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Management

A BIRD'S EYE VIEW OF INDIA'S SKILL DEVELOPMENT PROGRAMME AND ITS ECO SYSTEM

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ABSTRACT The author tries to bring out A Bird's Eye View of India's Skill Development Programme and its Eco System. Skill development is critical for economic growth and social development. The demographic transition of India makes it imperative to ensure employment opportunities for more than 12 million youths entering working age annually. It is estimated that during the seven-year period of 2005-2012, only 2.7 million net additional jobs were created in the country. To enable employment ready workforce in the future, the youth need to be equipped with necessary skills and education.

KEYWORDS : Skill Development – Additional Employment – Work Force – Challenges – Constraints.

INTRODUCTION

The country presently faces a dual challenge of severe paucity of highly-trained, quality labour, as well as non-employability of large sections of the educated workforce that possess little or no job skills. The skill development issue in India is thus pertinent both at the demand and supply level. To meet the demand side challenge, consistent efforts are being made towards expansion of economic activities and creation of large employment opportunities. On the supply side, a simple look at the projected youth population provides a fair reason to believe that India has the strength to cater to this demand. However, the employability quotient is questionable and remains a major area of concern. Already huge gaps exist between the industry requirements and the level of skills of workers due to varied reasons including inadequate training infrastructures, inappropriate mix of skills and education, outdated curricula, limited industry interfaces, limited standards, etc.

The skill development ecosystem in India is skewed towards a formal education system with limited vocational training. While the vocational training is in a dismal state both qualitatively and quantitatively, the higher education system itself is grappling with issues related to scale and quality.

Moreover, there is a disconnect between the formal education system and work requirements, compounding the challenges related to the skill gap. A concerted action is thus required on the supply side to ensure sustained employability of the Indian youth. Extensive efforts to skill the workforce are required, both in quantity and quality. Transforming the skill development ecosystem and making it responsive to needs of both industry and citizens requires a scalable, efficient and comprehensive vocational training ecosystem to meet future requirements. There is a need to assess the traditional approach of skill development delivery in India in light of the successful models and best practices in other economies. The learnings can be imbibed and custom adopted to address the skill development challenges of India.

The Planning Commission has also envisioned action agenda for various levels of Education and Skill Development in its 11th Five Year Plan, such as:

- Achieving a literacy rate of 80%
- A special focus on Teacher Education
- Usage of Technology/ICT
- Setting up of the National Skill Development Mission, Coordination Board, and National Skill Development Corporation
- Strengthening Private Sector Participation in Education.
- The National Skill Development Policy has set the ambitions target of training about 15 million persons annually.

Keeping these factors in mind, the following sections of this document will review the human resource requirements to meet these ambitions targets. This would pertain to assessing the need for skilled human resource to deliver teaching/training. In other words, we seek to understand the following:

- What are the broad skill requirements, in qualitative terms, in the Education and Skill Development Sector?
- What would be the demand for Education and Skill Development, in terms of enrolment?
- What is the human resource requirement to deliver Education and Skills to the enrolled student population? - i.e., *the demand for teachers and the demand for trainers.*

- **Growing need for Skill Development and Vocational Training:** Besides strengthening the ITI/ITC system, there is also a growing need to increase employability through skill development programmes as evidenced by strong market linkages, institute industry coordination, specialised skill development, continuation of learning, etc. This is applicable to all sections of the workforce right from operators/workers to college-qualified students to junior-mid-and senior level executives. Additionally, there is a growing need for special focus on vocational training and skill development. The Government has duly recognised this in the 'National Skill Development Policy'. The DGET has provided a framework to impart modular skills with focus on need-based-training and acquiring employable skills within a short timeframe (training duration of 3 to 6 months). This is as envisaged by the Modular Employable Skills framework. Private players such as Everonn and Educomp have forayed into the Vocational Training space, and several industries/firms/industry associations have facilitated activity in this area, either directly or indirectly. The demand for Vocational Training is here to stay. This will also fuel the demand for 'trained' teachers/trainers.

Projections of Enrolment:

- **School Education:** By 2022, we expect that over 95% population eligible for school education (in the age group of 5 to 17/18 years) would be enrolled in schools. The enrolment in school education would thus increase from 243 million in 2008 to 298 million in 2022.
- **Higher Education:** We expect that the drop-out (between Class I to X) rate would continue to decline from the current level of 62% to under 45%-50% by 2022. Accordingly, the enrolment into Higher Secondary Education is expected to increase. Along similar lines, we also expect the demand for Higher Education (graduation in colleges and professional course, polytechnics, as well as post-graduation) to increase at a CAGR of 11% to 12% till 2022.
- **Technical/Industrial Training:** Given the need for more ITI/ITC qualified students, as well as the demand for Vocational Training, along with the proposed plans for setting- up many ITIs, we expect that the demand for Technical/Industrial (ITI/ITC) qualified persons would increase at a CAGR of over 10%.
- **Vocational Training:** Apart from ITI/ITCs, there is much need for beefing up the Vocational Training infrastructure. There is demonstrated by the demand for need-based, job-oriented training, which would be implemented under the Modular Employable Skills framework. This would drive the need for Vocational Training Providers, trainers, accredited certifying bodies/agencies, etc. We have projected the demand from human resource requirement in a host of sectors in the industry. The

