Research Paper
Impact Factor: 4. 695
Peer Reviewed & Indexed Journal

IJMSRR
E- ISSN - 2349-6746
ISSN -2349-6738

ROLE OF EDUCATION IN ECONOMIC DEVELOPMENT OF INDIA

Ekjyot Kaur Gujral
Assistant Professor of Economics, Army Institute of Law, Mohali.

Abstract
Education is one of the most important components of economic development process of any developing country especially for India. It has been highlighted as an important variable in the growth theories from the earlier 1960s onwards but in a country like India rather than focusing on economic growth, the focus has to be broadened to achieve economic development. Since an educated population in terms of human capital contributes substantially towards the progress of the country, hence the focus of this paper is on the ways in which the education levels of population can impact four main areas- fertility levels, employment, productivity and overall human resource development. Education has played a positive role in bringing down the fertility levels of population and especially due to education of females. It has helped boost the employment levels in the country and for the better employment of the workforce it is needed that the education imparted at primary, secondary and tertiary levels be combined with adequate vocational training in India. Education levels have helped improve the productivity of the workforce and have led to overall development of human resources of the country. This is particularly important to tap the demographic advantage that India has over all the developed countries of the world. Hence, the young population of the country with required education levels can boost economic growth and development.

Education system plays an important role in development of a modern economy. The education system of any economy performs following main tasks: first, it handles the basic and higher education; second, it provides better opportunities of income; third it enhances the living standards. One of the most significant drivers of socio-economic development is education. Higher levels of literacy lead to greater economic output, higher employment levels, better health, better social structures, and number of other development indicators. More particularly, the impact of education has considerably resulted in rapid improvements in family planning, nutrition, health, and income. Education as a foundation for knowledge based economy has become a buzz word in the education policy discussion throughout the developed world, the transition economies and increasingly in developing countries. The education reform so proposed emphasizes mathematics and science, information and communication technologies, basic knowledge and skills in literacy and development of interpersonal skills. For the success of knowledge economy an equal emphasis on secondary and tertiary education is needed to be able to boost labour productivity, research and innovation.

Prior to the nineteenth century, systematic investment in human capital was not considered important in any country. Expenditures on schooling, on-the-job training, and other similar forms of investment were quite small. This began to change rapidly with the influential work of Becker (1962) and Schultz (1962) who presented a formal model of education as an investment good that augmented the stock of human capital. The educational choices were made by the individuals in the same way as any other investment decision with the common characteristic that an investment cost paid now produces a course of benefits through time.

A more educated society translates into higher rates of economic growth and thus the ability of governments to alleviate poverty. A large literature on the positive association between education quantity and economic growth has developed since the work of Mankiw, Romer and Weil[1] (1992) and Barro (1991) - Hanushek (1995), Temple (2001), Benhabib and Spiegel (1992). Education quantity is measured by schooling enrolment ratios (Mankiw, Romer and Weil 1992, Barro 1991), the average years of schooling (Hanushek and Woessmann 2007, Krueger and Lindhal 2001), adult literacy rate (Romer 1990), education spending (Baladacci et al.). However, the study by Bils and Klenow (2000) finds a weak relationship between education quantity and growth and Prichett (2001) finds no relation at all between schooling and economic growth. The relationship between schooling quality and economic growth is examined in the work of Barro (1999), Hanushek and Woessmann (2007). The study of Hanushek and Woessmann develop a measure of labour force quality based on cognitive skills in mathematics and science and find that this has a strong and robust influence on economic growth.

During the twentieth century, education, skills, and the acquisition of knowledge have become vital determinants of a person's and a nation's productivity. The twentieth century can be therefore termed as the "Age of Human Capital[2]" in the sense that the crucial determinant of the standard of living of a country is its success in developing and utilizing the skills and knowledge so imparted, and furthering the health and educating the majority of its population.

[1] *Mankiw, N.G., Romer, D. & Weil, D.N.(1992), A Contribution to the Empirics of Economic Growth, retrieved online from http://eml.berkeley.edu/~dromer/papers/MRW_QJE1992.pdf*

[2] *Human capital as defined by OECD (2001) is the knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being. It can be acquired through explicit training or on-the-job experience. General human capital is referred to skills and qualifications of value in a wide range of occupations. This applies to general skills like literacy and numeracy.*

This paper focuses on aspects of economic development that are influenced by education in a developing country like India. Since economic growth is a part of the economic development process so the focus of our country is more on the overall well being of the society.

