International Journal of Advanced Research and Development
ISSN: 2455-4030, Impact Factor: RJIF 5.24
www.newresearchjournal.com/advanced
Volume 1; Issue 5; May 2016; Page No. 01-07

Vocational education in India

Mahesh Yadav

Asst. Professor, Dept. of Physical Education, Mahatma Gandhi P.G. College, Gorakhpur, Uttar Pradesh, India.

Abstract

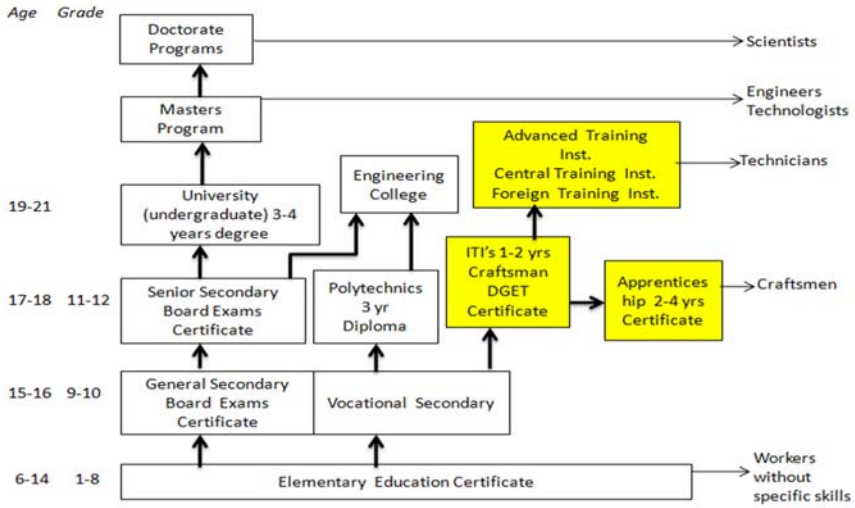
Vocational education or skill based education are in certain disciplines which enables students to acquire skills which are traditionally non-academic and totally related to specific trade, occupation or vocation. They are also known as Technical Education. Career and Technical Education (CTE) or vocational Education and Training (VET) as they directly develop expertise in a particular group of techniques or technology through manual or practical activities. Vocational courses are primarily designed in such a way that they impart a thorough application-based study wherein theoretical concepts of a field are not studied independently but are subordinated to the understanding of techno-operational aspects of specific job. Understanding the changing needs of the world that today every company is looking for specialist and skill based employees, CBSE Central Board of Secondary Education India has included following vocational subjects in their senior secondary education. Generally, vocation and career are used interchangeably. Vocational education might be classified as teaching procedural knowledge. This may be contrasted with declarative knowledge, as used in education in a usually broader scientific field, which might concentrate on theory and abstract conceptual knowledge, characteristic of tertiary education. Vocational education can be at the secondary or post-secondary level and can interact with the apprenticeship system. Increasingly, vocational education can be recognized in terms of recognition of prior learning and partial academic credit towards tertiary education (e.g., at a university) as credit; however, it is rarely considered in its own form to fall under the traditional definition of a higher education.

Keywords: Vocational education, skill based education, Career and Technical Education, vocational Education and Training.

Introduction

Vocational education consists basically of practical courses through which one gains skills and experience directly linked to a career in future. It helps students to be skilled and in turn, offers better employment opportunities. These trainings are parallel to the other conventional courses of study (like B. Sc., M. Sc. etc.). Time management and meeting deadlines play an important role in success in a vocational course and during their studies students normally produce a portfolio of evidence (plans, reports, drawings, videos, placements), which is taken as a demonstration of students' capabilities for a job. After finishing the courses, students are often offered placements in jobs. Vocational trainings in a way give students some work related experiences that many employers look for. According to a National Sample Survey Organization (NSSO) report (No. 517, 61/10/03) two types of vocational trainings are available in India: a) Formal and; b) Non-formal. Formal vocational training follows a structured training program and leads to certificates, diplomas or degrees, recognized by State/Central Government, Public Sector and other reputed concerns. Non-formal vocational training helps in acquiring some marketable expertise, which enables a person to carry out her/his ancestral trade or occupation. In a way through such non-formal vocational training, a person receives vocational training through 'hereditary' sources. Often 'Non-formal' vocational trainings are also received through 'other sources'. In such cases training received by a person to pursue a vocation, is not ancestral and is different from the trade or occupation of his/her ancestors.

