



Role of Education in a Developing Country like India

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Abstract. Education and technology progress together made 42 percent contribution to growth in national product, this research explains the role played by skilled persons and technology in increasing the national product and ultimately in promoting economic growth. Expenditure on education is to be considered as an investment, like investment in physical capital because it increases productivity of the labour which contributes to growth of natural income of country. Educated workers get higher wages which benefit not only the individual but also to the society as a whole. Higher productivity leads to higher income, higher output and higher standard of living.

Keywords: technology, expenditure, investment

1. Introduction

Over a long period of time it was believed that an accelerating rate of physical capital formation was necessary for attaining higher rate of economic development and raising the standard of living of the people in a developing country. But in the last three decades economic research has revealed the importance of human skills and knowledge of the people, especially the labour force. It is not only the quantitative expansion of educational opportunities but also the qualitative improvement of the type of education which is imparted to the people, especially working people that hold the key to economic development. On account of its significant contribution to economic development, education has been considered as a human capital formation and expenditure on educational activities for the people as investment in men or human capital. According to Harbinson (1973) "Human resources constitute the ultimate basis of production, human beings are the active agents who accumulate capital, exploit natural resources, build social, economic and political organizations and carry forward national development. Clearly a country which is unable to develop the skills and knowledge of its people and utilize them effectively in the national economy will be unable to develop anything else. It was also realized that merely physical capital formation will not automatically promote economic development because it needs human hands to make physical capital operative and it is the efficiency of production of human hands that ultimately contribute to economic development of a developing country. Several empirical studies conducted in developed countries especially in the USA regarding sources of growth i.e. contributions made by various factors such as physical capital, physical labour or man hours, education etc. concluded that education or the development of human capital has been a significant source of economic growth. Solow(1957) who was the first economist to measure the contribution of human capital to economic growth estimated that, for United States between 1909 and 1949, 57.5 percent of the growth in output per man hours could be attributed to the residual factor which represents the effect of the technological change and of the improvement in the quality of labour mainly as a consequence of education. Denison(1983) studied the "Trends in American Economics Growth(1929-82)" Concluded that during this period the USA's total national output increased at a rate of 2.9 percent per annum, increase in labour input accounted for 32 percent and the remaining 68 percent was due to the increase in productivity per worker. Then the contributions of education per worker, capital formation, technological change and economies of scale. He concluded that 28 percents points of contribution to growth in output due to growth in labour productivity was due to technological changes, 19 percent points due to education per worker and 9 percent points due to economies of scale. Thus it may be concluded that education and technological progress together made 42 percent contribution to growth in national product, this research explains the role played by skilled persons and technology in increasing the national product and ultimately in promoting economic growth. Baker(1960) also measured income differential arising from the cost of expenditure incurred in acquiring a college education in the US. His estimates showed that the rates of return on education in the USA for the urban white collar population were 12.5 percent in 1940 and 10 percent in 1950. Schultz(1961) studied the relationship between expenditure on education and consumer income and also the relationship between expenditure on education and physical capital formation for the USA during the period 1900-1956 and concluded that, when measured in constant dollars, "the resources allocated to education rose about three and a half times relative to consumer income in terms of dollars and relative to the gross formation of physical capital in terms of dollars. Thus investment has been 3.5 times more attractive than investment in physical capital. Thus expenditure on education is to be considered as an investment, like investment in physical capital because it increases productivity of the labour which contributes to growth of natural income of the country. Educated workers get higher wages which benefit not only the individual but also to the society as a whole. Higher productivity leads to higher income, higher output and higher standard of living. Education can be seen as a product or process and considered in a broad sense or a technical sense. In its broad sense education refers to any act or experience that has a formative effect on the mind, character or physical ability of an individual. In its technical sense education is the process by which society, through schools, colleges and universities and other institutions, deliberately transmits its cultural heritage- its accumulated knowledge, values and skills from one

generation to another. Education refers to all experiences in which students can learn something by of Instructions-refer to the intentional facilitating of learning toward identified goals, delivered either by an instructor or other forms. Teaching – refers to the action of a real live instructor designed to impact learning to the student. Training- refers to learning with a view toward preparing learners with specific knowledge, skills or abilities that can be applied immediately upon completion. Education plays a crucial role in the social and economic development of a nation. Education refers to “Sensitivities and perceptions that contribute to national cohesion, a scientific temper and independence of mind and spirit thus furthering the goals of socialism, secularism and democracy, enshrined in our constitution”. Education develops manpower for different levels of the economy. It provides a necessary base for developing research and development, which ultimately leads to national self defense. Thus education is a unique investment for developing human capital.

