

LINKAGE OF EDUCATION AND LEARNING ENVIRONMENT WITH ECONOMIC DEVELOPMENT OF PAKISTAN

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Abstract

Empirical analysis of economies around the world shows that there is a strong correlation between education, learning environment and income/productivity levels. It is often argued that indicators of economic growth and development lie in a country's national income and for this the human development index is of extreme importance. Education and learning environment are one of the various dimensions of Human Capital which when viewed through the lens of human capital theory, describes individuals as economic firms contributing to the Total Factor Productivity (TFP). Thus, for any economy to thrive, it is important that its physical and human capital complement each other and for this, education is the connecting dot. Education raises the marginal productivity of workers, that's why it positively impact on a country's national income. The immensely polarized education system of Pakistan takes form of three distinct learning environments impacting the services, agriculture and the industrial sector.

Keywords: Education, Learning Environment, Personality Development, Human Capital, Marginal Productivity, Total Factor of Productivity, Foreign Direct Investment.

Introduction

Economists and sociologists around the world, time and again have argued about the importance of education for the economic development of a nation. The idea of education as an indicator of economic returns and development is premised on the belief of a more developed human capital invested in the labor market. Education, is crucial in achieving the status of large economy and its significance, is illustrated in the following quote by British economist Alfred Marshall,

“While nature shows a tendency to diminishing return, man shows a tendency to increasing return. Knowledge is our most powerful engine of production; it enables us to subdue nature and satisfy our wants.”

Thus, the correlation between of education as well as learning environment with economic development of a nation is positive.

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"If anything, recognition of the importance of knowledge has gained momentum, and there is a renewed impetus to integrate knowledge into countries' development strategies."²

Irrespective of the components of a country's GDP, the relation is premised on the basic idea that skillful labor force would produce more output in the same given working hours than unskilled or under-skilled labor force. Education raises the marginal productivity of workers hence positively impacts a country's national income.³ This illustrates the significance of primary, secondary and tertiary levels of education on the human capital of a country.

Pakistan is a developing country and it spends 2.2% of its GDP on the education sector. Its literacy rate stands at 58% for its population from 10 years of age and above.⁴ The literacy rate of urban areas is 74% and rural areas 49%.⁵

Overall, Pakistan's economy has often remained unstable due to more than one contributing factors, such as mismanagement of resources, low GDP-Tax ratio, rampant corruption, overburdening of the economy with loans and fast depleting foreign reserves. The situation has further been aggravated due to the menace of terrorism that engulfed the country. Unfortunately, Pakistan was labeled as an epicenter of terrorism by the international community which had negative effect on direct foreign investment. Despite the uncertainty surrounded Pakistan's economic conditions, the country attained a Real GDP growth rate of 5.28 percent in 2016-17, the highest in 10 years.⁶ According to a report published by Price Water House Coopers in 2017, Pakistan is expected to acquire the status of the world's 20th largest economy by 2030 and 16th largest by 2050.⁷

Since the human capital theory suggests that the number of productive working hours are more important than the total number of working hours, it is therefore evident that in the same given working hours, the average output of an organization will increase manifold when its workforce is well equipped with modern knowledge as compared to an organization whose workforce is unskilled. It can be inferred that the existing dire state of Pakistan's diminishing economy can be attributed to non-congenial and inflexible learning environment and a divergent class-based school system that has not been able to equip individuals with skills compatible with the changing job demands. In developing countries, education plays a crucial role for the creation of human capital and unfortunately, the education sector of Pakistan faces multiple and complex natured challenges. This paper will focus on education and learning environment that impede the human capital to become a productive part of Pakistan's economy by establishing a linkage between Education and Economic Development. Primarily, Human capital theory will be used to assert that knowledge, skills, assets, and experiences achieved through good quality education will make country's working class more compatible with world standards and thus add to the economy via industrial growth and remittances. In addition, the participatory state model of governance will be used to highlight how poor governance and lack of participation by the stakeholders in the country's education process has hampered the

system from improving. Since no country's economy can take off unless the government invests in its education, these theories will help establish and identify how an educated labor increases the overall productivity and output.

Pakistan's Education System

Quacquarelli Symonds (QS), a British ranking agency has dubbed Pakistan's education system as one of the world's weakest. The system is marred by bad policies, teaching methods more focused on rote learning instead of analytical skills, low primary enrolment rates, untrained teachers, outdated curriculum, poor planning and mismanagement of resources.

