

## Skill Development: Opportunities & Challenges in India

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### Abstract

India has witnessed rapid growth in recent years, driven by the development of new-age industries. The rise in the purchasing power has resulted in the demand for a new level of quality of service. With the changing economic environment, it is essential to focus on imparting and promoting the skill sets of the young population of India as the countries with advanced and improved levels of skills adjust more effectively to the opportunities and challenges of world of work. In spite of the emphatic stress laid on education and training in India, there is still a shortage of skilled manpower to address the rising needs and demands of the economy. This study attempts to come up with the suggestions to minimize the existing differences in the demand and supply of skills in the Indian economy. The approach adopted involves analyzing the skill gap and appraising the existing skill development initiatives in India. It further explores the challenges facing the skills development system in India & proposes solutions that could be adopted to resolve such challenges.

**Keywords:** Skill gap; skilled manpower; skill development initiatives.

### 1. Introduction

In the globalized economy, with the rise in competition, workers are required to have higher levels of skills and knowledge which will enable them to complete their tasks efficiently so as to meet the required quality standards and increase the efficiency of the value chain process as a whole. Due to the rapid technological changes, and rising complexity of economic activity, jobs are increasingly becoming skill-intensive leading to skill shortages and thus unemployment. Thus it is required to reform the training and education system so as to upgrade the skills of the workforce in order to facilitate them in applying and diffusing the newly adopted technologies. Such challenges are greater for developing countries like India, which needs more skilled workforce to attract foreign direct investments (FDI), expand foreign trade, and thereby stimulating industrial and economic development.

Skills and knowledge are the driving forces of economic and social development for any nation. Economies with higher and better levels of skills respond more effectively to the opportunities & challenges of the world of work. (GOI, 2009). Skill may be defined as the set of competencies essential to carry out the required tasks in the most efficient way while maintaining the agreed set of quality standards. Skill development is a way to empower the workforce with the necessary skills, knowledge through vocational or technical training to meet the industry requirements and to ensure competitiveness in the dynamic global market (Maclean, 2013).

Skills may be broadly classified into hard skills and soft skills. Hard skills are the technical abilities related to an organization's core business e.g. operating machinery, computer protocols, financial procedures, safety standards, and sales administration. Such skills are typically easy to observe, quantify & measure and can be methodically taught. In contrast,

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soft skills are the personal characteristics of an individual that cannot be quantified, e.g. communicating, listening, giving feedback, problem solving, resolving conflicts etc. They are applicable in all settings i.e. work places as well as everyday lives (Rao, 2010).

According to National Skill Development Corporation (NSDC) – India, skills can be classified into four levels based on the degree and duration of training required. Skill Level 1 (Semi skilled) refers to skills that can be acquired through short-term courses, focused interventions and on-the-job training. Skill Level 2 (Skilled) refers to skills that are specific to the occupation and can be acquired through technical or vocational training. Skill Level 3 (Highly Skilled) refers to skills involved in highly technical or commercial operations and can be acquired through degrees, diplomas and post graduate education. Skill Level 4 (Highly skilled with specialization) refers to the skills with high specialization involving research and design that can be acquired through doctorate or many years of work experience.

## **2. Skill Gap Analysis**

A skill gap is a considerable gap between the skills required by the workforce and their current capabilities. In India, enormous skills gap exists between what industries demand based on the rapid economic growth and the skills that young people acquire through education and training. This demand-supply gap not only affects the economic growth, but also prevents the inclusive growth of the economy as a whole. Hence, it is the responsibility of the government to be aware of such skill gaps and take new initiatives for bridging those gaps in order to ensure inclusive growth.

### **2.1 Demand for Skills**

India has classified and tracked its economy into three sectors – agriculture sector, industry sector and service sector. Agriculture sector includes crops, sericulture, horticulture, milk and animal husbandry, fishing, aquaculture, forestry etc. Industry includes diverse manufacturing sub-sectors. Service sector includes software, IT, construction, retail, hospitality, communications, health care, education, banking, insurance and other economic activities (Agrawal & Bhatt, 2011).

In India, the percentage of the population employed in agriculture sector is likely to decline to 40% by 2020. The movement of the workforce to industry and service sectors is a tendency that is anticipated to persist in India since these sectors have the maximum potential for job creation. NSDC projects that by 2022, the demand for skilled workforce will be greatest in the automobile, construction, textile and transportation industries. Table 1 shows the estimates for the major sector/industry-wise skilled manpower requirements in 2022. It can be seen that the skilled manpower requirement is not only restricted to traditional sectors like auto & BFSI but also to other rising sectors like organized retail.

