KARNAL). (%) {%change}

The figures in Table 4.3 show that in 2001 the total number of job seekers in Dehradun was 20375 which declined to 9568 in 2003. It is interesting to see that registration by polytechnic students is lowest in Dehradun. In case of Dehradun we may observe that in 2001 there was the highest number of job seekers.

Table 4.3
Share of Registered Job Seeker according to Level of Education: Dehradun

S. No.	Year	Less than 10 th	High School	Poly-technic	Inter-mediate	Graduate	Post Graduate	Total
1	2001	2515 (12.34)	5225 (25.64)	6206 (30.46)	-	4035 (19.80)	2394 (11.75)	20375
2	2002	1754 (11.16)	3691 (23.48)	4668 (29.70)	180 (1.14)	3222 (20.5)	2204 (14.02)	15719 {-29.62}
3	2003	1137 (11.88)	1780 (18.60)	2479 (25.37)	296 (3.09)	2109 (22.01)	1817 (18.99)	9568 {-64.29}

Source: Employment Exchange (KARNAL). (%) {%change}

Table below (4.4) describes the level of placement in Dehradun. It was found that Graduate got highest number of jobs, followed by polytechnic, intermediate, high school and Post graduate.

Table 4.4
Share of placement according to Level of Education: Dehradun

S. No.	Year	Less than 10 th	High School	Poly-technic	Inter-mediate	Graduate	Post Graduate	Total
1	2001	29 (28.43)	17 (16.67)	01 (.0098)	—	34 (33.33)	21 (20.6)	102
2	2002	7 (2.73)	70 (27.34)	77 (30.1)	180 (70.31)	76 (29.7)	26 (25.5)	256 {60.15}
3	2003	—	5 (1.6)	103 (32.90)	8 (2.56)	188 (60.06)	9 (2.87)	313 {18.21}

Source: Employment Exchange (DEHRADUN). (%), {%change}

Profile of Job Seekers by Category

Category-wise registration at Employment Exchange at Karnal is described in Table 4.5. It was found that in general category the number of registration, was highest followed by Schedule Caste, and Backward class.

Table 4.5
Category-wise Registration at Employment Exchange: Karnal

S. No	Year	Gen	SC	OBC/BC	Total
1	1999	4711 (78.78)	1092 (18.26)	177 (2.96)	5980
2	2000	4851 (80.82)	993 (16.54)	158 (2.63)	6002 {.37}
3	2001	2200 (60.96)	646 (17.9)	763 (21.14)	3609 {-66.31}
4	2002	1814 (75.30)	291 (12.08)	304 (12.62)	2409 {-49.81}
5	2003	2266 (94.06)	208 (8.63)	69 (2.86)	2543 {5.27}

Source: Employment Exchange (KARNAL). (%), {%change}

The category wise placement through employment exchange is shown in Table 4.6. It was found that at Karnal in terms of placement General Category was followed by OBC and SC category.

Table 4.6
Category-wise Placement through Employment Exchange: Karnal

S. No	Year	Gen	SC	OBC/BC	Total
1	1999	21 (77.78)	4 (14.81)	2 (7.4)	27
2	2000	21 (50.0)	20 (7.62)	1 (2.38)	42 {35.71}
3	2001	14 (63.64)	4 (18.18)	4 (18.18)	22 {-90.91}
4	2002	11 (55.0)	4 (20.0)	5 (25.0)	20 {-10}
5	2003	6 (7.79)	2 (2.6)	69 (18.61)	8 {-150}

Source: Employment Exchange (KARNAL). (%) { %change}

Category-wise registration at Employment Exchange at Dehradun is clear in Table 4.7. Here again in general category number of registration was highest. This was followed by SC, BC and ST categories.

Table 4.7
Category-wise Registration at Employment Exchange: Dehradun

S. No	Year	SC	ST	OBC	Gen	Total
1	2001	2162 (10.61)	355 (1.74)	1162 (5.70)	16696 (81.94)	20375
2	2002	1449 (9.22)	236 (1.50)	937 (5.96)	13097 (83.82)	15719 {-29.62}
3	2003	1441 (15.09)	189 (19.56)	943 (9.86)	6995 (73.11)	9568 {-64.29}

Source: Employment Exchange. (%) { %change}

Table 4.8 Shows Category-Wise placement through Employment Exchange at Dehradun. It was found that in terms of placement also it was the general category that got maximum number of placement, followed by SC, OBC & ST.

Table 4.8
Category-wise Placement through Employment Exchange: Dehradun

S. No	Year	SC	ST	OBC	Gen	Total
1	2001	17 (16.67)	12 (11.76)	14 (13.73)	59 (81.94)	102
2	2002	42 (16.22)	5 (19.53)	43 (16.8)	166 (64.84)	256 {60.16}
3	2003	49 (15.65)	7 (2.23)	39 (12.46)	218 (69.65)	313 {18.21}

Source: Employment Exchange. (%) { %change}

Placement

Total number of placement both at Karnal and Dehradun is shown in Table 4.9. It can be observed that Dehradun has comparatively higher placement compared to Karnal.

Table 4.9
Total Number of Placement: Karnal and Dehradun

S.No	Year	Placement Karnal	Placement Dehradun
1	1999	27	-
2	2000	42 {35.71}	-
3	2001	22 {-90.91}	102
4	2002	20 {-10}	256 {60.16}
5	2003	8 {-150}	313 {18.21}

Source: Employment Exchange (Karnal&Dehradun). (%) {%change}

Gender-wise Categorization

Gender-wise total number of job seeker registered at Employment Exchange at Karnal is shown in Table 4.10. It was found that registration of males was higher than the female job seekers in Karnal in all the years under review here. Highest number of male job seekers was found to be in 2000 and the number of female was also high during this year.

Table 4.10
Gender-wise Total number of Job Seeker Registered at Employment Exchange: Karnal

S.No	Year	Male	Female	Total
1	1999	4190 (70.07)	1790 (29.93)	5980
2	2000	4398 (73.27)	1604 (26.72)	6002 {.37}
3	2001	2617 (72.51)	992 (27.5)	3609 {-66.31}
4	2002	1937 (80.41)	472 (19.6)	2409 {-49.81}
5	2003	2409 (94.73)	134 (5.27)	2543 {5.27}

Source: Employment Exchange (KARNAL). (%) {%change}

In term of placement also male got more placement compare to female at Karnal as seen in the Table 4.11.

Table 4.11
Gender-wise Total number of placement through Employment Exchange: Karnal

S.No	Year	Male	Female	Total
1	1999	25 (92.59)	2 (7.41)	27
2	2000	39 (92.86)	3 (7.143)	42 {35.71}
3	2001	22 (100)	-	22 {-90.91}
4	2002	20 (100)	-	20 {-10}
5	2003	8 (100)	-	8 {-60}

Source: Employment Exchange (KARNAL). (%) {%change}

Gender-wise number of total job seekers registered at employment exchange at Dehradun as seen from table below 4.12 is high for males compared to females, though it has declined in the absolute numbers over the years. In fact the number of females is to found to be insignificant.

Table 4.12
Gender-wise number of total job seekers Registered at employment exchange: Dehradun

S.No	Year	Male	Female	Total
1	2001	16264 (79.82)	4111 (20.18)	20375
2	2002	11510 (73.22)	4209 (26.78)	15719 {-29.62}
3	2003	7721 (80.69)	1847 (19.30)	9568 {-64.29}

Source: Employment Exchange Dehradun. (%) {%change}

Table 4.13 shows gender-wise number of total job seekers placed through employment exchange at Dehradun. In Karnal male got high registration compare to female.

Table 4.13
Gender-wise number of total job seekers placed through employment exchange: Dehradun

S.No	Year	Male	Female	Total
1	2001	72 (70.59)	30 (29.41)	102
2	2002	230 (89.89)	26 (10.16)	256 {60.16}
3	2003	238 (76.04)	75 (23.96)	313 {18.21}

Source: Employment Exchange Dehradun. (%) {%change}

Profile of ITIs

Table below (4.14) describes the Registration of students pass out from various trades from Karnal ITIs. Stenographer got highest number of registration followed by Fitter and Machinist.

Table 4.14
Trade-wise Registration of ITI Students: Karnal

S. No.	Trade	2002	%	2001	%	2000	%
1	Arch.	-	-	-	-	21	0.60
2	D/Man Civil	118	4.93	116	4.24	136	3.94
3	D/Man Mech.	18	0.75	16	0.58	34	0.98
4	Craft Instructor	63	2.63	63/1	2.30	107	3.10
5	Steno Engg.	221	9.23	209	7.64	402	11.64
6	Stenographer	261	10.91	242	8.85	377	10.92
7	Beautician	36	1.50	13	0.47	26	0.75
8	Moulder	71	2.96	66	2.41	95	2.75
9	Garment Tailor	179	7.48	187	6.84	120	3.47
10	Dress Maker	12	0.50	7	0.25	42	1.21
11	Designer	18	0.75	14	0.51	20	0.57
12	Master Cutter	37	1.54	52	1.90	40	1.15
13	Shoe maker	7	0.29	4	0.14	4	0.11
14	Carpenter	186	7.77	175	6.40	188	5.44
15	Black Smith	11	0.45	9	0.32	8	0.23
16	Shoe Maker	-	-	-	-	3	0.08
17	Die Maker	9	0.37	7	0.25	5	0.14
18	Machinist	102	4.26	80	2.92	115	3.33
19	Turner	166	6.93	149	5.45	140	4.05
20	Fitter	259	10.82	268/1	9.80	277	8.02
21	Machine	204	8.52	182	6.65	179	5.18
22	Diesel Mech.	151	6.31	161	5.89	126	3.65
23	Tractor Mech.	109	4.55	109	3.98	150	4.34
24	Ref. Mechanic	55	2.29	50	1.82	34	0.98
25	Electrician	99	4.13	99	3.62	139	4.02
26	Electronic Mechanic	-	-	60	2.19	98	2.83
27	Radio Mechanic	-	-	53	1.93	94	2.72
28	TV Mechanic	-	-	47	1.71	51	1.47
29	Wireman	-	-	106	3.87	111	3.21
30	Plumber	-	-	49	1.79	58	1.68
31	Welder	-	-	140	5.12	160	4.63
32	Plastic Molder	-	-	-	-	10	0.28
33	Painter	-	-	-	-	64	1.85
34	Boiler Attendant	-	-	-	-	17	0.49
	Total	2392	100.0	2733/2	100.00	3451	100.00

Source: Employment Exchange (KARNAL).

Table 4.14 a describes the placement of students pass out from various trades from Karnal ITIs. During last three years it was only in the Year 2001 one craft instructor and one fitter got the placement through employment exchange.

Table 4.14(a)
Trade-wise Placement of ITI Students: Karnal

S. No.	Trade	2001
1	Arch.	-
2	D/Man Civil	-
3	D/Man Mech.	-
4	Craft Instructor	1
5	Steno Engg.	-
6	Steno	-
7	Beautician	-
8	Molder	-
9	Garment Tailor	-
10	Dress Maker	-
11	Design	-
12	Master Cutter	-
13	Shoe maker	-
14	Carpenter	-
15	Black Smith	-
16	Shut Maker	-
17	Die Maker	-
18	Machinist	-
19	Turner	-
20	Fitter	1
21	Machine	-
22	Diesel Mech.	-
23	Tractor Mech.	-
24	Ref. Mechanic	-
25	Electrician	-
26	Electronic Mechanic	-
27	Radio Mechanic	-
28	TV Mechanic	-
29	Wireman	-
30	Plumber	-
31	Welder	-
32	Plastic Molder	-
33	Painter	-
34	Boiler Attendant	-
	Total	2

Source: Employment Exchange (KARNAL).

Table 4.15 shows the registration of students pass out from various trades from Dehradun ITIs. Of the pass outs computer, fitter, steno, tailor and electrician accounted highest concentration.

