

Stock of educated and skilled persons in uttar pradesh: evidence from NSSO

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Abstract

Purpose: Skill development has received much attention in recent years primarily because India is having a unique advantage of young age-population with reducing dependency ratio which is known as 'population dividend' while the developed nations have an aging population with increasing dependency ratio. Skill development is one of the major emerging and relatively less explored field of research in India at the sub-national and regional level. The study attempts to find the status of stock of educated and skilled persons who have formal and non-formal vocational training and technical education with respect to Uttar Pradesh.

Data/Methods: The unit level data of NSS for the available quinquennial surveys on employment and unemployment (61st & 68th round) has been used to calculate the stock of educated and skilled persons in Uttar Pradesh, the most populous state of the country. The 68th round is the latest round of NSS on employment and unemployment. The level of education and vocational training along with the level of technical education has been taken as an indicator of skill and analysis is done considering individuals for all age group. Further, the region wise distribution of stock of skilled persons has also been performed for the young age population. The results have been presented with using bivariate analysis the paper has highlighted the status of education and skill for two time period in Uttar Pradesh and India.

Findings: There is very low attainment of technical education (0.84%) in the state of Uttar Pradesh in 2012 with a slight improvement over 2004-05. There is a decline in attainment in vocational training in the latter period (7.9%). The share of formally skilled persons in Uttar Pradesh has also declined in 2012 (1.1%) over 2005 (1.6%). In terms of education, 32% of persons are still illiterate, which is a major cause of concern.

Application: The study has greater applicability for the academicians and the policy makers to initiate the focused policy initiatives at the regional level to improve the skill level among the labor force as it has clearly highlighted the disparities in skill attainment across the regions of Uttar Pradesh.

Keywords: Vocational Training, Skill Development, Uttar Pradesh, Technical Education.

1. Introduction

Skills development is one of the key sources in raising productivity and facilitating the growth that enables the improved living standards [1-3]. Effective system of skill development connects education to technical training that facilitates the labour market entry to the individuals and enable them to choose workplace and further lifelong learning at the place of work among the workers that helps country as a whole in achieving sustain productivity growth and eventually translate that growth into more and better jobs and alleviating poverty [4]. The role of skills to improve productivity, incomes and access to employment opportunities seems obvious and clear in the context of alleviating mass poverty [5]. "Knowledge, skills, and competencies of the persons have become the cornerstone of personal growth and employability, enterprise competitiveness, and society's economic and social sustainability" [6].

The existing literature clearly demonstrates that poverty has a direct correlation with human capabilities. Thus, up gradation of the knowledge and skills of the economically vulnerable and socially excluded (EVSE) section becomes the urgent need for any country. Further, training in the unorganized sector is also one of the most important areas where for future action for skill development is must [7].

In the current globalized era, it has been noticed that the countries equipped with higher and better levels of knowledge and skills have responded more effectively and promptly to challenges and opportunities emerged out of globalization [8] & [9]. India, being in transition to a knowledge-based economy, could have a competitive edge only if its people create, share and use knowledge more effectively [10] & [8]. However, there is a strong need for this transition that India requires to convert its workers into knowledge workers who would be more flexible, analytical, adaptable and multi-skilled in the upcoming future. The skill sets required in the new knowledge economy includes professional, managerial, operational, behavioral, inter-personal and inter-functional skills [11]. Education acts as a catalyst for human resource development. Educational infrastructure plays a crucial role in rapid economic growth and improved quality of life. A greater amount of educational ability is a sign of more skilled and productive workers, who in turn are responsible for the increase in the economy's output of goods and services. Knowledgeable and skilled human resources are also capable of using technology more successfully. Therefore, better education and health facilities for faster and sustainable development is the requirement of the day for developing countries like India. The economic value of education in the economic development process is broadly appraised. It has been reported that education is externally significant among resources involved in human capital formation that correspond to the increments in the productivity of labor force. Persons with less education would remain unemployed [12] found that there was an increase in wage inequality in Mexico due to new technology and the liberalization of the economy [13]. Pandit and Siddharthan (2008) showed that employment has increased mainly in skill and technology-intensive industries [14].

