

CSE Working Paper

#8

The Fourth Industrial Revolution: Realizing India's Demographic Dividend

A. Srija

April 2018

Centre for Sustainable Employment

cse.azimpremjiuniversity.edu.in

Fourth Industrial Revolution: Realizing India's Demographic Dividend

A. Srija¹

This paper attempts to explore the avenues for future jobs given the impact of technology in the form of internet of things, robots, cloud computing, nano technology, automization of manufacturing etc. and the measures in place to address these challenges. The paper explores the labour market from the supply side, the demographic advantage that India has along with the constraints involved in converting the advantage into a dividend. The demographic spread of the labour force is geographically different in that the South we have an ageing workforce with longer life expectancy while in the North and Central India the new entrants to the labour market is the youth. The demographic advantage is concentrated in the North. This is then addressed against the backdrop of the impact of the Fourth Industrial Revolution on jobs and the skill gaps that exist in addressing them. The skill gap therefore needs to be addressed differently. While the policy focus is on skilling/up-skilling and re-skilling the emphasis of each of these components differ according to the geographical spread of the demographic advantage. There should be continuous upgrading of the training curriculum to incorporate the technological advancements. More number of youth should be motivated to opt for vocational courses that enhance their skill set and employability to enable India convert its demographic advantage into dividend.

India is going to have a relatively large share of working age population in the coming decades, which is referred to as the demographic advantage. The working age population (15-59 years) which was 52.8 percent of total population in 1971 increased to 60.3 percent in 2011 and is projected to increase to 65.9 percent by 2022². But to convert this advantage into a demographic dividend, it is essential that the new entrants as well as the existing labour force are gainfully employed. This in turn necessitates that sufficient number of job opportunities either as self/wage employment is generated in the economy. The challenge therefore is two-fold: whether we have the job avenues and is our labour force qualified enough to capture those job opportunities.

In India the proportion of population in the labour force i.e. the labour force participation rate is low as compared to other developing countries mainly due to the low level of female participation in the labour force and an increasing proportion of youth preferring to remain in education. The labour force participation rate (LFPR) for the 15 and above years was 52.4 percent in 2015-16, of which the LFPR for males was 75.5 percent and for females

¹ Ms. A. Srija is an officer from the Indian Economic Service and presently posted as Economic Adviser in the Ministry of Information & Broadcasting, New Delhi. The author has vast experience working in the area of labour, employment and skill development in her earlier stint as Director, NITI Aayog. The views expressed are personal. Email: srija.a@gov.in

² Report of the Sub-Group of Chief Ministers on Skill Development, Sep.2015

27.4 percent³. The unemployment rate during this period was 3.7 percent out of which the unemployment rate among females at 5.8 percent was higher than that of males at 3.0 percent. Even among those reported as employed the proportion of underemployment is relatively high. For instance, at the All India level, only 60.6 percent of the persons aged 15 years and above who were available for work for all the 12 months of the reference period were able to get work throughout the year⁴.

The status of employment of the workforce shows that 47.2 percent were self-employed, 33.1 percent were casual employed, 16.2 percent wage/salary employed and 3.5 percent were contract workers in 2015-16. And, the sector-wise distribution of employment shows that in 2015-16 while almost 47.3 percent were employed in the primary sector, 21.9 percent were employed in the secondary sector and 31 percent in the tertiary sector⁵. In other words the workforce profile of India is such that we still have a predominant segment engaged in the agriculture sector and who are mostly self-employed. While the economy saw a transition from agriculture to a service sector led growth, the mobility of the labour force from agriculture to manufacturing or service sector has not been that rapid. This is mainly due to the skill gap that exists in the labour force. For instance, 58.3 percent of graduates and 62.4 percent of post-graduates reported non-availability of jobs matching their education or skills as the reason for their unemployment. (Table-1) These set of labour force may after a period of waiting may either go for self-employment or move out of the labour force.