Table 4.15
Trade-wise Registration of ITI Students: Dehradun

S. No.	Trade	2001	%	2002	%	2003	%
1	D/Man Civil	12	2.72	10	2.13	9	1.97
2	D/Man Mech.	37	8.60	6	1.27	7	1.53
3	Surveyor	-	-	1	0.21	1	0.21
4	Steno Hindi/English	29	6.74	11	2.34	45	9.86
5	Shorthand Hindi/English	34	7.90	19	4.05	25	5.48
6	Computer	56	13.02	7	1.49	45	9.86
7	Molder	1	0.23	-	-	-	-
8	Electronics	-	-	8	1.70	25	5.48
9	Tailor	42	9.76	27	5.75	12	2.63
10	Carpenter	12	2.79	13/1	2.77	1	0.21
11	Machinist	27	6.27	27	5.75	41	8.99
12	Turner	31	7.20	25	5.33	10	2.19
13	Instructor	25	5.81	-	-	-	-
14	Instrument Mech.	-	-	25	5.33	22	4.82
15	Fitter	51	11.86	43	9.16	54	11.84
16	Motor Mech.	19	4.41	19	4.05	11	2.41
17	Motor Repairing	1	0.23	1	0.21	1	0.21
18	Mechanic Ref / AC	3	0.69	9	1.91	83	18.20
19	Diesel Mech.	3	0.69	154/1	32.83	34	7.45
20	Electrician	19	4.41	35/2	7.46	11	2.41
21	Radio /TV Mechanic	7	1.62	23/1	4.90	17/1	3.72
22	Wireman	3	0.69	2	0.42	1	0.21
23	Plumber	7	1.62	2	0.42	-	-
24	Welder	11	2.55	-	-	1	0.21
25	Sheet Metal	-	-	2	0.42	-	-
	Total	430	100	469/5	100	456/1	100

Source: Employment Exchange Dehradun.

Table 4.15a describes the placement of students pass out from various trades from Dehradun ITIs. During the Year 2002 five placements were made: one carpenter, one diesel mechanic, two electricians and one radio &TV mechanic got placement. During the year 2003 one radio &TV mechanic got placement.

The above mentioned tables shows there has been a decline in the placement for all the categories of graduates in Kamal while the picture is opposite at Dehradun.

Table 4.15(a)
Trade-wise Placement of ITIs Students: Dehradun

S. No.	Trade	2002	2003
1	D/Man Civil	-	-
2	D/Man Mech.	-	-
3	Surveyor	-	-
4	Steno Hindi/English	-	-
5	Shorthand Hindi/English	-	-
6	Computer	-	-
7	Molder	-	-
8	Electronics	-	-
9	Tailor	-	-
10	Carpenter	1	-
11	Machinist	-	-
12	Turner	-	-
13	Instructor	-	-
14	Instrument Mech.	-	-
15	Fitter	-	-
16	Motor Mech.	-	-
17	Motor Repairing	-	-
18	Mechanic Ref / AC	-	-
19	Diesel Mech.	1	-
20	Electrician	2	-
21	Radio /TV Mechanic	1	1
22	Wireman	-	-
23	Plumber	-	-
24	Welder	-	-
25	Sheet Metal	-	-
	Total	5	1

Source: Employment Exchange Dehradun.

The highest number of registration and placement is from High School at Karnal. At Dehradun, the Intermediate and pre-degree graduates have experienced highest level of registration and placement. The reason being that Dehradun is newly created state. As a result of requirements for new infrastructure and new vacancies were created and absorbed. It was found that especial recruitment was done in teaching (FGD). The Placement of students pass out from various trades from karnal it is was poor. During last three years it was only in the Year 2001 one craft instructor and one fitter got the placement through employment exchange. While at Dehradun during the Year 2002 five placements were made. One Carpenter, one Diesel Mechanic, two Electricians and one Radio &TV Mechanic got placement. During the year 2003 one Radio &TV Mechanic got placement. There is a strong need to strengthen the role of employment exchange in this regard.

Chapter V

Training Institutions and Current Trainees

The role of the technical institutions is not being fully realized to help people engaged in the informal sector of the economy. This sector contributed 49 percent to National Gross Domestic Product and absorbs 92 percent of the workforce. As the current trend indicates, the dependence of the workforce on this sector may further increase which calls for improving the productivity and income of the sector. The informal sector is not a single entity. It constitutes diversified activities ranging from high export potential activities such as software, handicrafts and garments to low income activities like agriculture and rural non-farm activities. Technological up gradation must be made to enhance the productivity and efficiency of this sector without jeopardizing its employment-absorbing capacity (Singh, 2002).

More recently, the low quality of employment has emerged as another important concern in the employment scenario, primarily because in the present era of globalization, technology, high skills and high productivity play a major role in labor markets. It is now universally accepted that rapid economic growth with effective and efficient utilization of labor through upgrading its skills alone can ensure higher employment generation at rising levels of productivity and income. The emergence of skill needs can be visualized at two angles: one from the point of view of meeting the demand for manpower by the economy and other from the point of view of improving the quality of human resources available. There is a need to improve the employability of the existing labor force through better skills.

The task force on Employment opportunities (Planning Commission, 2001) viewed the need for manpower from demand side while the special group on package for creation of Ten Million Employment Opportunities per annum in the Tenth Plan, (Planning Commission 2002) considers the situation from the manpower supply side. There is urgent need to expand skill development programs for the workers in the unorganized sector, particularly for women workers. Training for the unorganized sector workers is best left to the NGOs or private training Institute (Aggarwal, 2002). A small study on Patchwork Industry in Rampur district of U.P provides an example of the need for skill development of women workers in the unorganized sector (Ibid).

Education in India faces two problems: (i) the vast number of people is not educated; and (ii) a growing number of the educated are unemployed. The technical education system in India can be broadly divided into three levels, such as:

- (a) Industrial Training Institute specializing in vocational programs with emphasis on developing skills and providing reasonable theoretical knowledge to prepare skilled workers;

- (b) Higher level vocational/technical Institutes such as polytechnics offering diploma programs through advanced level vocational and technical instructions and training to prepare supervisory manpower and middle level executives in the industry; and
- (c) Professional institutions, such as engineering colleges and technical department of universities offering degree programs to prepare professionals for performing functions such as planning, designing, production, etc.

Since the study focuses on ITIs in two regions it will be appropriate to give a brief profile of ITIs at Karnal and Dehradun. Details are shown in Tables 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8 and 5.9. It was found that highest concentration of students at Dehradun is in Fitter trade followed by Ref. & AC, Electrician, and Draftman among the engineering trades. Among the non-engineering trade, highest concentration was found in cutting & tailoring followed by Steno. Majority of women were found to be concentrated in non-engineering trade's compared to male who were in engineering trades. While at Karnal, among males, Steno, Fitter, carpenter, tractor mechanic, turner, and welder had the highest intake capacity. The women were highly concentrated in Steno, Cutting & Sewing and Electronics.

Table 5.1 below describes the category wise classification of Trainees in Male's ITI's at Karnal. Out of the total 393 students enrolled, it was found that general category Students enrolled were 143 followed by BC (133), SC (133) and other's (15). Maximum numbers of Students were enrolled in steno Hindi trade.

Table 5.1
Trainees at ITI: Karnal (Males)

S. No.	Trade	Gen	SC	BC	Others	Total
1.	Electronic Mechanic	04	04	05	-	13
2.	Electrician	05	04	05	01	15
3.	Mechanic Motor Vehicle	06	04	05	01	16
4.	Fitter	11	07	11	01	30
5.	Turner	12	06	07	01	26
6.	Machinist	06	03	03	01	13
7.	Wireman	08	04	05	-	17
8.	Architect Civil	05	04	05	-	14
9.	Radio & TV Mech.	06	07	11	-	24
10.	Painter General	07	04	05	01	17
11.	Ref. & Air Condition Mech.	07	04	05	-	16
12.	Steno English	06	07	10	-	23
13.	Steno Hindi	15	07	10	01	33
14.	Mechanic Diesel	06	04	05	02	17
15.	Carpenter	09	07	11	01	28
16.	Foundry man	08	05	04	01	18
17.	Plastic Processing Operator	08	04	05	01	18
18.	Tractor Mech.	05	07	11	01	24
19.	Welder	09	06	06	01	22
20.	Cutting & Tailoring	-	04	04	01	09
	Total	143	102	133	15	393

Source: ITI (Boy's).

Note: Others include physically handicap and ex-Service men.

Table: 5.2 describe the position of Women enrolled in different trades out of the total 84 women enrolled, 52 were from general category, followed by S.C. (18) and B.C. (14) category respectively. Maximum number were enrolled in steno English (21), trade wise cutting and sewing for S.C. (07) women, and DMC for BC (05) steno English, (18) for general women occupied the highest position.

Table 5.2
Women ITI: Karnal

S.No.	Trade	Gen	SC	BC	Total
1.	Steno English	18	02	01	21
2.	DMC	06	01	05	12
3.	Cutting & Sewing	10	07	02	19
4.	Needle Work (Embroidery)	08	04	03	15
5.	Electronics	10	04	03	17
	Total	52	18	14	84

Source: Women ITI.

Table 5.3 below describes the enrollment pattern of liberty groups I.T.I's at Karnal and Gharaunda. Out of total 107, student and enrolled 90 were from General Category, 13 from S.C. and 4 from B.C. Category respectively.

Table 5.3
Karnal ITI: Liberty Group at Karnal, Kutail and Gharaunda

S.No.	Name of Establishment	Gen	SC	BC	Total
1.	Liberty Enterprises – II Unit	10	2	-	12
2.	Liberty Enterprises – III Unit	7	-	-	7
3.	Liberty Enterprises – IV Unit	7	2	-	9
4.	Liberty Enterprises – V Unit	6	-	1	7
5.	Liberty Enterprises – VI Unit	8	2	1	11
6.	Liberty Enterprises – VII Unit	8	1	-	9
7.	Liberty Shoes Limited, Kutail	33	4	1	38
8.	Liberty Shoes Limited, Kutail	-	-	-	-
9.	Liberty Group Marketing Division, Karnal	7	1	1	9
10.	Liberty Leather, Gharaunda	1	-	-	1
11.	Liberty tanners, Gharaunda	3	1	-	4
	Total	90	13	4	107

Source: Liberty Group at Karnal, Kutail and Gharaunda.

Table 5.4 describes the enrollment pattern of ITIs at Niranjn Pur. Out of the total 840 students enrolled 489 were from general category followed by SC, BC, ST & others. Maximum enrolment was 164 in fitter trade followed by electrician trade.

Table 5.4**Industrial Training Institute, Niranjanpur: Dehradun**

S.No.	Trade	Gen	SC	ST	OBC	Others	Total
1.	Drafts man Mech.	47	19	04	10	01	81
2.	Drafts man Civil	23	10	01	07	-	41
3.	Electrician	95	37	04	23	-	159
4.	Instrument Mech.	47	14	04	15	-	80
5.	Mechanic General Electronics	14	04	01	03	-	22
6.	Radio TV	14	04	-	03	01	22
7.	Refrigerator A. C.	24	07	02	06	01	40
8.	Fitter	90	35	04	32	01	162
9.	Turner	15	04	01	03	-	23
10.	Machinist	28	10	01	04	-	43
11.	Motor Vehicle	25	05	02	03	-	35
12.	Wiremen	22	05	03	04	-	34
13.	Painter General	-	04	-	-	-	04
14.	Welder	12	06	01	01	-	20
15.	Plumber	10	03	01	03	-	17
16.	Carpenter	04	02	02	-	-	08
17.	Steno Hindi	08	04	-	04	10	26
18.	Steno English	11	04	-	01	07	23
	Total	489	177	31	122	21	840

Source: ITI, Niranjanpur Dehradun.

Table below 5.5 describes the enrolment pattern of students at Kalsi ITI at Dehradun. Out of 24 students the 9 students were enrolled from general category. This was followed by ST (06) SC (05) and BC (03) respectively.

