



FICCI

THE SKILL DEVELOPMENT LANDSCAPE IN INDIA  
AND IMPLEMENTING QUALITY SKILLS TRAINING



**ICRA Management Consulting Services Limited**

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## **Executive Summary**

This document has been prepared by ICRA Management Consulting Services Limited (IMaCS) to serve as a background note for the 3<sup>rd</sup> Global Skill Summit of the Federation of Indian Chambers of Commerce & Industry (FICCI).

Skills and knowledge are the driving forces of economic growth and social development for any country. For the economy to grow at 8% to 9%, it is required that the secondary and tertiary sectors grow at 10% to 11%, assuming agriculture grows at 4%. In such a scenario, it is obvious that a large portion of the workforce would migrate from the primary sector (agriculture) to the secondary and tertiary sectors. However, the skill sets that are required in the manufacturing and service sectors are quite different from those in the agriculture sector. This implies that there is/will be a large skill gap when such a migration occurs, as evidenced by a shrinking employment in the agriculture sector. This scenario necessitates skill development in the workforce.

India is expected to be home to a skilled workforce of 500 million by 2022. About 12 million persons are expected to join the workforce every year. This talent pool needs to be adequately skilled. The following sectors are expected to drive the growth of the economy as well as play a significant role in employment<sup>1</sup>:

1. Auto and Auto Components
2. Building and Construction Materials
3. Building and Construction
4. Real Estate Services
5. Electronics and IT Hardware
6. Education and Skill Development Services
7. Food Processing
8. Gems and Jewellery
9. Healthcare
10. Textiles
11. Leather and Leather Goods
12. Organised Retail
13. Tourism and Hospitality
14. Transportation and Logistics
15. Media and Entertainment

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<sup>1</sup> XI Five Year Plan of the Planning Commission

16. BFSI
17. Chemicals and Pharmaceuticals
18. Furniture and Furnishings
19. IT
20. ITES.

The employment in the manufacturing and services sector would be in excess of 250 million persons.

While the school education sector is about 227 million in enrolment, the combined enrolment in higher education and vocational training is about 15.3 million. By limiting to this to the technically and vocationally qualified and skilled workforce, primarily comprising of ITI/ITC (1 million), BE (1.7 million), Polytechnics (0.7 million), we can observe that the current pool of skilled talent is around 3.4 million<sup>2</sup>.

It is thus estimated that the required capacity for training the new workforce as well as portion of the existing workforce would be about 15 million annually.

Various steps are being taken towards meeting the above objectives, such as, the formulation of the National Skills Development Policy, delivery of Modular Employable Schemes, upgradation of existing institutions through World Bank and Government of India funding, as well as upgradation of training institutes under Public Private Partnership mode, setting up of the National Skill Development Corporation, and the plan to establish 50,000 Skill Development Centres. Apart from these, several ministries/departments and state governments are engaged in skill development initiatives.

Given the significance of skill development as well as the quantum of funding involved, there is also the overarching need for quality structures to be in place, especially from the perspective of successful implementation. Such quality standards and processes are required at all segments of the '*skill development value chain*'. This has to be complemented by linking funding to outcomes as well as incentivising good performance. Several international frameworks are available which can serve as a reference point with appropriate and effective customisation to the Indian context.

Given the magnitude of the skill development challenge, implementing agencies are likely to face challenges right from mobilising trainees, developing standardised and scaleable content, ensuring the

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<sup>2</sup> This does not include other streams such as other forms of higher education and research and is limited to those who can fit in as workers, supervisors, entry to mid level managers in large portions of the manufacturing and service sector, either organised or unorganised.

availability of trainers, making available appropriate infrastructure, and coordinating placement and industry linkages.

In the context of achieving the necessary '*scale*' and '*speed*', the following solutions could be the way ahead in providing a conducive environment for India to meet its skill development goals:

- Targeting skill development at all levels of the '*skill pyramid*'
- Implementing Vocational Education in schools
- Creating a large talent pool through Modular Employable Skills
- Ensuring Quality in Delivery
- Employing technology to achieve scale
- Formulation of institutional mechanisms for content formation, delivery, and assessment
- Expediting the formulation of Sector Skill Councils
- Setting up of a National Human Resource Market Information System (a National Skill Exchange).

## **1. Objective of this document**

This document has been prepared by ICRA Management Consulting Services Limited (IMaCS) to serve as a background note for the 3<sup>rd</sup> Global Skill Summit of the Federation of Indian Chambers of Commerce & Industry (FICCI).

This document will help to set the context of the skill development landscape in India, the current initiatives underway, challenges faced in skilling at a macro level as well as during implementation, and the way ahead.

We hope that this document will help raise more questions and thoughts that will channelise deliberations during the Global Skill Summit.

## **2. Skill landscape of India**

### **2.1. Need for skills**

Skills and knowledge are the driving forces of economic growth and social development for any country. Countries with higher and better levels of skills adjust more effectively to the challenges and opportunities of world of work. As India moves progressively towards becoming a ‘knowledge economy’ it becomes increasingly important that the country should focus on advancement of skills and these skills have to be relevant to the emerging economic environment. In order to achieve the twin targets of economic growth and inclusive development, India’s Gross Domestic Product (GDP) has to grow consistently at 8% to 9% per annum. This requires significant progress in several areas, including infrastructure development, agricultural growth coupled with productivity improvements, financial sector growth, a healthy business environment, ably supported by a skilled workforce.

The agriculture sector accounts for about 20% of the economy. The secondary and tertiary sectors account for about 25% and 55% respectively.<sup>3</sup> For the economy to grow at 8% to 9%, it is required that the secondary and tertiary sectors grow at 10% to 11%, assuming agriculture grows at 4%. In such a scenario, it is obvious that a large portion of the workforce would migrate from the primary sector (agriculture) to the secondary and tertiary sectors. However, the skill sets that are required in the manufacturing and service sectors are quite different from those in the agriculture sector. This implies that there is/will be a large skill gap when such a migration occurs, as evidenced by a shrinking employment in the agriculture sector. This scenario necessitates skill development in the workforce.

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<sup>3</sup> Source: NSSO, Economic Survey 2009-10.

Out of the current workforce of about 450 million, only about 8%-9% are engaged in the organised/formal sector. In India, only about 5% of the workforce has marketable skills, as compared to 50% to 60% in other countries. The magnitude of the challenge is further evident from the fact that about 12 million persons are expected to join the workforce every year.