### **2.2 The Supply of Skills**

India is a country with the population of over 1.2 billion people and it is expected to become one of the most populous countries by 2025, with a population of around 1.4 billion (Dhar 2013). According to a research by Boston Consulting Group, it is estimated that by 2020, India will have a surplus of active population (in the working age 15-59 years) - about 60% of total population (Duggal, 2014). By 2026, around 64% of the population of India is expected to be in the category of active population (age bracket of 15–59 years), with merely 13% aged above 60 years. This phenomenon for an economy when majority of its population is active is referred as the stage of reaping the demographic dividend. India is poised to

become the youngest country of the world by 2020 and the average would be 29 years which would be around 28% of the world’s workforce. During this phase, India will have a remarkable percentage of the total population available for working and contributing towards Gross Domestic Product. While in the same period, the average age of the population in China and US is expected to be 37 years and in Western Europe, it would be 45 years. Thus, such demographic potential offers India an unprecedented edge over other western economies and India is expected to enjoy the benefit until 2040 (Planning Commission, 2013a). Such increasing percentage of active population will provide India an opportunity to improve labour productivity, boost production and within the next 10–15 years, position itself among the developed countries of the world (Chenoy, 2012).

**Table 1: Incremental Skilled Manpower Requirement in India - 2022**

S. No.	Sectors/Industries	Skilled Manpower Requirement (in millions)
1	Building and Construction Industry	33
2	Real Estate Services	14
3	Gem and Jewellery	4.6
4	Leather and Leather Goods	4.6
5	Organized Retails	17.3
6	Textile and Clothing	26.2
7	Electronic and IT Hardware	3.3
8	Auto and Auto Components	35
9	IT and ITES	5.3
10	Banking, Finance Services and Insurance	4.2
11	Furniture and Furnishing	3.4
12	Infrastructure Structure	103
13	Tourism and Hospitality Services	3.6
14	Construction Material and Building Hardware	1.4
15	Chemicals and Pharmaceuticals	1.9
16	Food Processing	9.3
17	Healthcare	12.7
18	Transportation and Logistics	17.7
19	Media and Entertainment	3
20	Education and Skill Development Services	5.8
21	Select Informal Employment Sectors (Domestic Help, Beauticians, Facility Management, Security Guards)	37.6
	<b>Total Incremental Requirement</b>	<b>347</b>

Source: National Skill Development Corporation

With over 650 universities and around 35,539 allied colleges enrolling more than 20 million students per year, Indian has huge educational infrastructure to provide higher education and training to youth as shown in Table 2.

**Table 2: Higher Education Institutions (Universities and Colleges) in India**

Type of Institution	Number
Central Universities	45
State Universities	321
Deemed Universities (Private or Public)	129
Private Universities	187
Institution of National Importance (Public)	67
Affiliated Colleges (Public or Private)	35,539

Source: UGC

In India, most of the formal skills-related training is given through the government or private Industrial Training Institutes (ITIs). These are the training institutes which provide training in technical fields and are constituted under Directorate General of Employment & Training (DGET). Table 3 shows State-wise Number of Government/Private Industrial Training Institutes (ITIs) with Seating Capacity in India and it can be clearly seen that they have the capacity to train 1552452 students per year.

As it is seen, Indian education & training system has a huge potential for skill development. At present the enrolment capacity of higher education system of India is around 20 million but limiting this to the technical and vocational qualification, mainly comprising of ITI/ITC Engineering, Polytechnics, the country has a total training capacity of around 4.3 million million. (Planning Commission, 2013b).

### 2.3 Demand-Supply Gap

NSDC has projected an incremental requirement of 347 million skilled personnel in 21 high-growth sectors in India by 2022 (Table 1) but the country is faced with a significant skill development challenge as over the next decade, every year approximately 12 million people are expected to join the workforce. In contrast, the country has a total training capacity of around 4.3 million, which is just 36% of the entrants and thus depriving every year around 64% newcomers of the opportunity of the skill development training. Evidently, India will face a great challenge of bridging this gap and developing skills of its increasing workforce over the next few decades.

