

Skill Development : Bridging Skills Deficit & Promoting Employability

Background Note

Contents

Section I

Points for Discussion

Section II

- A. Vocational & Technical Education: States Profile at a Glance
- B. Public Private Partnership for Up-gradation of ITIs
- C. Skill Development in 11th Five year Plan: Govt. of India Initiatives
- D. State Level Initiatives for Skill Development
- E. Some Best Practices in India
- F. International Scenario: Illustration of some PPP Models, Initiatives and Best Practices

Section III

Draft Recommendations of PHD Chamber Task Force on Skill Development

SECTION I

Skill Development: Bridging Skills Deficit & Promoting Employability
26 September 2008, 10.00 a.m., PHD House, New Delhi

POINTS FOR DISCUSSION**Background**

The Prime Minister of India has suggested that **India should set a goal to create 500 million certified and skilled technicians in the country by 2022**. As we have the largest population of young people in the world, we need to invest adequately in their education and employability, to become the largest pool of technically trained manpower in the world.

The Government of India has finalized the **institutional arrangements** at the national level for coordinated action. This consists of a **National Council for Skill Development** chaired by the Prime Minister, a **National Skill Development Coordination Board** coordinated by the Planning Commission to combine public and private prongs of action and a **National Skill Development Corporation** as a non-profit company catalyzed by the Ministry of Finance to promote skill development in the private sector. While the National Council will focus on policy directions and review, the National Skill Development Coordination Board will ensure that government agencies intensify action in areas like vocational education, technical training through industrial training institutes, and through promotion of public-private partnerships.

The Central Government has increased the gross budgetary support to education from 7.68% in the Tenth Plan to 19% in the Eleventh Plan. The actual outlays have been increased five-fold and now stand at Rs.2,75,000 crore. This investment in education would be complementary to the proposed action for skill development.

According to the Prime Minister, some of the **key governance principles** suggested for a skill development strategy would be to design programmes under which skills are made bankable and individuals are enabled to convert their knowledge and skills, through Testing and Certification, into higher diplomas and degrees and learner can pay the skill provider directly. There is a need to promote multiple models of delivery that can respond to the differing situations in various states. The design should deal effectively with gender and rural-urban divides, as well as divides between organized and unorganized industry and between traditional home-based and contemporary work place-based occupations.

“Vocational and technical training of labour” is on the **concurrent list** of the Constitution of India. During the past four years, Government of India has been giving special focus to skill development and employment generation as the core policy initiative. The state

governments have also been called upon to participate in these initiatives in pro-active and meaningful manner and bring it to the centre of governance agenda.

Points for Discussion

- **State-wise implementation agenda and action plan** for skill development in the 11th Plan period with the aim to create 500 million certified and skilled technicians in India by 2022
- **State-wise policy framework and institutional arrangements** for coordinated action for facilitating multiple modes of delivery, promoting Public Private Partnerships (PPP) for skill development, ITIs up-gradation and Modular Employable Skills Scheme; and promoting private investment in skill development
- **Revamping ITIs in the States**
- **Preparedness of States** to transfer policy initiatives into practice and challenges in this task
- **Best practices and PPP success stories** - sharing experiences in skill development.
- Implementation of the Prime Minister's recent suggestion to the Chief Ministers of all the states to **consider making available buildings of public educational institutions above the high school level after class hours for skill development to any agency including the private sector**. It is estimated that there are over 2,00,000 such educational institutions many of which can become skill development centres immediately without affecting formal educational transactions that happen during class hours. Necessary regulations could be brought in by the management authority of the particular educational institution. It would immediately make available a huge stock of public investment to combine with private sector capacity to generate skills. Costs would be lower as skill providers would not have to invest in buildings for skill training. This may help us create skill building opportunities in a short time.
- The Prime Minister has also suggested to the Chief Ministers to **consider setting up State Level Missions for Skill Development** to be chaired by Chief Ministers to provide inter-sectoral coordination on this critical challenge and, in addition to Government departments, involve experts and representatives from the category of job providers to plan and implement the Mission.

SECTION II

A. Vocational & Technical Education: States Profile At a Glance

Table1: State-wise Number of Technical Institutes

States	Number of Institutions			ITIs to be Upgraded ¹	Total Capacity			Number of CPs ²
	ITIs	ITCs	Total		ITIs	ITCs	Total	
	2005	2005	2005	2007-08	2005	2005	2005	2007
Chandigarh	13*	8	21	1	3316	664	3980	2
Chhattisgarh	80	57	137	12	8984	5880	14864	10
Delhi	14	48	62	-	6088	1592	7680	14
Haryana	81	25	106	13	13477	1428	14905	18
HP	55	8	63	9	5649	980	6629	6
J&K	38	0	38	6	4332	0	4332	11
MP	136	33	169	21	19538	2860	22398	43
Punjab	110	71	181	20	14351	4716	19067	27
Rajasthan	91	45	136	17	9472	3868	13340	21
Uttarakhand	57	16	73	10	6088	1592	7680	16
UP	185	128	313	25	38644	13284	51928	72
All India	1895	3358	5253	300	396712	341386	738098	669

Source: Up-gradation List: DGET, Ministry of Labour

DGET (direct provision), data are as at January 2005 and are presented in order of seating capacity

World Bank report January 2007, Skill development in India

11th Five Year Plan, Report of Task Force on Skill Development, May 2007

Notes:

- List of ITIs to be upgraded** in first batch of 300 ITIs up-gradation covered in 2007-08. In budget 2008-09, under the 1396 ITIs up-gradation scheme, 309 ITIs in 29 states have been identified with corresponding industry partners and agreements have been signed in 244 cases under PPP scheme. The Finance Minister also proposed to grant an interest-free loan of up to Rs. 3 crore to each ITI for up-gradation and revision of courses and Rs. 750 crore have been kept aside for this purpose.
- Number of Community Polytechnics:** The scheme of Community Polytechnics was started under the Direct Central Assistance Scheme in 1978-79 in 35 Polytechnics. The scheme envisaged the Community Polytechnics to act as important centres for the application of Science and Technology in

rural areas and generate self and wage based employment opportunities, through non formal training, towards and competency and need based courses, in various trades and multiple skills. As on date there are 617 All India Council for Technical Education (AICTE) approved Polytechnics covered under the scheme of Community Polytechnics.

Table 2: State-wise Number of Affiliated ITIs

State	No. of Affiliated ITIs							
	ITIs		Government			Private		
	Verified ¹	Total	General	Women	Others	General	Women	Others
Chandigarh	2	2	1	1	0	0	0	0
Chhattisgarh	126	127	60	8	4	55	0	0
H.P	99	101	35	17	0	49	0	0
Haryana	120	135	48	44	0	32	10	0
J&K	39	39	33	1	5	0	0	0
M.P	151	151	91	12	0	47	1	0
Punjab	167	185	56	49	4	67	9	0
Rajasthan	356	357	87	8	6	250	2	4
Uttaranchal	80	80	51	4	5	19	0	1
UP	353	354	69	38	2	235	10	0
All India	5769	5948	1462	276	74	3963	89	82

Source: <http://labour.nic.in/database/nvtis.htm>, Ministry of Labour and Employment

Notes: Latest data available from the website

- Verified ITIs:** It includes those ITIs for which verification regarding prescribed norms/trades and standards laid by National Council of Vocational Training (NCVT) has been done for which affiliation was sought.

Table 3: Enrolments and Unit Cost State-wise

States	Unit cost of VT ¹	Unit cost of VE ²	Enrolments
	(in Rs)		
	2004	2002-03	2002-03
Chandigarh	30796	-	-
Chhattisgarh	22040	-	-
Delhi	33344	-	-
Haryana	-	3390	13440
HP	-	4000	2520
J&K	39042	3725	1680
MP	17267	3238	10080

Punjab	30028	4733	14280
Rajasthan	-	3913	10500
Uttarakhand	-	-	-
UP	-	3302	31920
All India	20747	3863	451920

Source: World Bank report January 2007, Skill development in India

Notes:

- 1) **Vocational Training:** Vocational training programs in India fall outside the formal schooling cycle. It is institution-based with varying entry requirements as well as course durations. The proportion of practical to theoretical instruction in vocational training programs is also higher than in vocational education. It is open to students who leave school after completing anywhere from Grade 8-12. Programs are operated by Industrial Training Institutes (ITIs) and Industrial Training Centers (ITCs). It comes under the auspices of the Ministry of Labour and Employment (MoLE) and the Ministry of Human Resource Development (MHRD). Administrative responsibility is held by the Directorate General of Employment and Training (DGET), located within the MoLE. ITIs and ITCs operate under the guidance of DGET, which formulates policies and lays down standards and technical requirements such as developing curricula, instructor training, and skills testing. It governs a number of specialized training-related institutions.
- 2) **Vocational education** in India refers specifically to vocational courses offered in school Grades 11 and 12 under a centrally sponsored scheme termed *Vocationalization of Secondary Education*. Vocational education falls under the purview of the Ministry of Human Resources Development (MHRD).

State-wise Efforts for Technical Education Infrastructure Expansion

State-wise Setting up of new National Institute of Technology (NITs) and Indian Institute of Engineering Science and Technology (IESTs): The 11th plan intends to establish 10 new NITs. Following is a list of the existing NITs and the 4 proposed IESTs which are proposed to be part of the NIT act. (IT BHU, which was earlier proposed to be an IEST, has to become an IIT.)

- Chhattisgarh: NIT Raipur
- Haryana: NIT Kurukshetra
- Himachal Pradesh: NIT Hamirpur
- Jammu and Kashmir: NIT Srinagar
- Madhya Pradesh: NIT Bhopal
- Punjab: NIT Jalandhar
- Rajasthan: NIT Jaipur
- Uttar Pradesh: NIT Allahabad

- 4 Proposed IESTs: IEST Visakhapatnam (Andhra Univ. Eng. College), IEST Hyderabad (Osmania Univ. Eng. College), IEST Kochi (CUSAT) and IEST Howrah (BESU)

8 new IITs: It is proposed to set up 8 new IITs in Bihar, Andhra Pradesh, Rajasthan, Himachal Pradesh, Orissa, Punjab, Madhya Pradesh and Gujarat during the XI Plan period.

7 new IIMs: One IIM at Shillong has already been established and will commence its academic session from 2008-09 with an initial intake of about sixty five students based on CAT 2007 score. It has been decided to locate the remaining six IIMs in Jharkhand, Chhattisgarh, Uttarakhand, Jammu & Kashmir, Tamil Nadu and Haryana.

5 new Indian Institutes of Science Education & Research (IISERs): 3 IISERs at Mohali, Pune and Kolkata have already been functioning and two more at Bhopal and Thiruvanthapuram will start their classes in the ensuing academic session in August, 2008. The appointment of Directors of IISERs of Bhopal & Thiruvananthapuram has been done.

20 new Indian Institutes of Information Technology (IIITs): 20 IIITs are proposed under the PPP mode. The IIIT at Kanchepuram has started functioning from its temporary campus at IIT Madras since the academic session in 2007. GOI has already established an IIIT each in the States of Uttar Pradesh, Madhya Pradesh, Rajasthan and Tamil Nadu.

2 new Schools of Planning & Architecture (SPAs): Two schools of Planning & Architecture are to be set up at Bhopal and Vijayawada.

Setting up of new Polytechnics: A scheme is being prepared on Sub-Mission of Polytechnics under National Skill Development Mission which proposed to take up the following four components:-

- Setting up of 1000 polytechnics (300 in Government Sector, 300 through PPP mode and 400 private polytechnics)
- Strengthening of existing 500 polytechnics;
- Construction of women's hostel in 500 polytechnics;
- Revamping of the Community Polytechnics scheme and increasing their number from 669 to 1000.