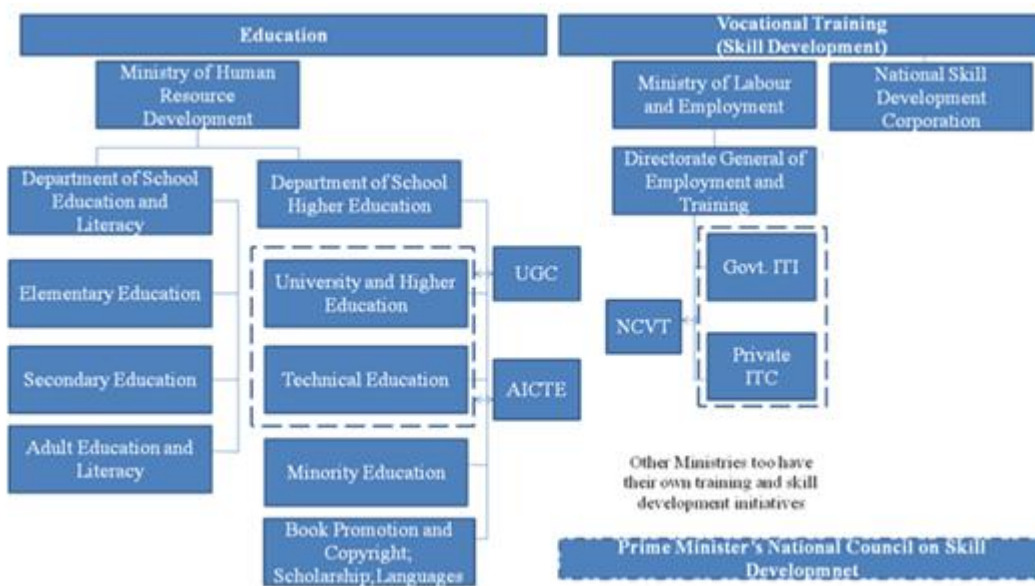
This emerging socio-economic scenario is poised to drive the demand for skilling India.

## 2.2. Current Structure and Supply of Education and Skill Development system in India

### 2.2.1. Current Structure

The following is the structure of the Education and Skill Development system in India.

*Figure 1: Current Structural Framework of the Education and Skill Development Sector in India*



Education, including all aspects higher education and college education falls under the Ministry of Human Resource Development. The University and Higher Education arm is responsible for all college education (Arts, Science, Commerce, etc.), while engineering education, polytechnics, etc., fall under the category of Technical Education. The University Grants Commission (UGC) provides funds in the form of grants and also coordinates as well as sets standards for teaching, examination and research in universities. The All India Council for Technical Education (AICTE) is the regulatory body for Technical Education in India. Its objectives are: promotion of quality in technical education,



planning and coordinated development of technical education system, regulation and maintenance of norms and standards.

A large part of the current vocational training infrastructure, the Government ITIs and Private ITCs, falls under the Ministry of Labour and Employment's Directorate General of Employment and Training (DGET). The National Council on Vocation Training (NCVT) plays a key role in the formation of training curriculum, policies, standards, as well as in certification by means of the 'trade test'. The National Skill Development Corporation (NSDC) has been set up under Public-Private-Partnership (PPP) mode as a Section-25 Company under the Ministry of Finance to provide viability gap funding and coordinate private sector initiatives. The Prime Minister's National Council on Skill Development has been formulated to coordinate action on skill development.

### **2.2.2. Current Supply**

The current education and skill development capacity in India is as revealed by the following table:

**Table 1: Current Education and Skill Development Capacity in India**

<b>Category</b>	<b>Sub-Category</b>	<b>No. of such institutions</b>
School Education	Pre-Primary Schools	67,157
	Primary Schools	7,72,568
	Middle Schools	2,88,493
	High and Higher Secondary	1,59,708
Vocational Training	Government ITI	2,076
	Private ITC	5,529
College Education	Central University	20
	State University	216
	Deemed University	101
	Institutions of National Importance	13
	Research Institutions	140
	Arts, Science & Commerce Colleges	11,698
Technical and Professional	Engg., Tech., & Arch., Colleges	1,562

Category	Sub-Category	No. of such institutions
Education	Medical Colleges (Allo/ Ayur/ Homeo/ Unani/ Nurs./ Pharm., etc.)	2,053
	Teacher Training Colleges	1,669
	Polytechnics	1,274
	Others (Includes Law, Management, MCA/IT, Agriculture etc.)	2,513

Source: Select Educational Statistics 2005-06, Annual Report 2009-10 of Ministry of Labour and Employment

The capacity of the education and skill development systems is as shown below:

**Table 2: Enrolment in the Education and Skill Development Systems**

Category	Sub-Category	Enrolment
<b>School Education</b>	Pre-Primary Students	5,264,053
	Primary (Class I - V)	132,048,727
	Secondary (Class VI - VIII)	52,195,171
	High School (Class IX - X)	24,971,520
	Higher Secondary (Class XI - XII)	13,414,499
	<b>Sub-Total</b>	<b>227,893,970</b>
<b>Vocational Training</b>	<b>Vocational Training - ITI/ITC</b>	<b>1,062,524</b>
<b>Higher Education</b>	Ph. D / D. Sc/ D. Phil	36,019
	MA	481,521
	MSc	230,247
	MCom	156,714
	BA/BA (Hons).	3,727,727
	B.Sc.	1,579,355
	B.Com	1,455,457
	BE/ B Arch	1,668,228
	Medicine, Dentistry, Nursing, etc.	305,629
	B.Ed	244,825
	Enrolment in Open Universities	773,917
	Polytechnic Institutes	690,410
	Others	2,973,517
	<b>Sub-Total</b>	<b>14,323,566</b>

Source: Select Educational Statistics 2005-06, Annual Report 2009-10 of Ministry of Labour and Employment

While the school education sector is about 227 million in enrolment, the combined enrolment in higher education and vocational training is about 15.3 million.

*By limiting to this to the technically and vocationally qualified and skilled workforce, primarily comprising of ITI/ITC (1 million), BE (1.7 million), Polytechnics (0.7 million), we can observe that the current pool of skilled talent is around 3.4 million<sup>4</sup>.*

## 2.3. Projected Demand and Demand-Supply Gap

### 2.3.1. Projected Demand

On a long-term basis, up to 2022, it is expected that India's GDP will grow at a CAGR of about 8%.

With these growth rates, we expect that the employment in the economy will be about 500 million by 2022. For an economy to sustain this growth rate it is essential that the workforce be exposed to some form of skilling or the other (could be through higher/technical education or vocation skills or a combination of both). Thus it is expected that India will have to be home to a skilled workforce of 500 million persons by 2022.

*Table 3: Projected Employment in Agriculture, Industry, and Services*

Year	GDP growth rate	Projected Employment (in million)			
		Agriculture	Industry	Services	Total
2011-12	9%	229.2	105.0	153.5	487.7
	7%	225.4	102.0	149.0	476.4
	5%	221.5	99.1	144.6	465.2
2016-17	9%	240.2	126.2	189.5	555.9
	7%	232.0	116.8	174.8	523.5
	5%	224.0	108.1	161.2	493.3

*Source: 'The Challenge of Employment in India – An Informal Economy Perspective' (April, 2009)*

The following table presents the share of employment in various sectors for various growth scenarios till 2022. We do not see the proportion of employment to change significantly between 2017 and 2022.