At present India is facing a dual challenge of huge scarcity of highly-trained, quality labor, as well as non-employability of large sections of the educated workforce that possess little or no job skills [15]. Mathur and Mangain (2002) found the influence of both technical and general education on per capita income (PCI) to be positive with that of the former being more powerful [16]. Skill levels among the Indian workforce are abysmally low. In India, approximately 80% of new entrants to the workforce lack the opportunity for access to skill training. It is estimated that net enrolment per year in vocational courses in India is 15 times lower as compared to China 90 million [17]. Boston Consulting Group (BCG) report prepared for the Confederation of Indian Industry (CII) reported illiteracy is a major challenge and 40% worker are illiterate further, school dropouts (40 %) is also a big challenge. Out of the overall workforce, only 10 percent comprises of vocationally-trained, diploma holders, graduates together [17].

A huge proportion of young people entering into labor market having no skills training which pushes them to enter into the informal economy at terribly low wages and insecure working and living conditions. The reason for the low skill trained manpower is a shortage of institutional training capacity [18]. The exiting vocational education and training systems are unable to fulfill the market demand because of the inflexible course/curriculum that leading to oversupply in some trades and shortages in others [19]. Since the skill development system is non-responsive to labor market needs, therefore, there is a situation of huge qualitative, as well as quantitative mismatches, has emerged in both the demand as well as in the supply side. This is adversely affecting productivity and growth (Government of India, 2007-12). The other challenge of the skill development system is that it solely rely upon few training courses with 2-3 years duration covering only about 100 skills however in China there are over 4000 short duration modular courses providing skill training to relevant to market needs.

Skilling 500 million people by 2022, as envisaged in the National Skill Policy, in order to make them employable and help them secure decent work is a daunting task. The tasks of skill development have several challenges which have been conceptualized and neatly articulated in the policy document [20]. India is having a unique advantage of young age-population with reducing dependency ratio which is known as 'population dividend' while the developed nations have an aging population with an increasing dependency ratio. This precisely gives India an advantage with a huge competitive edge internationally. India has an opportunity to harness this huge potential if skill development initiatives work in right direction which would then facilitate to reap a real sense 'demographic dividend'. If this opportunity is missed then it may well turn in to 'demographic nightmare'. Harnessing the demographic dividend through appropriate skill development efforts, therefore, becomes an imperative necessity for increasing productivity and bettering human lives.

1.1. Constraints and Challenges of Skill Development in Uttar Pradesh

The States also have their own development agenda in the country at the sub-national level. Therefore, they play a dominant role in policy-making, coordinating with the center and implementing the policies designed by their own as well as the center. Uttar Pradesh (the largest State in India in terms of population) has also followed the same road map for the skill development. However, the current skill development infrastructure and programmes are inadequate to address the challenge of skilling the youth of the state in desired numbers and of the right quality [21]. Under the National Plan, the State of Uttar Pradesh aims to provide skills to over 4 million youth by the end of the 12th Five Year Plan.

A large number of students drop out of school system thus putting huge pressure in the labor market. Nearly, 20 to 30 lakh youth drop out of the formal general education streams between classes 5th and 11th and 12th classes [21]. The state has estimated the capacity of providing vocational education through Polytechnics and ITIs (government and private sectors) and colleges is 3.5 to 4 lakh per annum. In addition, different departments have their own programmes for skill development. However, the private sector and industries have not come forward in a big way for skill development initiatives. The skill development programmes suffer from a number of constraints. First, the capacity for skill infrastructure is highly inadequate to meet the proposed target. Second, the quality of existing skill programmes is not up to the mark in order to increase the productivity of the labor force. Third, the quality of graduates from ITIs and Polytechnics is awfully low and less than 30% of these graduates are able to get gainful employment after completion of courses. Final, existing capacity utilization of private sector ITIs, polytechnics and degree colleges have been far low (less than 60%) in recent years [21].

Within this perspective, this paper focuses on the status of stock of formally and non-formally trained and educated stock of skilled individuals in Uttar Pradesh and its four economic regions using the NSS unit level data for the latest available quinquennial surveys. The paper has also highlighted the regional comparison among the youth comprising age group between 15-29.