Table-1 Unemployed persons having graduate/post graduate level qualification aged 15 years & above by reasons of unemployment All India (in %)

Reasons	Graduate	Post Graduate
Non-availability of jobs matching with education/ skill/ experience	58.3	62.4
Non-availability of adequate remuneration	22.8	21.5
Family/personal problems	5.3	3.8
Others	13.5	12.4

Source: Fifth Annual Employment-Unemployment Survey 2015-16

In the coming decades, majority of the new entrants to the labour force would be from the Northern and Central belt of India while the southern and western part of the country excluding Maharashtra, which has a large inflow of migrants, would be facing an ageing workforce with longer life expectancy. The current trend in migration of the new entrants to the labour force, especially the unskilled and low skilled is towards the metropolitan cities, South and Western part of the country or towards West Asia. The jobs in which the low skilled new entrants are engaged in include construction workers, plantation labour, in the

³ Fifth Annual Employment-Unemployment Survey 2015-16 (UPSS Estimates).

⁴ ibid

⁵ ibid

service sector as delivery boys of the various e-commerce portals, salesmen and women of retail stores, domestic workers, security staff, baby care, housekeeping, desktop operators, teachers/trainers of short term courses, truck/auto/petty auto/bus drivers, beauticians etc. The low skill set of the labourforce emerges from the low attainment of basic education among the population. Almost 75 percent of the rural population and 49 percent of the urban population aged 15 years & above had educational qualification below secondary level in 2014. (Table-2)

Table-2: Percentage distribution of Population (15 yrs & above) by completed level of education in 2014 over 2011-12

Education level	2011-12		2014	
	Rural	Urban	Rural	Urban
Illiterate	36.3	16.1	34.8	15.8
Primary	23.0	16.7	22.5	17.4
Upper Primary	16.8	16.1	17.2	15.9
Secondary & Higher Secondary	19.3	30.7	20.2	30.2
Diploma/ Certificate Course	0.8	2.2	1.1	2.7
Graduate & above	3.8	18.1	4.3	18.1

Source: NSS Report No.575: Education in India, 2014

The low level of education gets reflected in the labour market also. Table-3 shows the distribution of the proportion of population aged 15 years and above in and out of the labour force based on their education classification. As the educational qualification increases the proportion of unemployed also increases. The proportion of population outside the labourforce also remains high with more than half of population outside the labour force for those with secondary (55.3%) and higher secondary qualification (57.7%).

Table-3 Distribution of persons aged 15 years & above by main activity & educational classification according to UPS approach

Educational classification	Employed	Unemployed	Labour force col. (2)+col. (3)	Not in labour force
(1)	(2)	(3)	(4)	(5)
Not literate	46.3	0.9	47.2	52.7
Primary	54.7	1.3	56.0	44.0
Middle	51.8	1.6	53.4	46.6
Secondary	42.8	1.9	44.7	55.3
Higher Secondary	39.2	3.1	42.3	57.7
Certificate Course	46.4	5.9	52.3	47.7
Diploma/Certificate	51.5	6.4	57.9	42.2
Graduate	51.6	10.0	61.6	38.4
Post graduate & above	59.2	9.8	69.0	31.0

Source: Report on Education, Skill Development and Labourforce Vol.III,2015-16, Labour Bureau

In a labour surplus economy like India on the one hand we are faced with an economy driven by the service sector which is receptive to the adaptation of digital technology to manufacturing and service process delivery. But on the other hand is the large pool of young labour force looking forward to job opportunities in this rapidly changing service sector. To provide for the smooth transition of the workforce from the farm to the non-farm sector, the Government has initiated skill development programmes both at the Centre and State. But apart from skilling/re-skilling the challenge that India faces in capitalizing upon its demographic advantage lies in the changes being brought to existing job descriptions as well as emergence of new job roles and skills in today's digital age commonly referred to as the Fourth Industrial Revolution.

What is the Fourth Industrial Revolution?

