

## **ROLE OF TECHNICAL & VOCATIONAL EDUCATION AND TRAINING (TVET) SYSTEM IN IMPROVING THE LIVES OF PEOPLE OF INDIA**

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**ABSTRACT:** *India has one of the largest technical manpower in the world. However, compared to its population it is not significant and there is a tremendous scope of improvement in this area. In India, the emphasis has been on general education, with vocational education at the receiving end. This has resulted in large number of educated people remaining unemployed. This phenomenon has now been recognized by the planners and hence there is a greater thrust on vocationalisation of education. Another shortcoming in the area of technical and vocational education is that till now, the number of engineers graduating is more than the diploma holders. This is creating an imbalance, as more workforces are required at the lower level. Hence more polytechnics and Institute for Industrial Training (ITIs) is being opened now. Besides, various Ministries are trying to impart vocational courses through innovative institutions, specially launched for the purpose. In doing so, the government is trying to maintain quality of these courses. Under the XIth Plan, vocationalisation of education has received a boost with more funds being allocated for the purpose. Besides, it is also being ensured that the marginalized sections of the society, including women, get adequate representation in these courses. It can thus be hoped that TVET will play a major role in improving the lives of the people of India.*

### **INTRODUCTION**

The role of education in facilitating social and economic progress has long been recognized. Education improves functional and analytical ability and thereby opens up opportunities for individuals and also groups to achieve greater access to labour markets and livelihoods. A better educated labour force is essential if we are to meet the labour supply requirements of faster growth. Education is not only an instrument of enhancing efficiency but is also an effective tool of widening and augmenting democratic participation and upgrading the overall quality of individual and societal life.

The population growth of India has declined over many years, yet the labour is projected to grow by close to 2% or some 7 million or more per year over next few years. Modernization and social processes have also led to more women entering the work force lowering the dependency ratio (ratio of dependent to working age population) from 0.8 in 1991 to 0.73 in 2001 and is expected to further decline to 0.59 by 2011.

Skills and knowledge are the engines of economic growth and social development of any country. Countries with higher and better levels of knowledge and skills respond more effectively and promptly to challenges and opportunities of globalization. India is in transition to a knowledge based economy and its competitive edge will be determined by the abilities of its people to create, share and use knowledge more effectively. This transition will require India to develop workers into knowledge workers who will be more flexible, analytical, and adaptable and multi skilled. In the new knowledge economy the skill sets will include professional, managerial, operational, and behavioral, inter personal and inter functional skills.

To achieve these goals, India needs flexible education and training system that will provide the foundation for learning, secondary and tertiary education and to develop required competencies as means of achieving lifelong learning.

### **INCLUSIVENESS**

As education is the means for bringing socio- economic transformation in a society, various measures are being taken to enhance the access of education to the marginalized sections of the society. One such measure is the introduction of the reservation system in the institutes of higher education. Under the present law, 7.5% seats in the higher educational institutes are reserved for the scheduled tribes, 15% for scheduled castes and 27%

for the non creamy layers of the Other Backward Classes (OBCs). Under the Indian constitution, various minority groups can also set up their own educational institutes. Efforts are also being taken to improve the access to higher education among the women of India by setting up various educational institutes exclusively for them or reserving seats in the already existing institutes. The growing acceptance of distance learning courses and expansion of the open university system is also contributing a lot in the democratization of higher education in India

### **CONSTITUTION COMMITMENTS**

According to the Indian Constitution, Education is a concurrent subject whereby powers are vested both in the Central and State Governments.

The Constitution (86th Amendment) Act, 2002, enacted in December 2002 seeks to make free and compulsory education a Fundamental Right for all Children in the age group 6-14 years by inserting a new Article 21-A in Part III ('Fundamental Right') of the Constitution. The new Article 21-A reads as follows:

#### **"21 A Right to Education"**

The State shall provide free and compulsory education to all children of the age of six to fourteen years in such manner as the State may, by law, determine".

The **Right of Children to FREE and Compulsory Education Bill** is the consequential legislation to the Constitutional 86th Amendment Act, 2002, which inserted Art 21 in the Constitution of India to make education for all children in the 6- 14 age group a Fundamental Right.

The Bill is anchored in the belief that the values of equality, social justice and democracy and the creation of a just and humane society can be achieved only through provision of inclusive elementary education for all.

### **EDUCATION PATTERN INDIA**

The present education system in India mainly comprises of primary education, secondary education, senior secondary education and higher education. Elementary education consists of eight years of education. Each of secondary and senior secondary education consists of two years of education. Higher education in India starts after passing the higher secondary education or the 12th standard. Depending on the stream, doing graduation in India can take three to five years. Post graduate courses are generally of two to three years of duration. After completing post graduation, scope for doing research in various educational institutes also remains open.

