



e-ISSN: 2319-8753 | p-ISSN: 2320-6710

IJIRSET

International Journal of Innovative Research in
SCIENCE | ENGINEERING | TECHNOLOGY



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 10, Issue 6, June 2021

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 7.512



9940 572 462



6381 907 438



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An Insight into the Historical Evolution and Challenges of Skill Development in India

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ABSTRACT : In today's age of globalization and technological volatility, skill building is an important tool to enhance the efficacy and quality of Labour for improved productivity and economic growth. Skill building is a powerful tool to empower individuals and improve their social acceptance. Skills and knowledge development are the driving forces behind the financial growth and community development of any economy. The history of post-independent India is privy to the emergence of dedicated technical and vocational institutions generally catering to the manufacturing and trading sectors in 1969 which was followed by continuous moves to establish skill-development centres right through 1980's and 1990's. The era of reforms created a scenario conducive to institutions enhancing skill development in India. India is today one of the youngest nations in the world with more than 62% of the population in the working age group (15-59 years) and more than 54% of the population below 25 years of age. However, only 2% of the total employees in India have completed Skill development training. In the era of hyper globalization, India needs to strengthen its foothold in the world economy. To do so, it needs to focus on the the resource it is abundantly endowed with, human resource. With the huge population base of around 1.39 billion, India needs to take inclusive growth and skill development as strategies to push through the rapidly evolving global scenario.

In the light of the above, this paper attempts to gain an insight into: a) the historical evolution of skill-development in post-independent India b) the challenges faced by skill-development in India and the role of National Skill Development Corporation (NSDC) c) International collaborations and the way forward especially with reference to India International Skill Centre (IISC).

KEYWORDS: Skill-development, Human resource, Vocational training, NSDC, IISC

I. INTRODUCTION

Skill development is a process of identifying the skill gap and ensuring the development of those skills. The skills determine the ability of an individual to execute plans and achieve goals. Organizations that encourage skill development have a stronger workforce and motivated employees with higher productivity. Skills can be classified into hard skills (which are knowledge based like expertise in a subject, certification and technical skills) and soft skills (which are personality traits like interpersonal skills, communication skills, flexibility, patience, problem solving and decision making). A balance between hard and soft skills is mandatory for success in personal and professional life. Global trends such as rising role of technology, climatic change, demographic shifts, urbanization and globalization of value chains are changing the nature of work and skill demands. To succeed in the 21st Century labour market, World Bank has identified a comprehensive skill set comprising- **Cognitive skills**, which encompass the ability to understand complex ideas, adapt effectively to the environment, learn from experience, and reason. Foundational literacy and numeracy as well as creativity, critical thinking, and problem-solving are cognitive skills. **Socio-emotional skills**, which describe the ability to navigate interpersonal and social situations effectively, and include leadership, teamwork, self-control, and grit. **Technical skills**, which refer to the acquired knowledge, expertise, and interactions needed to perform a specific task, including the mastery of required materials, tools, or technologies. **Digital skills**, which are cross-cutting and draw on all of the above skills, and describe the ability to access, manage, understand, integrate, communicate, evaluate, and create information safely and appropriately.

The development of skills can contribute to structural transformation and economic growth by enhancing employability and labor productivity and helping countries to become more competitive. Investment in a high-quality workforce can create a virtuous cycle, where relevant and quality skills enable productivity growth and foreign direct investment, which result in more and better jobs for the current workforce and more public and private investment in the education and training system. This, in turn, increases the employability and productivity for both the current and future workforce.



The key issues countries need to tackle for skills development are:

Access and completion-Across the world, investments in education and skills development-from preschool through post-secondary education to vocational training-have high returns. Still, provision of equitable access is a challenge in many low-income and middle-income countries. Furthermore, many students who manage to enroll in education or training programs do not complete their studies and miss out on obtaining formal qualifications, which can dramatically reduce the return on the educational investments in terms of lifetime earning potential.

Quality- Many young people attend schools without acquiring basic literacy skills, leaving them unable to compete in the job market. For those who access technical and vocational training at secondary and post-secondary levels, returns can vary substantially by specialization and institution. In particular, technical and vocational training (TVET) systems in many countries face challenges related to quality assurance, resulting in perceptions of the vocational track being a second-best option compared to general secondary or tertiary education.