## 3. Skill Development Initiatives in India

Government of India has recognized the need for a well-defined framework for skill development and has formed various organizations at national and state levels to take the responsibility of skill development. A number of agencies — national agencies, 17 ministries, several sector skill councils (SSCs), 35 state skill development missions, and some other industry bodies are functioning to achieve the national skill development mission.

### 3.1 National Skill Development Initiative in India

National Skill Development Initiative in India has a mission to empower all individuals through improved knowledge, skills, and qualifications which are recognized nationally and

internationally with a view to gain access to satisfactory employment and fortify India’s competitiveness in the global market. A three-tier institutional structure has been set up in India to promote the Skill Development Mission in India.

**Table 3: State-wise Number of Government/Private ITIs with Seating Capacity in India (As on 14.07.2014)**

States/UTs	No. of Govt. ITIs	Seating Capacity (Govt.)	No. of Pvt. ITIs	Seating Capacity (Pvt.)	Total No. of ITIs	Total Seating Capacity
Andaman and Nicobar	1	273	0	0	1	273
Andhra Pradesh	148	28590	594	119796	742	148386
Arunachal Pradesh	5	512	1	96	6	608
Assam	30	5776	4	288	34	6064
Bihar	34	11433	657	92329	691	103762
Chandigarh	2	968	0	0	2	968
Chhattisgarh	92	11248	62	7072	154	18320
Dadra and Nagar Haveli	1	228	0	0	1	228
Daman and Diu	2	388	0	0	2	388
Delhi	16	11132	62	5052	78	16184
Goa	10	3264	5	412	15	3676
Gujarat	157	57804	394	24360	551	82164
Haryana	90	23752	108	11880	198	35632
Himachal Pradesh	75	11924	131	12140	206	24064
Jammu and Kashmir	37	4087	1	110	38	4197
Jharkhand	20	4672	166	36664	186	41336
Karnataka	179	30914	1291	102798	1470	133712
Kerala	40	16476	488	53914	528	70390
Lakshadweep	1	96	0	0	1	96
Madhya Pradesh	173	26158	268	31970	441	58128
Maharashtra	390	108744	419	50468	809	159212
Manipur	7	540	0	0	7	540
Meghalaya	5	622	2	320	7	942
Mizoram	1	294	0	0	1	294
Nagaland	8	944	0	0	8	944
Odisha	29	13952	590	100036	619	113988
Puducherry	8	1432	9	508	17	1940
Punjab	98	21364	251	32864	349	54228
Rajasthan	115	15728	990	124175	1105	139903
Sikkim	4	580	0	0	4	580
Tamil Nadu	61	23288	656	67982	717	91270
Tripura	12	1792	1	96	13	1888
Uttar Pradesh	315	32460	1462	172610	1777	205070
Uttarakhand	59	7147	52	5110	111	12257
West Bengal	52	13836	60	6984	112	20820
<b>India</b>	<b>2277</b>	<b>492418</b>	<b>8724</b>	<b>1060034</b>	<b>11001</b>	<b>1552452</b>

Source: Ministry of Human Resource Development, Government of India.

**Prime Minister’s National Council on Skill Development**

The apex coordinating institution, Prime Minister’s National Council on Skill Development, was set up for policy direction and review. This council is chaired by the Prime Minister with ministers for Human Resource Development, Finance, Rural Development, Heavy Industries, Labour & Employment and Housing & Urban Poverty Alleviation as members. The Council has a vision of generating 500 million skilled people by 2022 through skill systems, which must be dynamic and highly inclusive. The Council is responsible to lay down the policy objective, governance models, financing and strategies related to skill development. It also reviews the development of the plan and directs the mid-course correction, manages the inclusion and termination of any section or entire programme or scheme, and coordinates the initiatives of public/private.

**National Skill Development Coordination Board (NSDCB)**

The NSDCB chaired by the Deputy Chairman (Planning Commission) would assist the Prime Minister’s National Council and coordinate the action for skill development. The responsibility of the board is to specify the strategies for implementing the decisions of the Council on skill development and formulate suitable operational guidelines to meet the objectives of skill development. It is expected to develop strategies and solutions to tackle the various issues related to regional imbalances, socioeconomic concerns, shortage of quality teachers, gender divides and develop a framework of institutionalize such measures. The board evaluates the regional skill gaps and formulate action plans to bridge such gaps. It also facilitates and coordinates to reposition the employment exchanges as the outreach points for accumulating and providing information on skill development and employment and promote them to function as career counselling centres. The board is also responsible to check, assess, and evaluate the outcomes of the various skill development programmes and intimate the Prime Minister’s National Council on skill development about the same.