Table 5.5**Industrial Training Institute, Kalsi:Dehradun**

S.No.	Trade	Gen	SC	ST	OBC	Others	Total
1.	Mechanic General Electronics	05	02	04	01	01	13
2.	Plumber	04	03	02	02	-	11
	Total	09	05	06	03	01	24

Source: ITI, Kalsi.

Table below 5.6 describes the enrolment of students at Vikasnagar ITI. Out of the total 21 students 13 were from general category. 3 students were enrolled from SC category, 2 from ST and 3 from BC category. Maximum numbers of students were enrolled in wiremen trade.

Table 5.6
Industrial Training Institute, Vikas Nagar: Dehradun

S.No.	Trade	Gen	SC	ST	OBC	Total
1.	Wireman	10	03	01	02	16
2.	Steno English	03	-	01	01	05
	Total	13	03	02	03	21

Source: ITI, Vikas Nagar Dehradun.

Table below (5.7) describes the enrollment pattern of students at women ITI's at Dehradun. Out of the 139 students enrolled maximum numbers of students were enrolled from general category. This was followed by SC, ST and BC cutting and tailoring occupied maximum enrollment of 62 students.

Table 5.7
Industrial Training Institute (Women's): Dehradun

S.No.	Trade	Gen	SC	ST	OBC	Total
1.	Steno Hindi	13	06	-	02	21
2.	Steno English	14	04	-	-	18
3.	Cutting & Tailoring	43	13	05	01	62
4.	Embroidery	04	02	-	-	06
5.	Drafts man civil	05	05	-	01	11
6.	Electronics	08	04	-	-	12
7.	Radio TV Mech.	06	02	-	01	9
	Total	93	36	05	05	139

Source: ITI (Women's).

At Rajpur ITI (table 5.8) at Dehradun 139 students were enrolled. General category was followed by B.C & S.C category. Maximum students got enrolled in electrician trade.

Table 5.8
Industrial Training Institute, Rajpur Road (shifted to Doiwala): Dehradun

S.No.	Trade	Gen	SC	ST	OBC	Total
1.	Fitter	19	05	-	12	36
2.	Electrician	20	08	-	10	38
3.	Radio & TV Mech	20	05	-	01	26
4.	Motor Mech.	19	04	-	07	30
5.	Carpenter	05	02	-	02	09
	Total	83	24	-	32	139

Source: ITI, Rajpur Road Dehradun

At Doiwala ITI (table 5.9) 55 students were enrolled out of these 24 students were from general category 17 were from BC and 7 were from SC category respectively. Maximum students got enrolled in wiremen trade.

Table 5.9
Industrial Training Institute, Doiwala: Dehradun

S.No.	Trade	Gen	SC	ST	OBC	Others	Total
1.	Electronic	08	01	-	05	-	14
2.	Wireman	08	03	-	06	01	18
3.	Steno English	08	03	-	06	06	23
4.	Radio & TV mech.	-	-	-	-	-	-
5.	Electrician	-	-	-	-	-	-
6.	Tractor Mech.	-	-	-	-	-	-
7.	Cutting & Tailoring	-	-	-	-	-	-
	Total	24	07	-	17	07	55

Source: ITI, Doiwala Dehradun

At Dehradun 65 current trainees were surveyed among these 45 males and 20 female trainees were surveyed. At Karnal 55 current trainees were surveyed among these 47 were males and 8 were females.

Economic Background

Table 5.10 shows the economic background of the trainees both at Karnal and Dehradun. It was found that majorities of the trainees were dependent upon parent's income followed by self-support during their training.

Table 5.10
Economic Background of Trainees from Technical Training Institutes:
Karnal & Dehradun

(In %)

S. No.	Economic Background	Karnal			Dehradun		
		Male	Female	Total	Male	Female	Total
1	Parents Income	49.1	10.91	60.01	44.62	21.54	66.16
2	Other Family Member	3.63	-	3.63	-	1.54	1.54
3	Scholarship	7.27	3.64	10.91	7.69	4.61	12.3
4	Self Support	20.00	-	20.00	16.92	3.08	20.00
5	Others	5.45	-	5.45	-	-	-
	Total	85.45	14.55	100	69.23	30.77	100

Source: Field Survey.

Objective of Enrollment

Table 5.11 describes the objective of enrollment at ITIs of these students. It was found that they took admission in these institutes in order to get the job.

Table 5.11
Objective-wise distribution of Trainees: Karnal & Dehradun

(In %)

S. No.	Objective	Karnal			Dehradun		
		Male	Female	Total	Male	Female	Total
1	To get Job	69.09	9.09	78.18	61.54	24.62	86.16
2	Due to unemployment	9.09	5.46	14.55	6.15	-	6.15
3	Any other	7.27	-	7.27	1.54	6.15	7.6
	Total	85.45	14.55	100	69.23	30.77	100

Source: Field Survey.

Migration Pattern of Student

Table 5.12 depicts the migration pattern (if any) of students enrolled in the Technical Training Institutes for the year of 2003 – 04 and it was found that the majority of these students belonged to same town. However, a considerable proportion of students came from other districts than the districts under study here.

Table 5.12
Migration Pattern of Students enrolled: Technical Training Institutes 2003 – 04

(In %)

S. No.		Karnal			Dehradun		
		Male	Female	Total	Male	Female	Total
1	Same Town	50.91	9.1	60.01	41.53	20	61.53
2	Different town same district	10.91	5.45	16.36	20	7.70	27.70
3	Different district same state	23.63	-	23.63	7.7	3.07	10.77
	Total	85.45	14.55	100	69.23	30.77	100

Source: Field Survey.

Occupation of Parents

Occupation of Parents of the students enrolled in Technical Training Institutes for the year of 2003 – 04 is shown in Table 5.13. Maximum numbers of student are found to be from rural background and mainly agricultural occupation.

Table 5.13
Occupation of Parents of the students enrolled in Technical Training
Institutes: 2003 – 04

(In %)

S. No.	Parents Occupation	Karnal			Dehradun		
		Male	Female	Total	Male	Female	Total
1	Agriculture	43.64	5.46	49.10	32.3	12.31	44.61
2	Labour/workers	16.36	1.82	18.18	20	9.23	29.23
3	Service	14.54	7.27	21.81	4.62	3.08	7.7
4	Self Employed	10.91	-	10.91	12.31	6.15	18.46
	Total	85.45	14.55	100	69.23	30.77	100

Source: Field Survey.

Income of Parents

Income of the Parents of the Students Enrolled in Technical Training Institutes for the year 2003 – 04 is shown in Table 5.14. This shows that highest numbers of these students are from poor families earning income between Rs.2500-3500, followed by Rs.3500-4500 at Karnal and Rs.1500-2500 and Rs.2500-3500 for Dehradun. Very few students are from category of Rs.5000 & above.

Table 5.14
Income of the Parents of the Students Enrolled in Technical Training
Institutes: 2003 – 04

(In %)

S. No.	Parents Income	Karnal			Dehradun		
		Male	Female	Total	Male	Female	Total
1	Below 1500	18.18	-	18.18	12.31	1.54	13.85
2	1500-2500	12.73	-	12.73	13.85	4.62	18.47
3	2500-3500	25.44	3.64	29.08	23.08	12.31	35.39
4	3500-4500	12.73	5.45	18.18	7.69	3.07	10.76
5	4500-5500	3.64	3.64	7.28	3.07	3.07	6.14
6	5500 & above	12.73	1.82	14.55	9.23	6.16	15.39
	Total	85.45	14.55	100	69.23	30.77	100

Source: Field Survey.

Chapter VI

Employment Pattern of Passout Working Trainees

Human resources constitute the ultimate basis of wealth of a nation. Capital and natural resources are passive factors of production; human beings are active agents who accumulate capital, use natural resources, build social, economic and political organizations, and carry forward national development. Clearly, a country which is unable to develop the skills and knowledge of its people and to utilize them effectively in the national economy, will be unable to develop anything else". (Hartison, 1973). Education and skilled labour force is necessary for a sustained economic growth which cannot be denied. In the present era of globalization, privatization and liberalization, the market forces will weed the inefficient organization out. Consequences of globalization could be weakening of demand for traditional skills.

New economic policy has opened the doors for foreign capital and technology. Import restrictions are being gradually removed. This has resulted in the displacement of unskilled and semi-skilled labor- force by skilled and highly skilled personnel. Automation has been introduced which capital intensive and labor is saving. This has forced the system to resort to voluntary retirement schemes (VRS) and other policy measures to downsize the workforce in the public as well as private sector. The Gandhi a concept of "earn while you learn" should have is combined with "learn while you earn" (Singh, 2002).

Educational Background

The educational background of the surveyed trainees (Karnal and Dehradun) is shown in Table 6.1. It shows that the highest numbers of the students are 10th pass, both among males and females. The reason for this is that most of the trades require minimum qualification of 10th for entry into it. This was followed by trainees who had passed 12th standard in Karnal. Similar pattern of educational profile of the trainees surveyed in Dehradun emerges, for example, in Dehradun, the majority of trainees were matriculate, followed by 12th standard.

Table 6.1
Educational Background of pass out trainees :Karnal & Dehradun

(In %)

S. No.	Parents Income	Karnal			Dehradun		
		Male	Female	Total	Male	Female	Total
1	VIII std.	-	2.38	2.38	3.90	2.60	6.50
2	X std.	57.14	15.48	72.62	50.65	12.99	63.64
3	XII std.	19.05	5.95	25	24.67	5.19	29.86
	Total	76.19	23.81	100	79.22	20.78	100

Source: Field Survey.

Age Structure

Table 6.2 describes age structure of pass out trainees. It could be seen here that highest number of students are in the age group of 20-25 years followed by below 20 years and above 25 years at Karnal. While at Dehradun this is followed by more than 25 years and below 20 years category. The reason for this is that very few got enrolled among this age group at the institute and so is the entry rate into the labour market.

Table 6.2
Age Structure of pass out trainees : Karnal & Dehradun

(In %)

S. No.	Age (groups)	Karnal			Dehradun		
		Male	Female	Total	Male	Female	Total
1	Less than 20	26.19	3.57	29.76	6.49	5.19	11.68
2	20 – 25	42.86	15.48	58.34	49.35	11.69	61.04
3	More than 25	7.14	4.76	11.90	23.38	3.90	27.28
	Total	76.19	23.81	100	79.22	20.78	100

Source: Field Survey.

Waiting Period

Waiting period for Job of working graduates from Training Institutes for Last Five Years both at Karnal & Dehradun is presented in Table 6.3. According to this table the highest number of trainees got the job with in six month. Very few waited for more than two years as could be seen in the Table.

Table 6.3
Waiting period for Job after being passed out: Karnal & Dehradun

(In %)

S. No.	Period	Karnal			Dehradun		
		Male	Female	Total	Male	Female	Total
1	Less than 6 months	40.48	9.52	50	36.36	10.39	46.75
2	6 – 12 months	23.81	2.38	26.19	19.48	6.49	25.97
3	1 – 2 years	9.52	10.72	20.24	22.08	3.90	25.98
4	2 – 3 years	2.38	1.19	3.57	1.3	-	1.3
	Total	76.19	23.81	100	79.22	20.78	100

Source: Field Survey.

Salary Structure

If we look at the salary structure of the pass out it was found that during the initial years they were earning salary between Rs. 1000 to 3000 (Table 6.4). But

after some time they recorded an increase about Rs. 20000/-. But it was in a very few cases. Most of them if continue in their job could fetch salary of around Rs. 6000/- within 7 to 8 years.