The Fourth Industrial Revolution is making rapid strides in all spheres of life and unlike the earlier Industrial Revolutions is simultaneously touching across both developed and developing economies. It is the application of digital technology into machines through robots, artificial intelligence, big data, internet of things, cloud computing, advanced manufacturing and 3D printing, nano technology etc. It's impact is being felt through the large-scale layoff of IT professionals at the lower end, automation in manufacturing and adoption of labour displacing technologies in the housekeeping sector where earlier the low skilled or unskilled labour could easily find job opportunities. In the manufacturing sector, the newly started start-ups are technologically intensive digitally with less scope for job creation.

The Digital India programme focuses on bringing high-speed broadband connectivity to rural and remote areas through Bharatnet. As of 11th March, 2018 optical fibre cable has been laid for 2.67 lakh kms across 1.13 lakh gram panchayats against a total of 2 lakh plus gram panchayats. The mobile phone internet users in India has increased from 18.55 percent in 2015 to 23.93 percent in 2017 and is expected to reach 34.85 percent of the population by 2022⁶. The number of smartphone users in India was around 300 million in 2017 and is expected to increase to 442 million in 2022⁷. This increased access to internet through smartphones has seen an increase in m-commerce⁸ in recent years. Apart from the consumer goods market, with the coming in of Big Data and Analytics, IoT, artificial intelligence, block chain and machine learning innovative ways of accessing services and conducting commerce has emerged.

For instance the Byju's Learning App started in July 2015 as a start-up has become an unicorn within 3 years of its launch, it also became a case study in May 2017 at the Harvard Business School to illustrate how through a combined use of content, technology and media Byju's k-12 learning app has impacted learning among students across the globe.

⁶ <https://www.statista.com/statistics/309019/india-mobile-phone-internet-user-penetration/>

⁷ *ibid*

⁸ m-commerce is the buying and selling of goods and services through wireless hand-held devices such as smartphones.

'FarmerZone' is a cloud based platform being devised by the Department of Biotechnology to provide a smart solution to farmers catering to all their needs such as how to deal with climate change, weather predictions, soil, water and seed requirements to providing market information. This would enrich the reach of traditional agricultural extension services on a pan-India basis. The FarmerZone would be a collective open-source data platform for smart agriculture that would use biological research and data into the cloud, develop sentinel sites to help link with farmers. It would connect farmers, scientists, researchers, agriculture extension officers, companies working on big data and e-commerce to provide technology based localized agri-solutions⁹.

For the spread of health related information like immunization, communicable diseases prevention, swachta campaigns are being done using various mobile apps such as Swasthaadhaar, mswasthya, online pharmacy corner-1mg etc. Tele-medicine consultation has been made practicable in rural and hilly areas which would reduce the crowding in at the tertiary care centres and also address the issue of shortage of doctors/specialists especially in rural areas and small towns. For the operation of these portals we would be requiring more of paramedicals such as lab/ X-ray technicians, pharmacists, nurses etc with digital literacy in rural areas.

All public utilities such as Aadhaar, voter's ID card, PAN card could be delivered at the doorstep by filing the requisite details online. In India the concept of smart cities brings along with it the concept of smart transportation, e-governance, e-commerce which all enables smart living. Electric mobility is bound to increase in the coming decades with the shift towards battery charged two and four wheelers. The original automobile manufactures may see a shift towards producing electric or hybrid vehicles as the government is moving towards zero emissions by 2030. These transitions might see a change in the skill sets required of the labour force engaged in the sector. Electric mobility would require electric charging stations, manufacture of battery manufacturing plants to support the electric vehicles. All these are new areas requiring new skill sets of a higher order and if the requisite skill sets fall short the industry could go in for more automation.