2. Changing Role of Educational Sector

Education plays a crucial role in the life of a child by shaping his behavior. Teachers, parents, policy makers and society desire certain changes in the behavior of a child which are expected to take place through education, so as to enable him to survive by facing challenges and grow under dynamic and complex environment and satisfy, and to be able to maintain healthy relations with his fellows and lead a successful and richer life. Conditions of survival in a society are also changing. In the past century the literacy rate of the Indian population was much lower because during those days literacy was not essential for survival. People were engaged in various life supporting activities such as farming, spinning etc. Not necessary but skill and knowledge was sufficient leading to economic development, machines replaced men and different forms of careers originated. In order to adopt these careers different types of skills become necessary. This led to the increase in the knowledge of reading, writing and arithmetic described as “Three Rs.” Now we experience revolutions in almost all the fields affecting human life, experience information revolution, technological revolution giving rise to a knowledge society. Now life has become technology or gadget based where gadgets are available for most of the activities carried out by human beings. This technological advance made the field knowledge quite vast. Hence to lead life successfully under present conditions certain very different types of skills become necessary. Hence the national policy on Skills Development was approved by the Government of India in 2009, where certain basic skills required to acquire by the students were identified. Some of these skills are:

1. Communication and presentation
2. Acquiring and processing information
3. Synthesizing knowledge
4. Integrating knowledge from other disciplines
5. Leadership
6. Analytical skill.
7. Language skill
8. Computer science skill
9. Creative thinking
10. Problem solving
11. Public relations management skills

Now it is the responsibility of the educational system to develop students right from his childhood towards young and matured students through systematic formal education, to enable him to become an idle citizen of modern India. Modern society is a knowledge and technology based society where connectivity is driving the economy. Hence knowledge is considered as the primary productive resource. It is the innovative capacity which empowers the knowledge society. In order to develop a well informed society, efficient and effective utilization of knowledge is necessary. Developing countries, especially India, aim at promoting knowledge based societies. As the knowledge era exposes us to a competitive world, knowledge has to be used as a crucial weapon for developing knowledge society. Thus the prosperity of the knowledge society will depend on, creation, development and maintenance of knowledge infrastructure and knowledge workers. According to Venkata Subramanian(2000), knowledge society means “creating sharing and using knowledge as the key factor in bringing about prosperity and well-being of people”. A great historian Alvin Toffler (1980), developed the idea that power at the dawn of civilization resided in the ‘muscle power’, then got itself associated with ‘wealth’ and in the 20th century it shifted its focus to ‘mind’. Thus the evolution of the shifting foundations of the economy is characterized by shifts from physical power to wealth power to mind power. Thus “The economic, social, cultural and technological changes in the national and international scene contribute to the knowledge of society.” India can attain a higher rate of growth if India becomes stronger in the knowledge sector and information technology is properly exploited. Thus India can overcome the problem of poverty, generate wealth at a higher rate and can play a significant role at the global level. In order to develop knowledge in society, information has to be structured for fulfilling basic conditions of interactivity, mobility and convertibility, ubiquity and globalization, as Toffer(1990) has pointed out. Societal transformation can be achieved by way of developing educational facilities, improving governance. These measures will generate employment opportunities, rapid increase in productivity and promote rural prosperity. In this context information and communication technology (ICT) can play a crucial role if it is included in educational and training fields for achieving desired results. Since last decade there has been significant progress in the knowledge and information sectors in India. Now India has attained a position among ICT oriented countries. On account of extensive use of satellites, televisions, computers, internet etc. there has been a flow of