Relevance-Technical and vocational education and training -which can last anywhere from six months to three years- can give young people, especially women, the skills to compete for better paying jobs. Nevertheless, more needs to be done in terms of engaging local employers to ensure that the curriculum and delivery of these programs responds to labor market needs.

Efficiency- Challenges related to governance, financing, and quality assurance also impact the efficiency of skills development programs. The resulting unnecessarily high costs can limit opportunities for disadvantaged youth and adults to access these programs.

Skill development in India- The demographic transition of India makes it imperative to ensure employment opportunities for more than 12 million young entering working age annually. It is estimated that during 2005-2012, only 2.7 million net additional jobs were created in the country. 62% of India's population is in the working age group (15-59 years) and more than 54% of the total population is below 25 years of age. It was estimated that by 2020, the average age of population of India would be 29 years as against 40 years in the US, 46 in Europe and 47 in Japan. Thus, a "young nation" is the new tag for India. 70 million additional individuals of working age are expected to enter the labour force by 2023. To enable employment ready workforce in future, the youth need to be equipped with necessary skills and education. India thus, needs to take inclusive growth and skill development as strategies to push through the rapidly evolving global scenario.

II. HISTORICAL EVOLUTION OF SKILL DEVELOPMENT IN INDIA

Post-independence, India focused initially on the establishment of a formal Technical and Vocational Education and Training (TVET) Sector with dedicated technical and vocational institutions generally catering to manufacturing and engineering trades. Ministry of Labour and Employment, Government of India in 1969 marked the beginning of the current era of vocational education and skill training by setting up the first Industrial Training Institute (ITI). This was preceded by the establishment of the Central Staff Training and Research Institute (CSTARI) in Kolkata the year before. 1980's and 1990's saw similar moves to formalize and regulate TVET institutions. In 1987, the All-India Council of Technical Education (AICTE) Act became the official regulator and funder of polytechnics and technical colleges. In 1993, National Council of Educational Research and Training (NCERT) established the Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE) for vocational education in the school's sector. With the economic reforms of 1990's, new sectors grew rapidly in India namely, IT industry and services.

The IT industry was well served by the higher-level technical institutions. However, the relative slowdown in the manufacturing and engineering sectors (except Construction) and rapid growth of services sector meant that a significant amount of employment for skilled and semi-skilled workers was no longer in the traditional trades. This led to a paradigm shift in 2009. The need to rapidly expand the capacity of skills training sector was recognized and a significant effort was made to bring more private sector organizations into the system. The National Skill Development Corporation (NSDC) was established as a public-private organization. Its main aim was to provide viability gap funding to private sector in order to scale up training capacity. It has been entrusted to set up Sector Skill Councils (SSCs) ensuring right representation of employers and to extend financial support to operationalize them. The mandate was capacity building and identifying best practices to create an excellence model. The 1st NSDC policy was set out with the vision for National Qualification Framework (NQF) and the creation of a unified competence-based training



system. Thus, a number of programmes were initiated viz. State Skill Development Missions (SSDM), Skill Development Initiative Modular Employability Scheme (SDIMES), The Aajeevika programme and others supported by NSDC.

The creation of new Ministry for Skill Development and Entrepreneurship (MSDE) in 2014 has been the unifying force for the sector. In 2015, the Skill India initiative was launched to train over 400 million people in different skills by 2022.

The five major pillars of skill development in India are-

Directorate General for Training

NSDC affiliated organizations

AICTE affiliated organizations

Senior Secondary Schools

Private unaided training providers

III. CHALLENGES

As structural, demographic and technological shifts transform the Indian Economy and the nature of work, new entrants to the labour force have to be skilled and made employable.

There have been three major challenges to skills development in India: expanding public sector collaboration with industry and the private sector, creating pathways for international mobility and addressing women's low participation in the labour force.

Industry and private sector collaboration

A crucial strategic pillar for India has been creating avenues for private sector engagement. Market failures primarily informational asymmetries and externalities play a major role here. While the former involves a skilled person knowing his/her skills but the potential employer being unaware of the same, the latter emerges from the resources an employer spends on an employee to develop skills and that person quits the job. To handle informational asymmetries, Recognition of Prior Learning (RPL) is an intervention. Externalities like the one mentioned above need Government intervention. Firms may not have the incentive to invest in labour but the labour themselves will surely have.