Education and Fertility

India with a population of 1.2 billion stands in tough competition to China and in few years is expected to surpass the latter. The problem of population explosion[3] as is evident from our statistics is alarming and needs to be controlled at the earliest for economic development to take place. This highlights the role of education and its impact on the fertility levels in the country. The resurgence of concern about the population explosion has further tilted the balance in favour of energetic family planning programmes, Chinese-style if needed.

Family planning messages now generally refer to 'population control' and a single-child norm and several Indian states have introduced laws barring parents of more than two children from contesting local elections. Many other proposals in the same vein have been floated.[4] The relation between female education and fertility levels has an important bearing here. The education of females can be expected to reduce desired family size for a number of reasons. First, education raises the opportunity cost of women's time and, generally, opens up greater opportunities for women that often conflict with frequent child-bearing. This may lead to a want for fewer children by educated women. Second, in a country such as India where there is an obvious preference for a son, the educated women may depend less on sons for social recognition or support in old age. This too may lead to decrease in preferred family size to some extent because large families are the outcome of a desire for an adequate number of surviving sons. Third, educated women may have higher aspirations for their children, combined with lower expectations of them in terms of labour services. This may also reduce desired family size, especially if there is a trade-off between the number of children and the time available for each child. Fourth, educated women are more open to contemporary social norms and family planning campaigns.

Regarding the relationship between education of women and fertility levels, a plausible hypothesis that follows is that the educated women have a single-handed role in their lower fertility. It therefore suggests that autonomy of women is vital for fertility to drop (a proposition first put forth by Dyson and Moore (1983))[5]. This conclusion is buttressed by the several studies which do indeed find that educated women have more liberty in decision-making and action on a number of domestic and other matters. But, from this conclusion (that educated women have greater autonomy as well as lower fertility), an implied conclusion is drawn which may have a less empirical basis. This is the conclusion that educated women have greater reproductive autonomy than uneducated women. Underlying this inference is the embedded assumption that there is an intra-household conflict in reproductive preferences which is resolved in the woman's favor when she is educated and therefore has greater autonomy in reproductive decision-making. Sometimes, the improvements in male education may also lower fertility. However, the impact of male education on fertility is likely to be lesser than that of female education, because women bear the chief responsibility for child-rearing. Also in certain cases if fertility decisions are dominated by men, it is still possible, in principle, for male education to matter more than female education. But, this does not seem to be the case in actual practice. So, majority of the studies that have investigated both effects maintain the hypothesis that female education has a greater impact on fertility than male education.

In India, with the growing literacy of women, the family planning programmes of the country definitely get a support through not only awareness but also through a substantial increase in the number of working women. In the metropolitan cities, with the breakup of joint families into nuclear families, it becomes increasingly difficult for working women to bring up children and that also comparatively brings down the fertility rates.

Education and Employment

India has enjoyed high economic growth but this has largely been jobless economic growth. The most considerable policy challenge facing the Indian economy is the need for a big thrust in the areas of education and employment in India. In 2012,

[3] *Population explosion in our country is evident from the data on population from the 2011 census which states that population of India is 121.02 crores.*

[4] *Drèze, Jean& Murthi, Mamta,(1999,November 22), Fertility, Education and Development: Further Evidence from India, retrieved fromhttp://www.histecon.magd.cam.ac.uk/docs/female.pdf*

[5] *BASU, ALAKA MALWADE. (2002, October 30). Why does Education Lead to Lower Fertility? A Critical Review of Some of the Possibilities retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.457.6886&rep=rep1&type=pdf*

India's population was 1.23 billion of which 65% was of working age[6]. India already has an advantage of demographic dividend (i.e. smaller ratio of old people to those of working age population) over that of China. So, if youth of the country are effectively engaged, this will expectedly boom the private financial savings and physical capital investment of the country. This calls for an impetus to not only education at primary, secondary and tertiary levels but also the necessary skills to be provided to the youth of the country. The Boston Consulting Group and US Standard Bureau have predicted a global deficit in trained manpower by 2020. By this year, it is projected that India will have a surplus of about 47 million skilled workers.

Out of all three levels of education it is the higher education and vocational training aspect that needs a greater attention. There are changes taking place in higher education where the focus is more on educating for acquiring employment. But the change is slow due to which the business and industry are creating ways and means for providing the necessary skills to their workforce and which stands parallel to the formal systems of education running in the country. Vocationally trained individuals currently represent around 5% of the total Indian workforce. There are currently plans to increase this figure to 50% by 2021.