Table 6.4

Salary Structure of the employees Ex-trainees :Karnal & Dehradun

(In %)

S. No.	(Salary in Rs.)	Karnal			Dehradun		
		Male	Female	Total	Male	Female	Total
1	Below Rs. 1000	5.95	3.57	9.52	1.3	1.3	2.6
2	Rs. 1000 - 3000	46.43	13.10	59.53	38.96	19.48	58.44
3	Rs. 3000 - 5000	9.52	5.95	15.47	31.17	-	31.17
4	Rs. 5000 & above	14.29	1.19	15.48	7.79	-	7.79
	Total	76.19	23.81	100	79.22	20.78	100

Source: Field Survey.

The Mis-match

The present study also made an attempt to look at the mismatch between skill acquired from the training institutes and skill required at the work place. Though a large number of trainees got the job in same trade but some students who got trained as fitter, mechanic, computers, mechanics and DMC were found working as carpenter, welder, steno, fitter and cobbler. This was predominant among the males. Among the females it some trained as beauticians were found working as tailor. (Table 6.5).

Table 6.5

Is Job Skilled Enabled :Karnal & Dehradun

(In %)

S. No.	Job detail	Karnal			Dehradun		
		Male	Female	Total	Male	Female	Total
1	Job in same trade	64.29	22.62	86.91	70.13	20.78	90.91
2	Job in different trade	11.90	1.19	13.09	9.09	-	9.09
	Total	76.19	23.81	100	79.22	20.78	100

Source: Field Survey.

Previous Job

Table below (Table 6.6) presents the job details of the surveyed workers. Though it shows that the highest number were working for the first time after they received the training but some of them had moved to second, third and fourth jobs

Table 6.6
Previous Job : Karnal & Dehradun

(In %)

S. No.	Job details	Karnal			Dehradun		
		Male	Female	Total	Male	Female	Total
1	1 st Job	57.14	16.67	73.81	42.86	16.88	59.74
2	2 nd Job	13.10	4.76	17.86	29.87	2.60	32.47
3	3 rd Job	3.57	2.38	5.95	3.89	1.30	5.19
4	4 th Job	2.38	-	2.38	2.60	-	2.6
	Total	76.19	23.81	100	79.22	20.78	100

Source: Field Survey.

Reason for Changing the Job

The reasons for changing the jobs are shown in Table 6.7. It was found that low wages was one of the major reason for leaving the job.

Table 6.7
Reason for changing the Job :Karnal & Dehradun

(In %)

S. No.	Job detail	Karnal			Dehradun		
		Male	Female	Total	Male	Female	Total
1	1 st Job	57.15	16.67	73.82	42.86	16.88	59.74
2	Preferred self employment	4.76	3.57	8.33	7.79	-	7.79
3	Wages were low	8.33	2.38	10.71	15.58	1.30	16.88
4	Repetitive / Intensive long hour	-	1.19	1.19	-	2.60	2.6
5	No career advancement	3.57	-	3.57	2.60	-	2.6
6	No job security	-	-	-	7.79	-	7.79
7	Personal Reasons	2.38	-	2.38	2.6	-	2.6
	Total	76.19	23.81	100	79.22	20.78	100

Source: Field Survey.

The figures show that jobs were changed for several seasons, for en example, some changed because of opening up avenues for self-employment, some because of low wags, repetitiveness and long hours, etc.

Nature of Training

Table 6.8 shows the nature of training received in the Institute. Though it was found maximum number of them got the training in the government institute but very few of them were absorbed in the government organizations. They are working as casual and contract workers (FGD).

Table 6.8
Nature of Training received :Karnal & Dehradun

(In %)

S. No.	Job detail	Karnal			Dehradun		
		Male	Female	Total	Male	Female	Total
1	Government	61.90	22.62	84.52	66.23	15.58	81.81
2	Private	14.29	1.19	15.48	12.99	5.20	18.19
	Total	76.19	23.81	100	79.22	20.78	100

Source: Field Survey.

Trade-wise Distribution

If we look at the trade-wise distribution of these working graduates at Karnal (Table 6.9). Shoe Technologist, Electrician and Mechanics got the highest proposition of jobs. This is because of establishments producing shoes, and burgeoning electrification in the areas of study.

Table 6.9
Trade-wise distribution of working pass out trainees: Karnal

(In %)

Trades	Male				Female				Sub-Total
	SC	BC	Gen	Total	SC	BC	Gen	Total	
Carpenter	-	3.58	2.38	5.96	-	-	-	-	5.96
Welder	1.19	2.38	4.76	8.33	-	-	-	-	8.33
Mechanics	2.38	3.57	7.14	13.09	-	-	-	-	13.09
Electrician	2.38	3.57	5.95	11.9	-	-	-	-	11.9
Steno	1.19	1.19	3.57	5.95	1.19	1.19	2.38	4.76	10.71
Electronics	3.57	2.38	4.76	10.71	-	1.19	3.57	4.76	15.47
DMC	-	-	-	-	1.19	-	2.38	3.57	3.57
Cutting & Sewing	-	-	-	-	2.38	4.76	3.58	10.72	10.72
Fitter	2.38	1.19	3.57	7.14	-	-	-	-	7.14
Shoe technology	3.58	2.38	7.15	13.11	-	-	-	-	13.11
Total	16.67	20.24	39.28	76.19	4.76	7.14	11.91	23.81	100

Source: Field Survey.

Table 6.10 describes the trade-wise working scenario of the workers at Dehradun. It shows that electrician availed the greater preposition of jobs. The reason for this is increasing demand for the electricians in the District as it was reported by many in during the survey and focus group discussions.

Table 6.10
Trade-wise distribution of working pass out trainees: Dehradun

(In %)

S. No.	Trades	Male					Female					Total
		SC	ST	BC	Gen	Total	SC	ST	BC	Gen	Total	
1	Electronics	2.6	-	1.3	5.19	9.09	1.3	-	-	2.6	3.9	12.99
2	Steno	2.6	1.3	-	2.6	6.5	1.3	-	1.3	5.18	7.78	14.28
3	Cutting & Tailoring	-	-	1.3	2.6	3.9	1.3	-	-	2.6	3.9	7.8
4	DMC	1.3	-	1.3	1.3	3.9	-	-	1.3	1.3	2.6	6.5
5	Radio & TV Mechanism	1.3	-	1.3	3.9	6.5	1.3	-	1.3	-	2.6	9.1
6	Motor Mechanism	-	-	1.3	2.6	3.9	-	-	-	-	-	3.9
7	Welder	1.3	1.3	1.3	5.19	9.09	-	-	-	-	-	9.09
8	Electrician	3.9	-	2.6	7.61	14.11	-	-	-	-	-	14.11
9	Machinist	1.3	-	1.3	2.6	5.2	-	-	-	-	-	5.2
10	Wireman	-	-	1.3	2.6	3.9	-	-	-	-	-	3.9
11	Fitter	1.33	-	-	1.3	2.63	-	-	-	-	-	2.63
12	Tractor Mechanic	1.3	-	2.62	-	3.92	-	-	-	-	-	3.92
13	Carpenter	2.68	-	1.3	2.6	6.58	-	-	-	-	-	6.58
	Total	19.61	2.6	16.92	40.09	79.22	5.2	-	3.90	11.68	20.78	100

Source: Field Survey.

Chapter VII

Workers in the Specific Informal Sector

Globalization has made a significant impact on labor markets. Employment patterns income levels and organization of work are changing these have eventually triggered the need for appropriate skill development programs. Moreover, as a result of restructuring, there have been wide spread job losses in country in many establishments. Many workers have been forced to accept jobs at a lower level of remuneration or have been pushed into the informal sector or even out of employment altogether. Employment in the informal sector seems to be an alternative available for future. In this context the role of skill development assumes greater significance, as it is one of the most valuable inputs in expanding employability, productivity and income of the people (Aggarwal, 2002). However, question arises: what type of education and skill development is required in the changing scenario and what should be the appropriate training system to achieve this training goal? The issue has been considered very recently by three different Commissions / Committees; the Second National Commission on Labour (GOI, 2002), the task force on Employment Opportunities (Planning Commission, 2001) and the Special Group (Planning Commission, 2002). All these three recognized the importance of skill development in the present day context and suggested mechanisms to correct the deficiencies. They focus on skill development of informal sector as one of the strategies to compete with the world economy (Aggarwal, 2002). Of the several effects of the ongoing process of globalization, those influencing Labour market and employment are particularly crucial. They highlight the need to reorient employment policies to make them more sensitive to the local specificity particularly so in relation to the linkage between employment and skill development (Kumar, 2002).

It is the level of skill that determines the capacity of job seekers to be employable. With the shrinking of employment opportunities in the public sector, in particular, due to ongoing process of disinvestments, the employment situation has become quite grim. Skilled workers may be able to take advantage of the changes afforded by globalization (Sharma, 2002). Therefore nations and firms have adopted different strategies for training workers and facilitating skill acquisition. While in U.K. individuals are left free to acquire skills, in some other countries the governments have co-operated with firms proactively in matching the demand for and supply of skills as in Singapore while Japan has linked occupational qualifications with training. Different economies and states have pursued different ways of becoming competitive through strategies that aimed at increasing the stock of skilled labour (D'Souza, 2002). The preference is for training workers in the firm. This is because unskilled labour is cheap and can be used according to firm's requirements (Singh, 2002).

In the labor absorption capacity of the economy has reduced. Between 1977-78 and 1993-94 the share of the organized sector in the workforce declined from 8.7percent to 8.1percent. Wage employment in the unorganized sector from has increased from 6.6percent to 7percent during the same period. Similar picture still holds for 1999-2000 (Nagaraj, 2002).

The unorganized sector workforce dominates the employment composition in India, which engages more than 92 per cent of the workforce. Reviewing comprehensively the lacunae in the present system of skill generation, the National Commission of Labour (NCL, 2002) has recommended a flexible competency based certification system to provide for the recognition of skills in the large informally trained workforce (Ramachandran, 2002).

Attainment of higher level of labor productivity is dependent upon the use of improved technology and skilled manpower which is adequately trained; and is a breaker of latest developments in technology in respective areas of operation beside the type of technical education and training system prevailing in the economy (Mathur, 2002). The level of vocational skills among the labor force in India compares poorly with that in the other countries. If one considers the age group of 20-24 years among the labor force, then in the late 1990's only 5 percent of the India labor force had vocational skills. Whereas the percentage in industrial countries is much higher, for example it is as high as 96 percent in Korea. Even the developing countries like Mexico, Botswana and Mauritius have significantly higher proportion (more than 20 percent) than India (Singh, 2002). Channels of training meant specifically for the informal sector workers includes schemes for training of women by the Department of Women and Child Development, skill development programs run by Khadi and Village Industries Commission (KVIC) and training programs of the Department of Small Scale Industries (SSI) and Non-government Organizations (Mathur, 2002).

Against this backdrop, the present chapter makes an attempt to look at the workers in the informal sector of Karnal and Dehradun. The workers were purposely selected from the trades in which some technical skills are provided in the vocational institutions i.e. in ITIs, in order to enhance their knowledge and productivity. It may be noted here that 100 sample workers from Dehradun and 120 from Karnal were surveyed. Of the sample workers, some were selected having training in institutions other than ITIs, and some with 'on the job' and hereditary training background.

Educational Background

If we look at the educational background of these workers it was found that at Karnal (Table 7.1) most of them were primary and secondary education passes. At Karnal, among the informal sector highest, concentration was in plumbing and cobbling trade.

Table 7.1
Educational Background of the surveyed workers in the Informal Sector: Karnal

(In %)

S. No.	Area of Activity	Primary	Secondary	Higher Secondary & Above
1	Plumber	12.45	4.15	-
2	Hair Dresser	4.98	9.02	3.32
3	Beautician	-	5.8	10.8
4	Tailoring	3.32	5	8.28
5	Mechanic	5.8	9.02	1.6
6	Cobbler	12.45	3.01	1
	Total	39	36	25

Source: Field survey

At Dehradun also the picture was more or less the same (Table 7.2). At Dehradun trades like Beautician and Tailoring occupied major concentrations of the surveyed workers.