India has a huge repository of Big Data collected via Aadhaar, passport, PDS, voter card etc and using data mining, analytics and other apps this data can be used for providing smart solutions for effective governance. To execute these smart solutions we need IT trained technicians for making electronic equipments, for their servicing, delivering the services both at the front and back end. These changes would also reduce the physical mobility of citizens for consumer goods and services and increase the activities involved in completing the logistics of timely delivery which would include warehouses, tying up with local retail stores, enhancing and strengthening telecommunication network, increased number of delivery boys, more use of two-wheelers and vans for delivery and so on. On the entrepreneurial front also an increasing number of tech based start-ups in the area of education, e-commerce/m-commerce, financial services, ITES etc are emerging making India the third largest start-up ecosystem in the world.

⁹ DBT's Smart Agriculture Conclave sets the stage for FarmerZone-The future of agriculture

The impact of this flood of technology on the labour market is that there will be a growing market for skilled workforce. Routine jobs will be taken over by machines or robots. This may not be a trend that sticks to developed countries alone but may also seep into developing countries due to the cost advantage involved say in engaging ten workers vis-a-vis an automated machine and an operator. The labour force needs to upgrade their skill sets to be absorbed. For equitable distribution of the benefits of technology on the labour market, it is essential that the new entrants in labour force are computer literate has a basic level of vocational training so that they are able to be absorbed in the labour market looking for skilled workforce with specific skill sets. In short the advent of the Fourth Industrial Revolution will impact upon the way we live and there could be a progressive change in the society which is often referred to as Futuristic Society 5.0. That is considered the fifth stage of human evolution from hunters'- agriculture-industry- information technology and finally smart living.

According to the 73rd Round of Enterprise Survey conducted by the NSS for unincorporated non-agricultural enterprises covering manufacturing and services excluding construction, public administration and household workers for the period 2015-16 shows that out of a total of 6.34 crore enterprises, 51 percent was in rural areas and 49 percent in urban areas. Out of the total of 6.34 crore enterprises nearly 84 percent were own account enterprises (OAEs) operated without hiring any worker while the remaining 16 percent accounted for establishments hiring atleast one paid worker. This Enterprise Survey is representative of the MSME unorganised sector, which account for more than 50 percent of the self-employment. With the introduction of GST, the enterprises in the Establishment category and the profitable OAEs would perforce get themselves registered with GST to continue in business or else they will lose their buyers who will have to pay GST under 'reverse charge' for unregistered purchases. Operating as a registered enterprise means compliance to economic regulations and labour legislations. This transition may make some of these enterprises' survival difficult and they would go for automation as cheap bank credit becomes available to registered enterprises. The casual employment that is vibrant in these enterprises may see a fall.

These policy induced changes in the enterprise sector also imposes the urgent need to upskill and re-skill our labour force in the latest digital technologies for them to get adapted to the changes taking place in the business environment.

Issues Involved

This requires that we upscale the educational attainments of our labour force and skilling, re-skilling and up-skilling should be a continuous exercise. A higher weightage in skilling should be given to vocational training at secondary level in schools and for up skilling and re-skilling in mid-career. Taking into account the geographical spread of the demographic advantage the weightage given for skilling, re-skilling and up-skilling should accordingly be distributed by the States. States with a higher proportion of labour force in the 30-59 age group should focus more on reskilling and upskilling. For being gainfully employed

educational attainment at least above secondary level is desirable in a technologically advancing economy. The challenges in attaining this are:

- (i) accessibility of educational institutions closer home. In rural areas, while 94.1 percent of households have primary schools at a distance less than 1 km, only 66.5 percent and 36.7 percent of the households had access to an upper primary and secondary school at a distance less than 1 km¹⁰. While in the urban areas while 92.5 percent households had access to primary schools within a distance of less than 1 km, the availability of upper primary schools (83 percent) and secondary schools (73 percent) was better than that in rural areas¹¹.
- (ii) Discontinuance or drop-out of education. Among the 16-24 age group the percentage drop out in rural areas was 39.2 percent while it was 55.4 percent in urban areas. Similarly among 5-15 age group where there is government funding for education up to the age of 14 years under the Sarva Shiksha Abhiyan has a still higher percentage of drop outs with 60.3 percent in the rural areas and 43.3 percent in the urban areas. The reasons attributed for drop out: 23.8 percent males and 15.6 percent females reported not interested in education, while 23.6 percent males and 15.2 percent females reported financial constraints. A higher proportion of males (31 percent) cited engagement in economic activities as the reason for the drop out.
- (iii) High rate of unemployment among youth, which in turn is dependent on the choice of education stream. Among the 15-29 age group, 85 percent of the students have opted for the general stream, while the students opting for technical/professional stream were 12.6 percent and the students opting vocational stream were just 2.4 percent in 2014¹². Thus we are faced with a dual problem of where on the one hand the proportion of students opting for education levels beyond higher secondary is still less than 10 percent and the fewer proportion who do pursue higher education opt for the general stream where the chances of employability is relatively less in comparison with the aspirations.

Measures Underway

In India the automation potential is estimated at 52 percent¹³ and the labour associated with technically automatable activities is 235 million FTE¹⁴. According to a study done by Frey and Osborne's using World Bank data 69 percent of jobs in India are susceptible to automation as compared to 77 percent in China. Considering that the demographic advantage would taper out in two decades India needs to address the issues of accessibility of basic schooling, focus on vocational education/training at the secondary level and the existing labour force needs to be up-skilled and re-skilled.

Various policy measures have been initiated to tackle these challenges. For instance, to address the skill requirements, a flagship scheme, the Pradhan Mantri Kaushal Vikas Yojana

¹⁰ NSS KI (71/25.2): Key Indicators of Social Consumption in India: Education, Statement 3.2

¹¹ *ibid*

¹² NSS KI (71/25.2): Key Indicators of Social Consumption in India: Education; Statement 3.9

¹³ Mckinsey Global Institute: 'A future that works: Automation, employment, and productivity', January 2017

¹⁴ FTE –Full Time Equivalents

(PMKVY) which provides short-term skill training to the school/college dropouts/unemployed and Recognition of Prior Learning (RPL) Certification to the existing workforce is being implemented. About 4.5 lakh candidates have received certification under RPL till February, 2018. PMKVY-2.0 launched in October, 2016 aims to impart demand driven curriculum & standards through industry led bodies called the Sector Skill Councils. These curriculums are aligned with the latest National Occupational Standard (NOS)/Qualification Packs (QPs). Industries are also encouraged to participate as training providers to operate the high employment potential courses through appropriate accreditation and affiliation framework. PMKVY is spread across more than 250 job roles related to 35 Sector Skill Councils which mostly covers the upcoming sectors in the industry. Placement tracking under PMKVY is reported within 90 days of certification of trained candidate. Under PMKVY 2.0, as on 28.02.2018, out of 13.97 lakh trained candidates under short-term training component of PMKVY, 9.63 lakh candidates were certified and 3.49 lakh of the certified candidates were given placement¹⁵. This placement percentage is only 25 percent of the total trained as compared to 70 percent placement stipulated in the guidelines for making the final 20 percent payment to the Training Centre under PMKVY. The placement under PMKVY includes wage employment (76%), self-employment and entrepreneurship (24%). Among the trainees who got wage employment almost 80 percent were placed in sectors like electronics and hardware, apparel, beauty and wellness, agriculture, retail, logistics, telecom, security, textiles and handlooms¹⁶. It was observed by World Bank in a Consultation, that despite the huge investment for skilling, trained youth only found jobs in the minimum wage bracket¹⁷.