**National Skill Development Corporation (NSDC)**

The third tier of the institutional set-up on skill development is National Skill Development Corporation, which is a non-profit company with a suitable governance structure under the Companies Act. It operates as a public-private partnership (PPP) including industry alliances and corporate representatives to develop the training institutions and improve the delivery of vocational training. As decreed by the National Policy on Skill Development, NSDC is expected to formulate periodic and annual reports of its strategies and actions and place them in the public domain. NSDC is also supposed to meet the requirements of the labour market, along with the needs of the unorganized sector. The Central Government had formed a National Skill Development Fund with an initial investment of Rs 995.10 crore for aiding the activities of NSDC and it is also intended to gather capital from central & state government, public and private sectors. NSDC has a vision to train about 150 million people by 2022 under the National Skill Development Policy.

**National Policy on Skill Development**

As the Government of India has set a target of skilling 500 million people by 2022, so in order to realize this, the Ministry of Labour & Employment has formulated a National Policy on Skill Development. The Policy outlined the roles that different stakeholders i.e. central and state government, industries, trade unions, and the society would need to play for the establishment of a skill culture in India. The Policy specified that the government should complement the initiatives of skill development in private sector and emphasized the need of short-term and industry-relevant courses. Moreover it advocated that infrastructure should be developed for apprenticeship and on-the job trainings and existing employment exchanges be

reformed into career guidance centres to channelize the applicants to training, apprenticeships and jobs. The Policy also called for the establishment of an effective evaluation and reliable certification system and publicizing information on the outcome of training institutions to ensure transparency.

### 3.2 Nodal Ministries

At present, 17 ministries of the Indian Government are undertaking the skill development initiatives, with a collective target of developing 530 million skilled people by 2022 (Table 4). Among these, the Ministry of Human Resource Development (MoHRD) and the Ministry of Labour and Employment (MoL&E) are the nodal ministries for skill development which play a significant role in overseeing the various divisions of the Skill Development Mission. All aspects of higher education including vocational courses, come under the responsibilities of the Ministry of HRD whereas, the vocational training infrastructure, including government and private Industrial Training Institutes (ITIs) comes under the Ministry of Labour and Employment’s Directorate General of Employment and Training (DGET).

**Table 4: Target no. of Trained Persons under Skill Development Initiative in India-2022**

Ministries/Departments/Organizations	Target/Projected No. of Trained Persons (in millions)
National Skill Development Corporation	150
Labour and Employment	100
Tourism	5
Textiles	10
Transport	30
Tribal Affairs	-
Rural Development (RUDSETI) and IL and FS	20
Women and Child Welfare	10
Agriculture	20
HRD Higher Education, HRD Vocational Education	50
Dept of Heavy Industry	10
Urban Development	15
Department of Information Technology	10
Food Processing Industries	5
Construction Industry Development Council (Under Planning Commission)	20
Health and Family Welfare	10
Micro Small Medium Enterprise	15
Social Justice and Empowerment	5
Overseas Indian Affairs	5
Finance-Insurance/Banking	10
Consumer Affairs	10
Chemicals and Fertilizers	5
Others (Power, Petroleum etc.)	15
<b>Total</b>	<b>530</b>

Source: National Skill Development Policy, Ministry of Labour, Government of India

### 3.3 State Skill Development Missions

Majority of the state governments or union territories have formed their own State Skill Development Missions (SSDMs) for focused skill development in their respective states. SSDMs play an essential role in promoting skill development by identifying the main sectors for creation of jobs and working with appropriate government institutions and industry & private training organizations. Each state has implemented a SSDM framework that best fits its state level requirements and the vision for skill development. While some states have formed their SSDM as a corporation under the Chief Secretary or Chief Minister, others have placed it under the appropriate state government departments such as human resource development, labour or planning. In addition to this, some state governments have started allocating budget and setting yearly targets for skill development.

## 4. Challenges

**Inadequate Infrastructure:** NSDC has predicted an incremental requirement of 347 million skilled personnel in India by 2022 but the country is faced with a significant skill development challenge as over the next decade, every year approximately 12 million people are expected to join the workforce. In contrast, the country has a total training capacity of around 4.3 million, thus depriving every year around 64% newcomers of the opportunity of the skill development training. It is a major challenge of devising such huge infrastructure setup to bridge this gap.