Table 7.2
Educational Background of the surveyed workers in the Informal Sector: Dehradun

(In %)

S. No.	Area of Activity	Primary	Secondary	Higher Secondary & Above
1	Electronics	1	-	3
2	Garments	9	5	3
3	Instrument Mech.	2	-	1
4	Plumber	3	3	-
5	Beautician	15	8	2
6	Tailoring	16	16	13
	Total	46	32	22

Source: Field Survey.

Place of Training

At Karnal it was found that the maximum number of students acquired training while on the job. This was followed by training acquired from institute and hereditary sources as shown in table 7.3.

Table 7.3
Source of Training Received by the surveyed workers: Karnal

(In %)

S. No.	Area of Activity	Institute	On the Job	Hereditary training
1	Plumber	3.33	13.33	-
2	Hair Dresser	-	10	6.67
3	Beautician	11.67	5	-
4	Tailoring	5.83	9.16	1.66
5	Mechanic	6.67	10	-
6	Cobbler	1.67	6.67	8.34
	Total	29.17	54.16	16.67

Source: Field Survey.

At Dehradun similar picture emerge as most of the workers acquired training while on the jobs. This was followed by hereditary and institutional training (see table 7.4) this shows that in both the districts workers working in the informal sector are mostly trained on the job and in the hereditary occupation. It was thus evident that while on the job this provided them with practical experience and after a few years they were in a position to start their own work establishment. In case those passout from the institute, looked for jobs as contract worker in other establishments.

Table 7.4
Source of Training Received by the surveyed workers: Dehradun

(In %)

S. No.	Area of Activity	Institute	On the Job	Hereditary training
1	Electronics	3	1	-
2	Garments	2	9	6
3	Instrument Mech.	1	2	-
4	Plumber	1	2	3
5	Beautician	5	11	9
6	Tailoring	5	30	10
	Total	17	55	28

Source: Field survey.

Nature of Employment

Nature of employment of the surveyed workers at Karnal is shown in Table 7.5. It was found that at Karnal highest numbers of workers were working as a contract worker.

Table 7.5
Nature of employment of the surveyed workers: Karnal

(In %)

S. No.	Area of Activity	Temporary / Contract	Self Employed
1	Plumber	13.33	3.33
2	Hair Dresser	10.83	5.83
3	Beautician	9.17	7.5
4	Tailoring	10.00	6.67
5	Mechanic	12.5	4.17
6	Cobbler	11.67	5
	Total	67.5	32.5

Source: Field survey

Nature of employment of the surveyed workers at Dehradun is shown in Table 7.6. At Dehradun self-employment occupied highest number, followed by contract workers.

Table 7.6
Nature of employment of the surveyed workers: Dehradun

(In %)

S. No.	Area of Activity	Temporary / Contract	Self Employed
1	Electronics	2	2
2	Garments	4	13
3	Instrument Mech.	2	1
4	Plumber	2	4
5	Beautician	8	17
6	Tailoring	10	35
	Total	28	72

Source: Field Survey.

Income Profile

The Figures in Table 7.7 show that in Karnal the majority of the surveyed workers were in the income category of Rs1000-3000; this was followed by income categories of Rs3000-5000, up to Rs 1000 and the rest in Rs5000 and above.

Table 7.7
Income profile of the surveyed workers: Karnal

(In %)

S. No.	Area of Activity	Up to Rs. 1000	Rs. 1000 to 3000	Rs. 3000 to 5000	Rs. 5000 & above
1	Plumber	1.67	8.33	6.67	-
2	Hair Dresser	2.50	8.33	3.33	2.50
3	Beautician	1.67	7.50	4.17	3.33
4	Tailoring	1.67	8.33	2.50	4.17
5	Mechanic	5.00	7.50	0.83	3.33
6	Cobbler	3.33	9.17	1.67	2.50
	Total	15.84	49.16	19.17	15.83

Source: Field Survey.

While at Dehradun, on an average maximum number is earning income between Rs. 3000 to 5000/- per month. The reason is that most of the workers are self-employed at Dehradun. This is contradictory to the fact that Dehradun is a hilly region and hence number of government job should have been more compared to Karnal, as is a plain region.

Table 7.8
Income profile of the surveyed workers: Dehradun

(In %)

S. No.	Area of Activity	Up to Rs. 1000	Rs. 1000 to 3000	Rs. 3000 to 5000	Rs. 5000 & above
1	Electronics	-	2	2	-
2	Garments	1	3	9	4
3	Instrument Mech.	-	1	1	1
4	Plumber	-	5	1	-
5	Beautician	-	8	12	5
6	Tailoring	2	10	19	14
	Total	3	29	44	24

Source: Field Survey

Social Background

It may be noted in Table 7.9 that majority of the surveyed workers belonged to general category, followed by OBC and SC category. Similar picture could be found with regards to female sample workers.

Table 7.9
Social Background of the surveyed Workers: Karnal

(In %)

S. No.	Area of Activity	Male			Female		
		SC	OBC	Gen	SC	OBC	Gen
1	Plumber	3.33	4.17	9.17	-	-	-
2	Hair Dresser	1.67	12.50	2.50	-	-	-
3	Beautician	-	-	-	-	3.33	13.33
4	Tailoring	0.83	1.67	5	0.83	2.50	5.83
5	Mechanic	5.00	2.50	9.17	-	-	-
6	Cobbler	10.84	3.33	2.50	-	-	-
	Total	21.67	24.17	28.34	.83	5.83	19.16

Source: Field Survey.

Table 7.10 shows the distribution of surveyed workers by social status in Dehradun where once again the majority was from general category, followed by OBC and SC category in both cases-male and female.

Table 7.10
Social Background of the surveyed Workers: Dehradun

(In %)

S. No.	Area of Activity	Male			Female		
		SC	OBC	Gen	SC	OBC	Gen
1	Electronics	-	1	2	-	-	1
2	Garments	3	3	7	1	1	2
3	Instrument Mech.	-	1	2	-	-	-
4	Plumber	1	1	2	-	1	1
5	Beautician	2	4	9	2	3	5
6	Tailoring	5	17	11	2	6	4
	Total	11	27	33	5	11	13

Source: Field survey.

Correspondence between training in trades and employment in trades

It is often found that skill acquired by a worker is not in compatibility with work he or she might be doing. This is due to the fact that acquire skill is not at par with demand situation in the market. However, it is found in the present study that in Karnal out of the total sample worker (No 120) who had been trained in different trades had found employment in more or less corresponding trades. For example, as seen in the Table 7.11 the 11.6 percent sample workers received training in Beauticians trade and they also found employment subsequently in the same trades. Similar situation could be noted with regards to other trades and employment as well.

Table 7.11
Correspondence between training and employment in the trades:
Karnal

(In %)

S. No.	Area of Activity ↓ Trades	Plumber	Hair Dresser	Beautician	Tailoring	Mechanic	Cobbler	Total
1	Beautician	-	-	11.67	-	-	-	11.67
2	Garment tailor	-	-	-	3.33	-	-	3.33
3	Dress maker	-	-	-	1.67	-	-	1.67
4	Dress Design	-	-	-	0.83	-	-	0.83
5	Shoe Maker	-	-	-	-	-	1.67	1.67
6	Machinist	-	-	-	-	1.67	-	1.67
7	Machine	-	-	-	-	0.83	-	0.83
8	Tractor Mech.	-	-	-	-	1.67	-	1.67
9	Electronic Mech.	-	-	-	-	0.83	-	0.83
10	Radio Mechanic	-	-	-	-	1.67	-	1.67
11	Plumber	3.33	-	-	-	-	-	3.33
Nature of Training Received	Total Institute	3.33	-	11.67	5.83	6.67	1.67	29.17
	Total on Job training	13.33	10	5.00	9.16	10.0	6.67	54.16
	Total Hereditary	-	6.67	-	1.66		8.34	16.67

Source: Field survey.

At Dehradun also as seen in the Table 7.12 the 3 percent surveyed workers received training in Electronics and they also found employment subsequently in the same trades. Similar situation could be noted with regards to other trades and employment as well.

Table 7.12
Correspondence between training and employment in the trades:
Dehradun

(In %)

S. No.	Area of Activity ↓ Trades	Electronics	Fashion Designing	Instrument Mechanic	Plumber	Beautician	Tailoring	Total
1	Electronics	3	-	-	-	-	-	3
2	Garments	-	2	-	-	-	-	2
3	Plumber	-	-	-	1	-	-	1
4	Beautician	-	-	-	-	5	-	5
5	Tailoring	-	-	-	-	-	5	5
6	Instrument Mechanic	-	-	1	-	-	-	1
Nature of Training Received	Total Institute	3	2	1	1	5	5	17
	Total On Job training	1	9	2	2	11	30	55
	Total Hereditary	-	6	-	3	9	10	28

Source: Field Survey.

Chapter VIII

Conclusion, Suggestions and Recommendations

The expansion of technical educational facilities continues even though the rate of absorption of technical manpower, particularly technically trained persons has declined. This has led to a situation of an increase in the number of trained professionals who are without jobs and resulted in imbalances in the proportion of manpower with different levels of technical competencies. In order to overcome this kind of situation the state will have to be supported by a robust labor market information system (manpower information system). The mismatch between supply and demand for labor with different skills is mainly due to the reason that the changes in the demand side are much more rapid in the context of opening up of the economy. However, the demand trajectory is not guided by supply trajectory.

Information base in India is available only for a small proportion of technical manpower and is totally absent in the case of the informal sector economy and the semi-skilled labour force (Ramachandran, 2002). Twenty-two Lakh students who have passed 10th class did not go up to 12th class, which is essential for seeking admission for some of the trades of vocational training (Ibid). There is thus a need to follow up these students, thereby helping them to take up trades, which already have demand in the market. In India, vocational training could be broadly viewed under five categories:

- (i) The craftsmen Training Program, catering to the needs of persons in the age group of 14 to 25 years. The training is organized through a network of industrial training Institutes (ITIs). The period of training and entry level qualifications for admission to various trades differ from course to course (Annexure No. 1 & 2).
- (ii) Job related training to persons, who are engaged in certain jobs with inadequate skills, or are likely to take up jobs for which they do not have adequate preparation. Courses under the Apprenticeship training programmes, training of Ex-servicemen and part-time programs for industrial workers fall under this category.
- (iii) Training programs organized by the Indian council of Agricultural Research (ICAR) and others such as, the Handicraft and Handlooms Developments, which impart training for maintaining quality and productivity.
- (iv) Directorate General of Employment and Training (DGE&T), Ministry of Labor is a major government agency responsible for the administration of vocational training comprising of Craftsmen Training Scheme (CTS),

and Apprenticeship Training Scheme (ATS). While the former is imparted in a structured institutional environment, the latter is a combination of institutional and on-the-job training in which the trainees are exposed to the industrial environment. The passout trainees under CTCs are semi-skilled workers and the trainees who complete ATS schemes are expected to be skilled workers.

- (v) Job seekers for self-employment: The community polytechnics (CP) each with a number of Village Extension Centers come under this category. Community Polytechnic (C.P) targets unemployed / underemployed youth, school college dropout's women and weaker sections of the society. Some of the existing polytechnics have been designated as CPs. About 02 lakhs rural youth had been trained by CPs till March 1999.

This also includes programmes offered by the Khadi and Village Industries Commission through departmental and non-departmental training centers. The Prime Minister's Rojgar Yojana and production-cum-training centers under various state government offices also provide training. (Ramachandran, 2002).

In this study information regarding ITIs trades during the current year and last five-year was collected from urban ITIs located at Karnal and Dehradun. At Dehradun it was found that during the last five years there have not been major changes in the trades. Knitting has been abolished in 1995, Draft men Civil was started in 1980, and the seats in Cutting and Sewing were reduced. However there has been an increase in the intake capacity in Embroidery section. At Karnal the picture was more or less the same. Women at Dehradun were more concentrated in trades like Electronics, Computer, Steno (English), and Stenography (Hindi), DMC, and Radio & T.V mechanic, Cutting and Sewing, Embroidery and Beautician. While at Karnal enrollment was high in Needlework, Cutting & Sewing, DMC, Steno-English.