Under the PMKVY, digital literacy training is an integral part of all job roles and training is imparted as a 40 hours top-up module training on using digital facilities including cashless payment facilities, courses on digital skills ranging from Android developer to mobile software repair. Digitization of skill development training also includes introduction of SMART portal as one stop solution for all centre accreditation and affiliation process, SDMS for monitoring of fund disbursement, Assessment Apps for assessment of candidates, Skill Up App for mobilization of candidates, Digi-Locker for integration of candidates and their digital certificates, Labour Market Information System (LMIS) for digital repository of employment actions, details of the skilled candidates and socio-economy data etc. Other interventions made towards digitalization in PMKVY include free online skilling course content, Direct Benefit Transfer, Aadhaar linkage of trainers and trainees, Biometric attendance of candidate etc. The scheme also encourages stand alone Training Centres (TCs) through various digital platforms to voluntarily disclose the features and achievements of their training programmes such as TC infrastructure, number of trainees trained, passed, certified, placed, and their placement details, on social media (Facebook and Twitter) on periodical basis as a part of the Performance Standards Metrics. Varieties of Digital channel are used by training partners for mobilization of candidates for organizing Kaushal Mela

¹⁵ http://164.100.47.193/lssccommittee/Labour/16_Labour_36.pdf

¹⁶ <http://www.skilldevelopment.gov.in/assets/images/latest%20news/PMKVY%20Placement%20release.pdf>

¹⁷ India Country Engagement Dialogue 2017-18 (Consultations in Delhi), Sep., 20,2017.

and Rogzar Mela under PMKVY¹⁸. These initiatives should expand the outreach of PMKVY to deserving candidates even in the far flung areas.

Model Aspirational state of the art Skill Centres called Pradhan Mantri Kaushal Kendras (PMKKs) is to be set up in every district. So far 527 PMKKs have been allocated throughout the country. 14 India International Skills Centres are operational where advanced training is offered alongwith courses in foreign languages to facilitate youth seeking job opportunities outside the country. The Directorate General of Training (DGT) is imparting training in 128 Trades (74 Engineering, 49 Non-engineering & 5 for Divyangs) under the Craftsmen Training Scheme (CTS) in ITIs across the country. To make training in ITIs job-oriented a two-year Advanced Technical Diploma in collaboration with IBM for ITI pass-outs in the field of 'IT, Networking and Cloud Computing' has been introduced. 'Dual System of Training' (DST) in ITIs has been initiated which enables industries to partner with Government & Private ITIs for conducting training programmes in high employability courses satisfying industry needs. The Skill Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP) and Skills Strengthening for Industrial Value Enhancement (STRIVE) schemes are aimed at institutional reform and quality improvement in skill development and vocational education and training. While SANKALP aims at implementing the mandate of the National Skill Development Mission by strengthening institutions, improving quality and access, and catalyzing private sector investments in short-term skills, STRIVE aims to improve market relevance and efficiency of skills provided through Industrial Training Institutes (ITIs) and apprenticeship.

To promote entrepreneurship the Pradhan Mantri Yuva Udyami Vikas Abhiyan (PM YUVA) was launched in November, 2016. The scheme aims to create an enabling ecosystem for entrepreneurship development through entrepreneurship education and training across the country in select Institutes of Higher Learning (Universities, Colleges and Premier Institutes), schools, Industrial Training Centers (ITIs) and Entrepreneurship Development Centers (EDCs). Under the PM YUVA scheme, interested students will be given entrepreneurship education and training, including social entrepreneurship. Students to also get easy access to a robust network of peers, mentors incubators, funds and business services through an online platform. So far, 239 Institutes of Higher Learning have been empanelled to impart entrepreneurship education throughout the country and entrepreneurship courses have started in 226 Institutes of Higher Learning¹⁹. An end to end customized entrepreneurship orientation module has been integrated under the Life Skill Course module in the PMKVY Courses so that every candidate undergoing PMKVY skill training receives orientation in entrepreneurship. In ITI courses, the module on entrepreneurship is already integrated as a section in the employability skills. Further, the Startup Village Entrepreneurship Programme (SVEP) under Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM) aims to help the rural poor including artisans and weavers to setup enterprises at the village level in non-agricultural sectors. Currently, SVEP is in implementation in 19 States. Under DDU-GKY, candidates are skilled