demand for Vocationally Skilled persons (in addition to ITI/ITC qualified persons) is expected to be anywhere between 25% and 85% of the workforce depending on the nature of the industry. We expect that the requirement for such Vocationally Trained human resource (with skills acquired over a short timeframe and are modular/job-oriented, over and above that of ITI/ITC) would be over 112 million persons between 2008 and 2022, i.e., over 8 million persons annually, in select sectors detailed below. The relative proportion of this requirement (of 112 million persons between 2008 and 2022, and 8 million annually) across key industries.

Table 9: Incremental Human Resource Requirement in Vocational Stream (in '000s)

Sectors; requirements in '000s	2008	2022	Incremental	Proportion in Vocational Stream	Incremental Human Resource Requirement in Vocational Stream	Annual requirement in Vocational Stream
Textiles (Spinning, Fabric Processing, Garmenting)	13,100	29,900	16,800	85%	14,280	1,020
Electronics and IT Hardware	906	4,129	3,223	35%	1,128	81
Leather	2,500	7,139	4,639	85%	3,943	282
Organized Retail	283	17,623	17,340	80%	13,872	991
Gems and Jewellery (including Jewellery Retail)	3,335	7,943	4,608	75%	3,456	247
Building, Construction and Real Estate	35,968	83,270	47,302	70%	33,111	2,365
BFSI	4,250	8,500	4,250	65%	2,763	197
Furniture and Furnishings	1,455	4,873	3,418	80%	2,734	195
Auto and Auto Components	13,000	48,000	35,000	54%	18,900	1,350
Tourism and Hospitality	3,530	7,172	3,642	65%	2,367	169
Food Processing	8,531	17,808	9,277	80%	7,422	530
Construction Materials and Building Hardware	1,140	2,497	1,357	40%	534	39
Chemicals and Pharmaceuticals	1,668	3,546	1,878	25%	470	34
Transportation, Logistics and Warehousing	7,374	25,101	17,727	40%	7,091	506
Total	**97,040**	**267,501**	**170,461**	**66%**	**112,080**	**8,006**

Source: IMaCS analysis

The overall demand for skill development would also be driven by skill requirements in the sectors mentioned above as well as other sectors such as domestic help, beauticians, etc., which are informal in nature. As per the National Policy on Skill Development, it is proposed to develop the capacity to train about 12 to 15 million persons annually.
From the medium-term perspective, the creation of 5,000 Skill Development Centres would create a demand for about 40,000 trainers.

Table: Demand for trainers for Skill Development Centres till 2013

	2010-11	2011-12		2012-13		Total
		H1	H2	H1	H2	
No.of Skill Development Centres	300	900	1,150	1,150	1,500	5,000
No.of trainees required	2,400	7,200	9,200	9,200	12,000	40,000

Source: Discussions with DGET

- **Need for Assessors:** The demand for trainers will also lead to demand for certifying agencies and assessors. Assessors would have to be certified by organisations which have mature quality processes in place for assessment of individuals (such as ISO 17024:2003).

CURRENT AVAILABILITY OF TEACHERS AND TRAINERS

The teacher to student ratio across various educational streams is presented in the following table.

Table 11: Student to Teacher Ratio across Educational Streams in India

Educational Stream	Pupil to Student ratio
Higher Education	26:1
Higher Secondary Schools	34:1
High Schools	32:1
Middle Schools	34:1
Primary Schools	46:1
Schools	38:1

Source: Selected Educational Statistics – 2005,06, Ministry of Human Resource Development, IMaCS analysis

It should be noted that the ratio of students to teachers is much above the recommended norm of 15:1 for Higher Education (currently at 26:1), and acceptable levels of 30:1 / 35:1 in school education, especially Primary Schooling (currently at 46:1).

Keeping in mind the above ratios and the current enrolment, we estimate that the number of teachers (for school education and college education) and trainers (for vocational training) in India is about 7.1 million persons in 2008.

Table 12: Current availability of teachers and trainers (in '000s) - 2008

Category	Currently available (2008) in '000s
Teachers in School Education	6,417
Teachers in Higher Education	692
Trainers fir technical training (ITI/ITCs)	37
Total	**7,146**

Source: Selected Educational Statistics – 2005,06, Ministry of Human Resource Development, IMaCS analysis

PROJECTED DEMAND FOR EDUCATION AND SKILL DEVELOPMENT

Keeping in mind the current enrolment and the projected enrolment based on the earlier discussion, we project the following enrolment in various segments in Education and Skill Development Sector by 2022.