<sup>4</sup> This does not include other streams such as other forms of higher education and research and is limited to those who can fit in as workers, supervisors, entry to mid level managers in large portions of the manufacturing and service sector, either organised or unorganised.

**Table 4: Share of employment of different sectors till 2022**

Year	GDP growth rate	Agriculture	Industry	Services	Total
2007-08	Actual	51%	20%	29%	100%
2011-12	9%	47%	22%	31%	100%
	7%	47%	21%	31%	100%
	5%	48%	21%	31%	100%
2016-17	9%	43%	23%	34%	100%
	7%	44%	22%	33%	100%
	5%	45%	22%	33%	100%
<b>2021-22</b>	<b>7% to 9%</b>	<b>41%</b>	<b>23%</b>	<b>36%</b>	<b>100%</b>

Source: 'The Challenge of Employment in India – An Informal Economy Perspective' (April, 2009) and IMaCS analysis

The challenge pertaining to the need for skilling would be further compounded by the fact that 95% of the employment would be generated in the informal sector (as per the National Commission for Enterprises in the Unorganised Sector - NCEUS).

**Table 5: Projected share of informal employment (in million, and %)**

Year	GDP growth rate	Employment (in million)			% share		
		Formal	Informal	Total	Formal	Informal	Total
2011-12	9%	34.5	453.1	487.6	7.08%	92.92%	100%
	7%	34.1	442.2	476.3	7.18%	92.82%	100%
	5%	33.8	431.4	465.2	7.27%	92.73%	100%
2016-17	9%	33.9	522.0	555.9	6.10%	93.90%	100%
	7%	33.0	490.5	523.5	6.32%	93.68%	100%
	5%	32.3	461.0	493.3	6.54%	93.46%	100%
<b>2021-22</b>	<b>7% to 9%</b>				<b>6%-7%</b>	<b>94% to 95%</b>	<b>100%</b>

Source: 'The Challenge of Employment in India – An Informal Economy Perspective' (April, 2009) and IMaCS analysis

The following sectors are expected to drive the growth of the economy as well as play a significant role in employment<sup>5</sup>:

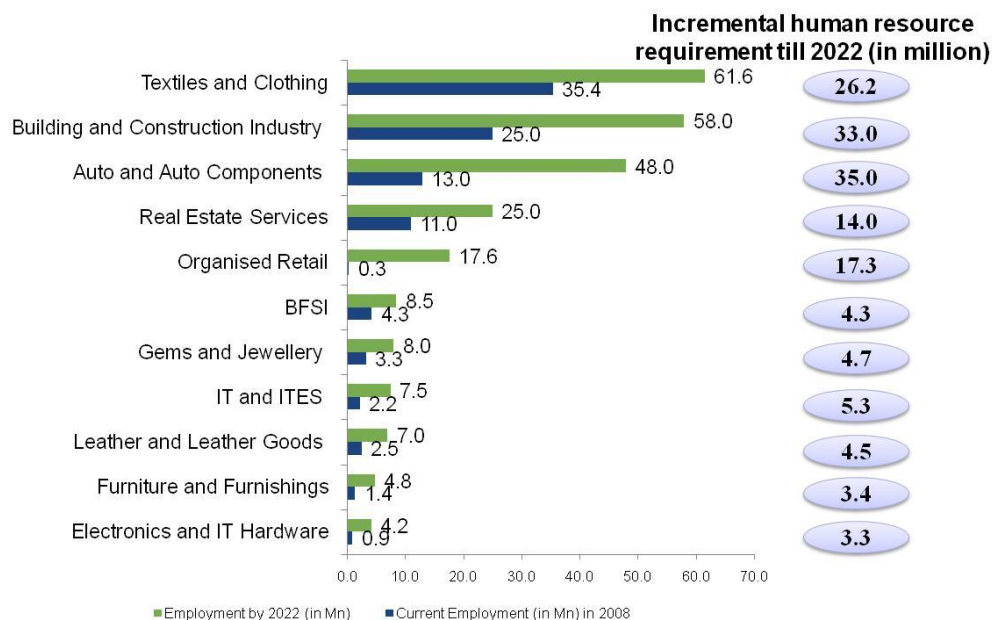
1. Auto and Auto Components
2. Building and Construction Materials
3. Building and Construction
4. Real Estate Services
5. Electronics and IT Hardware

<sup>5</sup> XI Five Year Plan of the Planning Commission

6. Education and Skill Development Services
7. Food Processing
8. Gems and Jewellery
9. Healthcare
10. Textiles
11. Leather and Leather Goods
12. Organised Retail
13. Tourism and Hospitality
14. Transportation and Logistics
15. Media and Entertainment
16. BFSI
17. Chemicals and Pharmaceuticals
18. Furniture and Furnishings
19. IT
20. ITES.

From the above tables we also observe that the employment in the manufacturing and services sector would be in excess of 250 million persons. Illustratively, the sectors that would drive a significant portion of the employment are mentioned in the following figure.

**Figure 2: Illustrative human resource requirements across select sectors till 2022**

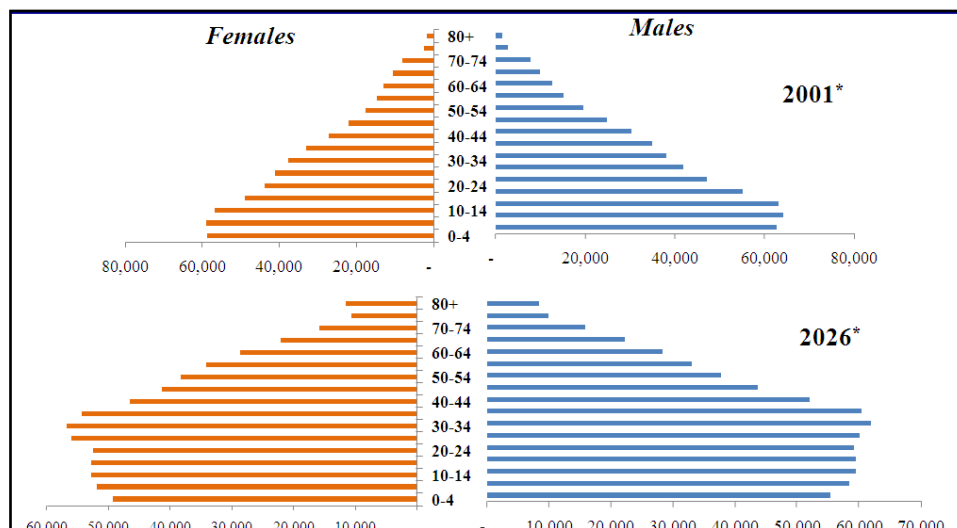


Source: National Skill Development Corporation (NSDC)

As is obvious, the above sectors would, amongst themselves, have a demand of about 150 million of the 250 million that is required in the manufacturing and services sectors.