Education has a substantial impact on employment prospects. On average across OECD countries, 84% of the population with tertiary education is employed. This falls to just over 74% for people with upper secondary and post-secondary non-tertiary education and to just above 56% for those without an upper secondary education. In OECD countries, an upper secondary education is typically considered the minimum needed to be competitive in the labour market. Although differences in unemployment rates[7] among educational groups have narrowed somewhat over the past decade, higher education generally still improves job prospects. Across OECD countries, the average unemployment rate among those with tertiary-level attainment has stayed near 4%; for those with upper secondary education it has stayed below 7%. But for those with less than upper secondary education, it has breached 10% several times since 1997.[8]

All the higher educated people look for employment in the organised sector in India. But, the employment in the organised sector[9] accounts for a very small proportion[10] of total employment in India. Also, there is a close relation between education and job categories. Some categories of jobs are more closely associated with professional education, while others are associated with general education and experience. There are jobs that are closely linked to professional and technical education. The ones that attract people with degree-level education are those of architects, engineers, veterinarians, agronomists, agricultural scientists, doctors and secondary schoolteachers. Among these, some jobs attract more people with degrees while others have a blend of degrees and diplomas. Those belonging to the degree level education are Architects, doctors and secondary school teachers. It is also fascinating here that the secondary school teachers come under these categories while the university teachers do not. This is because, in India, school level teaching requires didactic training, but it is not important at the university level. Also, amid these categories, there is now a preference for diploma holders in place of degree holders, with the exception of doctors and school teachers. So what is evident here is that the education intensification process is showing a reverse trend. This is happening due to the preference of the employers towards on-the-job training rather than formal education of the people so employed since job specific skills can be imparted than general skills.

Education and Labour Productivity

Education helps workers to use physical capital more efficiently, to help in the development and diffusion of new technologies and also to undertake imitation and adoption of techniques previously developed by more advanced nations. Overall it helps in improving efficiency and brings about technical change and so leads to productivity growth. There are certain reasons why education can be considered as a contributory factor towards productivity. Education which leads to human capital formation is a crucial determinant of productivity growth. The human capital theory that came into light in the 1960s indicates that human capital constitutes one of the main expounding factors of economic growth by improving quality

[6] *JHA, RAGHBENDRA (2015, May 21),Education and Employment: The big push needed for India's youth, retrieved fromhttp://blogs.worldbank.org/jobs/education-and-employment-big-push-needed-india-s-youth*

[7] *Unemployment rate refers to unemployed persons as a percentage of the labour force.*

[8] *OECD iLibrary , Education at a Glance: Highlights, retrieved fromhttp://www.oecd-ilibrary.org/sites/eag_highlights-2011-en/02/02/index.html;jsessionid=150geohu8wm04.x-oecd-live-02?/ns/Chapter&itemId=/content/chapter/eag_highlights-2011-16-en&_csp_=620a63589fa17861de7eba68ce811f79*

[9] *Organised sectors constitute all public and private sector establishments employing more than 10 workers in non-agricultural employment.*

[10] *As per the NSSO Survey, in the year 2009-10, the total employment in organised and unorganised sector was 40.09 crore, out of which only 2.81 crore were employed in the organized sector which is only 7% of the total employment in both the sectors.*

of labour force and thus enhancing its productive capacity. So education is considered as an added productive factor in the neo-classical growth models as given by Mankiw in 1995, in which technological progress is exogenous. But the role of education in production is beyond that of the physical capital, in the sense that education exercises an impact on the technological catch up and diffusion process. It facilitates the ability of a nation to adopt, assimilate and implement new technologies from other countries and determine the ability of a nation to innovate domestically. If the lack of physical capital could restrain technical development, the lack of well-educated people could mean the country has non-ability to use or create new technologies. Education is a prerequisite for economic and total factor productivity growth through its contribution to both adoption and innovation[11]. It is also an important factor in the constant growth in the endogenous growth theory due to the spillover effects that counter the negative returns to production. It is complementary to physical capital investment for the physical capital to be used effectively.

Closely related to education is the role of vocational training in enhancing the skills and productivity of the workers. In India, vocational training is imparted after the formal schooling and caters to people with minimum secondary school education, as in many developed countries.