At Dehradun, 90 percent of the students surveyed, were from rural background and mainly from agricultural workers households. Rests were from the service class such as official working as clerks in various Government Departments. The proportion of students from rural background at Karnal was as high as 95 percent. It is the parents who often sponsor their wards for training them at these institutes despite the low income of the families of the students. The parents assume that their wards will get suitable employment after training. The passouts from Dehradun ITIs, at local level, (as reported by informants who were mostly instructors) were working in the Secretariat at Dehradun and Modixerox Factory. Others were reported to be working in Private factories located at Ghaziabad,

Sonepat, Noida, Faridabad, Panipat, and Gurgaon etc (Table 8.1). From Karnal ITIs, the students were reported to be working at Gurgaon, Bhiwadi, Panipat, Ludhiana, Sonepat, Faridabad, and Noida. They were working as apprentices in various firms where they were not absorbed as permanent employees. Therefore, they had no alternative but to accept contract works. Some of them preferred self-employment that was from comparatively better economic section of the society. It was also found that some of them were working as contract workers in local furniture market (Table 8.2).

At Dehradun and Karnal there has not been any selection in local establishments like Sugar mill, Rice mill, P.W.D and Roadways for the last ten-years. Only at Karnal, ITI passouts were selected in the Electricity Department in 1997. It was also found that at Karnal many workers were working in Liberty factories located at Gharonda, Kutail and Karnal itself. These establishments have their own training institutes for training their workers.

It was reported during a focus group discussion that some of students were selected through campus interviews. Details regarding the company selecting the students from particular trade are given in Tables 8.1 and 8.2 for Dehradun and Karnal respectively.

Table 8.1
Job through Campus interview: Dehradun (2000-2004)

S. No.	Companies who conducted interviews	Trades in which candidates were selected
1	Dabur India Ltd., Ghaziabad	Electronics, Turner, Electrician, Fitter, Ref. & AC Turner
2	Modi Xerox (local)	Electronics, Electrician
3	Hero Honda, Ghaziabad	Machinist, Fitter, Motor Mechanic
4	Osram India Pvt. Ltd., Sonipat	Fitter, Motor Mechanic, Mechanist, Electrician
5	GE Motors, Faridabad	Turner, Electronics
6	LG, Noida	Fitter
7	Pepsi Co Company, Panipat	Electrician, Machinist, Electronics, Fitter
8	Satyam Auto Ltd, Gurgaon	Welder
9	GE Industries, Faridabad	Electronics
10	Honda City	Welder, Motor Mechanist, Fitter

Source : Field Survey

Table 8.2
Job through Campus interview – Karnal (2000-2004)

S. No.	Companies who conducted interviews	Trades in which candidates were selected
1	Dabur India Ltd., Ghaziabad	Fitter, Electrician, Ref. & AC, Turner, Mechanic
2	Bhagwanpura Sugar Mills	Fitter, Turner, Electrician
3	M/S Honda Motor Cycle, Scooter	Painter
4	GE Motors India Ltd.	Electrician, Fitter, Turner, Machinist, Electronics
5	Aradhana Soft Drinks, Gurgaon	Fitter, Electrician, Electronics
6	AG Industries Ltd., Gurgaon	P.P.O.
7	Hero Cycle, Hero Nagar, GT Road	Painter, Welder
8	LG Electronics India Pvt. Ltd	Fitter, Electronics, Ref. & AC Mechanic
9	Denso Haryana Pvt. Ltd, (workers)	Electronics, radio & TV Machinist, Fitter, Turner
10	Rico Casting Ltd., Ludhiana	Foundry
11	M/S Osram India Pvt. Ltd. Sonapat	Fitter, Welder, turner, Electrician, Machinist, Electronics
12	Hero Honda Motors Ltd.	Fitter, Motor Vehicle Mechanic, Turner, Machinist, Welder, Painter, Electrician
13	Vabilant Organic ltd.	Electrician, Fitter, Mechanist, Diesel
14	M/S Motors India Ltd, Faridabad	Fitter, Electrician, Electronics, Machinist
15	Aradhana Soft Drinks Company, Panipat	Fitter, Electrician, Electronics, Motor Mechanic, Diesel Mechanic

Source: Field Survey.

Beside this, it was also reported by the informants (instructors) that students were also working in establishments, like WIPRO Ltd., Bangalore; Naval Dockyard, Mumbai; Integral Coach Factory, Chennai; L & T, Bangalore; Bharat Electronics Ltd., Bangalore; HAL, Bangalore; Diesel Locomotive works, Varanasi; Ordnance Factories; Indian Railways (Zone / Workshops), Defence Departments, etc.

Suggestions and Recommendations

1. There is a need to conduct research by the training institutes themselves or by other organization about the demand for the trades in the local market in order to reduce the mismatch between demand for jobs for specific skills and supply of manpower.
2. The existing curricula for the trades should be enhanced.

3. Appropriate technology and its uses in the local employment arena should be introduced to the trainees.
4. Along with hard-trades, some soft trade courses, like (i) accounting (ii) management; and (iii) planning of resources for self-entrepreneurship and employment should be introduced.
5. A network of ITTs, NGO, business establishments, etc should be formed. This will help each other stakeholder to benefit from the end products.
6. There is a lack of awareness about the ITI courses. In order to increase this, an annual exhibition of various activities of the Institutes should be held in a central place.
7. The High and Secondary schools should be provided information about the trades in the ITIs.
8. On some occasions, the ITIs and school should jointly organize awareness programmes.
9. Information counters in the District and Block Headquarters should be setup about technical education facilities available in the area.
10. Other Institutes like Polytechnics, Engineering Colleges, etc should organize orientation Programmes for the Instructors of ITIs.
11. Some other areas in which technical training could be envisioned are: Catering; Poultry; Piggery; Goatry; Domestic dairy; Fishery; Sericulture; Bee-keeping; Agro-horticulture; Organic farming; Floriculture and Gardening, etc.

This will help the existing Institutes to revitalize their activities and their relevance will get enhanced thereby. In order to create ambience for training and subsequent engagement in the world of work appropriate and workers friendly mechanism have to be evolved regarding financial assistance, licensing facilities market access, advertising etc.

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Annexure 1

List of Engineering trades together with period of training and their entry qualifications under the Craftsmen Training Scheme

Engineering Trades Manufacturing Sector

S.N.	Name of the trade	Duration	Entry Qualifications
1	Foundryman	1 year	Passed class 8 th examination under 10+2 system of education or its equivalent.
2	Sheet Metal Worker	1 year	Passed 8 th class examination under 10+2 system or its equivalent.
3	Plastic Processing Operator	1 year	Passed 10 th class examination under 10+2 system of education or its equivalent.
4	Painter General	2 year	Passed 8 th class examination or its equivalent.
5.	Fitter	2 years	Passed 10th class examination under 10+2 system of education or its equivalent.
6.	Turner	2 years	Passed 10th class examination under 10+2 system of education or its equivalent.
7.	Machinist	2 years	Passed 10th class examination under 10+2 system of education or its equivalent.
8.	Tool & Die Maker (Press Tools, Jigs & Fixtures)	3 years	Passed 10th class examination under 10+2 system of education with Science or its equivalent.
9.	Tool & Die Maker (Dies & Moulds)	3 years	Passed 10th class examination under 10+2 system of education with Science or its equivalent.
10.	Machinist (Grinder)	2 years	Passed 10th class examination under 10+2 system of education or its equivalent.
11.	Electroplater	2 years	Passed 10th class examination under 10+2 system of education or its equivalent.
12.	Mechanic Agricultural Machinery	2 years	I. Essential:- Should have passed 8th class examination under 10+2 System of education or its equivalent. II. Desirable :- Passed 10 class Examination under 10 + 2 system of education with Science (Physics and Chemistry) as one of the subjects.

S.N.	Name of the trade	Duration	Entry Qualifications
13.	Instrument Mechanic	2 years	Passed 10th class examination under 10+2 system of education with Science as one of the subjects or its equivalent.
14.	Draughtsman (Mechanical)	2 years	Passed 10th class examination under 10+2 system of education with Science and Mathematics or its equivalent.
15.	Maintenance Mechanic (Chemical Plant)	2 years	Passed 10th class examination with Physics, Chemistry and Mathematics under 10+2 system of education or its equivalent.
16.	Instrument Mechanic (Chemical Plant)	(a) 2 years (b) 6 months	Passed 10th class examination under 10+2 system of education with Physics, Chemistry & Mathematics as one of the subjects or its equivalent. Passed B.Sc. with Physics & Chemistry.
17.	Attendant Operator (Chemical Plant)	(a) 2 years (b) 6 months	Passed 10th class examination under 10+2 system of education with Physics, Chemistry & Mathematics as one of the subjects or its equivalent. Passed B.Sc. with Physics & Chemistry.
18.	Laboratory Assistant (Chemical Plant)	(a) 2 years (b) 6 months	Passed 10 th class examination under 10+2 system of education with Physics, Chemistry & Mathematics as one of the subjects or its equivalent. Passed B.Sc. with Physics and Chemistry.
19.	Information Technology & Electronics System Maintenance	2 years	Passed 10 th class Examination under 10+2 system of education with minimum 60% marks in Maths & Science put together. Desirable- 12 th class with Maths and Physics.
20.	Mechanic Industrial Electronics	2 years	Passed 12 th Class Examination with Physics, Chemistry & Mathematics.
21.	Mechanic Mechatronics	2 years	Passed 10+2 Class Examination with Physics, Chemistry & Mathematics.
22.	Operator Advanced Machine Tools	2 years	Passed 12 th Class Examination with Physics, Chemistry & Mathematics.

Service Sector

23.	Welder (Gas and Electric)	1 year	Passed class 8 th examination under 10+2 system of education or its equivalent.
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S.N.	Name of the trade	Duration	Entry Qualifications
24.	Upholster	1 year	Passed 8 th class examination under 10+2 system of education or two classes below matriculation examination or equivalent.
25.	Carpenter	1 year	Passed 8 th class examination under 10+2 system of education with science as one of the subjects or its equivalent.
26.	Mechanic (Diesel)	1 year	Passed 10 th class examination under 10+2 system or its equivalent.
27.	Plumber	1 year	Passed 8 th class examination under 10+2 system of education or its equivalent.
28.	Mason (Building Constructor)	1 year	Passed 8 th class examination under 10+2 system of education or its equivalent.
29.	Mechanic (Tractor)	1 year	1) Essential – should have passed 8 th class examination under 10+2 system of education or its equivalent. 2) Desirable – Passed 10 th class examination under 10+2 system of education with science (Physics and Chemistry) as one of the subjects or its equivalent.
30.	Pump Operator-cum-Mechanic	1 year	Passed 10 th class examination under 10+2 system of education with science or its equivalent.
31.	Wireman	2 years	Passed 8 th class examination or its equivalent.
32.	Mechanic (Motor Vehicle)	2 years	Passed 10 th class examination under 10+2 system of education or its equivalent.
33.	Mechanic (Watch & Clock)	2 years	Passed 10 th class examination under 10+2 system of education or its equivalent.
34.	Electrician	2 years	Passed 10 th class examination under 10+2 system of education or its equivalent.
35.	Mechanic (Radio & TV)	2 years	Passed 10 th class examination under 10+2 system of education or its equivalent.
36.	Mechanic-cum-Operator Electronics Communication System	2 years	Passed 10 th class examination under 10+2 system of education or its equivalent.
37.	Mechanic (Refrigeration and) Air-Conditioner	2 years	Passed 10 th class examination under 10+2 system of education with Science & Mathematics or its equivalent.