2. Data & Methodology

The study is based on secondary data. The unit level data from the NSS 61st round (2004-05) and 68th round (2011-12) survey on employment and unemployment situation in India has been used to show the status of skill attainment through general education, technical education & vocational training at national level (India), state level (Uttar Pradesh) and regional level (Eastern, Western, Central and Bundelkhand Region of Uttar Pradesh). The paper has used bivariate tables to show different indicators such as general education, technical education, vocational training, region, the source of training, etc. The analysis has taken into consideration the variable of age too. Primarily, persons for all age group have been considered for the analysis and afterward, analysis has been performed for the persons with the age group of 15-29 only. The limitation of the paper is that it has used the data of NSSO till 2012 because after that NSSO has not yet released the data on employment and unemployment survey.

3. Results & Discussion

3.1. Status of educational attainment in Uttar Pradesh

The results from the cross tabulation analysis depict that the overall literacy has improved perceptibly over the years both at All India level as well as in the state of Uttar Pradesh. Illiteracy is still a huge problem, in particular, Uttar Pradesh which is one of the largest populated states in the country. While there has been a noticeable decline in the illiterate population at All India level in 2011-12 over 2004-05, the state of Uttar Pradesh still has a huge burden of illiterates.

Nearly half of the population was illiterate in Uttar Pradesh (49.1%) in 2004-05 which declined to about 40.4 % in 2011-12 (Table 1). The corresponding figures for All India were 40.3% and 31.7%, respectively. In spite of a large number of illiterates, there has been significant progress in the literacy rates over the years due to the expansion of educational institutions and increasing awareness about the value of education in bettering the human life.

Table 1. Stock of Educated Population in India and U.P. in 2004-05 and 2011-12 (in %)

General Education Category	2004-05		2011-12	
	UP	India	UP	India
not literate	49.13	40.28	40.37	31.7
below primary	18.06	18.18	18.61	18.03
Primary	11.18	13.81	12.27	13.9
Middle	9.68	12.46	11.43	13.74
Secondary	4.96	6.8	7.04	9.85
higher secondary	3.64	3.87	5.18	6.2
diploma/ certificate course	0.23	0.83	0.25	0.88
Graduate	2.27	2.92	3.36	4.32
postgraduate and above	0.85	0.84	1.48	1.39
Total	100	100	100	100

Source: Computed by the author from NSS unit level records of Employment and Unemployment Survey 2004-05& 2011-12

Below the primary stage, education comprises of about 18 % at both All India and U.P. state which is a major chunk at the lowest pyramid of the education system. There is minuscule variation in this category at All India and U.P. state level, however, as we move up the ladder the variations appear to be sharper between All India and state level. The percentage of educated up to primary level education is nearly 14% in both the periods at All India level while in U.P. the share is low at 12.3% in 2011-12 with slight improvement (1 % point) over 2004-05. The U.P. has made a good stride in making improvement in the middle level, secondary level and higher secondary levels of education as compared to All India, though percentage share is still lower for all these levels of education. The percentage share of technical education (diploma and certificate courses) is abysmally low in the U.P. and the share during 2004-05 and 2011-12 has improved marginally (0.23 to 0.25%). While efforts of promotion of technical education bore some fruits in other states as reflected by All India share (nearly 1%), the U.P. state has failed miserably to improve its technical education base during this period resulting in awfully low level of the human capital base. There has been a massive expansion of higher education, graduate and post-graduate levels, but the pace of expansion for post-graduate education, in particular, has been higher in the U.P. compared to All India. Educational expansion (both general and technical) has grown at a sluggish pace in U.P. state comparison to that of All India (Table 1).

3.2. Status of technical education in Uttar Pradesh

Despite the fact that India has registered the handsome economic growth and emerged as one of the fastest growing economies in the world yet its share of technical manpower in the labor force is abysmally low and that has that has caused for huge unemployment and low wage premium associated with jobs. Similarly, a large proportion of its young age population having skilled and trained manpower is extremely low. Only a small proportion having received technical education during the periods 2004-05 and 2011-12 and its pace for growth has also been tardy and slow (Table 2). An overwhelmingly large majority of the population without technical education at all India level is as high as 98% and this proportion is even higher in the state of Uttar Pradesh (99%). Diploma or certificate education (below graduate) has a relatively larger share in technical education compared to others. The share is around 1% at all India level and in the U.P. its terribly low at 0.3%. The U.P. is one of the most populated states and the level of technical education is awfully low and at the margin.