Overview of the Education System and Learning Environment

Factors congenial to students' learning consist of an optimum balance of curriculum, physical environment, social atmosphere, institutional characteristics and diversity while giving equal weightage to counselling sessions and family background. Unfortunately, in Pakistan, the school system embodies the highly polarized class stratification where 4 out of 10 individuals live in poverty.⁸

In any academic institution, learning environment plays an important role as "*classroom environment is one of the key factors of a student's accomplishments*". According to experts, the best learning environment consists of a setup which effectively pursues the set learning objectives. However, in Pakistan, the significance of learning environment is quite often overlooked by the policy makers, administrators and faculty members.⁹ A good learning environment should focus on both teaching and learning facilities. Few aspects such as temperature, walls decoration, lighting arrangements, ventilation and acoustics also play a pivotal role in students' learning.¹⁰ A study was conducted in 2013 on elementary and middle school by Barrett, Zhang, Moffat and Kobbacy, they examined that the learning environment of 751 students in 34 classrooms across seven schools of UK to observe if environmental conditions impact learning or not.¹¹ While controlling other factors, they found that conditions such as light sound, temperature, ventilation and quality furniture accounted for 25% (either positive or negative) of the students' performance.¹²

Henceforth, a good quality education encompasses various elements such as motivated learner, safe, healthy and conducive learning environment, relevant and student-centered curriculum, textbooks and learning materials, trained teachers, student centered teaching approaches, and learning outcomes. It encompasses knowledge, skills and attitudes that foster positive participation in society.¹³ A good education system should thus be a combination of the following factors:

- Updated Curriculum
- High standard Textbooks & relevant learning material
- Trained and qualified teachers
- Assessment focused on developing cognitive abilities of individuals
- A conducive learning environment

In any educational system, curriculum is central and instrumental key to decide and follow some particular teaching practices and knowledge products. Indications of learning skills at each level is non-existent and often fail to answer questions like How, What and Why, which are vital for the development of an individual's critical and analytical skills. Unfortunately, in Pakistan, the curriculum is not regularly updated and lagging in visual stimulation which ultimately impedes in learning. Being the principal learning tool, text books are outdated and sometimes lack reliability. Teaching methods emphasize on rote learning and the classroom environment lacks a healthy teacher-student and student-student interaction. The prevailing assessment techniques at almost all levels fail to advance cognitive ability of individuals.

Components of Economic Progress

It is often argued that the GDP is not the real reflection of a country's growth. The real indicators of economic growth and development lie in a country's national income and for this the human development index is of extreme importance. The index consists of following factors:

- Life expectancy
- Education and welfare
- Wealth

As discussed, the education system of Pakistan is in dire state; whereas the economy despite all the potential is unstable and flailing. Hence, economic growth of a nation is combination of both; the physical capital and the human capital. Both forms of capital combined exponentially to increase the quality and the quantity of the products. The, components of economic progress broadly consist of:

- Infrastructural development and investment
- Technological advancement
- Labour productivity

The relationship between each component is directly linked to the quality of education and learning environment. As the quality of education improves, labour productivity, technological advancement and infrastructural development happen at a faster rate. Due to this, the knowledge-based structure of globalized world compels nations to strive for a good educational structure with focus on a highly conducive learning environment. The demands of the information age have put developing countries like Pakistan under stress due to the widening income and knowledge gaps.¹⁴

Pakistan is a land of diverse cultures, languages and beliefs that vary across the country. Located in South Asia and home to 207, 774, 520 people, Pakistan's population consists of 106, 449, 332 males and 101,314, 780 females.¹⁵ Its location provides it with immense economic potential due to its geostrategic significance; known as the gateway to Central Asia, its location provides China the key link to Central Asian States, Middle East and Europe. Its strategic significance and its role as conduit to world economies have allowed the country to be categorized as a transit economy.

The country's agriculture sector contributes to 19.8% to the country's GDP whereas the industrial sector contributed a 21.02% in the fiscal year 2015-2016.¹⁶ Like most developing countries, agriculture is the main contributor of Pakistan's GDP. The sector accounts for half of employed labor force and is the largest source of foreign exchange earnings.¹⁷ The diversification across Pakistan has a direct impact on the education sector. The UNESCO Institute for Statistics estimated in 2016 that around 25 percent of the Pakistani youth is illiterate whereas 8.2 percent is unemployed with no vocational and technical skills.¹⁸ Majority of Pakistan's population have less access to education and the completion rate for primary education is one of the lowest in the world.¹⁹ Many analysts have attributed the current dire status of the country's education system to the absence of defined national education goals or standards.