### **TECHNICAL AND VOCATIONAL EDUCATION SYSTEM IN INDIA**

Technical and Vocational Education plays a vital role in human resource development of the country by creating skilled manpower, enhancing industrial productivity and improving the quality of life. The term Technical Education and Vocational Training are sometimes used synonymously. However, as per present practice, the term TE refers to post secondary courses of study and practical training aimed at preparation of technicians to work as supervisory staff. The term VT refers to lower level education and training for the population of skilled or semi-skilled workers in various trades and it does not enhance their level with respect to general education. The main agencies involved in TVET policy formulation and its implementation include:

#### **Central Government**

- National Skills Development Council
- Ministry of Human Resource Development
  - Department of School Education and Literacy (for TVET programmes in senior secondary schools)
  - Department of Higher Education (for Technical Education)
- Ministry of Labour and Employment , Directorate General of Employment and Training (for Vocational Training)
- There are some other 20 Central Ministries and Departments which have running some small TVET programmes .

#### **State Government**

- Directorate of Technical Education

Private Sector

NGOs

### **TECHNICAL INSTITUTIONS IN INDIA**

Education is an area of special focus in the XI Five Year Plan. The Eleventh Plan places the highest priority on education as a centered instrument for achieving rapid and inclusive growth. It presents a comprehensive strategy for strengthening the education sector covering all segments of the education pyramid. Expansion, Quality and inclusiveness is the main objective of the XI Plan.

Technical Education is instrumental in making the remarkable contribution to economic growth of the Developing Countries by way of suitable manpower production according to the needs of the Industry, Society and the Global World as a whole. To produce fully skilled manpower/knowledgeable technocrats in the present era of science and technology is the need of the hour. Polytechnic education has responded to the challenges of industrialization for self-reliance.

Technical Education covers courses and programmes in engineering, technology, management, architecture, town planning, pharmacy and applied arts & crafts, hotel management and catering technology. India's general, technical and managerial capabilities are on par with the best of the world countries. While the youth population is fast shrinking with higher dependency ratios in the developed world, India is blessed with the population of about 70 percent below the age of 35 years. Youths are the most vibrant and dynamic segment as well as potentially most valuable human resource. However, despite phenomenal capabilities, India is seriously handicapped with a very weak and narrow knowledge base, with 12.3% gross enrolment ratio, as compared to 21% in China, 54.6% in developed countries and the world average of 23.2%. There is need to convert the available huge human resource potential into a reality by expanding opportunities for youngsters and that took on a massive scale and in diverse fields such as science, technology, engineering, architecture, management etc. to reap the demographic dividends. This is possible only if we seriously undertake rapid reforms in the higher and technical education sector.

The technical education system in India can be broadly classified into three categories – Central Government funded institutions, State Government/State funded institutions & Self-financed institutions. The 60 Centrally funded institution of technical and science education are as under:

<b>IITs (including 6 new IITs set up during 2008-09)</b>	<b>13</b>
IIMs	7
IISc., Bangalore	1
IISERs	5
NITs	20
IIITs	4
NITTTRs	4
Others (SPA, ISMU, NERIST, SLIET, NITIE & NIFFT)	6
<b>TOTAL</b>	<b>60</b>

Besides the above, there are four Boards of Apprenticeship Training (BOATs). In order to give a boost to higher and technical education, the government is opening new central universities, IITs and other central institutions the detail of which is as under:

S.No.	Institution	No. of Existing at the end of X Plan	Additional Proposed in the XI Plan
1	Central Universities	19	30 (16 in uncovered states & 14 aiming at world class standards)
2	IITs	7	8
3	NITs	20	10
4	IIITs	4	20
5	IISERs	2	3
6	IIMs	6	7
7	SPAa	1	2

#### **Technical Education Quality Improvement Programme (TEQIP)**

Government of India has implemented a Technical Quality Improvement Programme (TEQIP) with the assistance from the World Bank to improve the quality of education and enhance the capabilities of the technical institutions to become dynamic, demand-driven, quality conscious and competitive at national and international levels. The proposed reforms include faculty development, examination reforms, regular curriculum revision, introduction of semester system, focus on research and giving autonomy with the accountability.

#### **VOCATIONAL AND TRAINING EDUCATION IN INDIA**

##### **The National Policy on Education (NPE), 1986 (as modified in 1992)**

Keeping in mind that the education system should cater to the needs of the manpower requirement for the economic development of the country. Government of India has accorded high importance to vocational education and training. While elaborating on the essence and role of Education, the National Policy on Education (NPE), 1986 (as modified in 1992) has recognized that Education develops manpower for different levels of the economy. The NPE also envisages the introduction of systematic, well-planned and rigorously implemented programmes of vocational education, which can be rigorously implemented to enhance employability, reduce the mis-match between demand and supply of skilled manpower and to provide an alternative to those pursuing tertiary education, without particular interest or purpose. The policy envisages that efforts will be made to provide children at the higher secondary level with generic vocational courses which cut across several occupational fields and which are not occupation specific.