Table 13: Projected Enrolment in Education and Skill Development Sector (in '000s)

Category	Current Enrolment (in '000s) – 2008	Projected Enrolment (in '000s) - 2022
School Education	243,352	297,845
Higher Education	18,244	77,262
Technical Training (ITI/ITCs)	954	4,040

Source: Selected Educational Statistics – 2005,06, Ministry of Human Resource Development, IMaCS analysis

PROJECTED REQUIREMENT FOR TEACHERS AND TRAINERS

While projecting the requirement for teachers and trainers, we should keep in mind that the demand for teachers and trainers would stem from the following:

- Increasing enrolment in different streams of Education
- The need for improving the student to teacher ratio from current levels to about 20:1 / 15:1 for Higher Education and 35:1 / 30:1 for School Education
- The need to build training capacity to train about 12 to 15 million persons annually from a vocational skills perspective, keeping in mind that a portion of the existing workforce would also need to be (re)-trained.

For the additional enrolment projected to occur in School and Higher Education, as well as the need for capacity in Vocational Training (over and above that of ITI/ITC-based training), we project the following incremental requirement for teachers and trainers. It is to be noted that this is the requirement over and above the current available stock of teachers and trainers.

We present the following two scenarios for different student to teacher ratios.

Table 14: Scenario 1 - Incremental requirement for teachers and trainers with a student to teacher ratio of 1:30 for school education and 1:15 for college education and vocational training

Category	Incremental requirement for teachers and trainers (in '000s) between 2008 and 2022
Teachers in School Education	3,511
Teachers in Higher Education	4,458
Trainers for technical training (ITI/ITC)	233
Trainers in other Vocational streams (modular/job oriented/others)	463
Total	**8,664**

Source: IMaCS

Table 15: Scenario 2 - Incremental requirement for teachers and trainers with a student to teacher ratio of 1:35 for school education and 1:20 for college education and vocational training

Category	Incremental requirement for teachers and trainers (in '000s) between 2008 and 2022
Teachers in School Education	2,093
Teachers in Higher Education	3,171
Trainers for Technical Training (ITI/ITC)	165
Trainers in other Vocational Streams (modular/job oriented/others)	375
Total	**5,804**

Source: IMaCS analysis

Keeping in mind changes expected in technology, content delivery, e-enabled learning, etc., we opine that Scenario 2 (with a student to teacher ratio of 1:35 for school education and 1:20 for college education and vocational training) would be a better estimate.

Accordingly, we expect that the incremental human resource requirement for teachers and trainers would be about 5.8 million teachers between 2008 and 2022.

This would translate to an average requirement to train about 415,000 teachers and trainers annually, as shown in the following table.

Table 16: Average annual training requirement for teachers and trainers (in '000s)

Category	Average annual training requirement (on '000s)
Teachers in School Education	149
Teachers in Higher Education	226
Trainers for Technical Training (ITI/ITCs)	12
Trainers in other Vocational/Modular training	27
Total	**415**

Source: IMaCS analysis

The current capacity of teacher training institutes is about 160,000 only. This is against the requirement, going forward, for the capacity to train about 415,000 teachers and trainers annually. It should also be noted that a large portion of the demand arises from School Education, specifically need for Primary Teachers that can be met by 'Para-Teacher Training Programmes' (for the Primary School level). This can be aligned to Basic Teaching Certificate (BTC) Courses. Demand for teachers in higher education, technical education, and vocational training should be met by building capacity for trainers and 'Train the Trainer' initiatives. The demand for vocation skill trainers is alone expected to be about 40,000 annually (including technical trainers).

CONCLUSION

As is evident in the earlier sections, there is an incremental requirement for about 5.8 million teachers and trainers till 2022. A portion of this requirement would be driven by industry demand - as in the case of Vocational Training. Also, there would be an increasing requirement for Higher Education as demonstrated by increase in enrolment rates into Higher Education.

However, despite these initiatives, India would continue to witness significant drop-out rates between Class I-X and Class I-XII, given that the current drop-out rate between Class I-X is as high as 60%. Though this might decline to 45%-50% by 2022, it would continue to remain a challenge. This implies the need to strengthen the 'Vocational Education' stream (which was also mentioned in the earlier sections). Thus it is required to equip those who drop-out of mainstream education with adequate vocational skills and life skills. This would further increase the demand for teachers and trainers from the levels mentioned in this report.

Given this context and the discussions in the earlier sections, it is required that technology and other innovative means of teaching content/training delivery be adopted. Even with these factors in mind, and considering the formal Education and Skill Development/ Vocational Training Sector alone, we expect that the demand for teachers and trainers would continue to the extent of training 415,000 teachers and trainers annually.

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