



## How Does the Human Capital, as an Engine of Growth, remain Untapped in Developing Countries Like Pakistan?

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### Abstract

The growth and Development of both developed and underdeveloped economies depends upon the optimal exploitation of physical and human resources combined with the technology. Whereas historical evidence depicts that developed countries have derived better and multifaceted outcomes from enhanced technical and technological productivity caused by their human capital, developing countries failed to harness and convert their abundant population into an engine of growth and productivity. Resultantly, it has dragged these economies into a 'vicious circle' of poverty and dependency along with socio-political and economic pandemonium.

**Keywords:** *Human Resource Development, Virtuous Cycle, Technological Change*

### Introduction

Human Development Report (1990) declared proudly that “*people are the real wealth of a nation.*” People were still are; and will be. What is the purpose of development if it is not for the people? Human resources, technological change and technical innovation have emerged as the most important sources of growth and development. Human capital has played a pivotal role in economic growth and development of most of the developed countries. According to many empirical studies, the contribution of human resources has been as high as two thirds of the total development in developed countries. Economic development and reconstruction of Japan, Korea and ASEAN is also associated with well developed, technological trained and technical efficient human capital. Recently, China is progressing by leaps and bounds owing to their human capital. Due to their well-educated, technologically trained and technically innovative and, last but not least, physically healthy human capital, economic growth and output of most of the industrialized countries is much higher today than it was a few decades ago.

Developed countries have given much attention to Human capital which has reinforced the 'virtuous cycle' of efficiency, faster growth and enhanced human capital

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<sup>1</sup> Cf UNDP-Human Development Report 2023-24 page 24.



accumulation. Financial resource allocation towards human capital development is much higher in developed as well as in most of the middle-income countries compared with least developed countries. In USA, investment on human capital contributed about 44% of physical capital, in South Korea, 40% and in UK 29%, as compared to developing countries with just about 6 to 7%<sup>2</sup>.

In most of the developing countries like Pakistan, human capital has been given secondary importance. This cause and effect have triggered illiteracy, poor health, lack of research and development, failure to adopt new technologies, rapid population growth and lack of training. Sustainable socio-economic development in the wake of SDGs cannot be materialized without equipping the youth of the country with applied knowledge of science and technology with entrepreneurial skills. 'Vicious Circle' of poverty and dependency can only be turned back with skilled human capital equipped with technology and technical efficiency.

Most of the LDCs, despite possessing a large population size with comparative advantage of labour market, have failed in harnessing this precious endowment. It is estimated that age cohort of 15-24 years shall expand more in Pakistan during first half of 21<sup>st</sup> century while global talent is shrinking to significant level. In this scenario, Pakistan needs to be ready and well equipped to be benefited from this growing demand at global level. 21<sup>st</sup> century is, thus, a century of opportunities for Pakistan to streamline its growth potential through modernizing and rationalizing its technical education.

In fact, human resource development has been given such low priority that Pakistan, after more than 75 years of its existence, ranks at 164 out of 193 countries with a Human Development Index (HDI) value of only 0.540<sup>3</sup>.

Kendrick (1956, 1973), Dennison (1967), Baumol (1986), Robert Lucas (1988), Romer (1990) etc., found empirically that most of the DCs have reaped sustainable fruits by developing human capital as high as two thirds of the total development in some developed countries. Thamarajakshi (1988) developed an integrated approach between human resources development and growth. The results of the study show investment in human resources plays a key role in starting a virtuous cycle of development and growth. Romer (1990), found out that output per hour worked in the US today is 10 times as Valuable as output per hour worked 100 years ago. He further found out that economic development and growth is driven by the accumulation of knowledge (1986). Romer (1990) assumed that an adequate stock of human capital is a pivotal factor among Capital, labour, and technology. Sen (2000) empirically proved a strong positive correlation between income growth and human development.

According to *UNDP's 2023-2024 Human Development Report*— Pakistan ranks at 164 out of 193 countries with a Human Development Index (HDI) value of 0.540. Between

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<sup>2</sup> Thamarajakshi, R. (1988), *Human Resource Development in Asian Countries: An Integrated Approach*. New Delhi: ILO/ARTEP.

<sup>3</sup> *UNDP's 2023-2024 Human Development Report Points To a Global 'gridlock' of Increased Inequality and Political Polarization*



1990 and 2024, Pakistan's HDI value increased from 0.402 to 0.540, an increase of 34.3 percent.

Long et al (2025) found that Employee Assistance Programmes (EAPs) are vital in achieving mental health, wellness initiatives, and life coaching for employees to manage personal and professional challenges of the modern age. These EAPs have increased the productivity of the labour force.

The layout of the research that introduction and review of literature is given in section 1. Section 2 consists of data & methodology and critical analysis of human capital in Pakistan with an international comparison. The main findings are also presented in sections II. Section 3 contains the conclusions, policy recommendations and bibliography.