#### **Vocationalisation of Secondary Education**

Vocational Education in a much broader sense cover education and skill development at all levels from post primary to tertiary education - both through formal and non-formal programmes. Vocational Education at the +2 stage, also known as higher secondary stage, develop competencies (knowledge, skills and attitude) required by a specific occupation or a group of occupations, through diversified vocational courses to prepare pupil for the world of work, especially for self -employment.

A Centrally Sponsored Scheme on vocationalisation of secondary education provides for diversification of educational opportunities so as to enhance individual employability, reduce the mismatch between demand and supply of skilled manpower and an alternative for those pursuing higher education. The scheme provides for financial assistance to the states/uts to set up administrative structure, area vocational surveys, preparation of curriculum, text books, work book curriculum guides, training manuals, teacher training

programme, strengthening technical support system for reserch and development, training and evaluation etc. Under the Scheme,

- Vocational education is provided in 9,619 schools with 21,000 sections covering about 1 million students. It is proposed to expand vocational education to 20,000 schools and the intake capacity to 2.5 million by 2011-12.
- About 150 job oriented courses at +2 level are being provided in the areas of Agriculture, Business & Commerce, Engineering and Technology, Home Science, Health and Paramedical, Social sciences, humanities etc.

The vocational education programmes will be restructured with demand driven curriculum and a structured workplace hands on training/exposure. Greater emphasis will be on service sector with soft skills and computer literacy, flexi-time. Other features include compulsory partnership with employers who provide trainers and internship, advise on curricula, participate in assessment and certification. The programme will ensure mobility between vocational, general and technical education and multiple entry exit options. The 11th and 12th grade students have access to around 160 vocational courses offered in about 6,000 schools of the 32 States/Union territories of the country.

### **Revamped Scheme of Vocationalisation of Higher Secondary Education**

The proposed major modifications under the scheme are –

- Strengthening of existing Vocational Schools and establishing new vocational schools.
- Expansion of intake capacity during 11th Plan.
- Development of competency based modular Vocational courses of varying duration
- Revision of the existing system from supply based to demand based.
- Setting up/constitution of various bodies/committees for governance monitoring and implementation of the National Vocational Qualification Framework.
- Setting up of Central Board and State Boards of Vocational Education (CBVE) and (SBVE) for accreditation/affiliation, examination certification and equivalence.
- Provision of pathways among 14 Indian qualifications for vertical and horizontal mobility.
- Provision of multiple-entry, multiple exit and flexibility in delivery.
- Provision of joint-responsibility of academic Institute and Industry/Employer for making a person employable.

### **POLYTECHNIC EDUCATION**

Polytechnic education in India contributes significantly to its economic development. Most of the polytechnics in the country offer three year generalized diploma courses in conventional disciplines such as Civil, Electrical and Mechanical Engineering. During the last two decades many polytechnics started offering courses in other disciplines such as Electronics, Computer Science, Medical Lab technology, Hospital Engineering, Architectural Assistantship etc. In addition, many single technology institutions are also offering diploma programmes in areas like Leather Technology, Sugar Technology, and Printing Technology etc. Many diploma programmes are also being offered exclusively for women in Women's Polytechnics such as in Garment Technology, Beauty Culture and Textile Design. Polytechnics are meant to provide skills after class X and the duration of diploma programmes is 3 years, which means, the trainee becomes employable at the age of 19 years. Polytechnics are also offering post diploma and advanced diploma programmes of 1- 2 years duration in different specializations.

The aim of the polytechnic education is to create a pool of skill based manpower to support shop floor and field operations as a middle level link between technicians and engineers. The pass-outs of Diploma level Institutions in Engineering & Technology play an important role in managing shop-floor operations. It is further an established fact that small & medium Industry prefer to employ Diploma Holders because of their special skills in reading and interpreting drawings, estimating, costing & billing, supervision, measurement, testing, repair, maintenance etc.

During the last decade, India has seen a tremendous increase in the number of Engineering Colleges at Degree level throughout the country. However, the growth of technical institutions has not been uniform as far as the number of polytechnics and degree engineering colleges is concerned. The present student intake in degree and diploma level technical institutions is 6.53 lakhs and 3.54 lakhs respectively. The ratio of degree to diploma holders is around 2:1, whereas ideally it should be 1:3. This is because of more private participation in the engineering sector compared to the diploma sector. There is also a societal perception that degrees command a premium in the job market rather than diplomas.

A Nation-wide scheme of “**Sub-mission on Polytechnics**” has also been launched. Under this scheme new polytechnics will be set up in every district not having one already. These Polytechnics will be established with central funding and over 700 will be set up through PPP and Private funding. All these new polytechnic institutes will have a community polytechnic wing. Women’s Hostels will also be set up in all the government polytechnics. The existing Government Polytechnics will be incentivized to modernize in PPP Mode. Efforts will also be made to increase intake capacity by using space, faculty and other facilities in the existing polytechnics in shifts. There is also a shortage of qualified diploma holder in several new areas. Therefore, engineering institutions will be incentivized and encouraged to introduce diploma courses to augment intake capacity. Diploma programmes could be run in evening shifts when the laboratory, workshop, equipment and library are free.