While observing the demographic patterns that are expected to emerge, about 860 million persons would be in the age group of 15 to 59 by 2022 (as compared to about 725 million currently).

**Figure 3: Projected Population till 2026**



Source: Census Projection Report and IMaCS analysis

Note: Age in years and population in '000s

Thus, about 12 million persons are expected to join the workforce every year.

### **2.3.2. Demand-Supply Gap**

As per the above sections, with about 12 million persons expected to join the workforce every year, and an existing skill development capacity of about 3.4 million, it is thus required to enhance the skilling and technical education capacity to about **15 million** (considering that even sections of the existing workforce would have to be trained). It is expected that this 15 million would be the required skill development capacity in vocational training in itself as a large portion of the employment (as well as workforce input) would occur in the lower portions of the skill pyramid. This is also the required skill development capacity as specified in the National Skill Development Policy.

The key skill sets which would be on demand given the demand-supply gap are presented in the following table.

**Table 6: Key Skills in Demand in select sectors (illustrative)**

Sector	Key Skills in Demand
Textiles and Clothing	Power loom operators, Apparel Manufacturing, Fashion Design, QA, Knitwear Manufacturing, Sewing Machine Operators
Building and Construction Industry	Crane Operators, Electricians, Welders, Masons, Plumbers, Carpenters, Painters, etc.
Auto and Auto Components	Auto OEMs, Auto Component Manufacturers, Drivers, Sales, Servicing, Repair, Financial Services sales, Insurers/Valuers
Organised Retail	Shop floor executives, back-store operations, merchandising
Banking, Financial Services, and Insurance	Financial Intermediaries (including Direct Selling Agents), Banking and Insurance (including agents), NBFC, Mutual Funds
Gems and Jewellery	Jewellery Fabrication, Grading, Faceting, Polishing, Cutting
IT and ITES	IT – Software Engineering, Maintenance and Application Development, End-to-End Solutions, Infrastructure Management, Testing, etc. ITES – BPO, KPO – Legal, Medical, STM, Analytics and Research
Leather and Leather Goods	Tanning, Cutting, Clicking, Stitching, Lasting, Finishing
Furniture and Furnishings	Carpenters, Operators engaged in Stitching, Sewing, Stuffing
Electronics and IT Hardware	Computers, Telecom, and Consumer Electronics Manufacturing, Sales, Servicing/ After Sales Support of electronics goods, High-Tech
Tourism and Hospitality Services	Front office staff, F&B Services and Kitchen and Housekeeping staff, Ticketing and Sales, Tour Guides

Source: National Skill Development Corporation (NSDC)

The Government and the industry have taken several steps to address the above-mentioned issues. Some of the key initiatives to address skill gaps are illustrated in the following pages.

## **2.4. Initiatives under the National Skill Development Policy**

The National Skill Development Policy is aimed at empowering all individuals through improved skills, knowledge and internationally recognised qualifications to enable them to access decent employment, to promote inclusive national growth and to ensure India's competitiveness in the global market.

The key elements of the Policy are as illustrated in the figure below.

**Figure 4: Key elements of the National Skill Development Policy**

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

### **Aims**

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

### **Objectives**

1. Create opportunities for all to acquire skills throughout life, and especially for youth, women and disadvantaged groups.
2. Promote commitment by all stakeholders
3. Develop a high-quality skilled workforce/entrepreneur
4. Enable the establishment of flexible delivery mechanisms
5. Enable effective coordination between different ministries, the Centre and the States and public and private providers.

*Source: National Skill Development Policy*

The coverage of the National Skill Development Policy is as follows:

1. Institution-based skill development including ITIs/ITCs/vocational schools/technical schools/polytechnics/ professional colleges, etc.
2. Learning initiatives of sectoral skill development organised by different ministries/departments.



3. Formal and informal apprenticeships and other types of training by enterprises
4. Training for self-employment/entrepreneurial development
5. Adult learning, retraining of retired or retiring employees and lifelong learning
6. Non-formal training including training by civil society organisations
7. E-learning, web-based learning and distance learning.

## **2.5. Modular Employable Skills (MES) Scheme**

The Modular Employable Skills (MES) scheme is being offered under the Skill Development Initiative Scheme (SDIS). The Ministry of Labour and Employment undertook the development of a new strategic framework, namely the MES, for skill development for early school leavers and existing workers, especially in the unorganised sector in close consultation with industry, micro enterprises in the unorganised sector, State Governments, experts and academia.

The main objective of the scheme is to provide employable skills to school leavers, existing workers, ITI/ITC graduates, etc. Skill levels of persons already employed can also be tested and certified under this scheme, i.e., certification of prior/experiential learning. Public Private Partnership (PPP) envisaged in the form of active participation of the industry/private sector in every stage of design and implementation of the scheme.

The MES concept has the potential to go a long way in furthering skill development as it has provided a pathway for multiple entry and exits as well as transforming skill development from long term skill acquisition periods (1 to 2 years) to short term (about 3 months).

There are 1,122 courses which are a part of the approved list of MES courses. The courses span the following sectors:

- Automotive repair
- Banking and accounting
- Beauty culture and hair dressing
- Carpet
- Chemical
- Electrical
- Electronics
- Fabrication
- Garment making
- Fashion design
- Gems and jewellery
- Hospitality
- Information and communication technology
- Khadi
- Medical and nursing

- Plastic processing
- Printing
- Process instrumentation
- Production and manufacturing
- Refrigeration and air conditioning
- Retail
- Toy making
- Indian sweets, snacks, and food
- Paint
- Construction
- Security
- Wood work
- Media
- Food processing and preservation
- Leather and sports goods
- Agriculture
- Travel and tourism
- Soft skills
- Courier and logistics
- Insurance
- Jute sector
- Jute diversified products sector
- Fisheries and allied sector
- Fire and safety engineering
- Business and commerce
- Material management
- Paper products
- Industrial electrical
- Textile-cotton ginning
- Textile-cotton spinning
- Textiles-winding
- Textiles-reeling
- Textiles-weaving preparation
- Textiles-weaving
- Textiles-chemical processing
- Textiles-quality control
- Textiles-knitting
- Textiles-non woven
- Textiles-wool
- Textiles-silk
- Sericulture
- Poultry
- Animal husbandry
- Glassware.

The real challenge now lies in increasing the scale of the MES and its adoption in delivery through the private and public sectors. To promote private sector participation, the DGET has provided for the identification and registration of ‘Vocational Training Providers’ from the private sector, as well as assessing bodies (including industry associations).

## **2.6. Upgradation of existing institutions**

The government is upgrading existing institutions through a combination of own funding, multilateral assistance, and PPP.

### **a. Upgradation of 500 Government ITIs**

- 100 domestically funded and 400 World Bank assisted initiatives to upgrade 500 ITI in all
- Closer involvement of industry by forming an Institute Management Committee (IMC) headed by an industry representative.
- IMC given financial and academic powers to help run the institute.