Polytechnics in Government sector are to be set up by the State Governments in such districts which presently do not have polytechnics. The GOI will meet a significant portion of

about Rs. 12 crore towards the capital cost in such districts which do not have a polytechnic as of now. In May 2008 the proposal has been approved.

Establishment of 16 Central Universities in the uncovered states: Four existing state universities; viz., Sagar University in Madhya Pradesh, Bilaspur University in Chhattisgarh, Garhwal University in Uttarakhand and Goa University, are proposed to be taken over and upgraded as Central Universities. Remaining 12 new central universities are to be set up in Bihar, Jharkhand, Orissa, Gujarat, Haryana, Punjab, Rajasthan, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala and Tamil Nadu.

Setting up of 14 Central Universities aimed at world class standards: Locations for the 14 World Class Central Universities (WCCU) as per details hereunder has been firmed up:

State		City
1. Maharashtra	-	Pune
2. West Bengal	-	Kolkata
3. Tamil Nadu	-	Coimbatore
4. Karnataka	-	Mysore
5. Andhra Pradesh	-	Vishakapatnam
6. Gujarat	-	Gandhinagar
7. Rajasthan	-	Jaipur
8. Bihar	-	Patna
9. Madhya Pradesh	-	Bhopal
10. Kerala	-	Kochi
11. Punjab	-	Amritsar
12. Orissa	-	Bhubaneshwar
13. Uttar Pradesh	-	Greater Noida
14. North Eastern Region	-	Guwahati

(*Bold states are those served by PHD Chamber)

B. Public Private Partnership (PPP) for Up-gradation of ITIs

There are more than 5,000 ITIs and vocational training institutes run by central and state governments. Most of these, however, are plagued by an array of problems like faculty shortage, obsolete curriculum etc. Recent reports indicate that out of the sum of money allocated by the government for ITIs only seven per cent is used for quality upgrading of institutes, while the rest goes in salary of the faculty members. Analysis shows that less than 40 percent of ITIs graduates find employment. The gap between demand and supply of skilled workforce has widened over the years. These challenges cannot be met alone by government initiatives. The private providers need to be creatively drawn to meet this demand. To overcome these shortcomings Second National Commission on Labour 2002 recommended a strong link between industry and vocational training and private involvement in the improvement of training facilities.

Government Initiatives: Budget Announcements for PPP

Government Budgets so far have clearly reflected the focus made on enhancing the Public Private Partnership model in vocational training and skill up gradation. In budget 2004-05, proposal was made to launch the programme in the central sector to upgrade 500 ITIs over the next 5 years at the rate of 100 ITIs a year. In budget 2005-06, proposal was made for Public-Private Partnership between government and industry that will take up the skills development programme under the name Skills Development Initiative (SDI).

Budget 2006-07 laid down the details of the schemes under the SDI and made an initial provision of Rs 10 crore. Budget 2007-08 has also emphasized the chalking out of strategies for vocational education mission based on Public-Private Partnership with an initial provision of Rs.50 crore. This initiative includes up-gradation of 1,396 ITIs into centres of excellence in specific trades and skills under PPP. Under the proposed scheme;

- State Government, as the owner of the ITI, will continue to regulate admissions and fees;
- New management will be given academic and financial autonomy; and
- Central Government will provide financial assistance by way of seed money.
- ITIs will be encouraged to start a second shift.
- The scheme seeks the cooperation from State Governments in upgrading at least 300 ITIs every year, beginning 2007-08, under the PPP mode (Rs.750 crore).
- To grant an interest free loan up to Rs.2.5 crore to each ITI for up-gradation and revision of courses.

In Budget speech 2008-09, Finance Minister P Chidambaram has proposed the setting up of a "skills development mission"-a non-profit corporation mandated with the task of imparting the skills required in a growing economy. The government expects to garner Rs 15,000 crore from public and private sector, and bilateral and multilateral sources. The government has already pumped in equity of Rs 1,000 crore in the mission.

Honorable PM has announced a four-fold increase in the skilled manpower training capacity of the country. Government is likely to involve an investment of over Rs 15,000 crore from the Government and the private sector. This is part of a Rs 27,615 crore National Skill Development Mission (NSDM) plan. The scheme involves:

- To train more than 10 million people every year
- Setting up of 1,500 new ITIs in districts with uncovered blocks in PPP mode - Viability gap funding (Rs1,500 cr)
- 50,000 Skill Development Centres (Rs 2,000 cr)
- Establishment of 125 new polytechnics (Rs 1,125 cr)
- 580 new community polytechnics (Rs 580 cr)
- Vocational education in 10,000 sec. schools (Rs 1,000 cr)
- Organized training for 25 lakh BPL youths (Rs 1,875 cr)
- Urban skill and employability programs (Rs 2,500 cr)
- Skill building and economic assistance (Rs 3,000 cr)

Recent Initiatives under PPP

Skill Development needs an evolved PPP approach through development of robust institutional mechanisms.

- As per the latest report (July 2008) Apollo Tyres, Asian Paints, Wockhardt, Videocon, Indian Cements, JSW Steel, Indo Rama and Finolex Cables are among the various companies that have signed agreements with ITIs to tap the steady flow of skilled graduates.
- The Federation of Indian Chambers of Commerce and Industry (FICCI), have inked agreements with 19 ITIs so far, is also partnering with IL and amp; FS Education and Technology Services (IETS) to adopt, manage and operate industrial training institutes (ITIs) and vocational educational institutes with a fiscal commitment up to Rs 1,000 crore over the next three years. Confederation of Indian Industry (CII) member

companies would be partnering with 172 ITIs, while members of Associated Chambers of Commerce and Industry (ASSOCHAM) would turn around another 90 such institutes.

- Out of the 500 ITIs to be upgraded, 100 ITIs were taken up for up-gradation from domestic resources with the involvement of industry in the form of Institute Management Committees (IMC). Remaining 400 ITIs to be upgraded with the assistance from the World Bank. The recent budget document 2008-09 states that implementation of the scheme of Vocational Training Improvement with World Bank assistance has been approved. Loan agreement between World Bank and Government of India was signed on November 2, 2007. 100 ITIs were identified for up-gradation during 2006-07. 138 ITIs have been identified during 2007-08. It is expected to cover remaining by August 2009.
- In budget 2008-09, under the 1396 ITIs up-gradation scheme, 309 ITIs in 29 states have been identified with corresponding industry partners and agreements have been signed in 244 cases under PPP scheme.
- The Central Government (under Finance Ministry) has set up *National Skill Development Corporation (NSDC)*, a non profit company to promote technical training in country under PPP model. The responsibility of NSDC would be to set up world class polytechnics, ITIs and other technical institutes across India. The private partners will hold 51 percent stake in the new entity. The government contribution as startup capital would be Rs 10 million while Rs 150 billion investment would be raised by from private players.
- *National Skills Development Mission* approved by the Cabinet in May 2008. Prime Minister of India is heading the Mission. 17 Union Ministries also will have role in implementing the scheme according to a cabinet note. The Mission will oversee and facilitate the entire process of skill development proposed to be run as a collaborative action by the government and the private sector. Government hopes 70 million jobs will be created during the 11th Plan (2007-12). The Skill Development Mission is expected to facilitate training of the people to make best use of these opportunities. With Rs.31,000 crore proposed to be spent over 5 years, the mission will look at 20 areas of growth for skill development in manufacturing and services.
- Government will soon formulate the *National Skill Development Policy* which aims at empowering all individuals through improved skills, knowledge and internationally recognized qualifications to enable them to access to decent employment and to

promote inclusive national growth. The policy document encourages PPP and emphasize on meeting the needs of domestic industry.

- The Directorate General of Employment and Training (DGE&T) of the Ministry of Labour and Employment is laying special emphasis on the northern region to upgrade the existing government-run ITIs as centres of excellence (COE).
 - The eight states of the northern region are Uttar Pradesh, Uttarakhand, Rajasthan, Himachal Pradesh, Haryana, Punjab, Jammu & Kashmir and Chandigarh.
 - The tripartite agreement has been signed with the state governments and the chambers of industry to modernize and upgrade the existing state government-run ITIs.
 - DGET shall provide Rs 2.5 crore to every ITI and help in improving the quality of training with the involvement of stake holders.
 - Under the scheme, the state government, as the owner of the ITI, continues to regulate admission and fees, while the new management will be given academic and financial autonomy. The Centre will provide financial assistance by way of seed money.
 - Uttar Pradesh, by far the biggest state in the northern region, has a total of 188 ITI, out of which 30 ITIs have been selected under the PPP scheme, while 9 ITIs have been selected from Uttarakhand, 15 from Rajasthan, 13 from Haryana, 18 from Punjab, 9 from Himachal Pradesh, 6 from Jammu and Kashmir and 1 from Chandigarh.
- According to a report by Society of Indian Automobile Manufacturers (SIAM), Indian car makers will adopt 100 industrial training institutes (ITIs) across the country by 2010 to generate skilled manpower.
- The KIIT University (Kerala Institute of Industrial Technology) has also signed MoU with Wipro, under which diploma students of KIIT will be trained in english language communication skills with a customized course curriculum to make them industry ready in IMS practice. Apart from this initiative, Wipro will also conduct a recruitment drive for the diploma students of the university every year.
- Various industries in Haryana have agreed to adopt Industrial Training Institutes and the Memorandum of Understanding are being signed with around 12 industries.
- In Rajasthan for identified 12 lagging districts which do not have any women polytechnic college, private investors have been selected and land has been allotted. It has been decided to establish polytechnic colleges at each sub division headquarters. For all the identified 23 lagging sub divisions, private investors have been selected and land allotment is under process.

- *GM India Signs MOU with Gujarat Government to train ITI Students in Vadodara:* General Motors India and government of Gujarat on 14th July 2008 signed a memorandum of understanding (MOU) for a public-private partnership to train students of the Tarsali Industrial Training Institute (ITI) in Vadodara. According to the MOU, GM India would develop and provide technical courses on automotive technology through Tarsali ITI. The courses would leverage GM's global resources and take advantage of expertise at GM's manufacturing facility in Halol, Gujarat, and the GM Technical Center in Bangalore.
- *Mahindra signs MoU with Maharashtra to upgrade ITIs at Ghodegaon & Manikdoh:* Mahindra & Mahindra Ltd. (M&M), the leader in the Utility Vehicle segment in India on 25 July 2008 announced that it will upgrade two Industrial Training Institutes (ITIs) at Ghodegaon and Manikdoh in Maharashtra under the Public Private Partnership (PPP) scheme approved by the Union Government.
- *Eicher signs MoUs to set up engineering-led automotive training centers:* Eicher has taken a pioneering lead as the first commercial vehicles manufacturer in India to set up training centers based on industry-institution collaboration and thereby implement a critical action point of the Automotive Mission Plan 2006-2016. To this effect, on July 19, 2008, MoUs were signed with the National Institute of Engineering, Mysore (Karnataka) and ITI Kuber Nagar, Ahmedabad (Gujarat) for the establishment of the NIE-Eicher Knowledge centre and ITI Kuber Nagar . Eicher School of Excellence, respectively. According to the project roadmap, these training centers should be operational by September 2008. Similar initiatives are being mapped for the northern and eastern belts of India.

Current Constraints to Institutionalize PPP

Govt. Perspective

- It is difficult to find a good Industry partner in Districts with no industries.
- In case the industry gets closed, the question arises about the responsibility for the repayment of the loan as the government provides financial assistance to Industries for adopting and running ITIs in the form of loan which needs to be repaid by industries.