### **Main Problems of Polytechnic Education in India**

Over the years, the diploma programmes have deteriorated losing the skill components, which has resulted in their being just a diluted version of degree education. The organizations employing them have to train them all over again in basic skills. Major problems being faced by the polytechnic education system are: -

1. Non - availability of courses in new and emerging areas.
2. Inadequate infrastructure facilities and obsolete equipment.
3. System unable to attract quality teachers
4. Inadequate financial resources
5. Inadequate or non-existence of state policies for training and retraining of faculty and staff
6. Lack of flexibility and autonomy to the institutions
7. Inadequate industry institute participation
8. Lack of Research and Development in technician education
9. Antiquated Curricula.

### **UNIVERSITY GRANTS COMMISSION**

The University Grants Commission has scheme of Career Orientation to Education/Career Oriented Programme/Career Oriented Courses. The objective of the scheme is to ensure that the graduates who pass out after completing these courses, have knowledge, skills and aptitude for gainful employment in wage sector, in general and self employment, in particular so as to reduce the pressure on institutions of higher learning for Master Degree. The courses run parallel to the conventional B.A., B.Com. and B.Sc. Degree. The successful students are awarded certificate/diploma/advanced diploma under this programme.

### **INDUSTRIAL TRAINING INSTITUTES (ITIS) AND INDUSTRIAL TRAINING CENTRES (ITCS).**

The directorate general of employment and training (DGE&T) in the ministry of labour, government of India initiated CTS in 1950 by establishing about 50 ITIs for imparting skills in various vocational trades to meet the skilled manpower requirements for technology and industrial growth of the country.

Vocational Training refers to certificate level crafts training and is open to students whose leave school after completing anywhere from grades VIII – XII. Programme administered under the Craftsman Training Scheme (CTS) are operated by Industrial Training Institutes (ITIs) and Industrial Training Centres (ITCs). This scheme falls within the purview of Directorate General Employment and aiming (DGET), under the Ministry of Labour and Employment.

- Training is provided in 32 engineering and 22 non-engineering trades approved by the National Council for training in Vocational Trades to people aged 15-25 years.
- There are 7500 ITIs/ITCs with an overall capacity of 75000 over all places in the country.
- The vocational training is provided in small duration trades such as Carpentry, Electrician, Plumber, Auto-technician, Painters, Packages, Multipurpose Technicians, Masons, Dairy Assistants, etc.
- The duration of the training programme varies from 1-2 years or small duration of 2 – 3 months.
- The resource persons for the programme may be drawn from rural engineering departments of state governments, faculty of engineering colleges/polytechnics/ITIs and others. The trainees may also be provided one or two week's orientation program in relevant industries.
- Integrate the training programmes in collaboration and support through funding from departments such as Science & Technology/Industries/Rural Development/Labour of Government of India as State Governments as well as industries.

#### **NATIONAL INSTITUTE OF OPEN SCHOOLING (NIOS)**

NIOS is responsible for imparting education through open and distance mode from Primary to Senior Secondary level. It has the mandate for offering vocational education and training programmes to general and prioritized groups (Scheduled Castes, Scheduled Tribes, women, rural people, neo-literates, disabled and disadvantaged groups of the society etc.) through a network of its study-cum-training centres known as Accredited Institutes (AIs). The NIOS has a network of 11 Regional Centres and about 2067 study centres. There are about 1063 accredited vocational institutes (AIs). The cumulative enrolment in VET during the last five years is 93000.

#### **JAN SHIKSHAN SANSTHAN (JSS) (literally meaning People's Education)**

JSS was launched as a Adult Education Program of MHRD, aimed at improving the vocational skills and quality of life of workers and their family members. JSS, The programme initially focuses on adults and young people living in urban and industrial areas and those who had migrated from the rural areas. JSS has acted as a district level resource to organize vocational training and skill development programs. At present, 221 JSS are functioning in various States of the country.

#### **OTHER TRAINING FOR THE INFORMAL SECTOR**

The **Ministry of Rural Development** administers schemes aimed at creating sustained employment opportunities to secure a certain minimum level of employment and income for the rural poor. They include the Jawahar Rozgar Yojana (JRY), Employment Assurance Scheme, the Integrated Rural Development Programme (IRDP), the Programme for Development of Women and Children in Rural Areas (DWCRA), and the Training of Rural Youth for Self-employment (TRYSEM).

The **Department of Women and Child Development** runs Support to Training and Employment Programs (STEP), a NORAD-assisted program on employment cum income-generation. The scheme offers condensed courses of education and vocational training program for women.

The **Khadi and Village Industries Commission (KVIC)** has 51 training centres, including 12 village industry training centers.