Data and graphs used here are all indicative, not exhaustive.



Source: Skill development in India: The vocational education and training system report no.-22 World Bank

Fig 1: Academic, Technical and Vocational parallel training structure/system in India-a flowchart

Type of Institutions for Vocational training according to National Sample Survey Organization (NSSO)

Different institutions which impart vocational training can be classified into five categories:

(i) Government, (ii) Local body, (iii) Private aided, (iv) Private unaided, (v) Not known.

According to a NSSO report vocational training is received by only 10% of persons aged between 15-29 years. Out of this only 2% receive formal training, while non-formal training constitutes the remaining 8%. Out of the formal training received by that particular age group only 3% are employed. Most sought after field of training is computer related training. Only 20% of formal vocational training is received from ITI/ITCs. In India, technical education and vocational training system follows patterns like graduate - post graduate, engineer - technologists through training colleges, diploma from polytechnics and certificate level training in ITIs through formal apprenticeships.

The Vocational Training in India is imparted by mainly two types of bodies:

- Public Industrial Training Institutes (ITIs)
- Private owned Industrial Training Centres (ITCs)

The Indian Government has invested a lot for the development of skills through ITIs. The DGE&T generally regulates these ITIs and ITCs at national level and implements policies for vocational training.

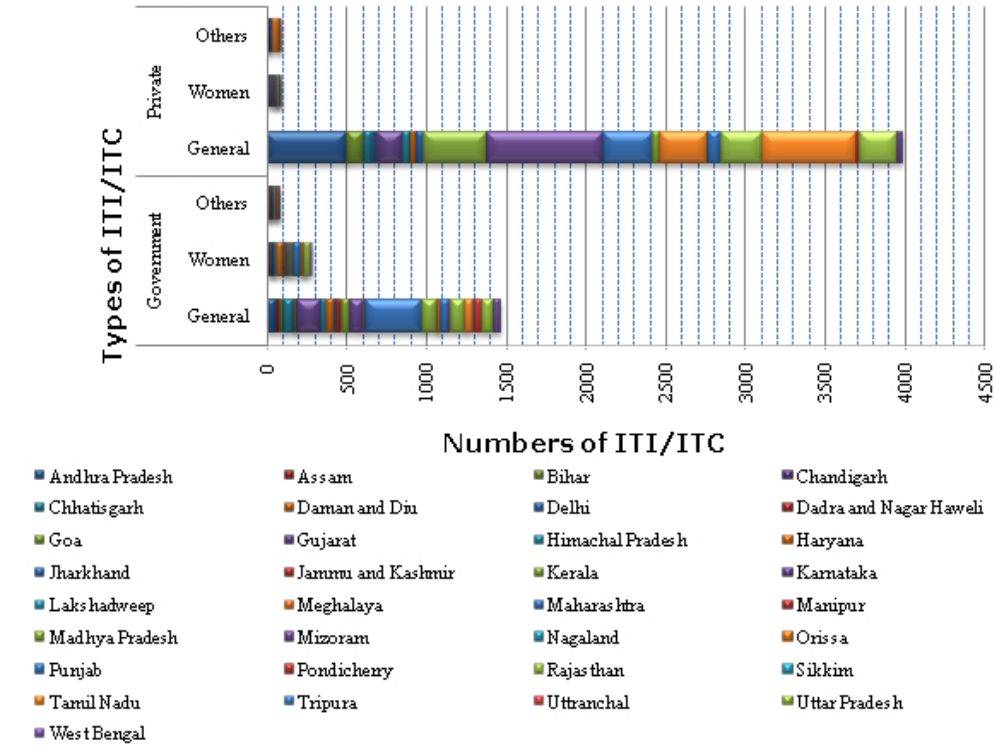
Training statistics of ITI/ITCs - main formal vocational training institutes in India

Some of the principal training schemes are:

- The Craftsmen Training Scheme (CTS)
- Apprenticeship Training Scheme (ATS).