**Low industry interface:** Industry-interface is very essential for any education/training institute as it helps in the assessment of demand for skills in the local area/region and thus updating of course content, Industry linkages have an important role in helping an educational/ training institute to build a strong image in the minds of the students as it ensures them that the course curriculum is in relevance with the practical industry requirements. Most of the training institutes have low industry interface as a result of which the performance of the skill development sector is poor in terms of placement records and salaries offered.

**Low Student Mobilization:** The enrolment in skill institutes like ITIs, and polytechnics, remains low as compared to their enrolment capacity. Main reason for this problem is the student mobilization to get trained due to the orthodox thinking, reluctant to migrate and low salaries at entry level. Vocational training is not considered desirable by the students and they prefer a regular degree because it is more valued than a certificate, other things being equal.

**Direct admission without assessment:** One of the major causes for low quality of training is the low frequency of pre-assessment or entrance tests before admitting students to the skill training institutes. Randomly choosing training courses may lead to a mismatch between the interests and the abilities of the students as a result of which students are unable to cope with the course requirements and thus drop-outs occur.

**Lack of standardization:** There is no standardization of the course curriculum or training delivery systems due to which it is not possible to compare courses across different training institutes which also creates ambiguity among the student about skills which will be imparted under a particular course at some training institute. There is a lack of standardized approach for measuring and evaluating the competence outcomes.

**Skills Relevance:** The course curriculum of some of the courses of skill institutes do not provide training that matches the industry requirements due to which they have poor



placement records. Thus such outdated and inflexible curriculum makes some training programs completely redundant leading to supply of specific skills exceeding their demand. Regularly updating the course curriculum and accordingly upgrading training infrastructure is complex and expensive.

**Career Counseling:** There is a lack of proper career guidance to the students due to the inadequate placement statistics and weak industry linkages of the training institutes. The institutes are often set up in rural areas but the jobs offered to the trainees are in urban areas. The absence of information on the nature and location of the job leads to uninformed skill acquisition choices.

**High Cost:** The cost of the training is high which is not affordable by many of the students aspiring for training. According to the estimates of Planning Commission, around 80% of the individuals who enter the workforce don't have the opportunity for training. Moreover, due to unsatisfactory placement records and low salary offers after the training completion, high training cost does not appeal the target population.

## 5. Recommendations

Based on the analysis, the following recommendations are made to improve the quality of training and to reduce the skill gap in India.

**Evaluation of Training Institutes:** There is an urgent need to provide quality training to the students so enhance their employability. In addition to providing grants to training institutes, NSDC should also develop some techniques to evaluate the performance of such institutes and encourage them to perform better. One such initiative can be to provide incentives to the training institutes based on their performance which can be evaluated based on certain criteria e.g. total number of students placed with acceptable salary packages, industry. Financial assistance can also be provided to such institutes. This will help in increasing competition among the institutes to provide quality training and to get more and more students placed.

**Skills survey:** In order to bridge the gap between the demand and supply of the skills, it is necessary to find out the main causes for this gap. Surveys can be conducted to find the exact skill requirement from the employers. Analysis of such surveys would help in designing course structures of the training programs and thus standardized course curriculum or training delivery systems can be developed.

**Enlighten students:** Students should be made aware of the existing training institutes, courses offered and career opportunities after course completion. Such information can be made available through newspapers, magazines or centralized portals which list all the recognized institutes, courses offered, placement records along with the institute ranking. This will help the students to choose the right institute and course based on their interests and demand in the market. Moreover it will also help in keeping a check on the fraudulent institutes which are cheating students and are not credible.

## 6. Conclusion

The purpose of this study was to examine the opportunities and challenges of skill development in India. An attempt is made to analyze the skill gap and finding of the study clearly reveals that India will face a major challenge of bridging the skill gap over the next few decades. Though Government of India has recognized the need for a well-defined

framework for skill development and has formed various organizations at national and state levels to take the responsibility of skill development, still there is a need to put lot more effort to develop skill culture in India. Skill gap can have a serious impact, not only on the employers, but also on the economy as a whole. One of the major concerns is the loss of productivity and revenues as the many of the jobs remain vacant for significant time due to lack of skilled labour. The study highlights how serious it is for the government and other stake holders to work together in order to create skilled workforce to bridge the skill gap and boost the economic growth.



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