**Prime Minister's Rozgar Yojana** provides wage employment and self-employment to educated unemployed youths aged between 18 and 35 years.

The **Bharatiya Yuva Shakti Trust (BYST)** aims to help unemployed or underemployed youths aged 18-35 years to set up or develop their own businesses.

**Entrepreneurship Development Centres/Institutes** provide training in different fields based on the resource endowment of the area.

The **National Renewal Fund (NRF)** provides assistance to cover the cost of retraining and redeployment of employees arising from modernization, technology upgradation and industrial restructuring.

The **Ministry of Agriculture's Krishi Vigyan Kendra's (KVK)** impart training to farmers, farm women, rural youth and grass roots level extension workers in broad based agricultural production systems.

### **NEW INITIATIVES IN XI PLAN**

At a higher level, the technical education and vocational training system in India produces a labour force through a three-tier system — graduate and postgraduate level specialists (eg, Indian Institutes of Technology (IIT) and engineering colleges) trained as engineers and technologists; diploma-level graduates, who are trained in polytechnics as technicians and supervisors; and certificate-level craft people trained in it is, as well as through formal apprenticeships as semi-skilled and skilled workers. The government of India in recent years has laid a lot of emphasis on streamlining vocational education so that it fulfills the emerging need of the market by focusing on employability skills.

### **NATIONAL POLICY ON SKILL DEVELOPMENT**

A National Policy on Skill Development has been formulated by the Ministry of Labour & Employment. The objective is to create a workforce empowered with improved skills, knowledge and internationally recognized qualifications to gain access to decent employment and ensure India's competitiveness in the dynamic Global Labour market. It aims at increase in productivity of workforce both in the organized and the unorganized sectors, seeking increased participation of youth, women, disabled and other disadvantaged sections and to synergize efforts of various sectors and reform the present system.

At present the capacity of skill development in India is around 3.1 million persons per year. The XI Five Year Plan envisions an increase in that capacity to 15 million annually. India has target of creating 500 million skilled workers by 2022. Thus, there is a need for increasing capacity and capability of skill development programs.

Skill development initiatives support employment generation, economic growth and social development process. Skill development policy will be an integral part of comprehensive economic, labour and social policies and programmes. A framework for better coordination between various stakeholders – Ministries, States, Industry etc. will be established. It will promote excellence and will meet the requirements of knowledge economy

#### **Mission**

National Skill Development Initiative will empower all individuals through improved skills, knowledge, nationally and internationally recognised qualifications to gain access to decent employment and ensure India's competitiveness in the global market.

#### **Aims**

The aim of skill development in the country is to support achieving rapid and inclusive growth through:

- Enhancing individuals' employability (wage/ self employment) and ability to adapt to changing technologies and labour market demands.
- Improving productivity and living standards of the people.
- Strengthening competitiveness of the country.
- Attracting investment in skill development.

#### **Objectives**

The objectives of the national policy on skill development are to:

- Create opportunities for all to acquire skills throughout life, and especially for youth, women and disadvantaged groups.
- Promote commitment by all stakeholders to own skill development initiatives.



- Develop a high-quality skilled workforce/ entrepreneur relevant to current and emerging employment market needs.
- Enable the establishment of flexible delivery mechanisms that respond to the characteristics of a wide range of needs of stakeholders.
- Enable effective coordination between different ministries, the centre and the states and public and private providers.

### **Scope**

The coverage of the the national policy on skill development includes the following:

- Institution-based skill development including ITIs/ITCs/Vocational schools/technical schools/polytechnics/ professional colleges etc.
- Learning initiatives of sectoral skill development organized by different ministries/departments.
- Formal and informal apprenticeships and other types of training enterprises.
- Training for self employment/entrepreneurial development.
- Adult learning, retraining of retired or retiring employees and lifelong learning
- Non-formal training including training by civic society organizations.
- E-learning, web-based learning and distance learning.

## **MAJOUR CHALLENGES AND ISSUES IN TVET**

### **Some Reasons for Low Performance**

- Low priority for Vocational Education
- Shortage of trained teachers and trainers
- Inadequate linkages with Industries
- Absence of a National Competency Testing and Accreditation system
- Lack of infrastructure – building, modern equipment and raw materials.
- Inadequate or non-coverage of trades in service sector which has higher employment potential.
- Lack of equivalence for employment purposes
- Lack of vertical mobility.
- Inflexible curriculum.
- Lack of convergence between various agencies.
- Lack of overall social recognition.

### **Some Issues on Vocational Education**

- Employability and Demand and Supply matching
- Informal Sector's requirement
- Multiple skills
- Flexibility of Course design, modularity
- Out of School Children
- Open and distance learning
- Use of Technology
- Linkage to local demand
- Career guidance
- Teacher's Training and Retention
- National Vocational qualification system Skill requirement in – Curriculum, Assessment and Certification
- Emerging Sectors
- Involvement of Industry and Civil Society
- Horizontal and Vertical Mobility
- Equity (Girls, rural population, SC, ST, Minority and Disabled)

- Financing
- State Government's Role

The challenges are immense and in order to achieve the goals there has to be substantial expansion of quality technical/ vocational education and training for raising employability and productivity.