According to the Planning commission report for the 11th Five year plan there are about 5,114 Industrial Training Institutes (ITIs) imparting training in 57 engineering and 50 non-engineering trades. Of these, 1,896 are State Government-run ITIs while 3,218 are private. The total seating capacity in these ITIs is 7.42 lakh (4 lakh seats in government ITIs and the remaining 3.42 lakh in private ITCs). Figures below this text represent detailed information on the number and capacity of ITIs/ITCs in different states/UTs. A number of vocational training institutes are being run by private training providers. The formal training system of India starts at Grade 8 and above. According to a report of ILO, the quality of DGE&T's skills development programmes compete with other programmes, such as high vocational schools (10 plus 2 stream), colleges, polytechnics, etc. The share of ITI-based training seems to capture around 10-12 per cent of the total number of school pass outs at Grade10 level. Some training schemes provide by DGE&T other than Craftsmen Training Scheme (CTS) and Apprenticeship Training Scheme (ATS) are:

- Craft Instructors' Training Scheme(CITS),Advanced Vocational Training Scheme(AVTS)
- Supervisory/Foremen Training Scheme, Staff Training and Research Program
- Instructional Media Development Program
- Women's Training Scheme
- Hi-Tech Training Scheme



Source: Ministry of labour DGE&T

Fig 2: Number of ITIs under Government and Private Bodies in main states of India

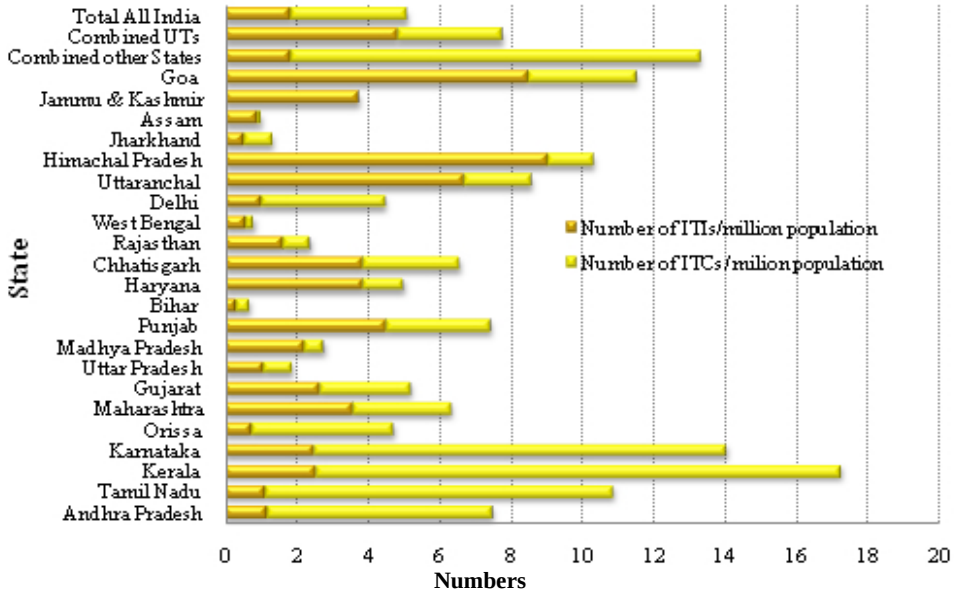
From the above graphs we may conclude that Tamil Nadu holds the majority stake in private owned ITCs and Maharashtra holds a similar position for Government owned ITIs.

Details about the nature of the training in ITIs etc. are available on the website of

- Ministry of Labour (http://labour.nic.in/)
- National Council for Vocational Training (NCVT) (http://dget.gov.in)