## The Critical Analysis of Human Capital in Pakistan

Human capital has never been used as an engine of growth in most developing countries. Similarly, in Pakistan, human capital has always been a neglected issue. Resultantly, despite the abundance of young and energetic population, Pakistan is lagging far behind in the Human Development Index (HDI). According to UNDP (2024), Pakistan's HDI is as low as 0.540 ranking Pakistan at 164 out of 193 countries. Whereas Bangladesh and India improved in HDI by 12 and 04 ranks, respectively, Pakistan observed decline in HDI rank during the correspondence period by -4. The data given in Table 1 shows that Pakistan is lagging all the neighboring countries in South Asia.

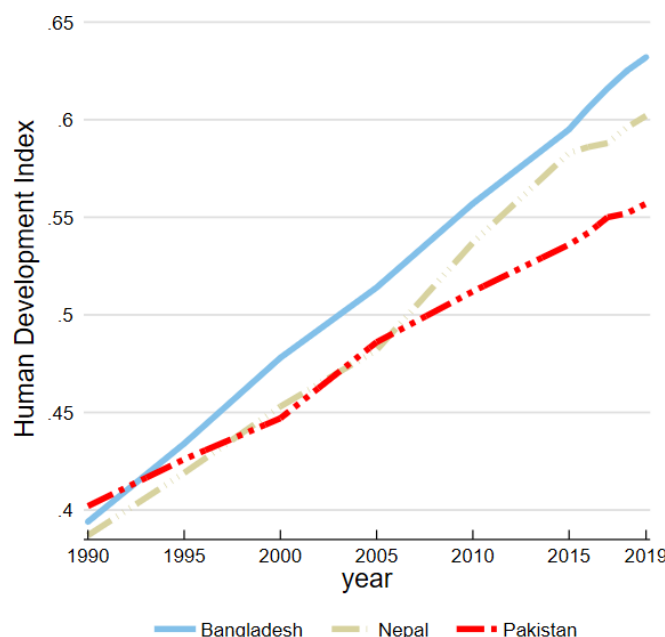
Table 1: Pakistan's HDI ranking relative to neighbouring countries

Country	HDI value	HDI rank	Life expectancy at birth SDG 3	Expected years of schooling SDG 4.3	Mean years of schooling SDG 4.4	Change in HDI rank 2015-2022
Pakistan	0.540	164	66.4	7.9	4.4	-3
Bangladesh	0.670	130	73.7	11.9	6.7	12
India	0.644	135	67.7	12.6	6.6	4
South Asia	0.641	—	68.4	11.9	6.6	
Medium HDI	0.640	—	68.0	12.3	6.7	

Source: UNDP-HDR (2023/24)



Figure 1: HDI trends for Pakistan, Bangladesh and Nepal, 1990-2019



Source: *Human Development Report 2020*

Table 2: Contribution to overall poverty of deprivations in (%)

	Health	Education	Living Standards
Pakistan	27.6	41.3	31.1
Bangladesh	17.3	37.6	45.1
India	32.2	28.2	39.7

Source: *UNDP-HDR (2024)*

Table 2 explains the contribution of gender deprivation to overall poverty. The index has been calculated by the UNDP. There are three indicators for deprivation, i.e. health, education and living standards Pakistan in comparison with some other selected neighbouring countries and groups. The contribution of deprivation for Pakistan in health, education and overall living standards is 27.6, 41.3 and 31.1, respectively. For Bangladesh the contribution of deprivation in health, education and overall living standards is 17.3, 37.6 and 45.1, respectively. While for India it is 32.2, 28.2 and 39.7 for health, education and overall living standards, respectively. This analysis shows that how much share the gender deprivation is contributing towards poverty in developing countries like Pakistan.



Table 3: Pakistan's Multidimensional Poverty Index in Comparison with Neighbouring Countries

Country	Headcount Poverty %	Population in severe multi-dimensional poverty	Population vulnerable to multi-dimensional poverty	National poverty line SDG 1.2	SDG 1.1 PPP \$ 2.15 a day
Pakistan	38.3	21.5	12.9	21.9	4.9
India	16.4	4.2	18.7	21.9	10.0
Bangladesh	24.6	6.5	18.2	24.3	13.5
Sri Lanka	2.9	0.3	14.3	4.1	1.0
South Asia	20.5	6.9	17.9	22.6	9.2

Source: *UNDP-HDR 2023-24*

The comparison of multidimensional poverty index given in table 3 shows that headcount poverty and population in severe multidimensional poverty is the highest in Pakistan among the neighbouring countries in South Asia.