Country	Scientific and Technical Journal Articles (2009, World Bank Data) ²⁰	GDP Ranking (based on 2011, World Bank Data)	Human Development Index (HDI, based on 2012 UNDP Data) ²¹ Category
United States	208,601	1	Very High
China	74,019	2	Medium
Japan	49,627	3	Very High
United Kingdom	45,649	7	Very High
Germany	45,003	4	Very High
France	31,748	5	Very High
Canada	29,017	10	Very High
Italy	26,755	7	Very High
South Korea	22,271	14	Very High
Spain	21,543	11	Very High
India	19,917	8	Medium
Australia	18,923	12	Very High
Netherlands	14,866	16	Very High
Russia	14,016	9	High
Brazil	12,306	6	High
Sweden	9,478	20	Very High
Switzerland	9,469	18	Very High
Turkey	8,301	17	High
Poland	7,355	21	Very High
Belgium	7,218	22	Very High
Pakistan	1,043	45	Low

Table-1²²: Country Wise Comparison

A comparative analysis of regional economies of China, India and Pakistan shows vast differences in economic growth due to differences in human development stemming from divergent educational policies and literacy rates. As seen in the table,

the human development index of Pakistan in the year 2011 was low when compared to China and India which as a result was reflected in the country's GDP ranking.

Impact of Education Learning on Pakistan's Economy

Foreign Direct Investment, Domestic Investment and Trade openness have great significance on the economic growth of Pakistan.²³ Today's most technologically advanced economies are truly knowledge based²⁴ and this rule holds no exception for Pakistan. Simply, to tap on the potential of the natural resources, the country will require educating its nationals in order to transform resources into useful commodities. As discussed earlier, the education system of Pakistan is weak, and the quality of education is not at par to meet the requirements of knowledge based economies. The substandard education system of the country has been unable to curtail the knowledge gaps between the developed industrial nations due to which the income gap between Pakistan and the developed nations has been widening. The services, industrial and agriculture sectors of the economy are linked with education as follows:

Services Sector

Globally, Services sector is the fastest growing component of the global economy and it accounts to almost 69 percent of global output, 35 percent of global employment and nearly 20 percent of global trade.²⁵ The value of services in world exports has increased by 41.7 percent whereas the value of goods has increased just by 35.5 percent during 1975 to 2005.²⁶ The services sector has been replacing the agriculture and industrial base of developed countries. Services provide under developed countries with low resources to progress economically by investing in technical knowledge and good education. This is because it overlaps with all segments of economy, especially the technological advancement in human capital which is reflected in the expansion of services sector which has taken a tremendous turnabout in the growth trajectory of many developing economies.²⁷

The service sector of Pakistan consists of Finance and Insurance, Transport and Storage, Wholesale and Retail Trade, Public Administration and Defense.²⁸ The service sector has been replacing the agriculture and industrial base globally, and the same trend can be seen in Pakistan, as we see an employment shift from agriculture to services. At present, it contributes 53.8 % to Pakistan's GDP.²⁹ It is a major contributor of the country's gross fixed capital formation (GFCF). Service sector is a major contributor of the country's revenues as almost 26 % of the total revenues are received from taxes compared with 1 % from agriculture sector.³⁰ This sector of the economy is a directly related to the human development index, since a better educated and technologically aware nation would be more compatible with global job demands.

Industrial Sector

Pakistan's industrial sector comprises both the consumer markets and the manufacturing industries. The industrial sector is the second largest contributor of the country's GDP. Its growth rate however, has substantially slowed down from a 25% in

2000 to a 20% in the year 2016. Its wellbeing is the utmost important to the country's economic development since it provides the agriculture sector with export markets in the form of cotton yarn and cotton cloth.

1579 industries had to be shut down in the period of 2006-2011 due to lack of both human and physical capital. Poor quality education and learning environment unfortunately have an adverse impact on the sector due to underutilization of the human capital.

Lack of technical knowledge in the educational curriculum of the country has added to the scarcity of technically qualified workforce to the industrial sector of the country. Recent studies show that investment in the field of Research and Development (R&D) is essential for transformation of technology, ultimately improving both; yield quantity and quality.³¹ Continuous replacements and evolution in the field of technology requires that industries remain abreast with the latest knowledge. Pakistan suffers in the field of industry since the landscape of education in the country is not research centric and there exists no collaboration between the industrial sector and the educational institutes.