India has encouraged a variety of skill development models- Govt. Funded programmes that fully or partially subsidize training /apprenticeships, market-led trainings (where trainees pay for the course), market-led apprenticeships and industry-led/on-the-job training. A vast segment of informal workers in India, many of whom possess skills that have been formally recognised, need RPL interventions-holding a formal certification.

In a third-party evaluation of the RPL component of the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) conducted by Sambodhi Research and Communications, 75% of RPL-certified individuals said they were more prepared for their current job and 79% said that the programme has made them more confident about getting a better job.

The same analysis suggests the monthly incomes of RPL-certified individuals were on average 19% higher than those who had not been RPL-certified. An average increase of 25% in income after certification was reported.

Analysis of an as yet unpublished household survey conducted by the Centre of Monitoring Indian Economy (CMIE) suggests there are more than 390 million individuals who have acquired skills informally – through self-learning, on-the-job learning, inherited skills or other sources. Of these, a majority (384 million) are working, showing the scope for RPL and apprenticeship-related interventions.

Encouraging international mobility

India is committed to becoming the “skill capital” of the world and structured efforts such as the India International Skill Centre (IISC) programme are evidence of this. A new, market-driven IISC network has been proposed to counsel and guide potential emigrants with a focus on skills tests, upskilling, language and pre-departure orientation. Furthermore, the governments of India and Japan are cooperating to implement Japan's Technical Intern Training



Programme (TITP), an on-the-job training scheme providing three to five years of internship opportunities for foreign nationals in Japan, with NSDC as the implementing organization.

Technical collaborations have been undertaken with countries such as the UK, Australia and the UAE for benchmarking and mutual recognition of standards. Government-to-government and B2B partnerships are also being developed for new markets such as those in Western Europe, Canada, Australia and East Asia to increase the mobility of blue and white-collar Indian workers.

Women's participation in the labour force

A third focus area for us is addressing the challenge of low female participation in the labour force. Our analysis of labour force survey data suggests that of the country's labour force of 395.2 million, only 91.6 million are women.

Skilling initiatives – complemented by a wider push towards empowerment through gender sensitization, creation of economic opportunities and economic and social support – can be used to raise this number. Providing residential facilities for women trainees, embedding mentoring and coaching in skills programmes and providing social support through mechanisms such as local workshops have all been explored. Our progress so far in terms of creating access to skill development for women has been positive. More than 50% of the candidates trained under Pradhan Mantri Kaushal Vikas Yojana (PMKVY) are women. A significant number of women have also been trained in unconventional roles, such as in the electronics and hardware sectors. On our paid courses, women account for 40% of trained candidates. Here too women are increasingly enrolling for unconventional job roles, such as field technician, organic grower and automation specialist. Several training providers in our system focus exclusively on women and are promoting skill training in areas including digital and financial literacy, entrepreneurship, website design, 2D and 3D design, hardware repair and farm management. Partnerships with industry to support women-centric projects in non-traditional trades have also been explored.

MSDE's policy interventions have translated into concrete programmes of action - which address four major skills challenges - namely: scale, quality, employability and aspirations.

Achieving Scale in Long-Term and Short-Term Skilling Systems

Overall, there has been significant capacity addition for long term trainings in ITIs between May 2014 - May 2017. For example, there has been a 24% increase in the number of ITIs, from 10,750 in May 2014 to 13,353 in May 2017. The total number of seats in ITIs has increased by 44% 19.82 lakh seats in May 2014 to 28.52 lakhs seats in May 2017. There has also been a 26% increase in enrolments of students in ITIs, from 17.80 lakh in 2013-2014 to 22.4 lakh in 2016-2017.

Short-term fee-based trainings through NSDC, have also scaled up. The number of training centres has increased by 85.9% between May 2014 and May 2017. There has been a substantial (71%) increase in the total number of candidates trained from 2013-2014 to 2016-2017. There has also been an improvement in placement rate, by 65% for fee-based courses and 12% for PMKVY courses during the same period.

Enhancing Quality Several interventions have been introduced in both short term and long-term skills training systems to enhance the quality of training. This includes the following:

Grading: A robust grading system (based on 43 grading parameters) has been introduced in ITIs, to differentiate between performing and non-performing ITIs. Grading parameters include a focus on training outcomes, quality of infrastructure, industry connect etc. A grading system has also been introduced for the first time, in the short-term skill training ecosystem. This will take place through the newly established Skill Management and Accreditation of Training Centres (SMART) Portal.