### **b. Upgradation of 1,396 Government ITIs through Public Partnership (PPP)**

- 300 ITIs to be taken up every year from 2007-08 till 2010-11 and remaining in 2011-12.
- For each ITI to be taken up under the Scheme, an Industry Partner is associated to lead the process of upgradation. An Institute Management Committee (IMC), headed by the Industry Partner, is constituted and registered as a Society. A Memorandum of Agreement is signed among the Central Government, the State Government, the State Government and the Industry Partner defining the roles and responsibilities of all the parties. An interest free loan up to Rs. 2.5 crore is given by the Central Government directly to the IMC on the basis of Institute Development Plan (IDP) prepared by it. The loan is repayable by the IMC in 30 years, with a moratorium of 10 years and thereafter in equal annual instalments over a period of 20 years. Under this scheme the IMC has been given financial and academic autonomy to manage the affairs of the ITI. The IMC is allowed to determine up to 20% of the admission in the ITI. The Industry Partner may provide financial assistance as well as machinery and equipments to the ITI. It shall arrange to provide training to instructors and on the job training to trainees. State Governments remain the owner of the ITIs and continue to regulate admissions.

## **2.7.Key Skill Development Initiatives of the Government**

Other key Skill Development Initiatives of the Government are as follows:

- Establishment of 1,500 new ITIs through the DGET
- Establishment of 50,000 Skill Development Centres through the DGET
- Setting up of PM National Council on Skill Development (already operational)
- Setting up of National Skill Development Coordination Board (already operational).

## **2.8.National Skill Development Corporation**

The National Skill Development Corporation (NSDC) is a one of its kind, Public Private Partnership in India. It aims to promote skill development by catalysing creation of large, quality, for-profit vocational institutions. It provides viability gap funding to build scalable, for-profit vocational training initiatives. Its mandate is also to enable support systems such as quality assurance, information systems and train the trainer academies either directly or through partnerships.

Its objective is to contribute significantly (about 30%) to the overall target of skilling/upskilling 500 million people in India by 2022, mainly by fostering private sector initiatives in skill development programmes and providing viability gap funding.

NSDC is a not-for-profit company set up by the Ministry of Finance, under Section-25 of the Companies Act. It has an equity base of Rs. 10 crore, of which the Government of India accounts for 49%, while the private sector has the balance 51%.

## 2.9. Funding of skill development initiatives in the Ministry of Labour and Employment<sup>6</sup>

Table 7: Schemes for XI Plan with financial outlay

(Figures in Rs. lakh)

Name of the new scheme	Financial outlay
<p>Quantitative and Qualitative improvement of vocational training</p> <p><b>Quantitative improvement</b></p> <ul style="list-style-type: none"> <li>• Setting up of 1,500 new ITIs in the blocks having no ITIs at present. Out of which, 500 for disadvantaged group on Navodaya Vidyalaya Pattern</li> <li>• Setting up of 12 RVTIs in the states where there is no RVTI</li> <li>• Setting up of 11 ATIs in the states where there is no ATI</li> <li>• Setting up of an apex institute for skill building in informal sector</li> <li>• Setting up of four institutes for training of trainers – one in each zone</li> <li>• One National Open school for Vocational Training having total seating capacity of around 150,000 on learning basis</li> </ul> <p><b>Qualitative improvement</b></p> <ul style="list-style-type: none"> <li>• One NIMI in Northern India on National Capital Region</li> <li>• National Institute for skill inventory &amp; skill building to remove mismatch</li> <li>• Strengthening of RDATs for training in informal sector</li> <li>• Establishment of Directorate for Certification, Standardisation and Quality Control</li> <li>• Establishment of National Trade Testing &amp; Certification Authority</li> <li>• Participation of India in World Skills Competition</li> <li>• Setting up of National Mission for Skills</li> <li>• Construction of Institute Buildings Staff Quarters and Hostel buildings for field institute under DG&amp;T</li> <li>• Construction of additional buildings for NVTI/RVTIs</li> <li>• Non-formal training for women follow-up of ILO project ‘Decent Employment for NVTI/RVTIs’</li> </ul>	<p><b>8,52,100</b></p>

<sup>6</sup> This does not include funding initiatives of NSDC, private sectors, other departments/ministries, Ministry of Human Resource Development, Ministry of Rural Development, State Governments, etc.

**Centrally sponsored schemes (as part of Ongoing Plan Schemes)**

(Figures in Rs. lakh)

Establishment of new ITIs in NE states and Sikkim to the State of Jammu & Kashmir	7,560
Skill Development Initiative with Public & Private Partnership	54,500
Upgradation of 400 ITIs as CoE	1,50,000
Upgradation of 100 ITIs as CoE	15,000
Testing and Certification of Skill of workers in Informal Sector	450
<b>Total</b>	<b>2,27,510</b>

Source: Report of the Working Group on Skill Development and Vocational Training, Planning Commission

- Outlay required for 'Ongoing Plan Schemes' during XI Plan – Rs. 2,430 crore
- Outlay required for proposed 'New Schemes' during XI Plan – Rs. 8,521 crore
- **Total outlay required Vocational Training during XI Plan – Rs. 10,951 crore.**

The Planning Commission has made an allocation of Rs.2,210.02 crore (at 2006-07 prices) for the Ongoing Plan Schemes of the Ministry of Labour & Employment during the XI Five Year Plan (2007-12).

Out of the above, the details of expenditure over the last few years for the ongoing schemes are specified in the following table:

**Table 8: Plan Provisions and Expenditure (for Ongoing Schemes)**

(Figures in Rs. crore)

S. No.	Division(s)/ Schemes	11 <sup>th</sup> Plan (2007-12) Approved Outlay	Annual Plan (2007-08)		Annual Plan (2008-09)		Annual Plan (2009-10) Approved Outlay
			Approved Outlay	Actual Expenditure	Approved Outlay	Actual Expenditure	
1.	DGET	282.18	108.33	1,086.32	314.04	1,083.33	1,134.17
2.	Occupational health & safety (DGMS & DGFASLI)	56.45	5.80	5.93	15.90	12.47	15.09
3.	Industrial Relations	41.38	6.65	5.40	7.45	7.14	6.50

S. No.	Division(s)/ Schemes	11 <sup>th</sup> Plan (2007-12) Approved Outlay	Annual Plan (2007-08)		Annual Plan (2008-09)		Annual Plan (2009-10)
			Approved Outlay	Actual Expenditure	Approved Outlay	Actual Expenditure	Approved Outlay
4.	Child labour	579.16	175.05	155.91	156.06	157.81	100.00
5.	Women labour	2.39	0.51	0.38	-	-	-
6.	Labour Statistics	38.02	5.59	8.41	7.80	8.00	9.00
7.	National Labour Institute (NLI)	22.10	5.00	5.00	5.00	5.00	5.00
8.	Grants-in-aid Scheme for Research Studies	1.33	0.25	0.15	0.75	0.29	0.50
9.	Workers' Education	44.21	9.30	9.30	9.50	9.50	9.00
10.	Rehabilitation of Bonded Labour	13.26	2.00	1.09	2.00	1.20	1.00
11.	Information Technology	8.84	2.00	1.57	2.00	1.50	0.50
12.	Social security for unorganized Sector Workers and Health Insurance for unorganized Sector workers	574.70	5.00	0.76	1.00	0.00	0.00
13.	Rashtriya Swasthya Bima Yojana				250.00	101.65	350.00
	<b>Total</b>	<b>2,210.02</b>	<b>325.48*</b>	<b>280.22</b>	<b>771.50**</b>	<b>1,388.39</b>	<b>1,630.76***</b>