Industry Perspective

- Public Sector cannot view Private Sector as an external variable: Public and Private Sector need to integrate their strengths for achieving the objectives
- Private Sector cannot perceive development of Human Capital as a CSR activity.
- Investments need to be supported by Business Plans and Revenue Models.
- Employers will fully participate only if they have a key role in decision making and not if they are just in advisory capacity. The government will have to willingly allow such a key role to employers.

C. Skill Development in 11th Five year Plan: Govt. of India Initiatives

Government of India has finalized the institutional arrangements at the national level for coordinated actions for skill development. This consists of:

- **National Council for Skill Development** chaired by the Prime Minister. It will focus on policy directions and review.
- **National Skill Development Coordination Board** coordinated by planning commission to combine public and private plans of action. The Board ensures that government agencies intensify action in areas like vocational education, technical training through industrial training institutes, and through promotion of public-private partnerships.
- **National Skill Development Corporation** as a non profit company catalyzed by the Ministry of Finance to promote skill development in the private sector.

11th Five Year Plan: Enhanced Outlay for Education & Skill Development

Central government sought to raise the educational support from 7.68% in the tenth plan to 19% in eleventh plan. The actual outlays have been increased five fold and now stand at Rs.2.75 crore. This investment will be used to provide universal elementary education of quality, support a new focus for secondary education and generate a second wave of major

investment in higher education with the setting up of several institutions of higher learning including 30 new central universities, 8 IITs, 7 IIMs. This investment in education would be complementary to the proposed action for skill development.

Action Plan for Component—Government Initiative IN PPP Mode

Over the years some 20 odd Ministries have created an infrastructure for skill development. There are 1896 ITIs (under State Governments), 1244 Polytechnics, 669 Community Polytechnics, 9583 Secondary Schools with Vocational Education and Training (VET) Stream and 3218 ITCs (in private sector).

Besides Ministries of Rural Development (RD), Ministry of Small and Medium Enterprises (MSME), Health, Tourism and several others have their own establishments. All these need to be restructured and repositioned in collaboration with private enterprises. Furthermore, new capacities are being created by the ministries. These need to be brought in PPP mode.

* **Source:** *State Economic Surveys and State Budget Speeches*

(i) Action Plan for ITIs

Action: Ministry of Labour and Employment

- Complete Up gradation of 500 ITIs into institutions of excellence by investing Rs.2.0. 3.5 crore in each of them
- Upgrade remaining 1396 ITIs in PPP mode by providing interest free loans up to Rs 2.5 crore each.
- Facilitate 1000 new ITIs in under-served regions . to be set up in PPP mode so that largely unskilled workforce of these backward areas could acquire skills and mainstream with workforce in progressive regions. Set up 500 new ITIs in Industrial Clusters/ Special Economic Zones (SEZs) on a demand-led basis also in PPP mode.
- Quadruple ITI capacity by encouraging them to run two shifts or more. Introduce short term modules in 2nd Shift.
- Intensive Faculty Training Programme
- MoUs with States and ITIs defining outcomes and reforms and imposing obligation to transfer autonomy to the PPP.

(ii) Action Plan for Polytechnics

Action: Ministry of Human Resources Development (HRD)

- Upgrade 400 government polytechnics.
- Set up 125 new polytechnics in PPP mode in hitherto unserved districts.
- Run all polytechnics in two shifts to double the capacity utilization.
- Encourage much larger initiative in private sector since the demand for junior engineers is enormous and absorption and placements are nearly guaranteed.
- State governments may be encouraged to let their engineering colleges start polytechnics in evening shift to turnout junior engineers.

(iii) Action Plan for Vocational Education

Action: Ministry of HRD

- Expand VE from 9500 senior secondary schools to 20000 schools. Intake capacity to go up from 1.0 million to 2.5 million
- All VE schools must get into partnership with employers, for providing faculty/trainers, internship, advice on curriculum setting, in skill testing and certification, etc.
- Progressively move vocational education from an unviable 2. year stream, commencing after Class 10, to a stream that captures 9th Class dropouts and later on it should commence from Class 7, capturing 7th Class dropouts. Give emphasis to last mile employability related soft skills- viz., English language skills, quantitative skills, computer literacy, spreadsheet, word processing, computer graphics, presentation skills, behavioral and interpersonal skills, etc.

Technical Education (On-Going Schemes Outlay) 2008-09

Name of the Scheme	Outlay
	(2008-09)
	(Rs.in crore)
IITs (including Rs. 771 cr for OSC)	1171
National Institutes of Technology (including Rs. 608 cr for OSC)	808
Indian Institutes of Information Technology (including Rs. 45 cr. for OSC)	98
NITTTRs (including Rs 10 cr. for OSC)	30
NIFFT Ranchi (including Rs.6 cr. for OSC)	13
NITIE Mumbai (including Rs. 12 cr. for OSC)	37
Community Polytechnics and Polytechnic education for disabled	23.5
Indian School of Mines, Dhanbad (including Rs. 45 cr. for OSC)	85
North Eastern Regional Institutes of Science & Technology	7
Management Institutes IIMs (including Rs. 53 cr for OSC)	98
Indian Institute Science, Bangalore (including 70 cr. for OSC)	130
Indian Institutes of Science Education & Research (IISERs)	150
School for Planning and Architecture (including Rs. 10 Cr. for OSC)	20
TEQIP (World Bank Project)	40
AICTE (including provision for new initiatives like Support to Engineering Colleges for Diploma Courses, Increase in Fellowship amounts for M.Tech students etc.)	167
Others (Programme for Quality Improvement in Technical Education, CIT, Kokrajhar; BOATs, International Technical cooperation; Sant Longowal IET etc. (incl. Rs. 17 cr. for OSC)	96.5
Total (On-going Schemes)	2974

Source: Presentation before Parliamentary Standing Committee Demands for Grants (2008-09)
Ministry of Human Resource Development, Department of Higher Education

Note: OSC Stands for On Going Schemes

Technical Education (New Initiatives) Plan Outlay 2008-09

Name of the Scheme	Outlay
	(2008-09)
	(Rs.in crore)
New IITs	50
New NITs (Token Provision)	1
New IIITs	30
New IIIMs	10
2 New SPAs	15
Central assistance for new Polytechnics and Strengthening of existing Polytechnics	110
Central assistance for setting up Women's Hostels in Polytechnics	5
Training and Research in Frontier Areas	10
Total (New Schemes)	231

Source: Presentation before Parliamentary Standing Committee Demands for Grants (2008-09)
Ministry of Human Resource Development, Department of Higher Education

D. State Level Action for Skill Development*

Uttar Pradesh

- New scheme of Rs. 46 crore proposed for setting up and strengthening of new Government polytechnics, construction of hostels therein with a view to encourage technical education.
- Provision of Rs. 36 crore is proposed for establishing two engineering colleges and 12 I.T. polytechnics under the special component plan in 2008-09. The process of setting up of two engineering colleges to be named as Manyawar Shri Kanshi Ramji Engineering College of Information and Technology and four polytechnics to be named as Mahamaya Polytechnic of Information and Technology is under way.
- Provision of Rs. 21 crore has been made for establishing government polytechnics.

- Five Polytechnics and nine ITIs sanctioned for Bundelkhand region.

(Source: State Economic Surveys and State Finance Minister's Budget Speeches*)

Punjab

- Rupees 3.85 crore has been separately provided in this budget to develop a set of skills in the youth of Punjab.
- The new Department of Employment Generation and Training created in 2008 has been mandated to dovetail the multi-pronged initiatives in skill development and employment generation. A sum of Rs. 30 crore has been earmarked for this Department in 2008-09 though enhanced allocations have also been provided to other line Departments.
- Schemes would be worked out to enhance the skill and competency of the students through training in courses related to livestock, construction, textile industry, vocational education, introduction of more courses in ITIs/ Polytechnics, Institute for Pilot Training, training in retail and overseas placements. Training of youth for employment as security personnel has already been commenced at Pepsu Road Transport Corporation (PRTC), Jehan Khelan in Hoshiarpur.

Haryana

- Up to 2007-08, the number of technical Institutions in Haryana are 257 with an intake capacity of 52630, of which there are 76 polytechnics with an intake capacity of 25,000.
- The allocation for Industrial Training and Technical Education both under Plan and Non Plan is Rs.351.32 crore for the year 2008-09 as against Rs.291.22 crore provided during 2007-08.
- In 11th Five Year Plan, the targets for diploma holders have been fixed at 50,000. The department is already half way mark and it is expected that with the current pace of growth, this target is likely to be achieved.

- Three Govt. Polytechnics at Sanghi (Rohtak), Lisana (Rewari), Cheeka (Kaithal) have already been established. In the year 2007-08, GP Narwana (Jind) has been established. Four State of Art Institutions i.e. State Institute of Design & Fashion Technology, State Institute of Film and TV, State Institute of Fine Arts and State Institute of Professional Studies for women at Rohtak are being established.
- In the year 2007-08 double shift was introduced in four Polytechnics i.e. Government Polytechnic, Ambala, Nilokheri, Jhajjar and GPW, Ambala City for optimal utilization of resources. As per the feedback, the double shift scheme is beneficial hence it is proposed to replicate the scheme in all the Govt. Polytechnics/ Govt. Aided Polytechnics in all the branches.
- Opening of New Polytechnics at Sampla/ Meham/ Bhiwani/ Faridabad/ Panchkula/ Hathni Kund Barrage and Morni. There is a proposal of starting two new Government Polytechnics each at Sampla and Morni during 2008-09. In addition, new institutes under Public Private Partnership are under consideration to be started at Pabnawa (Kaithal), Umri (Kurukshetra) and Damlawas (Rewari). New courses such as Fashion Design, Interior Design, Accounts and Audit and Tours and Travels Management have been introduced in Government Polytechnics.

- Quality focus to Government Polytechnics

State of art machinery and equipments as being used in the industry shall be provided.

- i. Accuracy and precision in skill development training.
 - ii. Start of production centers.
 - iii. Regular training and re-training of the faculty.
 - iv. Participation of industry in the institutions activities and curriculum development.
 - v. Development of communication skills & soft skills.
 - vi. Language lab will be setup in every polytechnic and learning material development shall be undertaken.
- The budget provision of Rs. 50.00 lakh in the current financial year has already been made. The initially proposed courses are: Garment Manufacturing, Beauty Culture, Certificate course in core hardware, Certificate course in Basics Electronics Engineering, Certificate course in motor winding, Electrician, Auto Mechanic, Welding and Fabrication, Mechanical Draftsman, Computer application, Art and Craft, Construction, Multi task technician, DTP, Retail Management.