knowledge and information. However the benefits of knowledge are equally distributed, which has resulted in developing “ Islands of prosperity and continents of ignorance, poverty, illiteracy over population, backwardness and poor health”. In order to develop and maintain a knowledge society three types of networks are needed. These are the electronic network, the transport network and the river network. Electronic networks help in generating wealth and permits knowledge to spread in each and every corner of the world. Thus knowledge multiplies and contributes to generating wealth significantly. Transport network promotes mobility of men and materials, economically. River network helps in achieving rural prosperity by way of increasing productivity of agriculture and related activities. The future, stability and development of any society depends upon ITC use and knowledge technologies. Education is an effective tool for empowering the people and society. It promotes participation of citizens in the process of progress and prosperity of a nation. There is a direct relation between education and society. It serves, as education originates from the society and contributes towards bringing about social changes and in turn gets itself changed by an individual but also of the society. Education not only promotes the development of individuals but also that of society.’ Education is not only about putting the individual in contact with values, but also raising him to the level of these values and then extending this process from the individual level to the society thus increasing its value and functionality”. When educational inputs are properly planned and used effectively, then it can increase national output, cultural richness and build a positive attitude towards technology. It increases efficiency and effectiveness of governance. Education not only develops new values but also strengthens competencies and develops commitment and sharpens the ability to self-examination, self-monitoring and also self-criticism. The main purpose of education in a country like India is to bring about human resource development and contribute towards transforming it into knowledge society. This can be achieved through quality teachers and quality content. The real capital in knowledge society is its knowledge workers. Society will aim at creating a knowledge intensive environment and developing processes to create, share and protect knowledge. Education is considered as an engine of personnel, social and economic growth. The Indian educational system consists of primary or elementary education, secondary education, higher education and tertiary education. Universalisation of elementary education was given the top priority, since Indian Independence. It includes not only three Rs (reading, writing and arithmetic) but also aims at bringing about harmonious development of the child. It provides a necessary base for secondary education. Secondary education is the connection between primary education and higher education. It plays a crucial role in the lives of the students. This is the stage where young people should be able to decide about their own future according to their own tasks, preferences and aptitudes so that they can acquire the skills and abilities for enjoying a successful adult life. It has been realized that, if India aims at attaining and maintaining a higher rate of economic and social development, then significant improvements at the secondary educational structure are necessary. According to the view of the Kothari commission, secondary education enables students to carry responsibilities of life on their shoulders and can get engaged in useful commercial activities. Higher education deals with education imparted in colleges, universities and various types of institutions, with the aim that the student understands himself prevailing conditions of the society and develops himself physically, psychologically and morally so as to enable himself to make contribution towards developing a knowledge society which can ultimately result in social and national development. The scope and role of tertiary education has increased since the last four decades. It includes learning and teaching at the high level of conceptual and intellectual skills in various disciplines. It is much more diversified and includes new types of institutions. Tertiary education policy is given high priority as it is a major driver of economic competitiveness in an increasing knowledge driven global economy. It contributes towards social and economic development through four major strategies.

1. The formation of human capital through teaching.
2. The building of knowledge bases through interaction with knowledge users.
3. The dissemination and use of knowledge through interaction knowledge uses.
4. The maintenance of knowledge through inter generational storage and transmission of knowledge.

National Knowledge Commission recommended in the context of education in India as follows- Our educational system should realise itself at the earliest to meet the needs of the present day challenges and be fully geared to participate in societal transformation. Knowledge society enriches information society through innovation. Information society enriches agriculture and manufacturing through value addition. The National Knowledge Commission (NKC) believed that providing universal access to quality school education is the cornerstone of development and the minimum necessary condition for any progress towards making India a knowledge society. The commission focused on five key aspects of knowledge: enhancing access to knowledge, reinvigorating institutions where knowledge concepts are imparted, creating a world class environment for creation of knowledge, promoting applications of knowledge for sustained and inclusive growth and using knowledge applications in efficient delivery of public services. Thus it may be concluded that- The basis of future society is education, a life long process and knowledge and information represents the key variables in the development of society. Education not only civilized man but also includes moral values and principles for living out a better social life in the world. Education is the important path to developing knowledge in society. Education can provide not only the best technological potential innovators, can create an advance in knowledge and create economic growth. As the population develops, society also develops. When an individual undergoes more education, he becomes able to face new challenges generated by the knowledge based society and economy. Thus investment in education becomes the most important investment of the society, as knowledge society produces commodities of high knowledge value.