Strengthening of accreditation and affiliation norms: Comprehensive ITI accreditation and affiliation norms have been created and released, for the first time.

Extensive curriculum reforms have been undertaken: 63 curricula have been upgraded through active consultations with industry. 35 new Trades have been introduced, with a focus on emerging fields such as: Renewable Energy, Mechatronics, and Instrumentation, where there is likely to be an increased demand in the future. Similarly, in the short-term training ecosystem, model curriculum for 405 courses and content for 252 courses has been standardized.



Improving Employability

Industry connect is vital at every stage of the skill training cycle, to ensure that young people who enroll in skill training programmes become and remain employable. Some of MSDE's initiatives in this area include: At the statutory level, comprehensive reforms have been introduced under Apprentices Act, 1961 (effective from 22nd December, 2014). Key reforms include: Increasing the upper limit for apprenticeship to 10%, Introduction of optional trade pathway, Extending the scope of apprenticeships to the service sector, Rationalization of penalties for employers, Launch of National Apprenticeship Promotion Scheme (NAPS): This new scheme aims to catalyze apprenticeship. It includes: incentivizing employers to onboard apprentices, online and transparent system of operations, integration with other skill development programs, better communication and outreach strategy. NAPS has catalyzed interest of both industry and trainees towards apprenticeship promotion.

Making Skills Training Aspirational for the Youth

The Ministry is also working towards making skills training an aspirational career choice among young people, through two strategies. The first strategy focuses on addressing the cultural mindset, which makes skills training a default option, rather than an active choice amongst youth. This includes: skills competitions, job melas, mobilization camps, awards etc. New training initiatives are also now aligned closely with the aspirations of youth. For example, the Ministry's India International Skills Centre programme, seeks to provides skills training at global standards to youth who aspire to work overseas. The Pradhan Mantri Kaushal Kendra (PMKK) initiative aims to create model, aspirational, state of the art skill training centres in every district of the country, opening up access to high quality training facilities to youth across the country. The second strategy focuses on creating vertical and horizontal progression pathways, between formal and vocational education streams (through equivalence frameworks). This will connect the formal and vocational education streams - creating new career pathways for young people.

Formalizing Entrepreneurship

Entrepreneurial spirit in India takes two forms. First, there is a strand of entrepreneurship, which is borne out of necessity and takes the form of frugal innovation. Often this kind of entrepreneurship is seen in the informal sector, which still comprises of 93% of the economy. The second is entrepreneurship which emerges in high technology start-ups which draws on technological innovation to find solutions to key challenges. These start-ups are formally registered enterprises and are increasingly growing in clusters in Bangalore and Hyderabad. The recent spate of regulatory reforms including: Aadhaar, demonetisation and the implementation of the Goods and Service Tax (GST) are attempts to transition India's economy from the informal to the formal sector, so that India's entrepreneurs, both large and small, can contribute to India's growth trajectory. Formalising entrepreneurship by providing active support to budding entrepreneurs in the informal sector and facilitating their transition to the organized sector, is a key focus area of MSDE's work in the area of entrepreneurship. MSDE's entrepreneurship development programme, Pradhan Mantri Yuva Yojana, seeks to provide budding entrepreneurs, particularly those working in the informal sector, with entrepreneurship education and training, through a combination of factors including: easy access to credit, incubation support and mentorship to enable them to become a part of the formal economy. We aim to reach over 7 lakh students in 5 years through 3050 institutes of learning - including, schools, colleges, training institutes, through Massive Open Online Courses (MOOCs). This scheme will also provide financial and handholding support to empaneled institutes.

IV. INTERNATIONAL COLLABORATIONS AND WAY FORWARD

The Way Forward: Preparing for Workplaces of the Future
Industry demand is dynamic. Therefore, MSDE's focus is to ensure that young people are not only equipped with the skills for today's jobs, but also for jobs of the future. Industry - particularly the manufacturing sector is on the cusp of transformation, leading to a new industrial paradigm, known as industry 4.0. Industry 4.0 in our understanding is the intersection and application of the Internet of Things (IoT) to the secondary sector, i.e., manufacturing. Certain sectors in manufacturing (particularly the automotive sector) have traditionally been on the cutting edge of modernization, through process automation, use of methodologies like

Six Sigma and efficiencies driven by supply chain management. Other sectors like textile manufacturing, SMEs, and new and emerging sectors like electronics, aviation, etc. are ripe for adoption of such technologies. New disruptive technologies are creating new forms of work and new forms of flexible employment. A key topic of debate in academic, industry and policy circles pertain to how automation and industrial transformation will impact work and skills in India.