\*Excludes civil work component of Rs. 19.52 crore transferred to Ministry of Urban Development

\*\* Excludes civil work component of Rs. 28.50 crore transferred to Ministry of Urban Development

\*\*\*Excludes civil work component of Rs. 19.25 crore transferred to Ministry of Urban Development

Source: Annual Report of Ministry of Labour and Employment 2009-10

## **2.10. Skill Development Initiatives by Other Ministries/Departments**

*Apart from the initiatives mentioned earlier and initiatives of the Ministry of Labour and Employment and DGET, about 17 Ministries of the Government of India are also engaged in skill development activities. These include the following ministries/department:*

- Ministry of Textiles
- Ministry of Rural Development
- Ministry of Human Resource Development (for Higher and Technical Education) including the setting up and upgradation of polytechnics
- Ministry of Urban Development and Poverty Alleviation
- Ministry of MSME
- Ministry of Food Processing Industries.



### 3. Need for Implementing Quality in Skills Training

#### 3.1. Current Structure

The current structure of skill training in India as regards select schemes of DGET is as shown below.

*Table 9: Current Structure of select schemes of DGET – roles and responsibilities*

Training Scheme	Govt. of India	State Govt.	Industry
Craftsmen Training	Policy and Procedures. Standards, duration etc. in consultation with the NCVT.  Conduct final trade tests on behalf of NCVT	Day to day administration of the institute	Advise Central and State Governments at national, State and institutional level.  Assist in the final trade tests.
Craft Instructors Training	Policy and procedures, standards, duration etc. in consultation with the NCVT.  Implementation and administration of the programme in CTI / ATIs.  Conduct final Trade Tests on behalf of NCVT.	Depute ITI instructors for training in CTI/ATIs	Advise Central Government at national and institutional level.  Assist in final trade tests.
Apprenticeship Training	Policy, procedure, notification of industries, designation of trades, syllabi, standards etc. in consultation with the Central Apprenticeship Council.  Assist, co-ordinate and regulate programmes in Central public sector industries.  Concurrent jurisdiction with the States to assist, coordinate and regulate programmes in private	Assist, co-ordinate and regulate programmes in State public and private sector industries.  Impart related instructions.  Impart basic training in the case of those industries in the private sector which employ less than 500 workers.	Implementation of the practical training programme in accordance with the Apprentices Act and the rules made thereunder.  Arrange for basic training (by employers, employing more than 500 workers).  Advise the Central and the State Governments at the national and State levels.

Training Scheme	Govt. of India	State Govt.	Industry
	sector industries.  Conduct final trade tests on behalf of NCVT.		

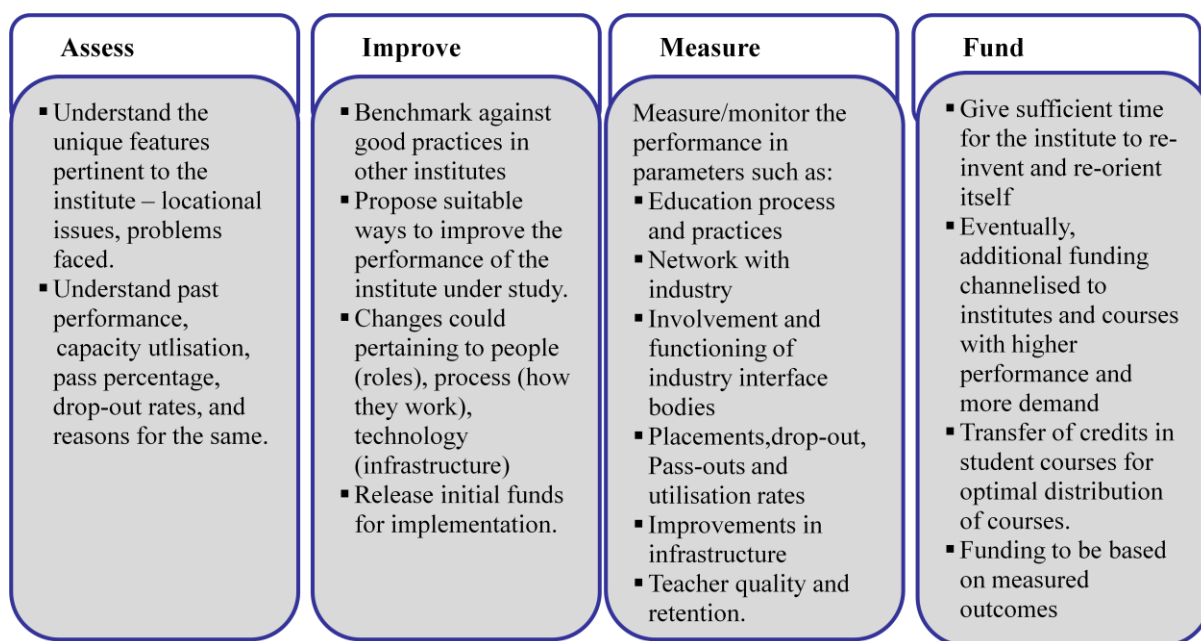
Source: DGET (<http://dget.nic.in/main/tasks.html>)

The National Council for Vocational Training (NCVT) is the nodal agency as regards setting policy, standards, and conducting of trade tests and certification.

### 3.2. Need for Quality

There is a need for an independent system to assess quality, comprising all elements of the skill development value chain, right from need assessment and student mobilisation up to training and placement. Current systems are primarily oriented towards quality checks (through trade tests) during the phase of assessment and certification.

Figure 5: An illustrative framework for Performance Measurement and Outcome-based Funding



We observe the need for the following:

- The need for quality frameworks, processes, and standards comprising of all elements of the skill development value chain
- A periodic quality assessment of training providers, be they public or private
- A plan to consistently improve performance (based on the results of periodic evaluation)

- A means to link funding to outcomes, once sufficient effort has been expended into taking steps to enhance quality and after adequate course correction (i.e., after giving sufficient opportunity and support to training providers)
- A framework for incentivising good performance.