- Large scale construction work including new teaching blocks, hostels, laboratories worth Rs. 250 crore have been sanctioned and sanction of works of Rs. 150 crore is in pipe line.
- The Industrial Training and Vocational Education Department through a network of 195 Institutes (Industrial Training Institutes, Industrial Training Institutes (Women), Teachers Training Centers, Vocational Education Institutes, Art School and Footwear Institute) is presently providing certificate courses to nearly 35019 students all over the State. These institutes are not only supplying skilled craftsmen to the industries but also generating avenues for self-employment.
- 80 Industrial Training Institutes (including 31 Industrial Training Institutes for Women), with a seating capacity of 19096 and 99 Vocational Education Institutes with seating capacity of 15559 are working under this department. 8 Vocational Education Institutes have been converted into Industrial Training Institutes. Art School, Rohtak with a seating capacity of 60 students and Government Footwear Institute, Rewari with a seating capacity of 64 students, is also functioning in the State. Teacher Training Courses with seating capacity of 240 seats are being run at Ambala City, Rohtak, Bhiwani, Jind, Narnaul, Sirsa & Faridabad. Out of the total 194 Institutes, 31 Institutes are meant exclusively for women while there is a facility of co-education in the remaining Institutes. Further, no tuition fee is charged from women trainees in all these Institutes. 25 percent seats are reserved for women in all trades in the Year of Girl Child-2006.
- The Department is re-orienting the Training Programme so as to improve the quality of training, 5 Industrial Training Institutes have been upgraded during 2005-06, 5 Industrial Training Institutes in 2006-07 and 6 Industrial Training Institutes in 2007-08 into Centers of Excellence. The Department is keen on involving private sector in up-gradation and improvement of Industrial Training Institutes. The Industrial Training Institutes have been provided administrative, functional and financial autonomy to produce World Class Skilled Work Force. To provide autonomy the Industrial Training Institutes falling in districts Faridabad, Ambala, Karnal, Gurgaon, Yamunanagar, Rohtak, Hisar, Mewat, Sirsa, Jind and Rewari have been converted into societies. An institute Managing Committee has been formed in most of the Industrial Training Institutes, in the State. The industry have agreed to adopt Industrial Training Institutes and the Memorandum of Understanding are being signed with various enterprises.
- Testing and Certification scheme has been launched for the workers who have acquired skills through family traditions and 8447 workers have been certified.

- Short Term Modular Employable Skill courses have been introduced in Industrial Training Institutes in various trades. A MOU has been signed between Govt. of Haryana and Larsen & Toubro Ltd. to provide Construction sector training to the youth at ITI Karnal.
- Presently 195 I.T.Is which includes 31 institutes for women are imparting industrial training in the State. There is a proposal to open 31 new Industrial Training Institutes in the State in next three years while expansion of six Industrial Training Institutes and seven SC wings are likely to be started during 2008-09.
- At present, there are two Technical Universities, 61 Engineering Colleges, 90 MCA/MBA Colleges/University Departments, 27 Pharmacy Colleges/University Departments, three Hotel Management Colleges and 76 Polytechnics in Haryana State. Chhotu Ram State College of Engineering Murthal has been upgraded to Deen Bandhu Chottu Ram University of Science and Technology.
- The Technical Education Department has received Golden Icon Award for E-Governance, 2007-08+ from Government of India for paperless admissions.
- The industries in Haryana have agreed to adopt Industrial Training Institutes and the Memorandum of Understanding are being signed with the following enterprises.
 - Maurti Udyog Ltd. ITI Gurgaon and Rohtak
 - Sona Koyo Steering System Ltd. ITI Nagina
 - Jay Bharat Maruti Ltd. ITI Faridbad
 - Liberty Shoes Ltd. ITI Karnal
 - Yamuna Power & Infrastructure Ltd. ITI Sadhora
 - Osram Industries Ltd. ITI Ganaur
 - Reliance Haryana SEZ Ltd. ITI Bahadurgarh, Bhaproda & ITI (W) Bahadurgarh
 - G.R.P. Industries, Sharjah, U.A.E. ITI Narnaul & Mahendergarh
 - Educomp Solutions Ltd. ITI Kurukshetra, Bhiwani and Kaithal
 - Premier Shields Ltd. ITI Ambala Cantt. & Sohna
 - Vipul Industries Ltd. ITI Ferozepur Zhirka
 - Rico Auto Industries Ltd. ITI (W) Rewari

Himachal Pradesh

- A total plan provision of Rs. 27.6 crore is proposed for the financial year 2009-10 to meet the investment requirements of technical education. If required, this amount will be suitably enhanced to better train the unemployed youth.

Rajasthan

- There were 254 technical education institutions in the state 2002-03 with total seating capacity of 26,000. The number of technical education institutions has increased to 729 and seating capacity has tripled at 82,000 by 2008.
- Private Sector Participation in Technical Education: Polytechnic Colleges (As On March 31, 2008): For 12 identified lagging districts which do not have any women polytechnic college, private investors have been selected and land has been allotted. Out of these 12 women polytechnics, 4 have been functional since 2007-08 in rented buildings. Building construction is underway in all the 12 districts. AICTE approval for 11 polytechnics has been received. Private investor has also been selected for newly created Pratapgarh district and Letter of Intent (LOI) is being issued.
- Now it has been decided to establish polytechnic colleges at each sub division headquarters. For all the identified 23 lagging sub divisions, private investors have been selected and land allotment is under process. All investors have applied for AICTE approval. LOI is being issued.

Delhi

- An outlay of Rs. 1045.12 crore has been proposed for Education including Technical Education, Art & Culture and Sports for the year 2008-09.
- Kasturba Polytechnic at Pitampura will be upgraded to Engineering College exclusively for women in 2008-09 with specialization in 4 disciplines of Engineering in the field of IT and Electronics with a total intake of 240 students.
- A specialized institute of Polytechnic level will be set up for the paramedical courses at Dwarka in academic year 2009-10. Building for this institute adjoining the proposed site for 750 bedded hospital, is ready. The hospital will provide facility to the students of polytechnic for practical experience and sharing of resources.

- Delhi Knowledge Development Foundation would be set up shortly to increase the opportunities for technical education through distance learning and continuing education.

Madhya Pradesh**

- New technical and Industrial Training Institutions have been started at 16 different places during the last four years. These places include Malhargarh, Khachrod, Khaknar, Picholi, Chhaparas, Prithvipur, Manpur, Kevlari, Barghat, Badarwas, Mauganj, Bhandar, Guna, Mohendra, Mandideep and Sidhi. Most of them fall in remote rural and tribal areas.
- Training in ten modern and new professions has been launched. Medical and Electronics training at Indore-situated institute, IT and electronics system management training at Ujjain, Indore, Jabalpur, Sagar and Bhopal, printing technician training at Indore, Ujjain, Jabalpur and Bhopal, electrician training at Niwali, Bamania, Seoni, Bargi, Orchha and Jaithari, data operator training at Dhar, Orchha and Nepanagar, computer hardware training at Dewas, plumber training in Jobat and Nepanagar, welder and fabricator training at Bada Malahra, Kotma and Raisen, driver-cum-mechanic at Khaniyadan and farm mechanic in Seoni Malwa.
- In every field, work is done in existing projects apart from taking up new experiments and beginnings. In this context it has been decided to train one youth from each village to impart them training as engineer and during the last four years 7000 youths have been benefited by this scheme. During the 110-day training of mason, electrician and plumber the trainees were given Rs 500 per month stipend also. During the last four years we also raised the number of such training institutes. There were 33 training institutes in the year 2004, 35 in 2005-2006, 37 in 2006-07 and now during 2007-08 the number of training institutes has jumped to 57.
- The number of computer training institutes has constantly been increased to impart training to young boys and girls belonging to scheduled castes and scheduled tribes. Not only 4520 youths were trained during the last four years but also the number of training institutes was gradually increased from 32 to 82. The intention is loud and clear that these sections of society should be given computer training in large numbers.

- Seven new professions have been added under the scheme of job-oriented training by the year 2006-07. These professions and trades include driving, pump mechanic, front office assistant, fashion technology, hair and skin care, desktop publication and architect assistant. During the last four year, 14,171 youths under this scheme have been benefited.
- To be in line with ever-changing latest techniques, the training centers are being improved by making them more equipped with resources. As a result, eight industrial training institutes have been improved in 2005-06, seven in 2007-08 and during 2007-08, 11 institutes are going to be improved.
- One of the purposes behind improving industrial training institutes is that training facilities should reach the remotest parts of the state so that residents of those areas would not have to wander here and there. Now the improved industrial training institutes impart training in automobile, information technology, garment making, production and manufacturing, electronics, construction and wood working, food processing, tourism, agriculture machinery mechanic, refrigeration and air-conditioning, fabrication, processing plant maintenance etc. Ninety-six seats were made available in eight selected institutes for training during the year 2005-06. The number remained the same in 2006-07. Now 19 more training institutes are going to be improved with private sector participation.
- It has been decided that arrangement of production should also be made at the industrial training institutes along with training. During the financial year 2007-08, the process of converting all the district-level industrial training institutes into training-cum-production centers has been started.
- The go-ahead for starting State-level Driving Training Institute at Indore-situated Industrial Training Institute has been received and arrangements for its building, appliances and staff have been started.

**Source: Speech on Importance of technical education's extension by Shri Nagendra Singh, Technical Education and Narmada Valley Development Minister, Govt. of MP, December 20, 2007

E. Some Best Practices in India

Case Study: LG Electronics Ltd collaboration with Mumbai ITIs

This Model is initially applicable to 5 ITIs (Mumbai, Mulund, Thane, Ambarnath, Pune, Pimprichichwad). The model is being developed by L.G Electronics to meet their needs for skilled manpower of trade RAC / RTV/ Electronics/ ITESM etc for their Authorised Service Centres (ASC). The key features of the model include:

- L.G will provide input to upgrade/ Modify/ Add-on to the curriculum
- LG will select the trainees for appointment in Authorised service centre after completion of 1½ year of training (duration of training is 2 years)
- Agreement between Authorised Service Centre & candidates for appointment
- L.G will give scholarship Rs. 1000/- to selected trainees.
- L.G shall provide training to ITIs instructors (Trainers) in the premises of L.G at their own cost (Including TA, Lodging & Boarding)

Case Study: Model Adopted by the State with Bharat Forge Ltd (BFL)

Bharat Forge (BFL) proposes to set up Multi Product SEZ at Khed and decided to adopt ITI Khed. The features for the project are:

- BFL identified the requirement of Manpower for their Industry.
- Accordingly 6 Trades are selected.
- BFL creating the additional infrastructure facilities like building, equipment & power supply etc. in existing ITI.
- BFL will select the Instructional Staff for the proposed trade and train them in their industry.
- All non-recurring and recurring expenses are to be borne by BFL for Initial 5 years.
- Nominee of BFL will be Chairperson of Institute of Management Committee (IMC).
- Periodical audit of training by BFL.
- BFL will engage pass out candidate for Apprenticeship Training and thereafter for Employment in their group of Industries.

Case Study: Infosys Campus Connect (PPP)

Campus Connect was launched by Infosys in May 2004 with 60 colleges, as an industry-academia collaboration program to align engineering student competencies with industry needs. The program has grown rapidly and as of March 2008, it had grown to 500 colleges. It is present in nine cities in India and is now moving to China, Malaysia and Mexico. Over this period, Campus Connect has trained 25,000 students and enhanced the skills of 2000 faculty members.

- The core of Campus Connect is the Foundation Program, which is a 130 classroom hour proprietary educational supplement for a batch size of 60-75 students that is integrated with the College's academic schedule and may include Industrial Visits to Infosys Development Centers.
- The course material is provided by Infosys and is based on material it uses for its induction programs, including assignments, case studies and a Student Project Bank.
- Soft Skills Program is intended to develop students' skills in communication, team work, corporate work culture, etc.
- The college is given incentives based on the performance of the number of graduates joining Infosys and is expected to pass on the cash benefits received from Infosys to people, including faculty based on college-specific norms.
- By aligning the skill needs of IT services with the college curriculum, Campus Connect reduces the learning time and training cost after employment.
- Infosys does not guarantee that graduates of Campus Connect will be offered employment.
- In determining its return on investment in Campus Connect, Infosys thus banks on its reputation as a superior employer and its large annual recruitment to ensure that a sufficient number of Campus Connect graduates accept Infosys offers so as to make its investment in the program worthwhile.