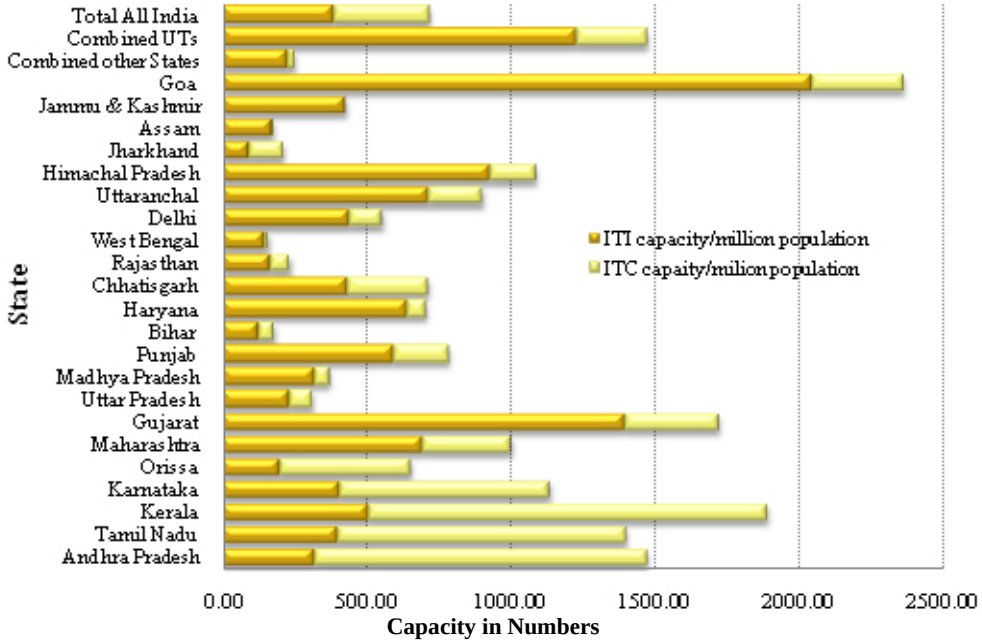
National Council for Vocational Training', an advisory body, was set up by the Government of India in the year 1956. The National Council is chaired by the Minister of Labour, with members from different Central and State Government Departments, Employers and Workers organizations, Professional and Learned Bodies, All India Council for Technical Education, Scheduled castes and Scheduled tribes, All India Women's Organization, etc. And State Councils for Vocational Training at the State level and Trade Committees have been established to assist the NCVT. Main mandate of the NCVT, according to DGE&T, is to establish and award National Trade Certificates in engineering, non-engineering, building, textile, leather trades and such other trades which are brought within its scope by the Government of India. It also prescribes standards in respect of syllabi, equipment, scales of accommodation, duration of courses and methods of training. It also conducts tests in various trade courses and lays down standards of proficiency required for passing the examination leading to the award of National Trade Certificate etc.

Total number and capacity of ITIs and ITCs per million persons in India



Source: The vocational education and training system report no.-22 World Bank.

Fig 3: Number of ITIs and ITCs available per million persons in different states in India



Source: The vocational education and training system report no.-22 World Bank

Fig.4: Intake capacity of ITIs and ITCs per million persons in different states in India

Statistics on persons (per thousand) who attend vocational training, according to duration of training and age groups of trained people

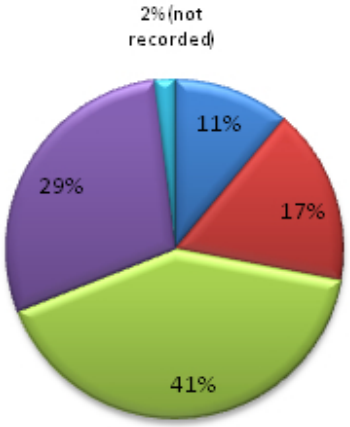


Fig 5: Percentage of persons who received vocational training in Rural India (per thousand person) (duration of training wise)
Source: NSSO Report No. 517 year 2004-05