The skills provided have to be attuned to:

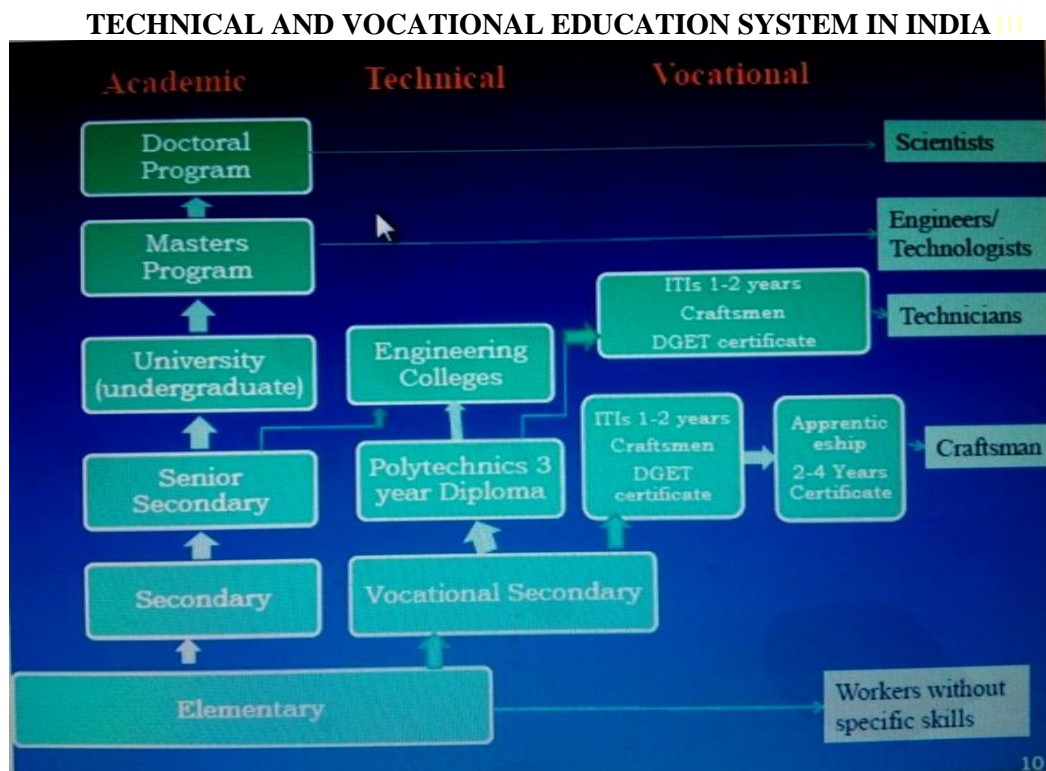
- New business requirements;
- Improving quality of education and trainings at all levels; and
- Make technical/ vocational education system more flexible and inclusive for sustainable growth.

#### APPROPRIATE STRATEGIES TO BE ADOPTED

- Expand and upgrade vocational education and training
- Expand and upgrade higher and technical education
- Promote research in educational institutions; and
- Redesign the educational pattern at the school level to facilitate skill development.

Government have to redefine its role in:

- reforming & strengthening vocational education and training
- clear policy for facilitating capacity expansion through private sector participation.
- make investment in vocational training institutes
- promote industry and academia interaction to narrow the existing gap between the demand and supply of the skilled



**VOCATIONAL COURSES COVERED IN DIFFERENT AREAS UNDER APPRENTICES ACT 1961**

**Agriculture :** Poultry Production, Fisheries/Fish Processing, Dairying, Sericulture, Apiculture, Floriculture, Plant Protection, Agricultural Chemicals, Inland Fisheries, Plantation Crops and Management, Seed Production Technology, Swine Production, Vegetable Seed production, Medicinal and Aromatic Plant Industry, Sheep and Goat Husbandry, Repair and Maintenance of Power Driven Farm Machinery, Veterinary Pharmacist-cum-Artificial Insemination Assistant, Agro Based Food Industry (Animal based), Agro Based Food Industry (Crop based), Agro Based Food Industry (Feed based), Post Harvest Technology, Fish Seed Production, Fishing Technology, Horticulture, Soil Conservation, Crop Cultivation/ Production.

**Business and Commerce:** Banking, Marketing and Salesmanship, Office Secretaryship/ Stenography, Co-operation, Export-Import Practices and Documentation, Insurance, Purchasing and Storekeeping, Taxation Practices/ Taxation laws/ Tax Assistant, Industrial Management, Receptionist, Basic Financial Services, Office Management, Tourism and Travel, Accountancy and Auditing.