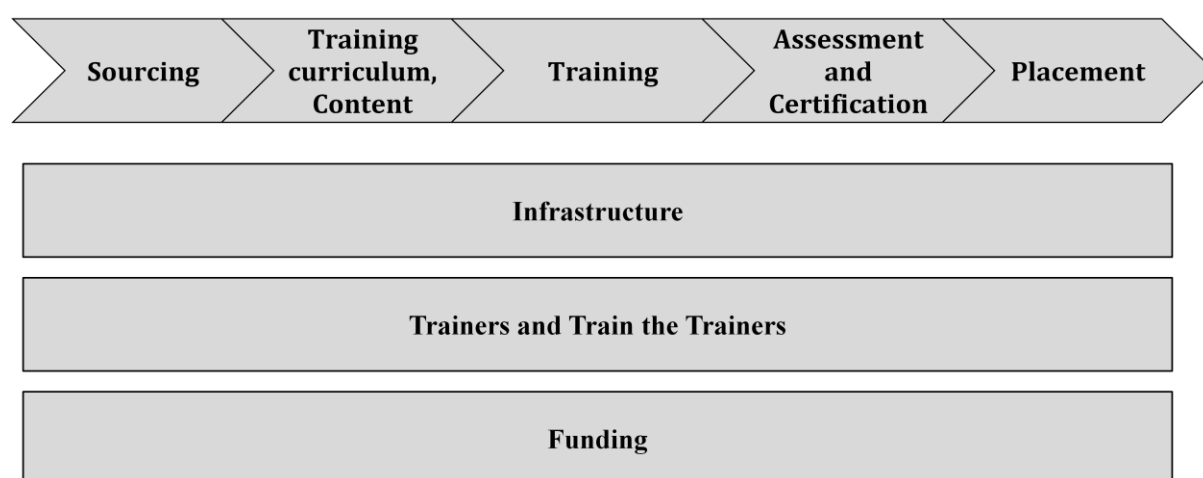
An illustrative framework for performance measurement and outcome-based funding is shown above.

## **4. Challenges in Implementing Skill Development Initiatives at a Ground Level**

As skill development in a large scale takes off, implementing agencies (government, institutes – both government and private, vocational training providers, and other such implementers) would be faced with challenges that come up at every segment of the ‘skill development value chain’.

In other words, these are challenges that each skill development centre or groups of such centres are likely to face.

*Figure 6: Skill Development Value Chain*



*Source: IMaCS analysis*

The various challenges would be pertaining to the following dimensions:

- How does a centre attract or mobilise students?
- Is there an ability to pay among trainees?
- What are the courses that need to be offered for each centre/institute, or regionally?
- Is there a demand for such courses/trades?
- Will an in-house system work or a franchisee system or a combination of both?
- How does one standardise content and delivery across a large number of centres?
- How is the training delivered?
- What is the infrastructure required and is it available?
- How can qualified trainers be found?
- Is there a system for third party assessment and certification?
- How will the project owner raise funding?

- What will the form of funding – debt, equity, grant?
- Is the model sustainable and viable?
- How would the institute guarantee placement linkages?
- How does the institute or the training provider connect with industry?

It is required that implementing agencies be aware of these challenges and prospect innovative ways to confront them.

## **5. International Models in Skill Development**

### **5.1. Australia**

The Australian Qualifications Framework (AQF) is a quality assured national framework of qualifications in the school, vocational education and training (VET), and higher education sectors in Australia.

The AQF comprises:

- National guidelines for each of the current national qualifications issued in the senior secondary school, vocational education and training and higher education sectors
- Policies and guidelines for articulation, credit transfer and recognition of prior learning register of authorities empowered by governments to accredit qualifications
- Register of institutions authorised to issue qualifications
- Protocols for issuing qualifications, and
- A governance structure for monitoring the implementation of the AQF and for advising Ministers, including recommendations for change.

Some of the key features of the AQF are:

- Recognition of prior learning
- Seamless pathways (for enabling easy movement into and out of vocational training)
- Credit transfer.

### **5.2. Germany**

VET is regarded as the pillar of the educational system in Germany. Two-thirds of young people undergo vocational training in the dual system. This training would ideally last two to three and a half years, depending on one's occupation. It is described as a 'dual system' as training is carried out in two places of learning: at the workplace and in a vocational school. The aim of training in the dual system is to provide a broad-based basic to advanced vocational training and impart the skills and knowledge necessary to practice a skilled occupation within a structured course of training. Those completing the training are entitled to undertake skilled work in one of about 355 recognised occupations requiring formal training. The only requisite is that the student should have completed full-time schooling before commencing vocational training.

The key success factor for the German system is the added focus on apprenticeship.

### **5.3. United Kingdom**

The National Vocational Qualifications (NVQs) were created in response for the felt need for qualifications to be made flexible but rigorous and nationally recognised. NVQs are also part of ‘Modern Apprenticeships’ which are funded through work-based learning. The funding varies between occupational sectors and by age group. The national framework covers general secondary and tertiary education, VET, work-based learning and prior learning. Accreditation of Prior Experiential Learning (APEL) describes the process of giving formal recognition to learning that derives from personal experiences often gained in employment or voluntary work situations.

At the industry level, Sector Skills Councils (SSCs) have been licensed and social partners are also engaged. SSCs are tasked with drawing up occupational standards for their sector that will feed into the national reform of qualifications. The Government expects each SSC to draw up a Sector Skills Agreement, in which employers and unions identify skills and productivity needs in their sector and the necessary actions to meet those needs.

### **5.4. Singapore**

The National Skills Recognition System (NSRS) is Singapore’s national framework for establishing work performance standards, identifying job competencies and certifying skills acquisition. It is implemented by the Standards, Productivity and Innovation Board with the support of the Ministry of Manpower and the Ministry of Trade and Industry. This has helped the industry train skills-standards consultants and assessors, as well as to develop On Job Training (OJT) blueprints for the skills-standards established. To assess the workers, assessment centres were set up. Workers can be certified at centralised assessment centres, workplace or a combination of both.

Supporting the NSRS implementation framework are promotional activities and financial incentives for the industries. NSRS is promoted at four levels, i.e., national, industry, company and workforce, in collaboration with employer groups, industry associations, economic agencies and unions.

The above is illustrative of some of the major frameworks that are available internationally for driving policy in skill development.

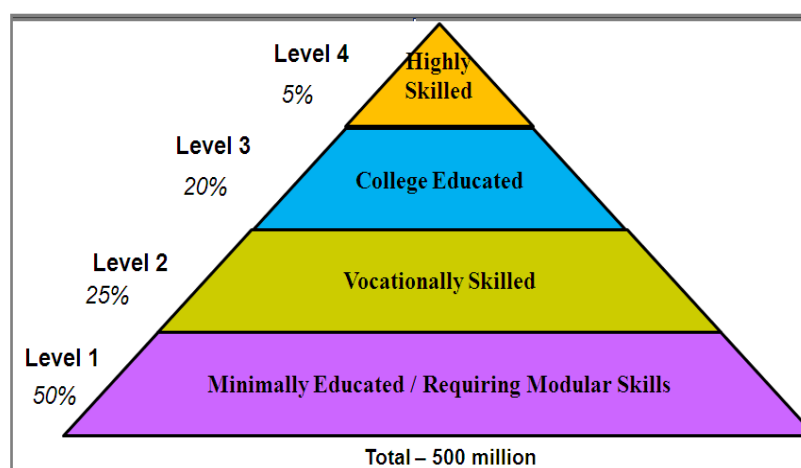
## 6. The Way Ahead

Considering the magnitude of the challenge in terms of skilling about 15 million persons every year and ensuring that the workforce of 500 million is adequately skilled by 2022, it is required that the way forward comprises of adequate initiatives to achieve these humungous targets in the right ‘scale’ and ‘speed’.