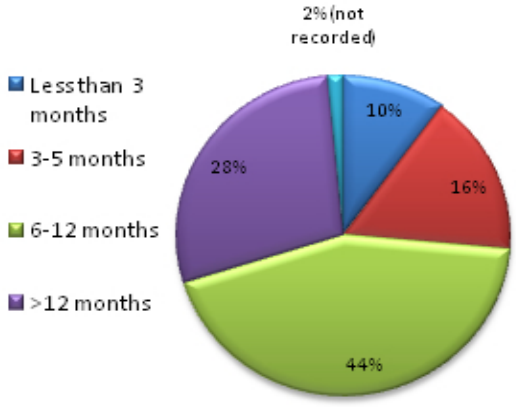
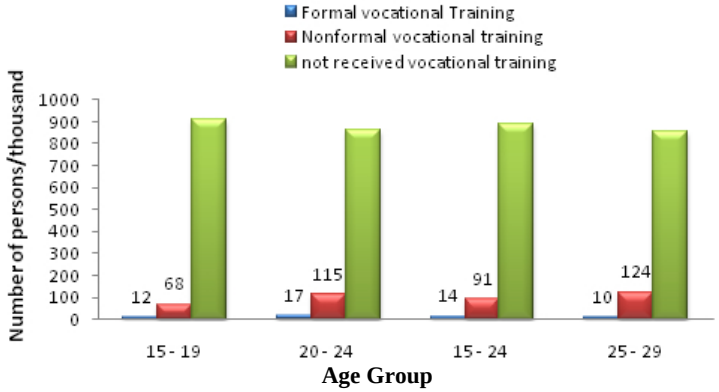


Fig 6: Percentage of persons who received vocational training in Urban India(per thousand person)(duration of training wise)

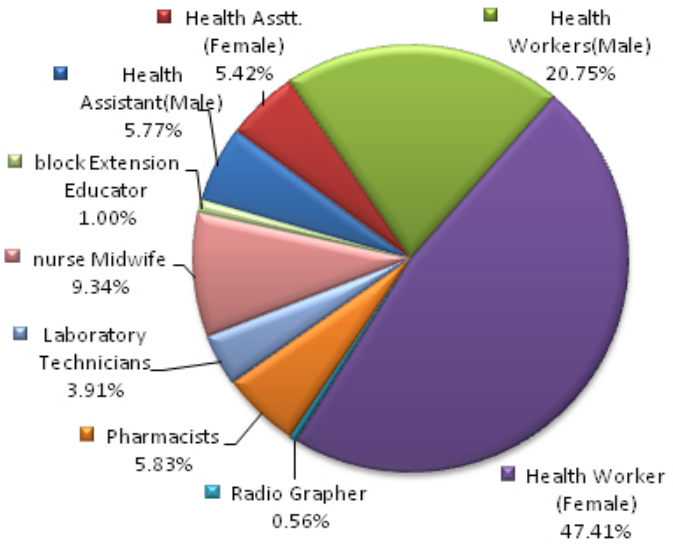


Source: NSSO Report No. 517 year 2004-05

Fig 7: Number of person getting vocational training per thousand persons age group wise in India

Despite efforts made to popularize these courses, several problems prevent ITIs/ITCs from reaching common masses and youth**.**

Paramedical training status for rural India



Source: MHRD, Annual Report 2002-03, India Year Book 2008, Manpower profile

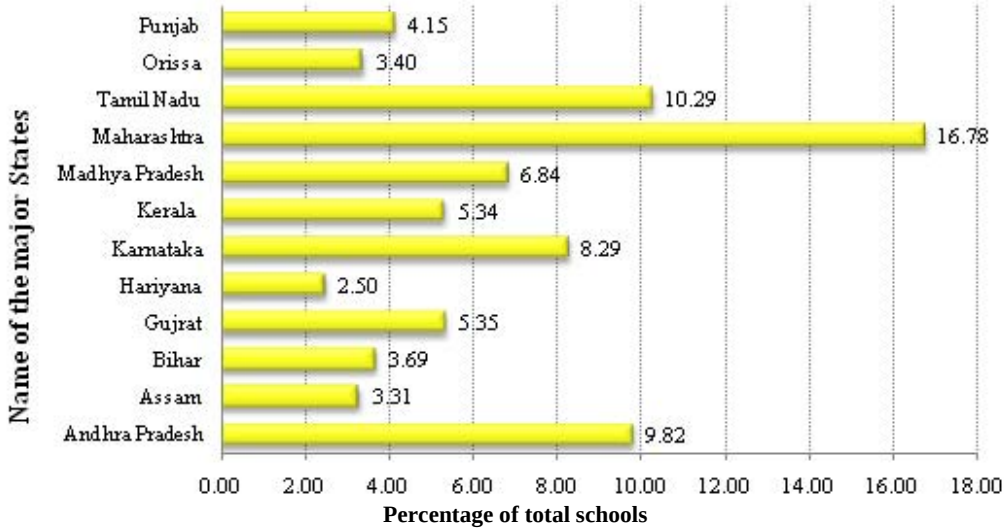
Fig 8: Trained paramedical practitioners available in rural India

Paramedical courses are one of the largest sources of vocational educated persons in the field of medical industry. Status of the total paramedical manpower in rural India is given in following graph.