Table 2. Stock of Technical Education in India and in Uttar Pradesh (in %)

Technical Education Category	2004-05		2011-12	
	UP	India	UP	India
No technical education	99.38	98.47	99.16	98.3
Technical degree	0.08	0.19	0.12	0.28
Diploma or certificate (below graduate level)	0.33	0.93	0.39	1
Diploma or certificate (graduate and above level)	0.21	0.41	0.33	0.43
Total	100	100	100	100

Source: Computed by the author from NSS unit level records of Employment and Unemployment Survey 2004-05& 2011-12

Diploma or certificate education (graduate and above) is still lower at less than half a percent of total sample population in 2004-05 and it remained almost status quo in 2011-12 at all India level. In U.P., the situation is still worse, the proportion being miserably low at 0.21% in 2004-05 and minuscule improvement in 2011-12 makes unlikely any dramatic change in the situation in view of the sizeable population. Technical degree education is in the lowest ebb, not even a quarter of one percent which is clearly upsetting and speaks of the sad state of affairs (Table 2). Virtually, all the efforts of skilling through technical education appear to be leading nowhere and making practically no impact in the ground. One of the profound reasons for low level of technical education comes out to be lack of quality and low valuation attached to such education that eventually carries little or no correspondence to the labor market demand.

3.3. Status of vocational training in Uttar Pradesh

It has been argued earlier that the level of skill training is abysmally low in the country compared to other developed and industrialized countries. This has seriously hampered the realization of demographic dividend among young age population. Although, skilling efforts have been continuing as part of skill mission in the union and state levels yet the pace of skill development has been sluggish and slow-moving exercise. At all India level, the proportion of skill training, both formal and non-formal put together, has been appallingly low at 11.3% of the sample population in 2004-05 and there has been a marginal increase (11.6%) in 2011-12. This speaks the tardy pace of skill training initiatives despite the fact that there have been numerous skill training programmes in various individual Ministries and departments.

Table 3. Levels of Skill Training in India and Uttar Pradesh (in %)

Vocational Training	2004-05		2011-12	
	UP	India	UP	India
Formal training	1.62	3.68	1.1	3.02
Non formal training	6.65	7.75	6.8	8.6
Did not receive any vocational training	91.73	88.57	92.1	88.38
Total	100	100	100	100

Source: Computed by the author from NSS unit level records of Employment and Unemployment Survey 2004-05 & 2011-12

The proportion of formal training has been appallingly low at 3.7% in 2004-05 and it declined to 3% in 2011-12 (Table 3). This raises issues relating to very low institutional and training capacity in relation to burgeoning new entrants in the labor force. The proportion of non-formal training has been double than that of formal training in 2004-05 and it increased almost three times in 2011-12. In the state of U.P., the proportion of skill training, both formal and non-formal, has been much lower in comparison to all India. The vast majority of the population is without skill training (more than 90%) in one of the most populous states that eventually produces an army of the low productive population that has serious ramifications to the productivity concerns and has severe socio-economic implications.

This miserably low proportion in skill training of population in the most populated state is a major cause of grave concern for the policy maker of the state. The share of formal training in 2004-05 has been quite low at 1.6% which it further declined to 1% in 2011-12 showing the apathetic influence of the policies for skill initiatives (Table 3). Even, non-formal training has remained stagnant (6.7 to 6.8%) during 2004-05 and 2011-12. Though Government of U.P. has created Uttar Pradesh Skill Development Mission in 2011 to promote skill development initiatives in the state yet the progress has remained awfully unsatisfactory in the face of limited institutional capacity of skilling in view of required skill training needs. This is clearly a policy challenge for the state.

3.4. Status of Skill Development among the Youth across the Regions of Uttar Pradesh

Status of vocational training in the state is terrifically low in the young age group (15-29 years). In the state, the formal training accounts for about 1.5% and non-formal to about 6% in 2011-12 and the results suggest that the share of both sources of vocational training declined in 2011-12 over 2004-05. This clearly indicates the poor performance of vocational training in the state. Region wise performance in the vocational training has also presented a horrible picture as it remained despondently low. Eastern and Bundelkhand regions of Uttar Pradesh have performed poorly as compared to western U.P. and central U.P.