S.N.	Name of the trade	Duration	Entry Qualifications
38.	Millwright / Maintenance Mechanic	2 years	Matriculation with Science and Mathematics or its equivalent.
38*	Mechanic Machine Tools Maintenance	3 years	Matriculation with Science and Mathematics or its equivalent.
39.	Draughtsman (Civil)	2 years	Passed 10th class examination under 10+2 system of education with Science and Mathematics or its equivalent.
40.	Surveyor	2 years	Passed 10th class examination under 10+2 system of education with Science and Mathematics or its equivalent.
41.	Electronic Mechanic	2 years	Passed Matriculation examination under 10+2 system of education Science and Mathematics or its equivalent.
42.	Building Maintenance	06 months	Passed 10th class examination under 10+2 system of education or its equivalent.
43.	Mechanic Auto Electrical and Electronics	06 months	Passed 10th class examination under 10+2 system of education with Science and Mathematics or its equivalent.
44.	Sanitary Hardware fitter	06 months	Passed 8 th class examination under 10+2 system of education or its equivalent.
45.	Lift Mechanic	2 years	Passed 10 th class examination under 10+2 system of education with science or its equivalent.
46.	Architectural Assistant	1 year	Passed 10th class examination with 40% marks in mathematics or Secondary Standard under 10+2 system of education or its equivalent.
47.	Mechanic Computer Hardware	2 years	Passed 10+2 or Intermediate or Pre-university with Physics as one of the subject.
48.	Mechanic Medical Electronics	2 years	Passed 10 th class examination under 10+2 system of education with Mathematics & Science or its equivalent.
49.	Mechanic Consumer Electronics	2 years	Passed 10 th class examination under 10+2 system of education with Mathematics & Science or its equivalent.

Source : Annual Report, MOL, 2004.

Annexure 2

List of Non-Engineering trades together with period of training and their entry qualifications under the Craftsmen Training Scheme

Non-Engineering Trades Manufacturing Sector

S.N.	Name of the trade	Duration	Entry Qualifications
1.	Embroidery and Needle Work	1 year	Passed class 8 th class or its equivalent.
2.	Cane Willow and Bamboo Work	1 year	Passed class 8 th class or its equivalent.
3.	Weaving of Silk and Woollen Fabrics	1 year	Passed class 8 th class or its equivalent.
4.	Weaving of Woollen Fabrics	1 year	Passed class 8 th class or its equivalent.
5.	Manufacture of Footwear	1 year	Passed class 8 th class examination under 10 + 2 system of education or its equivalent.
6.	Leather Goods Maker	1 year	Passed 8 th class examination under 10+2 system of education or two classes below matriculation examination or its equivalent.
7.	Dress Making	1 year	Passed Matriculation examination or its equivalent or 10 th class under 10 + 2 system.
8.	Baker and Confectioner	1 year	Passed 10 th class examination under 10 + 2 system of education or its equivalent.

Service Sector

9.	Desk Top Publishing Operator	1 year	a) Passed 12 th under 10+2 system or its equivalent. b) Typing speed of 30 wpm in English. Desirable : typing speed of 30 wpm in Regional Language.
10.	Computer Operator and Programming Assistant	1 year	12 th class pass under 10+2 system or duly recognized Diploma in Engineering from any Polytechnic of 3 years duration after 10 th class.
11.	Cutting & Sewing	1 year	Passed 8 th class or its equivalent.
12.	Preservation of fruits and vegetables	1 year	Passed 10 th class examination under 10 + 2 system of education with Science or its equivalent.
13.	Photographer	1 year	Passed 10 th class examination with Physics and Chemistry under 10+2 system or its equivalent.

S.N.	Name of the trade	Duration	Entry Qualifications
14.	Bleaching Dyeing and Calico Printing	1 year	Passed 10 th class examination under 10+2 system of education with Science and Mathematics or its equivalent.
15.	Stenography (English)	1 year	12 th class Pass
16.	Secretarial Practice	1 year	12 th class Pass
17.	Stenography (Hindi)	1 year	12 th class Pass
18.	Hair and Skin care	1 year	Passed Matriculation examination with Hygiene and Physiology or Biology as Elective Subject or 10 th Class under 10+2 system with Hygiene and Physiology or Biology as Elective Subject or equivalent.
19.	Steward	1 year	Passed 10 th Class exam under 10+2 system of education or its equivalent.
20.	Craftsman Food Production (General)	1 year	Passed 10 th Class exam under 10+2 system of education or its equivalent.
21.	Craftsman Food Production (Vegetarian)	1 year	Passed 10 th Class exam under 10+2 system of education or its equivalent.
22.	Process Cameraman	1 year	Passed 10 th class exam under 10+2 system of Education with science as one of the subjects or its equivalent.
23.	Plate Maker-cum-Impositor	1 year	Passed 10 th class exam under 10+2 system of education with science as one of the subjects or its equivalent.
24.	Litho – Offset Machine Minder		1 year Passed 10 th class exam under 10+2 system of education with science as one of the subjects or its equivalent.
25.	Driver Cum Mechanic (Light Motor Vehicle)	06 months	Passed 10 th Class Examination under 10+2 System of Education.
26.	Data Entry Operator	06 months	Essential: (i) 10 th Class Passed (ii) Typing speed of 30 w.p.m. in English Desirable: Typing speed of 30 w.p.m. in Hindi/ Any Local language.
27.	Tourist Guide	06 months	Passed 12 th Class under 10+2 system of education or equivalent.
28.	Floriculture & Landscaping	06 months	Passed 12 th Class Examination with Biology as major subject or Vocational Training in Agro-Horticulture.
29.	Health Sanitary Inspector	01 year	Passed 12 th Class Examination under 10+2 System of Education with science in X class . Preference given to trainees with Physics, Chemistry & Biology in 12 th Class.

S.N.	Name of the trade	Duration	Entry Qualifications
30.	Hospital House Keeping	01 year	Passed 12 th Class Examination under 10+2 System of Education with Physics, Chemistry & Biology.
31.	Dental Laboratory Technician	02 years	Passed 10 th Class Examination under 10+2 System of Education.
32.	Medical Transcription	06 months	Passed 12 th Class Examination under 10+2 system of education with Biology/Physiology as major subject. Knowledge of English Language is essential.
33.	Horticulture	01 year	Passed 12 th Class Examination with Biology as major subject or Vocational Training in Agro-Horticulture.
34.	Library & Information Science	06 months	Passed 12 th Class under 10+2 system of education or equivalent.
35.	Insurance	03 months	Passed 12 th Class under 10+2 system of education or equivalent.
36.	Institution House Keeping	06 months	Passed 10 th Class Examination under 10+2 System of Education.
37.	Corporate House Keeping	06 months	Passed 10 th Class Examination under 10+2 System of Education.
38.	Domestic House Keeping	06 months	Passed 10 th Class Examination under 10+2 System of Education
39.	Old Age Care	06 months	Passed 8 th Class under 10+2 system of Education.
40.	Network Technician	06 months	Passed 12 th Class under 10+2 system of education or equivalent.
41.	Pre/Preparatory School Management (Assistant)	06 months	Passed 10 th Class Examination under 10+2 System of Education
42.	Creche Management	06 months	Passed 10 th Class Examination under 10+2 System of Education
43.	Cabin/Room Attendant	06 months	i) Passed 10 th Class Examination under 10+2 System of Education. ii) Working knowledge of English & Hindi.
44.	Dairying	01 year	Passed 10 th Class Examination under 10+2 System of Education
45.	Digital Photographer	01 year	Passed 12 th Class under 10+2 system of education or equivalent.
46.	Event Management Assistant	06 months	Passed 10 th Class Examination under 10+2 System of Education or its equivalent. (with English as subject)
47.	Fashion Technology	01 year	Passed 12 th Class under 10+2 system of education or equivalent.
48.	Front Office Assistant	06 months	Passed 10+2 Class Examination under 10+2 System of Education or its equivalent. (with English as subject)
49.	Interior Decoration and Designing	01 year	Passed 10 th Class Examination under 10+2 System of Education

Annexure 3

Women's Vocational Training Programme

State-wise distribution of women Industrial Training Institutes and wings for women in general ITIs / Private WITIs.

(Data as in October 2002)

Region	WITIs	W.Wings/Pvt. WITIs	Total WITIs / Wings	Total Seats
<i>Northern Region</i>				
Delhi	3	36	39	4252
Himachal Pradesh	16	Nil	16	920
Rajasthan	8	9	17	656
Chandigarh	1	Nil	1	256
Uttar Pradesh	11	69	80	4316
Uttanchal	8	Nil	8	704
Haryana	6	34	40	2486
Punjab	38	40	78	6154
Jammu & Kashmir	1	30	31	750
Total 92	218	310	20494	
<i>Southern Region</i>				
Karnataka	17	6	23	2160
Kerala	3	9	12	1592
Tamilnadu	10	13	23	2342
Andhra Pradesh	23	4	27	3820
Pondichery	2	1	3	280
Lakshadweep	Nil	1	1	16
Total	55	34	89	10210
<i>Eastern Region</i>				
Nagaland	1	2	3	96
Meghalaya	1	Nil	1	54
Bihar	7	Nil	7	560
Jharkhand	4	Nil	4	304
West Bengal	4	7	11	720
Orissa	10	16	26	1390
Assam	5	18	23	596
Manipur	1	Nil	1	48
Mizoram	Nil	3	3	48
Tripura	1	0	1	84
Andaman & Nicobar	Nil	1	1	11
Total	34	47	81	3911
<i>Western Region</i>				
Gujrat	6	24	30	2222
Madhaya Pradesh	13	Nil	13	1648
Chattisgarh	9	1	10	580
Maharastra	15	226	241	8496
Dadar & Nagar haveli	Nil	1	1	16
Total	43	252	295	12962
Grand Total	224	551	775	47577

Source : Annual Report, MOL, 2003.

Annexure 4

Craftsman Training

01. Statement showing Region-wise Number of Government and Private ITIs with its seating capacity in various states / union Territories as on 31/10/2001.

S.N.	Name of Seates / UTs	Number of Govt. ITIs	Seating Capacity (Govt.)	Number of Pvt. ITCs	Seating Capacity (Pvt)	Total ITIs/ ITCs	Total Seating Capacity
1	2	3	4	5	6	7	8
	Northern Region						
1	Haryana	78	13189	24	1428	102	14617
2	Himachal Pradesh	51	4913	6	500	57	5413
3	Jammu and Kashmir	38	4156	0	0	38	4156
4	Punjab	106	14015	39	2364	145	16379
5	Rajasthan	89	8784	21	1452	110	10236
6	Uttar Pradesh	181	38324	112	10148	293	48472
7	Chandigarh	2	984	0	0	2	984
8	Delhi	14	9012	41	1748	55	10760
9	Uttaranchal	35	5112	15	1544	50	6656
	Sub-Total	594	98489258	19184	852	117673	
	Southern Region						
1	Andhra Pradesh	90	23631	479	85546	569	109177
2	Karnataka	106	18636	401	27552	507	46188
3	Kerala	68	14264	467	43689	535	81628
4	Tamil Nadu	67	21308	605	60320	672	81628
5	Lakshdweep	1	96	0	0	1	96
6	Pondicherry	7	1256	7	14	14	1680
	Sub-Total	339	79191	1959	424	2298	29722
	Eastern Region						
1	Arunachal Pradesh	2	368	0	0	2	368
2	Assam	24	4536	3	84	27	4620
3	Bihar	28	10256	13	2712	41	12968
4	Jharkhand	14	2564	13	1380	27	3944
5	Manipur	7	540	0	0	7	540
6	Meghalaya	5	622	2	304	7	926
7	Mizoram	1	294	0	0	1	294
8	Nagaland	3	404	0	0	3	404
9	Orissa	27	6384	140	12356	167	18740
10	Sikkim	1	140	0	0	1	140
11	Tripura	4	400	0	0	4	400
12	West Bengal	48	11660	13	756	61	12416
13	Anda. & Nico Island	1	204	0	0	1	204
	Sub-total	165	38372	184	17592	349	55964
	Western Region						
1	Goa	11	2492	4	420	15	2912
2	Gujarat	133	62156	100	13034	233	75190
3	Madhya Pradesh	133	19218	24	1996	157	21214
4	Chattisgarh	73	8248	54	6072	127	14320
5	Maharashtra	347	64774	266	28925	613	93699
6	D & N Haveli	1	228	0	0	1	228
7	Daman & Diu	2	388	0	0	2	388
	Sub-Total	700	157504	448	504467	1148	207951
	Grand Total	1798	373556	2849	304754	4647	678310

Source :Annual Report, MOL, 2003.