**Engineering and Technology:** Civil Construction/Maintenance, Mechanical Servicing, Audio Visual Technician, Maintenance and Repair of Electrical Domestic Appliances, Building and Road Construction, Building Maintenance, Ceramic Technology, Computer Technique, Rural Engineering Technology, Materials Management Technology, Rubber Technology, Structure and Fabrication Technology, Sugar Technology, Tanaries .

**Health and Paramedical:** Medical Laboratory/ Technology Assistant, Health Worker, Nursing, Health Sanitary Inspector Hospital Documentation, Hospital Housekeeping, Ophthalmic Technology, X-ray Technician, Physiotherapy and Occupational Therapy, Multi-rehabilitation Worker, Bio Medical Equipment and Technician, Dental Hygienist, Dental Technician, Multi Purpose Health Worker, Pharmacist, ECG and Audiometric Technician, Nutrition and Dietetics, Auxiliary Nurse and Mid Wives, Primary Health Worker.

**Home Science:** Food Preservation, Child Care and Nutrition, Catering and Restaurant Management, Pre-school and Crèche Management, Textile Designing, Interior Design, Commercial Garment Designing and Making, Clothing for the Family, Health Care and Beauty Culture, Bleaching Dyeing and Fabric Painting, Knitting Technology, Institutional House Keeping .

**Humanities Science and Education:** Library and Information Science, Instrumental Music (Percussion Tabla), Classical Dance (Kathak), Indian Music (Hindustani Vocal Music), Photography, Commercial Art, Physical Education, Bharat Natyam, Cotton Classifier.

**TVET PROGRAMMES RUNNING BY VARIOUS  
MINISTRIES/DEPARTMENT IN INDIA**

SR. No.	Ministry/ Department	Schemes/ Programmes/Institutions having provision for Vocational Education and Training programme	Target Group
1	M/o Agriculture (i) Department of Agriculture Research & Education (ii) Department of Animal Husbandry, Dairying & Fisheries	Training in Agricultural Extension, Training in use of Agricultural Implements and machinery, Soil Conservation Training Centre, LFQC&TI, NPPTI, Cooperative Education & Training. Under the University stream, various under-graduate, post graduate and Ph.D. courses are offered (DARE)	Person engaged in Agricultural institutions and support services, member of cooperatives and Farmers. Students with Qualifications as usual under University stream of education
		Grants are provided to NGOs for setting up of	Persons living in rural areas with

2	M/o Food Processing Industries	Food Processing & Training Centres (FPTCs) Institutions like Central Food Technology Research Institute, Paddy Processing Research Centre, PHTC, Council of Entrepreneurial Development Programme (EDP) are also running training courses.	preference being given to women, SC, ST and other weaker sections of society Mainly persons in Food Processing Industry
3	M/o Health & Family Welfare	Basic Training of multipurpose health worker (Female & Male) • ANM/MPW(F) Training Centres • HFWTC & Basic MPWA(M) Schools • Promotional training of Female Health Assistant in 42 training centres. Training is also provided by Safdarjung Hospital, St. John Ambulance. NTCP, NPCB, NMHP, NACP, INC, CBHI, CLTRI, PWTRC, ECH etc.	Educated youth with minimum 10th pass Persons working in Health & Family Welfare Programme
4	M/o Heavy Industries & Public Enterprises	Counselling. Retraining and Redeployment of Rationalized Workers of CPSEs (Formerly NFR)	Workers who opt for voluntary retirement, rendered surplus or retrenched from CPSEs
5	M/o Human Resource Development	Vocationalization of Secondary Education Polytechnics + Institutions for diploma in pharmacy, hotel management, architecture Community Polytechnic Scheme	Student having passed 10th class 10th pass Poorer section of society in both rural and urban areas
6	M/o HRD	Jan Shikshan Sansthan (Vocational Training Centres run by NGOs)	Disadvantaged groups of adults. Priority to adult neo-literates/ semi literates, SC and ST, women/girls, oppressed, migrants, slum/ pavement dwellers and working children
	M/o HRD	Support for Distance Education & Web Based Learning (NPTEL) NIOS – Distance Vocational Education Programmes (Practical Training through Accredited Vocational Institutes (AVIs)	Engineering and physical sciences under-graduate/ post-graduate, all teachers/ faculties in Science and Engineering field 5th, 7th and 8th and 10 <sup>th</sup> pass.
	M/o HRD	Apprenticeship Training for students of +2 Vocational stream National Programme on Earthquake Engineering Education	Students passing out of +2 Vocational Stream Recognized engineering colleges/ polytechnics and schools of architecture having related academic degree of diploma programme
7	D/o Information Technology	DOEACC – ‘O’ level CEDTI	Students or working persons with 10+2 pass It conducts courses in the field of Electronics, Telecommunications, IT, Process Control & Instrumentation