Some of the possible solutions to address the issues outlined are as follows:

- **Targeting skill development at all levels of the ‘skill pyramid’:** It is required to not only skill and educate the workforce at the higher skill levels (which is key to ensuring industry competitiveness through research and IP, etc.), but also to adequately skill the workforce at the lower levels (i.e., where much of the workforce is concentrated).

Figure 7: Skill Pyramid



Source: IMaCS analysis

Accordingly it is required that skill development initiatives be targeted at all levels of the ‘skill pyramid’.

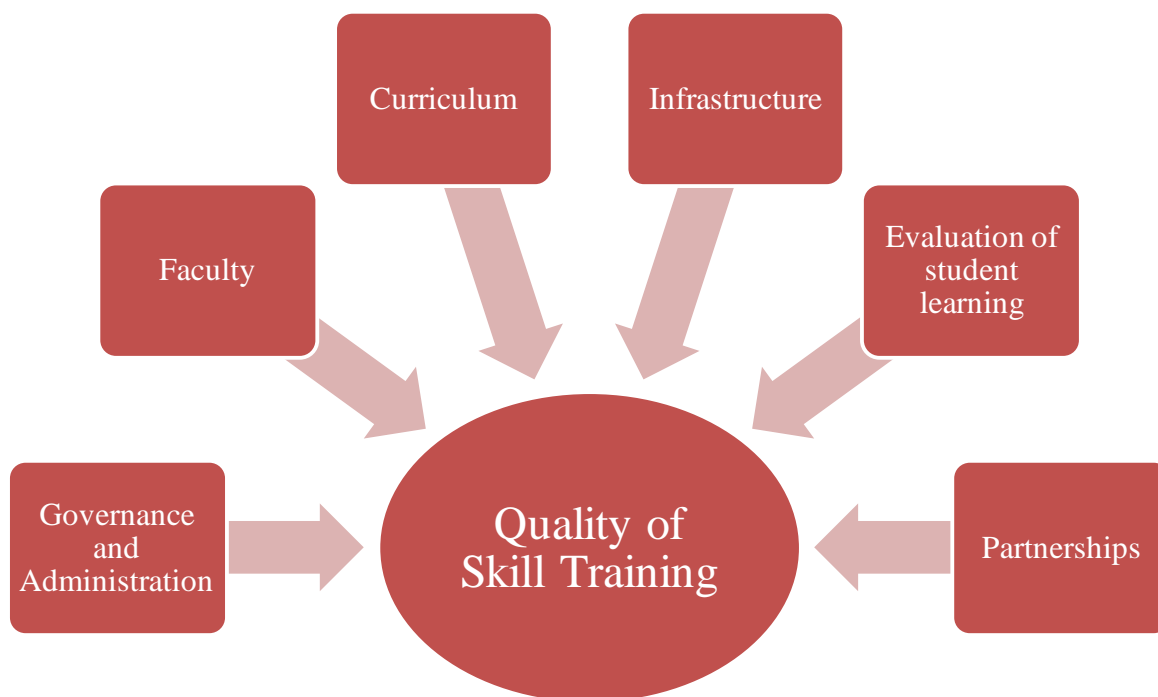
- **Implementing Vocational Education in schools:** Vocational Education in schools should be enhanced. This will present a channel for students to acquire skills, both life skills and industry-specific skills during schooling. The vocational education system should be enhanced from the current 3.2 lakh available under the National Institute of Open Schooling.
- **Creating a large talent pool through Modular Employable Skills:** The MES framework provides a means for multiple-entry and multiple-exit skill development. It brings with it a



flexibility to offer short-term, demand-led courses with partnerships. Increased adoption and will help achieve the required scale in skill development.

- **Ensuring Quality in Delivery:** Quality will have to be driven (as well as be determined) by the following dimensions at the level of each/individual institute/centre:
  - Strong Governance and Administration
  - Adequate and appropriate faculty
  - Current curriculum
  - Relevant infrastructure
  - A defined process for evaluation of student learning from in-gate to out-gate, employment, and employability
  - Rewarding partnerships.

*Figure 8: Determinants of Quality in Skill Training*



Source: IMaCS analysis

- **Employing technology to achieve scale:** Information and Communication Technology (ICT)-led interventions will help achieve *scaleability, standardisation, and maximisation of impact*. ICT can have a role to play in the following areas:

- Need Assessment and Sourcing (through media, internet, community based mobilisation, employer views)
  - Curriculum Design and Development (standardised curriculum which can be easily replicated and offered at multiple locations to aid scale up)
  - Education and Training Delivery (through recorded/interactive teaching input)
  - Assessment and Certification (through e-testing, computer based tests, supporting current theory and practical tests)
  - Placement linkages (employer and student views on demand, centralised placement systems).
- ***Formulation of institutional mechanisms for content formation, delivery, and assessment:*** As the demand for training grows, there will also be a cascading impact on the demand for content, standardised processes for training delivery, uniform assessment practises. These will drive the demand for trainers and assessors which will be a critical bottleneck as other pieces of the ecosystem fall in place. Furthermore, there would be a need for standards and quality processes (quality systems formulation, quality assessment, quality certification/training process certification) as the demand for training grows rapidly. These would require institutional mechanisms, specifying of quality standards and practises.
- ***Expediting the formulation of Sector Skill Councils:*** Given the need to ensure standards, industry involvement and industry led initiatives, it is required to expedite the formulation of Sector Skills Councils. The National Skill Development Policy has proposed the following roles for the Sector Skills Councils:
- Identification of skill development needs
  - Development of a sector skill development plan and maintain skill inventory.
  - Determining skills/competency standards and qualifications.
  - Participation in affiliation, accreditation, examination and certification.
  - Plan and execute Training of Trainers.
  - Promotion of academies of excellence.
- ***Setting up of a National Human Resource Market Information System (a National Skill Exchange):*** The requirement for an ICT-enabled market information system will help both employers and employees provide details on specific demand, as well as where the access to the skilled workforce exists. This should not only be limited to the vocationally skilled workforce but also be made available to the higher skill levels as well.

It is hoped that the above issues will help in transforming the skill development landscape in India as well as in improving and aiding the implementation of quality in skills training.

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