3. Fresh Focus on Secondary Education

Recently the education department of Maharashtra state has decided to identify deficiencies in the existing secondary schools, establish new schools and develop state specific norms for physical facilities under the Rashtriya Madhyamik Shiksha Abhiyan(RMSA),for which Rs. 711crs have been allocated in fiscal budget 2013-14. The aim of the state is to improve the standard of secondary education in terms of access to education, physical facilities including laboratories, libraries, art and craft, toilet blocks and quality of education with focus on science, maths and English under the scheme. The state project coordinator has drafted different schemes for improving the standard and quality of secondary education in the state. The scheme aims at ensuring that all secondary schools have physical facilities, staff and supplies according to the prescribed standard. According to the course coordinator, "Providing required infrastructure like blackboards, furniture, libraries, science and laborites, computer lab and appointment of additional teachers and in service training teachers will be on priority list once the scheme is approved. The state education department has also proposed to increase the number of Kendriaya Vidyalaya and Jawahar Novodaya Vidyalayas in view of their importance as pace setting schools and strengthen their role.

4. Quality Parameters of School Education

Education plays an imperative role in the process of the advantage of an individual's country and his destiny. Education is a fundamental right in India and an important millennium development goal to which India is totally committed, various religious philosophers have provided essential ingredients of value based school education in India .Education in India considered the most powerful means of modification of human behavior this described as the means of all around development of personality and values among the human beings. Education without anchoring in human values is incomplete and may create unidirectional citizens. Hence the national policy of education, as revised in 1992 had emphasized the need for substantial improvement in quality of education, to achieve essential levels of learning. The program of Action 1992 stressed the need to lay down Minimum levels of learning (MLL) at primary and upper primary levels. This need originated from the basic concern that irrespective of caste, creed, location or sex, all children in India must be given access to quality education of comparable standards. Thus the MLL strategy was seen as an attempt to combine quality with equity. Education is one of the important factors that shape the personality of a child of a high quality. The quality of education is basic to the European Trade Union Committee for Education (ETUEE). A quality education system must manage to provide all children and young people without distinction of any kind, with a comprehensive education and with an appropriate preparation for working life. Life in society and private life in the form of further education within vocational schools, colleges, universities or other educational institute's .However parents and students tend to measure the quality of education by the level of performance in the form of marks or grades obtained in the examination. But the concept of quality of education is an umbrella concept which includes all those aspects of education which make it efficient and good. It includes availability of infrastructure such as buildings, trained teachers and quality of instruction, course, syllabi etc. Thus quality of education includes all these aspects. Indicators of quality education are stated to be as follows .educational system that gives every child-

1. A better quality of life.
2. Access to opportunities leading to a productive life.
3. The potential to find answers to problems.
4. Education that contributes to peace.
5. The knowledge of and respect of history, culture, music and the environment in which it lives.
6. A healthy lifestyle, quality in relationship, family and community life and knowledge of financial management for life after school.
7. Enrollment in tertiary education.
8. Opportunities for employment.
9. A realistic teacher – student ratio.
10. Adequate qualifications, salaries and conditions of service for teachers teaching in schools.
11. Infrastructure that meets the needs of students and staff.
12. Resources for students to acquire various skills.
13. Employments opportunities for school level and those with post secondary education