Agriculture Sector

Like all developing nations, agriculture is the primary source of income and employment in Pakistan. Both types of farming practices exist in the country, namely the arable farming and pastoral farming. Arable farming is the practice of growing crops whereas pastoral farming involves rearing livestock. Pakistan's agricultural exports consist of cotton, rice, horticulture and livestock with intermittent exports of sugar and wheat.³² The major crops of the country are cotton, rice, wheat and sugarcane which are not globally competitive and mostly cater to the needs of the domestic market.³³

The agriculture sector not only provides Pakistan with its largest share of foreign exchange earnings (forex) but also is a source of raw material for various industries. Today, it is no longer limited to subsistence farming, meeting only the consumption demands of the domestic market. It has now taken shape of an industry which requires innovative technology to meet the food demands of the world. Providing farmers with the basic education related to their means that they have the capacity and the ability to use newer technology and better farming practices to improve yields. However, the poor state of education in the country coupled with a non-conducive learning environment has made the agriculture sector suffer. The farmers fundamentally lack cognitive and analytical skills that would allow them to be receptive to changing trends and grasp the shift in resources in response to the changing chain of supply and demand. Poor quality education and learning environment have hampered the farmers to transform the outputs from low-value staple food commodities to higher-value commodities.³⁴

Since agriculture employs a major portion of the country's labor force, a strong education and good learning environment will help individual's to gain better understanding of the environment. Yields will increase when practices of extensive and

intensive farming are employed. An understanding of the environment will allow the farmers to understand the economy-environment relationship and adopt sustainable farming practices as a result. Sustainable practices will provide the labor force with a better understanding of soil degradation and other soil cropping factors such as soil salinity, alkalinity, erosion and fertility. Efficient usage of water resources, management of irrigation systems, geography, climate and cropping demands will also be better understood, and crop yields will increase as a result. The dire state of education in the country has not only impeded research in the agriculture sector of the country but also hindered the flow of information to the farmers which would have otherwise helped in increasing crop yields by providing an insight to the farmers of practices such as:

- Selection of pure Seed of Superior quality
- Maintenance and Integrated Soil Fertility
- Conservation of moisture
- Efficient use of water Irrigation
- Integrated Weed Management
- Crop Rotation for Integrated Soil Fertility Management
- Integrated Insect Pest Management System (IPNMS)
- Integrated Plant Nutrition Management system (IPNMS)
- Organic matter in Crop Production
- Waste Management Practices
- Compost Farming
- Mulch Technology
- Effective Microorganism Technology
- Use of Modern Machinery
- Use of Genetically Modified Crop (Gm Crops)
- Livestock Management
- Mixed Cropping/Intercropping
- Fish Farming

A study conducted in Sindh showed that the farmers were not privy to sustainable agriculture practices such as genetically modified Crop, Fish farming, Mulch Technology, EM Technology and IPNMS.³⁵ Unawareness surrounding sustainable farming practices will directly impact the agriculture sector in the longer run since the misuse of resources will lead to degradation of the environment and the land will become un-arable for cultivation, thus impact the economy adversely in the longer run.

Conclusion

The nations are judged by the quality of its human resources, and the quality of human resources is maximized through educational excellence. Education by and large provides the basic knowledge, acumen and skills which are required to steer the developmental wheels of a country to its destination of prosperity and success by improving the lives of individuals and enriching the wider society. From the above discussion, it can be inferred that production levels are directly related to good quality education and learning environment coupled with acquisition of technical skills. A well-

developed human capital is a technological tool that ensures economic progress over the longer run. In Pakistan, there exists a major difference in quality of education which becomes more pronounced as we move from one stream to another and from urban to rural areas with the employment of unskilled or semi-skilled labour. This is also creating balance of payment difficulties for the country as the exports level remains below optimum.

Currently, the dire state of education and learning environment has resulted in low productivity which translates into lack of competitiveness in the international market. This shows that the education and learning environment has a direct relation with country's economy since it impacts the balance of payments.

While CPEC projects are in the pipeline, Pakistan because of its strategic location, has a potential to benefit from the emerging opportunities. Improved education system with a learner friendly environment is now needed more in the country than ever before. Education that focuses on the development of cognitive and analytical skills in the field of agriculture and industry will prove to have multiplier effects for increased productivity. The interaction between educational institutes and industries should be enhanced for greater economic output. It is therefore; recommended to ensure coherence in all three streams, shift towards a policy of STEM education (Science, Technology, Engineering and Math) to ensure sustained economic growth. In addition, the quality of primary education should be enhanced since much evidence links primary education to higher economic growths. For this, education in the country should be made free for all, dropout school rates should be minimized, the curriculum should be updated, text books should be revised, and the teachers should be better qualified and trained. The assessment methods in schools should focus on skills development of individuals so that Pakistan can use its labor force to achieve higher growth rates.

NOTES

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