Initiatives by Directorate of Employment and Training in Gujarat

To improve the efficiency of vocational training by optimum utilization of infrastructure facilities with mix off need base training programme, short term courses are started. To encourage people to engage in self-employment, the Directorate of Employment & Training completed around 511 batches of Short term courses with the help of existing infrastructure in the ITIs. This will particularly to help generate employment in the rural areas. For example Marble cutting and polishing course have been started in Ambajee. Various specialized short term training programmes organized in Gujarat are given below:

- *Apparel Park Operator Training Programme:* It is started at different 10 institutes w.e.f. August'05 with intake capacity of 810 seats in first phase. Almost 2185 youth has been trained so far under this training in three different types of courses run by ITIs.
- *Air Hostess / Flight Steward Training Programme:* It has started from 16th January 2006. Total 50 candidates trained and many candidates got employment in Jet

Airways, SpiceJet, Air Deccan and other prominent Air lines making course most successful.

- *Call Centre Assistant Training Programme:* The Directorate of Employment & Training, Gandhinagar has launched the %Call Centre Assistant+ Training programme at 3 ITIs with intake capacity of 20 each started from June 2006.
- *Diamond Cutting and Polishing Training:* 6 types of courses are running under this programme.
- *Tourist Guide Training Programme:* The programme was started with the co-operation of %Rajya Sainik Board+. These programmes were conducted in 14 different districts ITIs across the state and total 360 trainees have successfully completed training as Local Tourist Guides.
- *Driving Training Schools:* It was started at 12 different ITIs across the state. One batch will be of 10 trainees. Thus in a year each ITI can give training to 120 candidates and total around 1200 persons.
- *Hand Pump Repairing:* Directorate of Employment and Training has started the Hand Pump Repairing course to provide skills of pipe fitting, fault finding in pump and repairing of pump and various applications in one ITI which would train about 20 people in 3 months.
- *Mobile Repairing:* Started in 12 ITIs, the programme has trained 110 people. Course duration is 3 months.
- *Marble Cutting Operator:* Started in 1 ITI to train 10 people per batch in 3 months.
- *Jardoshi:* It will provide skill of identification of different materials, colour selection, measuring and designing skills on cloths. It covers 8 ITIs and has trained 90 students. The duration of course is 4 weeks.
- *4 Wheeler/ 2 Wheeler Repairing:* Started in 1 ITI for 20 students.
- *Security Guard:* The course is started in 10 ITIs for 2 months per batch and provides skills in detecting and resolving the problems, handling the situation.

Some other courses started are Airline Ground Staff, House Keeping, Gas Fitter and Micro Irrigation System Technician Training.

Project by Department of Science & Technology

Department of Science & Technology in coordination with UNDP have initiated a project, called, Skills and Knowledge for Improved Livelihoods and Living Standards (SKILLS) being implemented for promoting new training curriculum and facilities in the emerging technology skills for the benefit of the unemployed youth. The project was initiated in 2004-05.

- The implementing institutions are: Tiruchirappalli Regional Engineering College - Science & Technology Entrepreneurs Park (TREC-STEP), Trichy; Vivekananda Institute of Bio-technology, Nimpith; JSS Academy of Technical Education-Science & Technology Entrepreneurs Park (JSSATE-STEP), Noida; and Agnel Technical Education Complex, Goa ICT (Information & Communication Technologies).
- www.skillindia.com e-portal jointly launched to address the important aspect of being a repository of relevant information that can be accessible by both the trainer as well as the trainee. Today there are about 50 trades/vocations that are available on the portal and each trade carries with it lots of information like curriculum, course material, basic vocation related information and a step by step learning basket where the competency based curriculum can be browsed easily.
- The present 50 trades would be increased to about 200 in the next few months. The portal also offers a first of its kind a virtual Employment Exchange+ that has been highly successful tool in the formal sector employment process.
- 10 PPP Centres (SKILL Academies) have been established under this project. 3 academies are in Chennai, 1 in Bangalore, Goa, Karnataka and four locations in West Bengal for providing training to the farmers at the grass root level to upgrade and develop their skills and knowledge to increase productivity.
- These PPP Centres have state-of-the-art facilities for new employable skills training, initially in the area of Modern Appliances Maintenance, agricultural biotechnology and food and beverages sector.

Case Study: Introduction of Short-term Courses – The Maharashtra Pilot

The Maharashtra State Training Directorate curtailed long-term training programs in certain trades as the demand contracted rapidly. Because of the lower admissions, a considerable amount of the training equipment and teachers became under-utilized.

So as to use the facilities efficiently, the Government empowered ITIs to conduct short (three to six months) courses in basic trades according to student demand. Courses were implemented under a pilot *Production-oriented Training Scheme*+, which aims to facilitate new trades and achieve some cost recovery. Between January 2002 and April 2003, around

6,560 youth were trained. Fees were around Rs.300-400 per course (\$7-10) and students were charged for the cost of raw materials and equipment depreciation. The labor cost for delivering short-term training courses is based on Rs.50 per hour (\$1). Overhead charges and the amounts earned from depreciation of training equipment are credited to the state government budget. Half of the revenue earned towards wage-related charges is credited to ITI development accounts while the other half is distributed among the administrative and teaching staff.

F. International Scenario: Illustration of some PPP Models, Initiatives and Best Practices

In a market economy, public private partnerships are the glue that links education and employers. The term is really used as shorthand for a range of public policies, funding systems, and curriculum frameworks that have a shared goal of tightening the level of communication among educators and employers. Vocational system can be classified under following models:

I) Enterprise-led System

This relies on industries to provide training to potential employees. The state provides only compulsory general education. There is no formal qualification system for vocational training and transfer of training is largely driven by actual work experience of employees. This system is more successful in countries like **Japan** where there is an expectation of long term relationship between the employer and employee.

This model for private involvement in vocational education and training is completely different from that used by Germany, but one that is relevant in the US and other nations with strong social networks. Historically, labor for Japan's manufacturing system has come from high schools, which have a network of relationships with hiring managers that allow them to place their most accomplished students preferentially. This system is based on a local relationship, and depends on high school staff correctly analyzing the skills of potential graduates and their fit with the academic and vocational needs of employers. The Japanese system is similar to an extent to what happens in US vocational schools, but only in those that are very high quality. In both cases, the high quality vocational schools are built of strong relationships between educators and employers.

II) Government-led System

It can take 2 forms: Demand Driven and Supply Driven

Demand Driven- The model focuses on encouraging firm level training through government policy. This is usually called a %Human Resource Development+or %Workforce Development+ system. State supports the training by industries by giving partial financial support and instituting the certification process for example in **East Asia**. This system assumes that industries are operating in competent environment where human capital is key resource and therefore would like to invest in the training of employees.

Countries that have this kind of program include South Korea, Malaysia, and Singapore. In virtually all countries there are some national level policies that guide the engagement by employers or other partners in vocational education and training.

Hungary, for example, created legislation in the mid 1990s to decentralize vocational education management. As part of the decentralization, the government created a new system of continuing vocational education and a comprehensive national registry of vocational qualifications. **Slovenia**, additionally, rewrote its vocational education laws by making training the responsibility of the private sector as well as the government. The specific changes included creating common curriculum documents for industry and education that outline the requirements to complete a specific vocational degree.

While the **Russian Federation** decentralized in the 1990s to a significant extent, there were only modest attempts initially to bring private sector actors into the vocational. The former Eastern Germany is an excellent example, as the traditional German laws were transferred to the former Eastern German territory, providing a legislative framework for apprenticeships through the dual system. The results of this expansion of the 1969 %dual system+to Eastern Germany have been less successful, as the number and duration of the apprentices hired depends on firm level characteristics.

Supply Driven- The state through the system of training Institutes produces the trained employees. This system works well in stable economy with predictable demand. This kind of model is currently applicable in countries like India.

III) German Dual System- Mix Model

Germany's dual system is another model of public private engagement. This system promotes the close cooperation between vocational schools supported by the government and enterprises where training is provided. Industry plays large role in determining curriculum requirements and certification processes. Here nature of training is more specific and the model is considered to be most desirable one.

At the heart of the German system is a delegation of responsibility for curriculum and assessment to a coalition of labor representatives, businesses, and educators. The business associations play a particularly complex role, managing the system by monitoring the quality of training provided by firms in the dual system. Studies of the German model lay out the following as key components that need to be in place:

- A legislative framework that requires firms to invest in training of newly hired workers;
- A funding mechanism through a combination of federal, regional, and business spending;
- The capacity to carry out job analysis and curriculum development;
- Local institutions that represent the interests of businesses; and
- Trained professional instructors and administrators.

The German model has proven difficult to replicate internationally. The serious drawback with this model is excessive specialization in a particular skill only. It would limit the workers' employability due to lack of multi skills.

Some countries, such as Thailand and Korea, have managed to put into some places the dual system model. However, even the former Eastern Germany has had challenges in extending the dual system. There are several lessons, most importantly that unless companies see participation in their best interests they will not participate in and ultimately pay for training and hiring of vocational education graduates. The reality is that as labor markets are liberalized, and the cost of doing business in Germany itself has increased relative to other manufacturing intensive countries like China, the dual system has become less important as a critical part of the VET structure. The need to lower labor costs and maintain flexibility in the hiring and assignment of labor among nations means that firms are less interested in participating in a dual system.

Six Basic Approaches in Training Systems Around the World*

<p>" The Japanese system may have the simplest design. Students completing basic education go to general secondary education, and from there they either enter firms that provide entry-level training or go on to tertiary education.</p>
<p>" The North American system has no streaming+until after secondary education and it relies on post-secondary education to facilitate transition to work. Students completing secondary education go to community colleges and polytechnic for short courses, and to universities, which provide both general and professional training.</p>
<p>" The French system streams students into vocational courses at the secondary level. Students in vocational courses are prepared for entry to the labor market, and those in the humanistic scientific streams are prepared for higher education.</p>
<p>" The German system is based on a long tradition of apprenticeships. For a (diminishing) majority of secondary school students, instruction consists of school-based general instruction and firm-based occupation-specific training (the dual+system). The system, regulated by guilds, has a set of qualifications that provides broad equivalency between graduates of the academic and the dual subsystems.</p>
<p>" The Latin American training system is a hybrid of the French and German models. For students completing basic education: (a) it relies on autonomous vocational training institutes for those proceeding to the labor market, (b) on general (humanistic-scientific) education at secondary level for those proceeding to tertiary education, and (c) on school-based vocational education for others.</p>
<p>" The Australian system allows transitions between the vocational and tertiary education systems. Employers play a key role in the management of the vocational system.</p>

*(India Vocational Training Report, World Bank January 2007)

International Best Practices

1) Kenya: Training for the Informal Sector- The Jua Kali Experience

Distribution of vouchers to informal sector entrepreneurs to purchase training

The *Jua Kali* (informal sector) project, funded by IDA, was aimed at providing skills and technology upgrading for about 25,000 informal sector manufacturing workers; to increase



the access of informal sector entrepreneurs to services; and to improve the policy and institutional environment by removing restrictive laws and policies.

A key feature of the project is a voucher program intended to introduce consumer choice, enabling informal sector operators to purchase the training they want. Intermediaries- allocation agencies- were selected by competitive tender to market, allocate, and redeem vouchers in a decentralized way throughout Kenya. Allocation agencies received a fee equal to 3 percent of the value of vouchers issued. Vouchers could be used for any kind of training from any registered training provider.

Over the course of the project, about 700 training providers became prequalified for providing training. By early 2001, some 18,000 training vouchers had been issued. The impact of the project, evaluated through two tracer studies, has been highly positive for the beneficiaries. Employment among the graduates had increased by 50 percent compared with employment before training, and the income of surviving enterprises had also increased by 50 percent.

One unexpected outcome of the voucher training program was the emergence of a new kind of training provider- the skilled master craftsman. The strong preference of Jua Kali workers for appropriate, accessible training by master crafts persons was revealed in the first phase of the project: 85 percent of all vouchers went to pay for the services of master crafts persons, and only 15 percent went to private and public training institutions.