¹⁸ Lok Sabha Unstarred Question on Digital Skill Development Centres 19th March 2018

¹⁹ Lok Sabha Unstarred Question on Skill Development Action Plan, 12th March, 2018

for wage employment, and under RSETI candidates are skilled for both self and wage employment. A total of 5.55 lakh candidates have been trained under DDU-GKY and 16 lakh candidates have been trained in RSETIs from 2014-15 till January, 2018.²⁰

The National Institute of Open Schooling (NIOS) also runs 103 vocational courses up to higher secondary level. All India Council for Technical Education (AICTE) has recently introduced Degree/Diploma programmes leading to Degree or Diploma in Vocational Education under National Skill Qualification Framework (NSQF) in 13 Specializations for AICTE approved Institutions. Under this scheme, education component is taught by the institute and the skill component is covered by Industry Partner or Skill Knowledge Provider (SKP) approved by AICTE or NSDC or any Government Agency. The University Grants Commission (UGC), is implementing three schemes namely Community Colleges, B.Voc Degree Programme and Deen Dayal Upadhyay Kaushal Kendras in Universities and Colleges for imparting skill development based vocational courses offering Certificate/Diploma/Advance Diploma/B.Voc/M.Voc and Research level programme. The skill components of courses are imparted in collaboration with the industry partners based on National Occupational Standards for the concerned job roles.

An Innovation Fund for Secondary Education has been created to encourage local innovation for ensuring universal access, gender parity and quality improvement, including ICT enabled learning transformation with a special focus on educationally backward districts in the country. The Rashtriya Madhyamik Shiksha Abhiyan (RMSA) aims to augment access to and improve the quality of secondary education. Under the scheme the States can prioritize on the components of RMSA that they would like to spend upon. While most States focus on strengthening school infrastructure, teachers' training, monitoring, evaluation etc, some States allocate on ICT, while still others on setting up girl's hostels etc. During 2017-18 only Himachal Pradesh and Punjab allocated 50 percent and 43 percent respectively of their RMSA funds for vocational education at secondary level²¹.

Under the SWAYAM²² programme, the government is using the ICT platform to deliver classroom lectures, study materials and interactive sessions with teachers covering from Class 9 to post graduation free of cost. At present 593 online courses are listed on SWAYAM. For expansion of SWAYAM through DTH, 32 DTH educational TV Channels have been operationalized.

To conclude these efforts do not make up for the actual requirement in skilling. There are issues of non-realisation of scheme targets, under-utilisation of allocated funds, project proposals not matching upto scheme guidelines resulting in delays in implementation etc. The States need to speed up their efforts and focus exclusively on making school education more job-oriented by instilling more of vocational streams, ICT and practical training. The youth should see a job potential from the streams that they are pursuing to curb drop outs at

²⁰ Lok Lok Sabha Unstarred Question on Skill Development Programmes, 15th March, 2018

²¹ Centre for Policy Research, Budget Briefs Vol.10/Issue 2, RMSA

²² Study Webs of Active Learning for Young Aspiring Minds (SWAYAM)

the secondary level. To pursue skill development courses beyond the introductory Levels of NSQF, a minimum educational qualification upto secondary level atleast is necessary. Therefore in States having a high proportion of educationally backward districts a hand holding through PPP/ industry association participation can be envisaged to improve the basic education standards beyond secondary level. Stipend driven courses, night classes, on the job classes for up-skilling/ re-skilling of the existing workforce can be envisaged so that they are able to upgrade their skills without loss of income. States should match their skill programmes with the age-profile of their labour force and accordingly give due weightage for skilling, upskilling and reskilling in their budget for skilling. In the context of the rapid technological evolution taking place in all spheres of life we need to focus on industry integrated job market oriented curriculum for India to be able to convert its demographic advantage into a demographic dividend.