8	M/o Labour (DGET)	Craftsmen Training Scheme(CTS) Apprenticeship Training Scheme (ATS) Craft Instructor Training Scheme (CITS) Advanced Vocational Training Scheme and Hi-tech Training Schemes	8th, 10th and 12th pass 8th, 10th and 12th pass or National Trade Certificate (from NCVT) Holder Instructors of it is Industrial Workers/ Technicians
	M/o Labour (DGET)	Supervisory Training Women Training Institutes Central Staff Training and Research Institute Model Training Institutes and Model Industrial Training Institutes	Supervisors from Industry Women (School leavers, Instructors and others) Training Executives and Principals School leavers with 8th, 10th and 12th pass.
9	M/o Rural Development	National Institute of Rural Development (NIRD) Swarnjayanti Gram Swarozgar Yojana (SGSY)	Practicing Manager in rural development Focus is on the vulnerable groups among the rural poor. SC/STs should account for a minimum of 50%, women for 20% and disabled for 3% of the total swarozgaris during a year.
10	M/o MSME (Small Industries Development Organization (SIDO))	Entrepreneurship Development Programme. Skill Development Programme (SDP). Management Development Programme.	Workers Education unemployed youth Entrepreneurs
11	Ministry of Social Justice & Empowerment	National Institute of Mentally Handicapped. National Institute for the Orthopedically Handicapped. Institute for Physically Handicapped. National Institute for the Hearing Handicapped, National Handicapped Finance and Development Corporation, National Scheme of Liberation and Rehabilitation of Seavengers and their Dependents. National Scheduled Castes and Scheduled tribes Finance and Development Corporation. Rehabilitation Council of India. Apparel Export Promotion Council (AEPC)	Disadvantaged and marginalized sections of the society viz., SC, Minorities, B.C.. Persons with disabilities. Aged Persons. Street children and victims of Drug Abuse etc. Workers in Garment Industry
12	M/o Textiles	Decentralized Training Programme. Weavers' Services Centres, Cooperative Training. Power loom Centres. Indian Jute Industries Research Association, Central Wool Development Board, Central Silk Board. Training Centres for Handicrafts. North-eastern Handicrafts and Handlooms development Corporation.	Skill upgradation of Workers in textile industry.
13	D/o Tourism	Food Craft Institutes under State Governments.	10th Pass
14	M/o Tribal Affairs	Vocational training Centres (VTC) in Tribal Areas.(100% central assistance is given to State/UT/NGOs )	Unemployed Tribal Youth (Each person is given training in two trades)
15	M/o Urban Development & Poverty Alleviation	Urban Self Employment Programme under Swarna Jayanti Shahari Rozgar Yojana (SJSRY)	Urban Unemployed or underemployed poor below poverty line

16	HUDCO & others in Construction sector	Building Centres (HUDCO) Company run schools (NBCC, HCC, L&T, ECC etc.) & association etc. Construction Industry Development Council (CIDC) & others	Persons engaged in Construction Industry Worker & Supervisor having qualifications of Vth to XIIth Standard.
17	D/o Women & Child Development	Support to Training and Employment Programme for Women (STEP) Swalamban (previously NORAD)	To provide updated skills and new knowledge to poor and assetless women traditional sectors To train poor women mostly in non-traditional trades.
	D/o Women & Child Development	Training in Home scale preservation of fruits and vegetables (by Community Food and Nutrition Extension Units (CFNEUs)	Housewives and Adolescent girls with a view to promote preservation and consumption of fruits and vegetables which provide much needed micronutrients, as well as to provided necessary skills which could be useful for income generation purposes.
	D/o Women & Child Development	Central Social Welfare Board (programmes are organized by voluntary organizations) Women Empowerment Programme in collaboration with IGNOU (Training programme on “Empowering women through SHG”)	To train women in marketable trades and also to upgrade their skills for getting remunerative Employment opportunities. To organize women into effective Self Help Groups.
	D/o Women & Child Development	Kishori Shakit Yojana Other programmes like UDISHA, Training of Anganwadi Workers, NIPCCB, Rashtriya Mahila Kosh etc.	To train and equip adolescent girls to improve home based and vocational skills

### CONCLUSION

The overall designs of various TVET in India, there are various improved training and skill development programmes has to be a critical part of the employment strategy. The Eleventh Plan also identified various sectors with prospects for high growth in output, and for generation of new employment opportunities. There were 5,114 ITIs/ITCs (1,896 ITIs and 3,218 ITCs) in the country as on 1 January 2007. Skill Development Initiative, it is also proposed to set up 1,500 new Industrial Training Institutes (ITIs) and 50,000 Skill Development Centres (SDCs), adding to the institutes that already exist. The paper focus on generating employment and enhancing employability of workers among less advantaged groups and quality of TVET has been one of the main concerns in labour market studies in developing countries, there are many ongoing special projects for skill development in India. The closing date for World Bank project is December 2012. In addition to up gradation of 400 ITIs the project envisages up gradation of 14 DGET institutes through World Bank assistance under VTIP. Thus the TVET plays a very important role to improving the life of Indian people.

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