Some important lessons include: (a) the use of a voucher mechanism enabled the project to stimulate demand for training, technology, and management and marketing consultation among micro and small enterprises. A supply response has been generated and a training market established to address the needs of micro enterprises; (b) an unexpected impact of the voucher training program was the emergence of skilled craftsmen as the leading providers of training. Entrepreneurs preferred the training services of master crafts persons in the informal sector to training in formal institutions. The training by master crafts persons was usually well adapted to entrepreneurs' need for short, practical training. These training providers were previously invisible to agencies that wished to pay for training directly; and (c) Implementation experience underscores the importance of appropriate management arrangements- a project for the private sector is best managed by the private sector with government best playing a facilitating role.

2) Mexico: A Proactive Approach to Small and Medium-Size Enterprise Support

Partnerships between the public and private sector to provide training and a whole range of support services can be effective to enhance the productivity of the informal sector

The Integral Quality and Modernization Program (CIMO . now renamed as PAC), established in 1988, has been effective in reaching small and medium-size enterprises and assisting them to upgrade worker skills, improve quality, and raise productivity. Set up as a pilot project to provide subsidized training, CIMO evolved when it became apparent that lack of training was only one factor contributing to low productivity. By 2000, CIMO was providing a package of training and industrial extension services to over 80,000 enterprises each year and training 200,000 employees. Private sector interest has grown. More than 300 business associations now participate in CIMO, up from 72 in 1988.

All states and the Federal District of Mexico have at least one CIMO unit, each staffed by 3 or 4 promoters. Most units are housed in business associations that contribute office and support infrastructure. The promoters organize workshops on training and technical assistance services, identify potential local and regional training suppliers and consulting agents, and actively seek out enterprises to deliver assistance on a cost-sharing basis. They work with enterprises to conduct an initial evaluation of the firm, as the basis for training programs and other consulting assistance. CIMO is expanding in two directions- assisting enterprises with specific sectoral needs, and providing an integrated package of services, including information on technology, new production processes, quality control techniques, and marketing as well as subsidized training.

Evaluations found that CIMO has been effective in improving the performance of targeted companies. Compared to a control group, CIMO firms have increased investments in worker training, had higher rates of capacity utilization, and were more likely to adopt quality control practices. These improved outcomes were associated with increased productivity. Evaluations found CIMO-PAC to be cost-effective way of assisting small and medium-size enterprises. Other performance indicators were: (a) increased profitability, sales and capacity utilization, (b) wage and employment growth, and (c) reduced labor turnover, absenteeism, and rejection rates for products. The most dramatic impacts were among micro and small firms.

3) Brazil: Employer-Owned and -Managed Training

Moving the management of training authorities to the private sector

Experiences in Brazil underscore the importance of ownership and employer participation. A chronic gulf between supply and demand was bridged by giving control of training to its users. The National Industrial Apprenticeship Service (Serviço Nacional de Aprendizagem Industrial [SENAI]) was created in the 1940s and operates under the ownership of the Federation of Industries. SENAI was followed by four other sector-specific services: commerce (SENAC), rural areas (SENAR), small enterprises (SEBRAE), and transport (SENAT). All the services operate under the same basic structure and legal framework. Chambers of employers finance their training programs through a one percent payroll levy and run the services with full independence and under private sector statutes.

The five services have evolved in different directions although they operate with the same rules and legal framework. SENAI has a network of 500 training institutions and trains two million workers a year. SENAR and SEBRAE were first created as government bureaucracies but this led to inefficiencies, lack of responsiveness and flexibility, and to political spoils. They were recreated with ownership, management, and budgets given to the relevant employer associations. Because training markets had already been developed in the country, the rejuvenated SENAR and SEBRAE opted to buy training in the market rather than to establish their own training institutions. SENAT, the newest service, took a different path. It created an extensive satellite network for training employees of more than 1,000 firms throughout the country.

4) Bangladesh: Underprivileged Children's Education Program (UCEP)

Locally based non-government training providers are often more effective in providing services that meet the needs of the informal economy.

Underprivileged Children's Education Program (UCEP), established in the early 1970s, seeks to raise the living standards of poor urban children and their families. It focuses on the target group of working street children and aims to provide them with skills to enhance their employability in the local labor market, often in the informal sector. UCEP is conducted in 30 general schools for non-formal basic education working on three shifts per day in four major cities of Bangladesh. Total enrollments are about 20,000. Skill training is given in three training institutions working on two shifts each, training a total of 1,400 trainees. UCEP has extraordinarily high completion and employment rates for its graduates, both averaging about 95 percent. UCEP's program can be divided into three stages.

- The first stage is accelerated non-formal basic education starting at age 10 or 11. About half the graduates from the non-formal basic education program are

admitted into vocational training.

- The second stage consists of fundamental skills training which may vary in length from six months to two years.
- The third stage is placement in employment, and follow-up on the job.
- *Factors that have contributed to making UCEP successful include:*
- Providing students with a solid base of general education;
- Focusing on the proper target group, i.e., those with blue collar working aspirations+, those who intend to enter the labor force after training as semi-skilled workers;
- Continuous linkages with industry, which ensure that trainees are trained in the knowledge, skills and attitudes sought by employers, and also that employers are aware of the competencies of UCEP graduates;
- Focus on acquisition of skills and competencies through highly structured, supervised individual+ hands-on+ instruction (rather than being driven by credentials and certificates); and
- Rigorous follow-up of each graduate in terms of employment, earnings and performance on the job.

5) Chile: Vocational Education for Chilean Farming, the CODESSER Model

CODESSER demonstrates that the key to success is a business arrangement that covers performance criteria and financing.

CODESSER is a non-profit organization created by the National Society of Farmers in 1976. Initially, it administered four schools whose reputations were poor and it was difficult to attract students.

Today, some schools receive more than 300 applications for 45 first-year openings and additional schools have been included because of the growing demand. Recent figures show that more than 75 percent of graduates from agricultural schools hold mid-level management positions in agriculture; a far cry from the 15 percent match between vocational training and

the job descriptions of the schools graduates in the 1970s. In industry, where CODESSER's impact is more recent, this percentage is close to 62.

Although the healthy growth of labor demand in the Chilean economy since the mid-1980s has helped CODESSER to achieve success, its management model has also contributed and merits special attention. It has the following features:

" Private sector participation in management. A directorate of seven farmers or industrial entrepreneurs oversees each school. This ensures greater job-skill matches, a direct connection to the labor market for graduates and an effective medium for bringing about organizational and productive innovations.

" Teachers hired as private sector employees. Personnel policy (including selection and promotion criteria and new contracts) conforms to the Labor Code that regulates private sector employees. Teachers' salaries are about 50 percent higher than in municipal schools and there has been a consistent effort to upgrade teacher training.

" Educational programs. These provide basic general knowledge in humanities and sciences, prepare students to work in various occupations, teach students to be problem solvers and encourage them to continue learning. Schools emphasize general growth and the development of responsibility, leadership and personnel management. To give the curriculum local relevance, CODESSER updated the programs after a thorough field study and approval by the Ministry of Education.

" Curriculum revision. CODESSER conducts periodic surveys of job requirements in the areas around each school. The surveys are used to adjust vocation-specific components in the curriculum and to prepare teachers in those areas.

" Student selection. Student selection examinations in Chile are graded from one to a seven. Students must achieve at least grade five in each course to be considered for admission. Prospective students must present a recommendation letter, spend two days at the school to take written examinations in four basic areas, go through a personal interview and psychological tests and undertake a farming activity. Schools select their best applicants.

" Funding and budget allocations. The real value of public subsidies fell in the early 1980s and declined again by about 15 percent between 1987 and 1991. As a result, schools developed independent funding. In 1982 the public subsidy represented the bulk of schools' budgets; it is now less than 50 percent.

SECTION III

DRAFT RECOMMENDATIONS OF PHD CHAMBER TASK FORCE ON 'SKILL DEVELOPMENT'

INTRODUCTION

The PHD Chamber constituted a Task Force on Skill Development as a follow up to the Chief Ministers' Conclave on Promoting North Indian Common Economy at Chandigarh in September 2006 which was inaugurated by Dr. Manmohan Singh, Hon'ble Prime Minister of India. This Task Force is chaired by Smt. Sushma Berlia, Past President of PHD Chamber and Co-chaired by Shri Sharad Jaipuria.

The Task Force consists of State Government representatives (Secretaries in charge of Technical Education and Labour & Employment), select Central Government officials and eminent experts from the field of education. The task force focused on the strategy for improving vocational training and facilitating massive skill development in the country. It also briefly deliberated on measures to promote higher education . university as well as technical education and promoting research in these institutions.

The Task force *inter-alia* focused on the following objectives:

- Substantial expansion of quality technical/ vocational education and training for raising employability and productivity.
- Skills to be attuned to new business requirements, improving quality of education and trainings at all levels;
- To make technical/ vocational education system more flexible and inclusive for sustainable growth.

To achieve these objectives, the Task Force considered the following:

- Appropriate strategy to (i) expand and upgrade vocational education and training (ii) expand and upgrade higher technical education; (iii) promote research in educational institutions; and (iv) redesigning the pattern of education at the school level to facilitate skill development.
- Emphasizing the role of government in reforming and strengthening vocational training and higher education.

- Clear policy for facilitating capacity expansion through private sector participation. Making investment in vocational training institutes bankable.
- Promoting industry and academia interaction to narrow the existing gap between the demand and supply of the skilled manpower.

IMPORTANCE OF THRUST ON SKILL DEVELOPMENT:

- As per 2001 census, about 54% of our population is under the age of 25 years. There is wide spread unemployment even among the educated, while the economy faces a shortage of skilled personnel.
- The size of working age population in India, aged 15 to 64 years is expected to increase from about 77.5 crore in 2008 to approximately 95 crore (68.4%) in 2026. The Eleventh Plan document has suggested that if we get our skill development act right, we will be harnessing a demographic dividend. However, if we fail to create skills, we could be facing a demographic nightmare.
- As per 61st round of NSSO survey, 12.8 million persons enter the labour market every year. However, our vocational training infrastructure currently can cater to the training needs of only 2.5 million persons.
- Only 5% of our work force is vocationally trained, which is one of the lowest in the world. 152 million persons who enter the in-formal sector for their livelihood have no access to vocational training.
- Productivity of the Indian worker is estimated to be one of the lowest . US\$ 3.05 per person per hour.

A skill is the learnt capacity or talent to carry out pre-determined results often with the minimum outlay of time, energy or both. Major changes in the Indian economy and the accelerated rate of industrial growth imply a larger demand for vocational skills. Rapid urbanization has also created a demand for trained people to meet the needs of urban services. Further, a variety of new services has emerged such as financial, health, media, advertising, urban utilities, cable TV and entertainment, and telecom services. There has also been a sharp growth and new product/service introduction in the agro-food processing industries, requiring special skills. There is immense need and opportunity for massive initiative for development of skills through training intervention by developing special curricula and creation of models for offbeat and innovative skill areas.

During the past three years, Government of India has been giving special focus to skill development and employment generation as the core policy initiative. The state governments have also been called upon to participate in these initiatives in pro-active and meaningful manner and bring it to the centre of governance agenda. Vocational and technical training of

labour+is on the **concurrent list** of the Constitution of India. There are two advisory bodies to help the Central Government in this task i) National Council for Vocation Training (NCVT) tri-partite body, and (ii) Central Apprenticeship Council (CAC). At the State Governmentsq level, there is State Council for Vocational Training (SCVT) and State Apprenticeship Council.