According to a global monitoring report of UNESCO (2006) the child performance needs to be treated as a parameter of quality in school education. The Child's knowledge and skills, nature of knowledge and its relation with the child's own nature and the approach used by the curriculum designer and teachers while preparing curriculum and textbooks respectively are the vital parameters. Distances from these parameters deteriorate the quality in school education. UNICEF (2000) and UNESCO (2004) have recognized five parameters of quality education which are learner, priorities, context, environment and outcomes thus quality parameter learner for whom the educational infrastructure is the first and most important condition. Understanding priorities to improve efficiency is necessity for example schools should be housed in pucca buildings, environment should be such that the wastage of working does due to bad weather conditions can be minimized with improving buildings so that the outcome can be improved but in India a large number of schools do not have safe pucca buildings for their schools and infrastructure is also remains a neglected field. Syllabus contains and methods of instruction

have to be made learner centric and outcome based. The pupil teacher ratio should be kept at a lower level so that a teacher can give proper attention to each student, so as to improve the quality of education. In order to become a good citizen it is necessary to have better performance in various subjects covered by the study along with habits, attitudes, values and life skills. The factors associated with success in these areas which are related to the conditions of the learning environment are also the indicators of quality of school education. Quality issues in school education are thus related to quality of infrastructure and support services, opportunity time, teacher characteristics and teacher motivation, free service and in service education of teachers, curriculum, and teaching learning material, class room's processes, pupil education, monitoring and supervision etc. Thus improvement in these parameters and its maintenance is the grave concern for the educational system as a whole. Some issues mentioned in programs actions 1992 are as follows-

1. Providing for reasonably good school building and equipment to all schools and centers for alternative schooling.
2. Providing education to all children until six years of age, which is now made till 14 years of age and till secondary education for girls free of cost.
3. Ensuring a minimum of 4 to 5 hours per day of meaningful stay of each child in school.
4. Providing trained and committed teachers in all schools and really interested and oriented instructors for all non formal educational centers .
5. Improving the quality of existing preservice of teacher education.
6. Organizing quality-in-service teacher education to all teachers on a periodical basis and with a follow up mechanism.
7. Creating and sustaining teacher motivation.
8. Revitalizing supervision system for quality elementary education.
9. Re-organization of curriculum to imbibe local needs and incorporate the concerns of the National Curriculum Framework (2000).
10. Development of competency based and contextual teaching learning material.
11. Improving teaching learning processes to make them child centered, activity based mastery learning oriented.
12. Providing remedial teaching and enrichment programs on due occasions in all classrooms.
13. Introduction of formative education and grading system to make it stress free for children.
14. Reduction of curriculum load.
15. Introducing participatory management of elementary education with community support.

As students come from different backgrounds, quality education focuses on identification of the varieties of each individual nurturing these varieties for holistic development of the individual students. Thus nurturing each student to optimize his potential is a crucial parameter of school education. Optimization of potential of each school is a parameter of school education. Continuous search for improvement is a parameter. Mukhopadaya(1999) has mentioned four qualities which are informed, cultured, emancipated and self actualized which indicate educatedness. Thus quality in education can be indicated by educationists of the product of the school. Availability and use of modern technology supported required resources in school enables the teachers to meet challenges of globalization and give updated knowledge to the students to bring out quality. In the countries which affected by the political economy of colonialism, the tension between quality and equality continues to be an obstacle to social and policy changes according to J.P.Naik, equality, quality and quantity is an elusive triangle which has country pulls in the shape of diamonds and resistance to school education in India. Hence for maintenance of equality and quality in Indian school education has been an essential and guiding parameter for quality education.

5. It in Education

The use of IT in education is not only economical but also highly effective. It enables us to improve the quality of education and make knowledge available to a large number of students at the same time. Technology is a branch of science which deals with machinery and equipment systems, their design and application and making continuous efforts in improving them. Technology means scientific other organized knowledge that uses various activities easy and simple in practice. Scientific and other organized knowledge include skills, experience and common sense. In case of the use of technology human beings use it efficiently and effectively and hence it becomes a part of the social life system. The process of education of any type includes two types of educational activities. Non – interactive Educational Activities Reading a book, observing TV or video programs, listening to a lecture, writing essays, solving arithmetic exercises/examples etc. which are done by a student independently are non-interactive educational activities. The Indian educational system has been dominated by such types of educational activities. Under these activities there is no involvement of individual response either of the teacher or other students. These activities provide mainly information about the subject. Such information enables most students to convert it into development of knowledge for which interactive educational activities are needed. There will be hardly any Eklavaya to learn on his own without any help from his teacher or guide. Most of the students need help from a teacher especially for interactive educational activities.

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