In our country the vocational training system for skill building is quite complex with responsibilities disseminated across multiple ministries and various levels of government. The Ministry of Labour and Employment provides vocational training through over 8,000 government-aided Industrial Training Institutes (ITIs, government run) and Industrial Training Centers (ITCs, self-financed). Being on the concurrent list of the Indian Constitution, both central and state governments share legislative powers and responsibilities over vocational training. The Directorate General of Employment and Training (DGE&T) under the Ministry of Labour and Employment is the main organisation that forms vocational training policies and certification norms at the national level, while the state governments are responsible for the programmes and their implementation[12]. So, all Industrial training centers and institutes across India have the ability to vocationally train only a million people annually, whereas the number of people being added to the workforce each year is close to 13 million people. With the slow performance of the ITI model of vocational training and a growing necessity to skill its citizens, the central government has announced more initiatives. Recently a National Policy on Skill Development (not a law) has been created by The Ministry of Labour and Employment, to bring together efforts of various central government initiatives towards achieving the determined target of 500 million skilled workers by 2022. States would be playing the major role under this policy. A 'Coordinated Action Plan for Skill Development,' has been approved by the cabinet, with a three tier institutional structure consisting of (i) the Prime Minister's National Council on Skill Development, (ii) National Skill Development Coordination Board and (iii) National Skill Development Corporation (NSDC). The Prime Minister's National Council on Skill Development will be playing the role of policy-making at the national level. The National Skill Development Board will be coordinating the implementation of policies framed by the Prime Minister's Council, gauging skill gaps at the regional and national levels, and supervising ongoing schemes. Finally, the NSDC has been set up as a venture of public-private partnership to involve the corporate sector in vocational training with the aim to skill 150 million people by 2022. The NSDC has so far established two partnerships with training organisations and non-governmental organisations.

Most of the literature on India's skill deficit mainly focuses on the shortage of skilled workers in the Information technology sector. The apprehension about shortages of skilled workers in IT is not reflective of the much larger proportion of skilled workforce problem in India because IT is not comparable with the informal sectors (like construction). Moreover, in IT there is the requirement of a workforce trained in higher educational institutions and not vocational training centres. Also, the skill-related employability issues in the IT sector may be exaggerated as the sector comprises only a small proportion of the Indian workforce. The National Association of Software and Service Companies (Nasscom)[13] has reported that the Indian IT sector employs only two million people directly. Besides, what is common in IT firms is on-the job training. Top Indian IT companies such as Tata Consultancy Services and Infosys have undertaken partnerships with engineering colleges for imparting students the required soft skills and decision-making techniques. In contrast, no such training initiatives as taken by the private sector are seen in the informal sector, which means the utter scarcity of skills in such workers may be more pronounced compared to those in IT. It is pertinent to mention that in spite of the IT sector's growing reach to smaller Tier II and Tier III towns; it does not have the capability to employ the millions of workers from rural areas. In conclusion, a narrow

[11] *HUA, Ping(2005, May), How does education at all levels influence productivity growth? Evidence from the Chinese Provinces, retrieved fromhttp://cerdi.org/uploads/ed/2005/2005.15.pdf*
[12] *Hajela, Ruchi. (2012, November), Shortage of Skilled Workers: A Paradox of the Indian Economy, SKOPE Research Paper No. 111 , COMPAS, University of Oxford, retrieved from http://www.cardiff.ac.uk/socsi/research/researchcentres/skope/publications/researchpapers/WP111.pdf*
[13] *Nasscom is an organisation that represents the Indian software industry*

focus on the IT sector overlooks the need to skill the huge number of casual workers that constitute a majority of the working population of India. Hence, the skill up gradation for a major portion of our working age population is necessary to reap the benefits of education of work force towards economic development of the country.

Education and Human Resource Development

The overall impact of education on development of human resources of the country can be seen in diverse ways. Although it improves the employment levels in the country but directly it creates income earning opportunities for teachers, school administration, construction workers through setting up of school buildings, printers of textbook and paper, and manufacturers of school uniform. It also helps in the creation of a class of educated leaders to fill up the vacancies in the public corporations, government services and the other administrative positions. It helps in incorporating modern outlook and attitudes among the people of our country. It also serves as an egalitarian measure to economically uplift the poor and deprived lot in India and work for the welfare of the general masses. The enhanced education levels have also played an important role in the rural development of the country and this is particularly important since 84% of the population of India lives in the rural areas[14]. India primarily being an agrarian economy, education has helped rural people to adopt new and improved techniques of agricultural production and understanding their advantage over the traditional methods. It has helped rural people to acquire certain skills to enable them to set up cottage and small scale industries to overcome the problem of disguised unemployment[15].

The other benefits of having more educated population are the spillover gains from the present generation to the future generations of the country, facilitation of an environment directed towards research in science and technology, encouragement to be law abiding citizens of the country working towards welfare of the people, ensuring political stability through proficient political leadership and cognizant electorates and broadening the intellectual horizons of the educated and uneducated lots of the country.

Conclusion

It is quite evident from the above discussion that education at all levels i.e. primary, secondary and tertiary along with the skill development plays a very important role in the economic development process of India. But the problem is that expenditure on education is still not considered as an important investment in India although it has received a considerable attention in all the five year plans of the Government. Since the early 1950s, the proportion of public expenditure on education to GDP in India had stagnated. This proportion started increasing around the mid-1980s which led to an improvement in the elementary education and also reduction in the interstate disparities.