The Industrial Training Institutes (ITIs) offer the first level of technical manpower at certificate level, producing skilled workers/ craftsmen who are the backbone of the manufacturing sector. Such training is provided after matriculation in majority of trades.

There is **need for creation of large scale skill development opportunities and infrastructure** on an urgent basis through out the country, to meet the demand of skilled work force by the industry and service sector and to keep the economy growing, as also to facilitate employability of the rapidly growing work force.

Vocational Training Challenges and Need for Reforms:

It is important to reform the vocational training sector by addressing several challenges such as:

- Disconnect between skills provided and skills required by the industry
- Revision of course curricula lags behind the need of the industry
- Out-dated machinery/ tools and technology in ITIs
- Skill demand of Services/ Unorganized Sector are largely unmet
- Unsatisfactory employability of trainees because of poor quality of training
- Shortage of trained instructors and low instructor training capacity in the country
- Low prestige attached to vocational training

RECOMMENDATIONS OF PHD CHMABER TASK FORCE ON SKILL DEVELOPMENT

- **Significantly Enhance the Infrastructure for skill development:** Our vocational education stream is quite small, enrolling less than three percent of the students at the higher secondary level. Large segment of population do not have access to vocational education because of inadequate number of ITIs and polytechnics. There is need for creation of large scale skill development opportunities and infrastructure in the country. New institutes, as announced by the Prime Minister should be set up and started in a time bound manner. The network of institutes should be capable to increase the proportion of our skilled work force from 5% to about 50% in the next 10 years.

- **Enhance the scope (coverage of trades) for skill development:** The focus of skill development needs to be widened. We should be able to increase trades for training from about 110 to encompass all sectors of the economy. In the latest revision of National Classification of Occupations about 2,900 trades have been listed. An effort therefore, should be made to develop course curricula in a phased manner for most of the occupations/ trades in the country which require skilled workforce.

The ever widening skill gap, in terms of quality and quantity must be viewed holistically. Moreover, the skill map for the manufacturing sector could take into account the requirements for the organized industry, unorganized industry as well as for self employment. The skill map for the country must be drawn, with special focus to services, self-employment and entrepreneurship, in addition to the manufacturing sector. The respective state machinery should open new ITIs for service sectors besides improving ITIs for the manufacturing sector. Similarly for the services sector, skill map could be prepared separately for organized and unorganized services as also for self employment. For entrepreneurship, the skill requirements could be identified separately for the city, smaller towns and rural areas. The present workforce is estimated at 170 million, as against 30 million in the organized sector. Covering unorganized sector workers also in our formal training umbrella is essential.

It would be useful to have **concentration of training efforts in areas of investment** as per the requirement of industry/ other businesses in that region.

- **Skill Mapping:** A designated agency should carry out on-going research on the kind of emerging opportunities for skills/ employment in various sectors/ trades in the Indian market, so that desired courses could be designed and introduced for skill development at various levels. This would help in training manpower according to the emerging requirements and also improve employment.
- **Review of curriculum:** The syllabus/ course content in ITIs should be reviewed and updated periodically to take care of the changing technology and the emerging needs of the industry/ economy. The syllabus modification process should not be very cumbersome and slow. Moreover it should not lack the local flavour. Based on the feedback from the industry, the ITIs should be able to start new trades relevant to their neighbourhood industry and revise the syllabus for the current trades.
- **Effective leadership in ITIs:** It is important to position good leaders as the Head of ITIs and also continuously train them in being responsive to the customers. The quality of leadership at an ITI can make significant difference to the effectiveness of the ITI.
- **Skill development opportunities for the school dropouts:** Formal education can provide marketable skills if vocational training is integrated into the school syllabus.

Vocational training as a discipline should be included in the schools after 8th standard so that students can branch out to different education streams according to their aptitude and liking. Our skill development initiative should provide school drop outs with a more viable alternative to formal education. It is estimated that 63% of the students who get enrolled at class I level (about 200 million every year) drop out before reaching class X and 90% drop-out before reaching class XII, for various reasons. There is need to tap the potential of this group of youth by devising short term skill development courses primarily based on local employment opportunities, providing training infrastructure at door step, even involving private training providers in their skill training. The DGET's target of developing about 2000 modules of Modular Employable Skills, to take care of the growing requirement for skilled workforce in the unorganized sector should be developed and implemented at the earliest.

- **Optimum Capacity Utilization:** In view of the huge requirement for training of workers, it is important to optimally use the existing capacity for training in the ITIs/ ITCs by ensuring adequate number of trained instructors, providing raw material for training and providing additional equipment, tools and machinery, wherever necessary.
- **Increase the capacity by running two shifts:** The capacity for training in the existing ITIs/ ITCs can be doubled by running the ITIs in two shifts by providing adequate number of instructors and adequate raw material for training.
- **Re-brand Vocational Training:** There is need to undertake a re-branding exercise so that prestige is attached to vocational training which is currently treated as some kind of inferior job. The government could consider changing the name of ITIs / ITCs to Skill Development Colleges to encourage higher enrolment in ITIs. Initiating sensitization of the parents to impart skills to their children rather than enrolling for routine academic courses, to improve their job opportunities and productivity at work place is important. The government could carry out massive publicity campaign to change the mind set of parents and young persons and make them realize that going to Skill Development College could provide much better career prospects than going to a general education stream.
- **Provide option for Higher Education:** Our vocational education and training system should provide mobility from vocational training to higher education and vice versa, so that for an ITI graduate, it may not be the end of the road academically. Graduates of ITIs could be made eligible for entry into polytechnics and plus two level of engineering courses. An ITI pass out may also be given credit for the number of years he underwent vocational training for admission to a college or a university.
- **Improve training quality through-out the country:** There is a wide regional difference in quality of ITIs. Several ITIs in western region have been able to offer better quality of

services and products. ITIs from other regions could benefit from the best practices of their western region counterparts. Improving quality of training for higher employability and productivity of workers is essential.

- **Modernise the tools, equipment and machinery** in all Industrial Training Institutes and Apex Institutes of DGE&T to bring them at par with the global standards.
- **Benchmarking for Quality Improvement:** It is observed that ITIs are stronger feeder units for SMEs and relatively smaller sectors, than what they are for large manufacturing companies, who invariably have in-house apprenticeship training schools. It may be useful to do a benchmarking study of ITIs with the company apprenticeship schools in that region, to compare the quality of training.
- **Institute Management Committees:** To improve the quality of training for better employability and higher wage earning, Institute Management Committees (IMCs) should be made compulsory for all ITIs/ ITCs. IMC should be headed by a prominent industrialist, preferably of their region. Trade wise corporate groups could be members of IMCs with the objective of prescribing training needs, level of technology, and futuristic requirement of workforce.
- **Designing new models for training / e-learning:** Increased use of technology for imparting skills to large number of people is essential. E-learning packages need to be developed on modular employable skills through which any candidate can learn sitting at home. The criteria should be to make these training programmes more accessible. This includes exploring new models such as public private partnership, decentralized delivery, distance learning and computerized vocational training. State governments should take a more active role in disseminating relevant information (for example, type of training provided, fees, programme duration, and the dropout and completion rates in different programmes).

Introduction of flexible delivery mechanism (part time, weekend, full time, onsite/offsite) with different levels of programmes (foundation level as well as skill up-gradation) to meet demands of various target groups would be useful.

- **Skill development in informal sector:** Recent estimates have shown that majority of the workforce now is going for self employment both in urban and rural areas. It is therefore important to focus on skills useful for harnessing self employment / entrepreneurship potential of youth. Thus there is need to increase the number of service sector trades or traditional handicraft sector in modular employable format in skill development programmes.

It is well known that employment potential is much higher in areas such as construction, electrical trade, plumbing, painting, tailoring, computer hardware, etc.

and training in these areas should be given special attention. People in rural areas are by and large from weaker sections of the society and cannot afford high cost of training. For this section, training for short duration can play a very important role, provided fees are kept low.

Currently, Vocational Education and Vocational Training are dealt with separately, but it is essential that both form part of a continuum and a common framework.

- **Overall personality development:** introduce some specific skills into all vocational training programmes like - basic communication skills, entrepreneurial skills, customer handling skills, organizational skills, which are very important for success in any enterprise / employment.
- **Easy admissions:** Make entry procedures easy and less cumbersome to benefit maximum people.
- **Create higher capacity for training of instructors:** Currently there is huge shortage of quality instructors in the country. The quality of training depends upon the quality of trainer. At present DGET imparts training to the instructors in five Advanced Training Institutes and one Central Training Institute with a total capacity of about 1200 persons per annum. There are more than 50,000 instructors in the ITIs / ITCs in the country. If these instructors are needed to be retrained every five years, in view of continuous advancement of technology, the training capacity of the instructors should be enhanced to about 10,000 per year. Therefore, the capacity of training of instructors must be enhanced by ten times by DGET. State Governments should also set up their own Instructor Training Institutes to cater to the specialized training needs in their respective states. Moreover, the State Governments should make it a point to send the instructors for re-training to maintain the quality of vocational training in their respective states.

A number of autonomous bodies can set up faculty training institutes. At least 15 days training every year should be mandatory.

- **Encourage employment of retired trained manpower from the defense forces, employ skilled workers from the industry and also retired instructors:** The pool of trained instructors can be enlarged for imparting training in ITIs/ ITCs by employing skilled retired personnel from the defense forces, industry as also the technical institutions, on a contractual basis.
- **Reward and retain talent:** Fixed cadre structure and minimum stipulations for promotion to senior levels need to be reviewed to reward and retain talent.
- **Encourage research:** The faculty should be given incentives to take up research projects. This is necessary to attract good faculty.

- For trained manpower 'Virtual Classrooms' have to be created. For e.g. links have been established with IIT, Kanpur in UP to deliver the course content. Innovative ideas like e-learning need to be adopted.
- **Promote training by industry experts:** Introduce flexible teaching wherein people from industry can teach students in ITIs and Engineering Colleges.
- **Relax age limit to attract talent:** It would be useful to relax the lower and upper age limit for high positions in the vocational institutions and universities on the pattern of private sector.
- **Placement Cell:** As the purpose of imparting vocational training is to make youth employable, there should be a Placement Cell in every ITI/ ITC which, in close coordination with industry should help the graduates in getting placed in different industries. Campus selection may be organized by these placement cells for ready placement of their trainees.

A system of campus selection by industries that form the corporate group on the Institute Management Committee would be mutually rewarding.

- **Tax incentives for setting up ITIs / ITCs:** The government should give tax incentives to the private sector for opening and running ITIs in different trades, according to the needs of the market.
- **Liberal loans** should be available to the private sector for setting up Industrial Training Institutes and Industrial Training Centres.
- **Bankable investment:** Investment in training should be made a bankable proposition.
- **Subsidizing fee for economically weaker sections:** It is estimated that it costs Rs. 5 crore to set up an ITI and around Rs. 1 lakh to create one seat, with additional recurring cost of Rs, 20,000 per annum per student. Since students coming from lower income groups cannot afford high fees, the Government may introduce a 'Voucher system' to encourage private participation. For e.g. if the cost for a seat is Rs.20,000/- per student, the Government may give a voucher of Rs.10,000/- to the private institution to enable the student to take admission on one hand and to make private investment bankable.
- At present the interest on loans taken for only higher education is allowed for deduction under the income tax act. It should be made available for all the levels of education and not just higher education. This would help in investing for strengthening training in skill development at secondary level of education.