To cater to the global workforce demand, NSDC actively pursues global partnerships with governments and businesses with the aim of

- promoting global mobility,
- strengthening the Indian skilling ecosystem, and
- sharing of knowledge with other developing & developed economies.

This is in line with the Government of India's vision to transform India into the Skill Capital of the World. At present, NSDC has actively worked in markets like Japan through the Technical Intern Training Program (TITP) and the GCC countries including UAE and Kingdom of Saudi Arabia through Government to Government (G2G) and Business to Business (B2B) workforce mobility collaborations. Progress has also been made for developing partnership across countries like Canada, Australia, Finland, Morocco, Sweden, Russia, Jordan, Maldives, among others.

NSDC, along with Ernst & Young (EY) has conducted the 'Global Skill Gap Study'(2018). The study showcases the in-depth analysis of the global workforce markets with prime focus on leveraging the opportunities to the benefit of Indian workforce. The study highlights nations that would face workforce shortages in the foreseeable future and maps out the corresponding opportunities that these shortages present for the Indian workforce.

Key findings of the study highlight the demand of Indians in European countries, countries with mature migration systems like Japan, US, Australia, Canada, Singapore and countries in the Gulf Cooperation Council (GCC). As per the study, sectoral demand for Indian migrants:

- In United Arab Emirates, Saudi Arabia and Qatar shall be approx. 2.63 million (in next 5 years) across major sectors such as Construction (1.17 million), Wholesale & Retail Trade (0.42 million), real estate and rental & business services (0.28 million) etc.
- in Germany, Netherlands, UK, Sweden & Switzerland shall be approx. 0.30 million by 2030 across major sectors such as Health & Social Care (0.11 million), Manufacturing (0.05 million) etc.
- In Singapore, Australia, New Zealand, Canada, USA, Japan & Malaysia shall be approx. 0.95 million (in next 5 years) across major sectors such as Health Care and Social Assistance (0.22 million), construction (0.10 million) etc.

With this background, the IISC Network is envisioned to be the nodal platform to facilitate international workforce mobility opportunities for Indians. This network will be central to the GOI's plan to make India the skill capital of the world. It will be a fee based, market driven model, determined by global workforce supply and demand dynamics. It will comprise Member Organisations operating through several fixed centres to be referred as IISCs. Through the IISC Network, Member Organisations will be supported to work across various country clusters including:

- Gulf Cooperation Council (GCC)
- Japan, Russia, South East Asia
- North America
- Australia, New Zealand
- Europe

V. CONCLUSION

Many organizations are stakeholders in the skill development sector and have gained rich experience and knowledge from their work in the space. The lessons they have learned from skills training provision and the implementation of innovative models must be used to take the sector to the next level. We need the platforms to share this knowledge and these diverse perspectives. In addition, engaging with research organizations, academic institutions, think tanks and multilateral institutions that focus on education, skills and labour markets is critical if we are to build new initiatives



and collaborations, deepen the knowledge pool on skills and facilitate the creation of institutional knowledge and capability.

It is increasingly clear that the vicious circle of inadequate education, poor training, low-productivity jobs and low wages traps the working poor and excludes young persons and workers from participating in economic growth. The need is to identify instead a virtuous circle in which improving the quality and availability of education and training for women and men fuels the innovation, investment, technological change, enterprise development, economic diversification and competitiveness that economies need to accelerate the creation of more but also better jobs and thereby improve social cohesion. Connecting skills development to these broader growth, employment and development strategies requires that governments, working with the social partners, build policy coherence in linking education and skills development to today's labour markets and to the technology, investment, trade and macroeconomic policies that generate future employment growth. This places a high premium on strong social dialogue, effective coordination among ministries, and improved communication between employers and training providers because skills development will not by itself lead to improved productivity and employment. Other critical factors include employment and productivity policies to influence the demand side of the labour market, respect for workers' rights, gender equality, and health and safety standards; good labour relations and social dialogue; and effective social protection.

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