From the Figure above, it is clear that out of total 315,746 paramedical workers in rural India, 47% are female health workers. But extension workers are very few; almost 1%. We also need to focus on the availability of Radiographers, Pharmacists and Laboratory Technicians for rural India. To disseminate knowledge of basic health facilities we need to train more paramedical workers for rural India. But unfortunately at present they are few compared to the large size of the rural population.

Status in Schools

Schools also provide vocational training formally at 10 and 12th level. The following figure shows the percentage stake of all major states, providing vocational training in India.



Source: MHRD, Annual Report 2002-03, India Year Book 2008, Manpower profile

Fig 9: Percentage share of the schools imparting vocational training for some major states

It is observed that states like Punjab, Orissa Tamil Nadu etc. hold approximately 79% stake in number of schools which impart vocational training. And Maharashtra is the foremost, holding more than 16%. Schools have an important role in vocational studies because one can start learning a vocation from his/her schools days. More coverage in school with proper infrastructure can create a large technical group in future, which at present is deficient.

Other Government and private bodies providing vocational training in India

Khadi and Village Industries Commission (KVIC)

The Khadi and Village Industries Commission (KVIC) impart training and awards vocational certificates for the unorganized sectors. The list of such training has been given in Table 1. KVIC (established in April 1957) is a statutory body established by an Act of Parliament. It took over the work of former All India Khadi and Village Industries Board.

It has the main objective of generating employment; the other objective of producing saleable products; and the wider objective of creating self-reliance amongst the people and building up of strong rural community spirit.

- KVIC is assigned with the proper planning, promotion, organizational implementation of programmes for the development of Khadi and other village industries in rural areas in coordination with other agencies engaged in rural development and are also charged with the responsibility of encouraging and promoting research in the KVI sector.
- KVIC is also entrusted with the task of providing financial assistance to institutions engaged in rural development.

Rural Employment Generation Programme (REGP) is the major programme of KVIC. The main objective of this programme is employment generation in rural areas by setting up new village industries (except those on negative list) by availing loans from banks and margin money (middle end subsidy) being provided by KVIC. Beneficiaries own contributions should be minimum 10% of project cost for general category and 5% of project cost for special category. Banks will sanction 90% of the project cost in case of general category and 95% for project cost for special category beneficiary. Prime Minister's Employment Generation Programme (PMEGP) as a central scheme to be monitored by the Ministry of Micro, Small and Medium Enterprises (MoMSME). The implementation body will be Khadi and Village Industries Commission (KVIC), a statutory organization under the administrative control of the Ministry of MSME as the single nodal agency at the National level. At the State level, the Scheme will be implemented through State KVIC Directorates, State Khadi and Village Industries Boards (KVIBs) and District Industries Centers (DICs) and banks. The Government subsidy under the scheme is routed by KVIC through the Banks for similar distribution to the beneficiaries / entrepreneurs in their Bank accounts. The Implementing Agencies, such as KVIC, KVIBs and DICs will associate with different Non-Government Organizations (NGOs)/reputed autonomous institutions/Self Help Groups (SHGs)/ National Small Industries Corporation (NSIC)/Udyami Mitras empanelled under Rajiv Gandhi Udyami Mitra Yojana

(RGUMY), Panchayati Raj institutions and other relevant bodies in the implementation of the Scheme. Here training, formally or informally, plays a crucial role for success for the schemes.