Annexure 5

List of Designated Trades under the Apprentices Act, 1961

Trades having entry qualification class VIIIth Pass

Name of Trades	Period of Training
Lineman	3 years
Wireman	
Furniture & Cabinet maker	
Plumber	
Mechanic (Marine Diesel)	
Tractor Mechanic	2 years
Painter General	
Driver-cum-Fitter	
Mason (Building Constructor)	
Sports Good Maker (Wood)	
Auto Mechanic (Two Wheeler)	
Book Binder	
Three Wheeler	
Tailor (General)	
Leather Goods Maker	
Footwear Maker	
Finished Leather Maker	
Upholsterer	
Rigger	
Gas Cutter	
Ceramic Moulder	
Ceramic Caster	
Ceramic Kiln Operator	
Ceramic Press Operator	
Ceramic Decorator	
Moulded (Refractory)	
Painter Marine	
Tailor (Men)	1½ years
Tailor (General)	1 year
Jewellery and Precious Metal Worker	1 year
Weaver	
Doffer-cum-Piecer	
Tenter (Drawing speed / Fly Frames)	
Winder (Textile)	
6 months	
Printing Textile	Barber/Hair Cutter/ Dresser
Tyre Repairer	
Pruner Tea Gardens	4 years
Trades having entry qualification Class Xth Pass	
Electrician Aircraft	
Tool & Die maker (Press Tools Jigs & Fixture)	
Mechanic (Instrument Aircraft)	
Plastic Mould maker	
Operator Cum mechanic (Power Plant)	
Trades having entry qualification Class Xth Pass	3 years
Fitter	
Turner	
Machinist	
Machinist (Grinder)	
Foundryman	
Forger & Heat treater	
Sheet metal worker	
Electrician	
Mechanics machine Tool Maintenance	
Mechanic Maintenance (Textile machinery)	
Shipwright (Steel)	
Mechanic (Dairy Maintenance)	
Mechanic maintenance (Chemical Plant)	
Material Handling Equipment-Cum-Operator	
Instrument Mechanic	
Mechanic watch and Clock	
Mechanic Diesel	
Mechanic (Motor Vehicle)	

Source : Annual Report, MOL, 2003.

Apprenticeship Training Scheme

Trades having entry qualification Class Xth pass

Name of Trades		Period of Training
Refrigeration and Air Conditioning Mechanic	Construction Machinery Mechanic-Cum Operator	3 Years
Draughtman (Civil)	Draughtsman (mechanical)	
Surveyor	Fitter Structural	
Boiler attendatn	Mechanic Mining machinery	
Switch Board attendant	Lino Operator	
Mono Keyboard Operator	Process Cameraman	
Retoucher Lithographic	Engraver	
Offset Machine Minder	Optical Worker	
Sirdar (Colliery)	Mate (Mines)	
* Attendant operator (Chemical Plant)	* Instrument Mechanic (Chemical Plant)	
* Laboratory Assistant (Chemical Plant)	Mechanic (Agricultural Machinery)	
Maintenance Mechanic for Leather Machinery	Insulator maker / Machine (Ceramic)	
Pipe Fitter	Shipwright (Wood)	
Electronics mechanic	Brick Layer (Refractory)	
Apprentice Food Production (General)	Steam Turbine Cum Auxiliary Plant Operator	
Winder (armature)	Cable Jointer	
Electrician (Mines)	Electroplater	
Carpenter	Mechanic Television (Video)	
Attendant Operator (dairy)		
Trades having entry qualification Class Xth Pass		2 Years
Welder (gas & Electric)	Motor Vehicle Body Builder	
Auto Electrician)	Mono Caster Operator	
Plate maker (Lithographic)	Shortfirer/Blaster (Mines)	
Steward	Baker and Confectionery	
Hotel Clerk / Receptionist / Front Office Assistant	Apprentice food production (vegetarian)	
Fibre Reinforced plastic processor	Plastic process Operator	
Designer and Master Cutter	Dress maker	
Embroidery and Needle worker	Horticulture Assistant	
Stockman (dairy)	Pump Operator Cum Mechanic	
Sports Good maker (Leather)	Photographer	
Beautician	Steel Melting hand	
Crane Operator (Overhead Steel Industry)	Furnace operator (steel Industry)	
Hair Dresser	Health and Slimming Assistant	
Hair and Skin Carer	Enamel Glazer	
Fruit and Vegetable Process		

Source : Annual Report, MOL, 2003.

* Persons processing B.Sc. qualification can undergo Apprenticeship Training with duration of 1 ½ year in these trades.

Apprenticeship Training Scheme

Trades having entry qualification Class Xth Pass

Name of Trades	Period of Training
House Keeper Kintter (Hosiery)	1 ½ years
Mechanic Sewing Machine Gardener	1 Year
Battery Repairer	
Creel Boy-Cum-Warper Screen Printing	
Beautician Assistant Cable Television Operator	6 months
**Call centre Assistant	
Trades having entry qualification Class XIIth Pass	
Operator Advanced Machine Mechanic Advanced Machine	
Tool maintenance Tool maintenance	3 years
Mechanic Industrial Electronics	
Data preparation and Computer Desk Top Publishing Operator	
Software	
Operator Cum Mechanic Mechanic Medical Equipment	2 years
Pollution Control Equipment for Hospitals and Occupational	
	health centre
Medical laboratory technician Medical laboratory Technician	
(Pathology) (Radiology)	6 months
Medical Laboratory Technician (Cardiology and Physiology)	
Trades having entry qualification B.Sc. Pass	
Advanced attendant Operator (Process) 1 ½ years	
Trade having entry qualification National trade Certificate in	
"Computer Operator and Programming Assistant" issued by	
National Council for Vocational Training	1 year
Programming and Systems Administration Assistant	

Source : Annual Report, MOL, 2003.

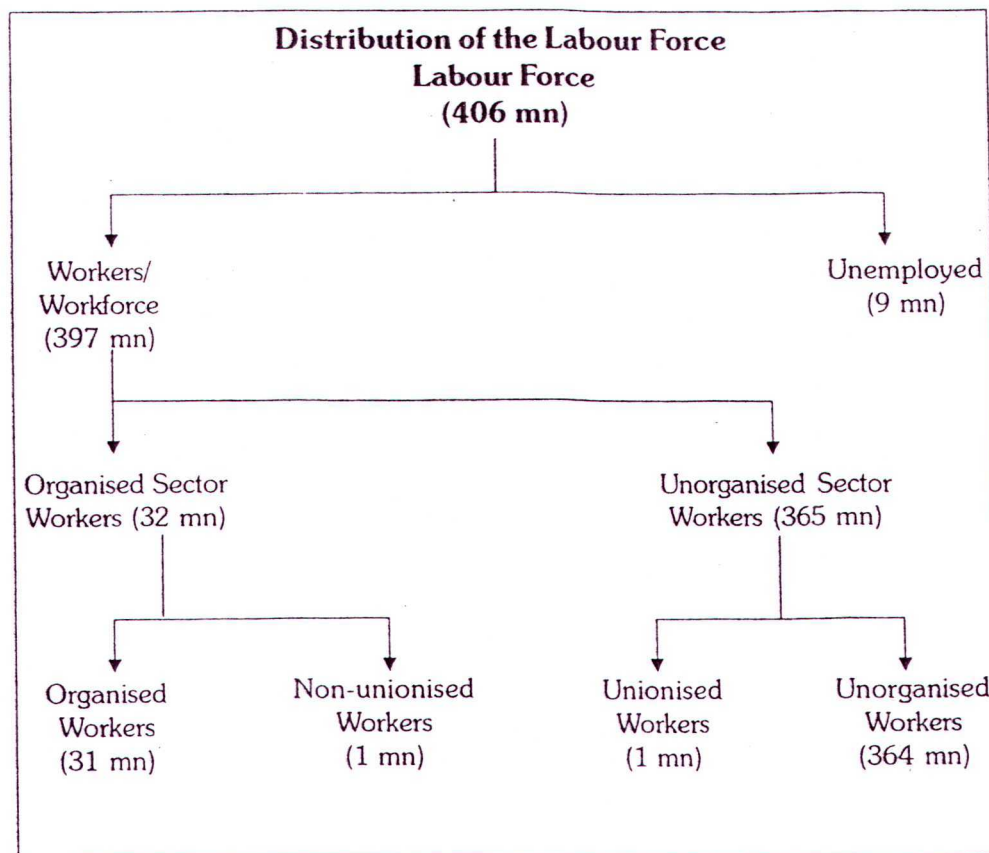
** Persons possessing National Trade Certificate issued by NCVT in the trades of Electronics Mechanic, Electrician, Mechanic cum Operator Electronics Communication system, Computer Operator and programming Assistant, Information Technology and Electronics System Maintenance, radio and Television, Instrument mechanic can undergo Apprenticeship Training.

Annexure 8

**Details of Regionwise seats Utilisation in Respect of
Trade Apprentices in Central Sector**

Region	Seat Located	Seats Utilised	% Utilisation	No. of Seats utilised out of Column 3				
				S/C	S/T	Minorities	ph	Women
1	2	3	4	5	6	7	8	9
RDAT, Kolkata	5974	4405	74%	627	373	116	14	72
RDAT, Chennai	6980	5059	72%	1184	86	854	81	499
RDAT, Faridabad	3575	2251	63%	447	68	47	17	27
RDAT, Hyderabad	5961	5118	86%	660	343	103	39	55
RDAT, Kanpur	7225	5363	74%	926	255	185	18	93
RDAT, Mumbai	4803	3566	74%	725	215	371	12	125
Total	34518	25762	75%	4569	1340	1676	181	871

Source : Annual Report, MOL, 2003.



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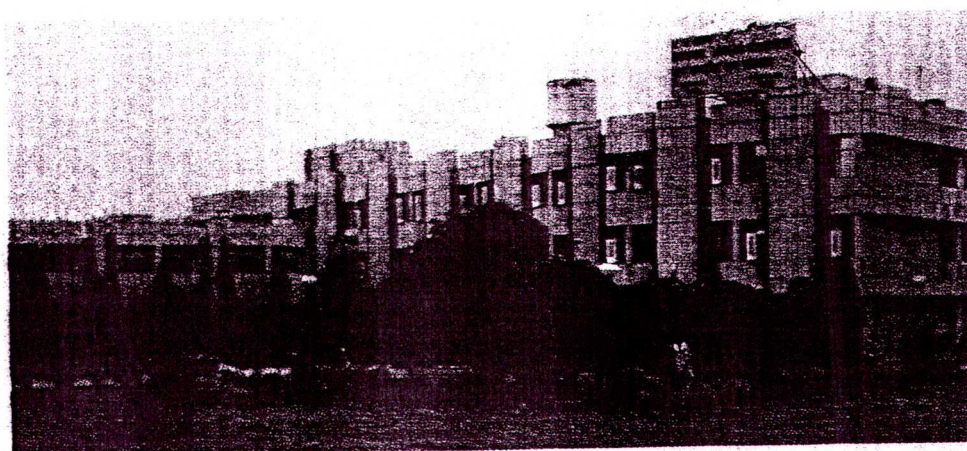
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