- **Free Land:** State governments should provide free land for setting up new ITIs. Some states are already giving this facility, like Rajasthan.
- **Bank loan for funding education:** To specially help the economically weaker sections to take advantage of the programmes for skilled development, there should be provision for getting easy bank loan for funding vocational education. Repayment of loan on monthly installment after the student gets a job should be possible.
- **Bank Loan** should also be made easily available to students passing out from ITIs/ ITCs for self employment projects.
- As in Delhi University, 'add on' specialized vocational courses should be offered at other universities as well.
- A system needs to be devised to promote practical training for a period of 6 months in the public/ private sector as a part of the programme. For value addition, short courses in banking, insurance, IT, finance, etc. should be offered which can then be outsourced to companies and banks.
- Computer-aided vocational education wherever possible, should be facilitated.
- State governments should provide free land for setting up new ITIs. Some states are already giving this facility, like Rajasthan.
- **Certification:** An appropriate certificate system should be instituted by the Central and state governments for certifying the skills of trainees graduating from a variety of public and private institutions and suitable academic credits given to them. The Central government should provide the necessary guidelines and support for establishing appropriate mechanism and state governments should institute certification bodies to issue certificates for a variety of skills. There is need to strengthen the certification system in vocational training. Though DGE&T has been conducting trade tests and awarding National Trade Certificates and National Apprenticeship Certificate which make these certificate holders employable, the existing set up is becoming unequal to the task in future, as against certification of one million at present, it will be required to certify about 10 million persons every year for which the infrastructure is awfully inadequate.
- Certification should be linked with training. Therefore the need is to make both the industry and the students pursuing practical training in industry to be serious about training.

- Testing of the skills of trainees by independent assessing bodies should also be encouraged. Nationally accepted certification programme, such as National Vocational Qualification (NVQ) in Australia be started where workers on the shop floor can be tested and certified.
- Proficiency test in various trades may be conducted by an independent body. For e.g. NASSCOM for computer skills.
- Skills should be quantified in terms of grades or credits, according to the class passed or degree obtained.
- A separate agency should be set up by the government for certification issuance so that the certificate issued to the trainees after successful completion of the course makes him/ her eligible for employment in government and other undertakings in India / abroad.
- **State level Skill Development Corporation:** It may be useful to consider setting up an autonomous state level Skill Development Corporation in every state. The Corporation may be responsible for formulating the course content, look after franchise operations . fees, teacher quality and quantity, and appointment of new franchisees. It may also be empowered to decide the nature of courses to be offered in the state. For example while tea processing course could be offered in a state like Assam, in Madhya Pradesh, it could be leather processing. The courses could be of two kinds i) set of courses that may be standard across the country and ii) region or state specific courses.

The proposed Corporation may also conduct periodic surveys, covering all the relevant stakeholders like- prospective employers, students and teachers, to identify the skill gaps in the state. The Skill Development Corporation could be made responsible for certifying the skill imparting institutes in the state. This could include both ITIs and other franchisee units. Periodic evaluation of performance may be done by this apex body in the state.

- **Accreditation:** There are a number of vocational training and entrepreneurship development institutes in the country in addition to the ITIs. These institutions need to be strengthened and a process of accreditation evolved for them.
- Autonomous accreditation agencies of repute should be promoted. The body should include representation of the major stakeholders. They could have regional offices as well. These accreditation agencies should be accountable for providing timely accreditation and for ensuring quality training, adequate faculty, updated curriculum and availability of desired training infrastructure and resources in the accredited institutes. The desirability of select trade specific independent accreditation bodies could be examined.

- **Focus on hilly region:** In spite of industrialization in several hill states like Uttarakhand and HP, there is limited availability of technically trained manpower within the state. The technically trained manpower has to be sourced from outside the state. This underlines the need for greater involvement of state governments and the private sector in providing skill development opportunities by setting up new ITIs/ ITCs as also reviving the existing non-functioning ITIs.
- A special strategy is required for remote areas including the hill states and the North-East, where skill development for productive self employment is more important because of limited jobs in the organized sector.

Some suggestions pertaining to improvement in Higher Education

- National Education Policy 1986 had set a target of expenditure on education to be at least 6% of GDP. But the expenditure did not cross 4% of GDP till 2006-07. Therefore, the government should increase the allocations on education as mentioned in NEP.
- National Knowledge Commission has recommended to increase the present support on higher education from 0.7% of GDP to at least 1.5% of GDP from a total of 6% of GDP on education.
- Since getting NAAC accreditation is voluntary, many institutions do not take NAAC seriously. Some premier universities also have not got themselves assessed and accredited. This has cast a shadow over the functioning and relevance of this process of accreditation.
- The government should set up and also facilitate setting up of new technical institutes by the private sector with good infrastructure to provide high quality technical education.
- Polytechnics and engineering colleges have huge untapped infrastructure which needs to be optimally utilized by launching many more programmes including skill building programmes in the evening. However, currently it is not possible to launch many new courses/ programmes due to compartmentalization in higher education. At present AICTE approved institutions cannot offer non- AICTE courses. MBA is regulated by AICTE whereas BBA is regulated by UGC. Because of this, institutes offering BCA cannot offer MCA/MBA. Our system of regulation and accreditation should be reformed to remove such limitations.
- Bodies such as UGC and AICTE should emerge as stronger accreditation bodies and

effective regulators for maintaining quality of teaching and training.

- Institutions of higher education including vocational institutes should be interconnected through broadband connectivity and complete information about the courses, admission procedure should be clearly available on the net. State governments should take a more active role in ensuring availability of relevant information on the website (for example, courses, duration, eligibility for admission, fee structure, employment rate, drop-out rates in different courses).
- At present any expenditure on sponsorship of any event organized by government agency, trade associations is subject to Fringe Benefit Tax of 30%. In addition any scholarship being provided by any organization is also subject to FBT. It is recommended that any sponsorship towards promotion of education and training and scholarship by organizations should not be subject to FBT.
- It was announced in the National Education Policy 1986 would be reviewed every five years. Various sources show that after 1992 amendments, no further revisions have been made in the policy which has made it outdated in today's economic scenario. Therefore government should consider formulating New Education Policy keeping in mind the emerging demographic, social and economic environment.
- As education is a concurrent subject, it is recommended that all the states should have their own education policy in line with NEP to provide special focus to their states' education requirements.
- Part time degree courses for technical diploma holders could be provided by the engineering colleges.
- Industry training in technical education should be given higher importance.
- Institutions should have the autonomy to design and introduce new courses, and redesign curriculum keeping in view the local and global needs.
- There is a need for massive expansion of universities to provide higher education facility to the ever growing younger population in the country. This would require creation of new universities and also conversion of some affiliated colleges into universities on the basis of prescribed evaluation criteria.
- The current higher education system is highly regulated which has restricted its growth. Therefore an independent regulatory authority should be established to look after the functioning, regulation and entry decisions.

- Encourage opening of more B.Ed Colleges for women by the private sector specially, in rural and semi-urban areas. This is important for improving the availability of teachers for various schools in all parts of the country.
- By providing large number of B.Ed colleges in the country, utilize the untapped potential of educated housewives, particularly in rural areas. B.Ed training would help in women empowerment; tapping the unutilized workforce for productive means; and supply of teachers in those remote areas where others may not easily wish to be located.
- The infrastructure to support the teaching . learning process needs to be up-graded regularly like laboratories, libraries, classrooms, seminar halls, and auditorium.
- Restructure the system of undergraduate affiliated colleges. More autonomy should be given to colleges either as individual college or cluster of colleges on basis of certain fixed standards.
- Universities and education institutions should be encouraged to harness more sources of funds. It could be even in the form of giving more liberty in raising funds through alumni contributions, licensing fees, investing in various financial instruments etc.
- A central agency may be established/ designated for the purpose of conducting research to revise and update the curriculum and course material as business needs and technology are changing very fast. This will help remove the disconnect between skills provided and skills required.
- Encourage students to work on research papers/ projects with faculty while pursuing higher education, particularly technical education.
- At present there is lack of information on the usage of the funds collected in the form of education cess. The Ministry of HRD should come out with a detailed report on the impact of the education programme funded through education cess and its future preparedness to efficiently utilize the fund.
- To address the existing deficiencies in terms of availability of higher education programmes, poor quality and limited access of education, it is recommended that this sector should receive a special attention in programme implementation and reforms.
- **Industry- institute interface:** There is need for an effective industry- institute interface, which is currently limited primarily to organizing summer training or providing visiting faculty.
- Encourage faculty participation in industry and vice-versa from the industry. Encourage industry experts to visit vocational and technical institutes for conducting seminars,

workshops, and lectures. Also facilitate movement of faculty from institutes to visit industry during summer and other breaks, to understand industry functioning, latest technology, machines and materials.

- Industry should engage the Institutes for commercialization of research and undertaking other such projects. This would provide practical training to the faculty and the students and also add to the financial resources of the institute. Industry would also stand to gain.
- Industry and academia should join hands for meaningful research and innovative project implementation which could benefit both industry in terms of development of new concepts and products, and also the students by providing them opportunity for practical implementation of knowledge and acquiring necessary skills.
- Government should provide incentives to the industries to adopt ITIs, by offering tax exemption, flexibility to revise curriculum, hire new faculty/ instructors and such other administrative matters.
- Facilitating private sector participation in management of institutes and course and curriculum design would ensure direct connection to the labor market for graduates, and could prove to be an effective medium for bringing about organizational and productive innovation.
- Industry should be encouraged to start self-financing polytechnics on a large scale.
- There are several ministries / departments dealing with the subject of education and vocational training. Many of the inputs which they provide have little relationship with the requirements of the market. It is a matter of concern that vocational training continues to be supply driven rather than demand driven.
- In per capita terms providing vocational training is costlier than general education; however public expenditure on vocational training has been extremely low. Given the growing unmet demand for skilled manpower in manufacturing and services sectors, expenditure on vocational training should be stepped up substantially.

PPP (Public Private Partnership)

- **Define clearly role of private sector / policy for private Investment in vocational education:** The Planning Commission has recognized the need for paradigm shift in the national policy on skill development with the private sector playing a lead role instead of

the government, as they are major job providers. It has recommended that the government's role would have to change from being a vocational training provider to a partner and facilitator. Moreover, analysis shows that our vocational training system has not adequately responded to the needs of the labor market. Less than 40 percent of its graduates find employment. The gap between demand and supply of skilled workforce has widened over the years. These challenges cannot be met alone by government initiatives. We need to creatively draw the private providers to meet this demand.

In view of the expected more important role of the private sector in providing vocational training, there is need to introduce necessary changes in the policy for vocational training and streamline procedures to make the entry and operation easier for the private sector, without compromising the quality and without unnecessary requirement of repeated approvals. There should be a well laid out transparent system of supervising the quality of teaching infrastructure in the private institutions.

It is important that the state governments should clearly define the role, specific areas and extent of desired participation from the private sector in running vocational and technical training.

Growth in various sectors of the economy can be achieved only if supported by appropriate skill development programme at various levels. If we get our skill development act right, we will be harnessing a demographic dividend. However, if we fail to create skills we could be facing a demographic nightmare.

Serious attention of the policy makers/ executives is invited to the direction /suggestions made by the Planning Commission in the 11th Five Year Plan Document. Some of them are listed as follows:

“Substantial expansion and radical reform of the education sector are called for to ensure that we are able to meet the quality and quantity of professionals needed by the country”.

“Vocational training should be accorded top priority in the 11th Plan. It should be treated as an industry and efforts made to attract private investments into this sector.”

“The role of the private sector providing high quality education needs to be recognized and a suitably facilitative environment created to allow such institutions to support our objective of expanding higher education.----- Private institutions can only develop if they are allowed to charge reasonable fees while also providing need based freeships

and scholarships for a certain percentage of students. There is need to review the system comprehensively to introduce greater clarity and transparency if we want to see a healthy development of quality private sector education”