Points to focus on

- The training courses lack focus on the changing job market. As a result it was seen from various reports that the number of students is declining for long term vocational courses, mainly in ITIs. The training policy should be focused on the changing job market in order to attract young people. More autonomy needs to be provided to institutes and they should have market linked infrastructure. For publicly funded training, equity distribution is also a problem. But job creation must be done regionally, not centrally; otherwise it will create regional imbalances of trained manpower. According to NSSO report (No. 470, 55th round) about 27 per cent of the Indian population were migrants. The proportion of migrants was higher (33 per cent) in urban areas than (24 per cent) in the rural areas. It was mainly in search of jobs. Creating job opportunities regionally can help 6maintain the equilibrium in future days.
- Funding for the public ITIs is very low compared to other countries like China and USA which have restructuring-funds, whose share goes for improvement of vocational training systems in order to achieve international quality. Although things have changed for the better in the 11th five year plan with the introduction of the National Skill Development Mission. But it is also desirable to have mechanisms to raise funds privately for up gradation of ITIs.
- ITIs must focus on low-literate youth and provide new vocational qualifications/training programmes and also on unorganised sector, otherwise it will cause long term losses. To take an example automobile industry is a technology intensive industry but most of the workshops are running without formally trained staff (we have currently no database of that). Sometimes, lack of training skills may harm the delicate instrument of vehicles. A vital challenge is to formally train workers for the crafts industry where a considerable number of informally trained craftsman work together.
- Lack of accountability and training/supply management are also major problems for ITI institutes.
- In our country different institutes impart vocational training but they do not have coordination among themselves. Information about this sector is not available from a single source. In fact we need to create a central database from where one can get full access on vocational training system right from school level to ITI/ITC institutes.
- In rural sector, radiographer and other trained para-medical persons are very less in comparison to the large number of the rural population. Policy makers should focus on the paramedical vocational studies, so that incremental change in number of trained paramedical worker can benefit rural masses.
- A central vocational training standardization system, accredited nationally and globally, for maintaining the quality of the vocational education can enhance credibility of vocationally trained persons in the industry.
- To attract more students from school level, reorientation of vocational courses is needed.
- There should be a bridge organization to relate R&D institutes and vocational education system. It would help the vocationally trained person to get the benefits of R&D.

Appendix

Table 1: Tentative name of the course and its duration (KVIC)

Name/Nature of the Course			Tentative Duration
KHADI			
1.	Khadi Technology		09 Months
2.	Polyvastra Karyakarta		09 Months
3.	Tailoring and Embroidery		05 Months
VILLAGE INDUSTRIES			
1.	Village Oil Technician course		02 Months
2.	Fibre Artisan Course		01 Month
3.	Palm Fibre Brush Making		02 Months
4.	Tappers Proficiency course		02 Months
5.	Paper Conversion Course		02 Months
6.	Spices and Masala Making		01 Month
7.	Bakery Making course		02 Months
8.	Supervisory Tec. Personnel		6 Months
9.	Toilet and Laundry Soap		02 Months
10.	Detergent cake making		01 Month
11.	Shampoo Making		02 Weeks
12.	White Phenol Making		02 Weeks
13.	Liquid Detergent Soap		01 Week
14.	Scoring Powder		01 Week
15.	Other short term courses,	i) Candle making	02 weeks
		ii) Chalk Making	01 week
		iii) Screen Printing	02 weeks
16.	Paper bags & envelope making		02 Weeks
17.	Fibre Purse making		01 week
18.	Fibre Show piece making		01 week
19.	Masala making		02 weeks
20.	Bakery (Non-khatai mkg)		01 Week
21.	Computer application prog.		-
22.	Palm fibre brush making		01 Week
23.	Village oil		01 Week
24.	EDP		01 Month

Source: KVIC

Table 2: Tool Room and Training centers list

Tool Rooms supported by SIDO	
1.	Central Institute of Tool Design, Hyderabad
2.	Central Tool Room, Ludhiana
3.	Central Tool Room & Training Centre, Kolkata
4.	Central Institute of Hand Tools, Jalandhar
5.	Hand Tool Design & Training Centre, Nagaur
6.	Indo German Tool Room, Ahmedabad
7.	Indo German Tool Room, Aurangabad
8.	Indo German Tool Room, Indore
9.	Indo Danish Tool Room, Jamshedpur
10.	Central Tool Room & Training Centre, Bhubaneswar.
Tool Rooms supported by States	
1.	Institute of Training & Tool Room, Lucknow.
2.	Govt. Tool Room & Training Centre, Bangalore.
3.	Tool Room & Training Centre, Delhi.
4.	Govt. Tool Room and Training Centre, Mysore.
5.	Tool Room & Training Centre, Mapusa (Goa).

Source: SIDO

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