The central and western regions show relatively better performance in the non-formal training. The performance in the state has been much lower compared to all India (Table 4). The eastern region presents a typical case of severe underdevelopment compared to the other regions. Majority of districts falling in eastern and Bundelkhand regions are most backward and least developed while there is none such most backward district in the western region. The western region of the state is relatively more prosperous compared with the other regions. The central and Bundelkhand regions are falling in the middle category (Table 4).

Table 4. Status of Vocational Training for the Youth (age group 15-29) (in %)

	2004-05			2011-12		
	Formal	Non Formal	DNR	Formal	Non Formal	DNR*
India	4.02	6.83	88.13	4.3	6.67	88.88
UP	1.69	6.19	89.99	1.49	5.91	92.59
Western	2.05	8.28	87.69	1.78	7.95	90.27
Central	2.54	13.28	81.67	1.63	11.33	87.03
Eastern	1.01	2.08	94.79	1.14	2.53	96.33
Bundelkhand	1.85	1.44	94.66	1.54	1.54	96.93

Source: Computed by the author from NSS unit level records of EUS 2004-05 & 2011-12

Similarly, In terms of, technical education the state could not perform well and only less than 1.5% of youth could be technically educated in 2011-12. This remained lower by over 2% points compared to all India corresponding figure. The pace of increase in the state during the period has been minuscule. The relative position of eastern and Bundelkhand region is worse off as compared to the other two regions (Table 5).

Table 5. Status of Technical Education for the Youth (age group 15-29) (in %)

	Year	No technical education	Technical degree	Diploma or certificate (below graduate level)	Diploma or certificate (graduate and above level)
India	2004-05	96.33	0.28	1.87	0.72
	2011-12	96.6	0.46	2.06	0.80
UP	2004-05	98.44	0.11	0.62	0.44
	2011-12	98.62	0.18	0.74	0.46
Western	2004-05	98.43	0.12	0.66	0.42
	2011-12	98.4	0.25	0.79	0.56
Central	2004-05	98.22	0.17	0.86	0.51
	2011-12	98.21	0.16	1.21	0.42
Eastern	2004-05	98.63	0.09	0.51	0.06
	2011-12	99.05	0.11	0.48	0.35
Bundelkhand	2004-05	97.95	0.51	0.21	1.33
	2011-12	98.21	0.26	1.02	0.51

Source: Computed by the author from NSS unit level records of EUS 2004-05 & 2011-12

Virtually, there has been no progress in the field of technical education over the period (Table 5). The status and progress of the vocational and technical education clearly shows that the progress in the state has been dreadfully low in the young age population and this has serious policy implications to the labor market, if this trend is not arrested by scaling up the vocational and technical education under the skill mission policy of the state. The share of the technically educated population has declined in all four regions (Western, Central, Eastern and Bundelkhand regions) of the state and also at the country level.

4. Conclusions and Policy Imperatives

The study draws some conclusions based on the analysis as discussed above. The skill vision as documented in the policy still remains a distant goal in view of the limited institutional capacity and burgeoning labor force. In spite of enormous efforts and resources put in, the results appear to be far from reality and qualities of skills are supply driven and far-removed from market demand. The study shows that despite significant improvements in literacy levels and educational achievements, illiteracy is still a huge challenge in the state of Uttar Pradesh. Level of technical education and skill levels are awfully low in the state, though there has been an improvement during the two quinquennial periods yet its share is minuscule.

Central region had the highest percentage share in technical and higher educational levels of education in 2004-05 but in a later period the western region has picked up and has reported the highest proportion. One could surmise that central region having proximity to the state capital and numerous developmental activities are concentrated that spur around and provides better opportunities. Similarly, the western region being agriculturally prosperous part also help establish stronger linkages to other industrial activities. The proportion of technical education that includes technical degree, diploma and certificate (below degree and degree and above) in the state is appallingly low, less than 1% in 2011-12. One of the profound reasons for low level of technical education comes out to be lack of quality and low valuation attached to such education that eventually carries little or no correspondence to the labor market demand.

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