However, the public expenditure on education in India is still inadequate. Among one hundred and six countries for which the relevant data are available, India ranks as low as eighty sixth in terms of proportion of public expenditure on education to GDP. Recognising the importance of education , public expenditure on education was increased considerably during the Eleventh plan –from 3.3 percent of GDP in 2004-05 to over 4 percent of GDP in 2011-12 (however, even now, this is less than the goal of 6 percent of GDP). About 43 percent of the public expenditure on education was incurred for elementary education, 25 percent for secondary education and the balance 32 percent for higher education[16]. In all the five year plans, the focus has been on improving the education facilities at all levels and which has been instrumental in improving the literacy levels of the country, which stands at 74.04 percent, according to the 2011 census. But still the problem at stake is the fact that 26 percent of the population of the country remains illiterate. With regards to literacy, India's position when compared with the other Asian countries remains unsatisfactory. According to the Human Development report 2011, adult literacy rate was 37.2 percent in India in 2005-10 as against 6 percent in China, 9.4 percent in Sri Lanka, 4.6 percent in Philippines and 2.3 percent in Argentina[17].

In India, we have a large number of government run programmes to regulate education at all levels like Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA), Mid –day meal scheme, Kasturba Gandhi Balika Vidylaya(KGBV) and National Programme for Education of Girls at Elementary level are programmes aiming at elementary

[14] *As per 2011 Census of India, data retrieved online at http://censusindia.gov.in/2011-prov-results/paper2/data_files/india/Rural_Urban_2011.pdf*

[15] *Disguised Unemployment is a form of unemployment in India where more number of people are engaged in a job than are actually required. This form of unemployment is mainly found in the agricultural sector of India. The extra labourers employed in the agricultural operation do not affect the production and output due to which the marginal productivity of disguisedly unemployed people is zero.*

[16] *Puri, V.K. and. Misra, S. N.(2014),Indian economy, 32nd revised edition, Mumbai, Maharashtra: Himalaya Publishing house, p.142*

[17] *Id., p.143*

and secondary education and Rachtriya Uchhatar Shiksha Abhiyan (RUSA) for higher education. Despite all these efforts, there are a large number of problems faced by our education system that is pulling back the economic development. The number of failures and dropouts at the elementary and secondary levels are very high which is mainly attributed to poor quality schooling including teachers, teaching materials and infrastructure. This problem is particularly evident in the government run schools in India where a large number of children come from the poor strata of the society. The enrolment in Secondary level schooling in India is very low, only about 50% and the higher education suffers from poor quality of institutions, outdated curriculum and lack of funds and support for adequate research. The technical education is unable to meet the needs of the industry as there are clear cut imbalances between the skill requirements of the industry and the traditional skills being imparted as a part of the outdated curriculum of the technical institutes of the country.

Hence, these problems need to be looked into so as to improve the quality of education rather than just focusing on numbers through up gradation of quality infrastructure and teaching materials. So raising the standards of existing higher education institutes and government universities is the need of the hour. The focus should be on laying minimum standards of attaining higher education in India and the research needs to be more useful and productive rather than superficially being carried out merely to expend the resources allocated towards it. In the areas where some specific education skills need to be imparted should be recognized like in rural areas more education pertaining to agricultural operations and vocational knowledge should be imparted rather than general education. With these efforts, the education aspect of human resource development and hence economic development will get its due and will be able to substantially contribute in the race of the economy towards betterment and achievement of higher level of growth and development.

References

1. Drèze, Jean& Murthi, Mamta, (1999, November 22), Fertility, Education and Development: Further Evidence from India.
2. Basu, Alaka Malwade. (2002, October 30). Why does Education Lead to Lower Fertility? - A Critical Review of Some of the Possibilities.
3. Jha, Raghbendra (2015, May 21), Education and Employment: The big push needed for India's youth.
4. HUA, Ping (2005, May), How does education at all levels influence productivity growth? Evidence from the Chinese Provinces.
5. Hajela, Ruchi. (2012, November), Shortage of Skilled Workers: A Paradox of the Indian Economy, SKOPE Research Paper No. 111, COMPAS, University of Oxford.
6. Mankiw, N.G., Romer, D. & Weil, D.N.(1992), A Contribution To The Empirics Of Economic Growth.
7. Puri, V.K. and. Misra, S. N. (2014), Indian economy, 32nd revised edition, Mumbai, Maharashtra: Himalaya Publishing house.