Table 4: Selected Demographic Indicators

Social Indicators	2023
Total Population (million)	241.5
Urban Population (million)	93.75
Rural Population (million)	147.75
Labour Force Participation Rate	31.70
Crude Birth Rate (Per Thousand)	25.40
Crude Death Rate (Per Thousand)	6.6
Population Growth Rate (%)	2.55
Life Expectancy (Years)	67.43
Male	66
Female	68

Source: *Pakistan Economic Survey 2023-24*

## Education and Training

As per UNESCO EFA<sup>4</sup>, The Education 2030 Framework for Action ascertains that domestic resource allocation and mobilization is the key priority for achieving SDG<sup>5</sup> 4. It sets two public education expenditure benchmarks: at least 4% of gross domestic product (GDP) and at least 15% of total public expenditure must be allocated for education. In

<sup>4</sup> UNESCO EFA Global Monitoring Report 2020

<sup>5</sup> Sustainable Development Goal 4 is a commitment to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



most of the developing countries including Pakistan, failed to meet both indicates insufficient prioritization of education.

Proper education and training of human capital plays a key role in the growth and development of an economy in an increasingly competitive world. While education's contribution in the growth and development prospects of a country is widely recognised and is increasingly crucial, education, in itself, is recognised as a fundamental basic right for citizens in many countries.

Table 5: Education Expenditure in Pakistan: (1995-96 to 2019-20)  
(Public Sector)

Year	% of GDP	Year	% of GDP
1995-96	2.00	2011-12	-
1997-98	2.34	2013-14	2.1
1999-00	1.70	2014-15	2.2
2001-02	1.90	2016-17	2.3
2004-05	2.12	2017-18	2.5
2007-08	2.49	2018-19	2.3
2009-10	2.05	2019-20	2.3
		2021-22	1.7
Source: <i>Pakistan Economic Survey 2002-03, 2005-06, and 2023-24</i>		2022-23p	1.5



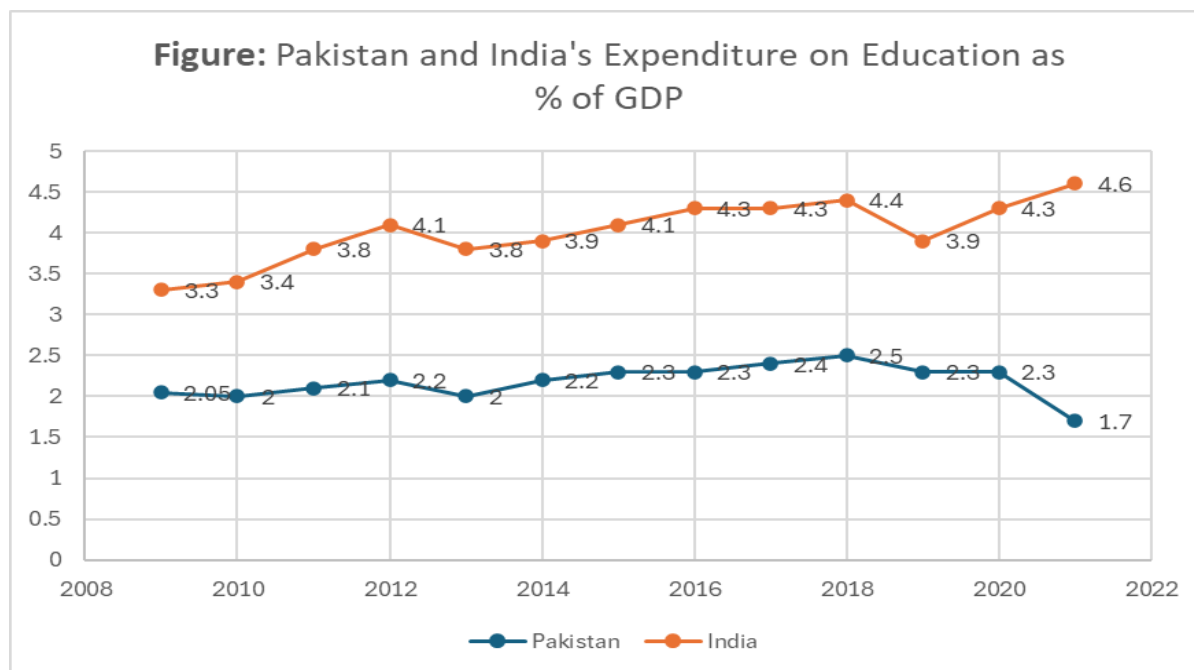
Education has multi-dimensional effects on other outcomes like population growth, health, employment, income generation, training, and other socio-economic indicators. It is a pre-requisite.

Table 6: Pakistan & EFA Indicators in Other SAARC Countries

Country	Expenditure on Education as % of GDP	Education share of total government expenditure (%)	Literacy Rate (15+) 2018
India	3.2	-	74
Iran	4.0	21.0	86
Pakistan	2.9	14.5	59
Sri Lanka	5.4	-	92
Maldives	8.4	-	98
Nepal	5.2	14.1	68
Bangladesh	2.2	14.6	74

Source: UNESCO EFA Global Monitoring Report 2020

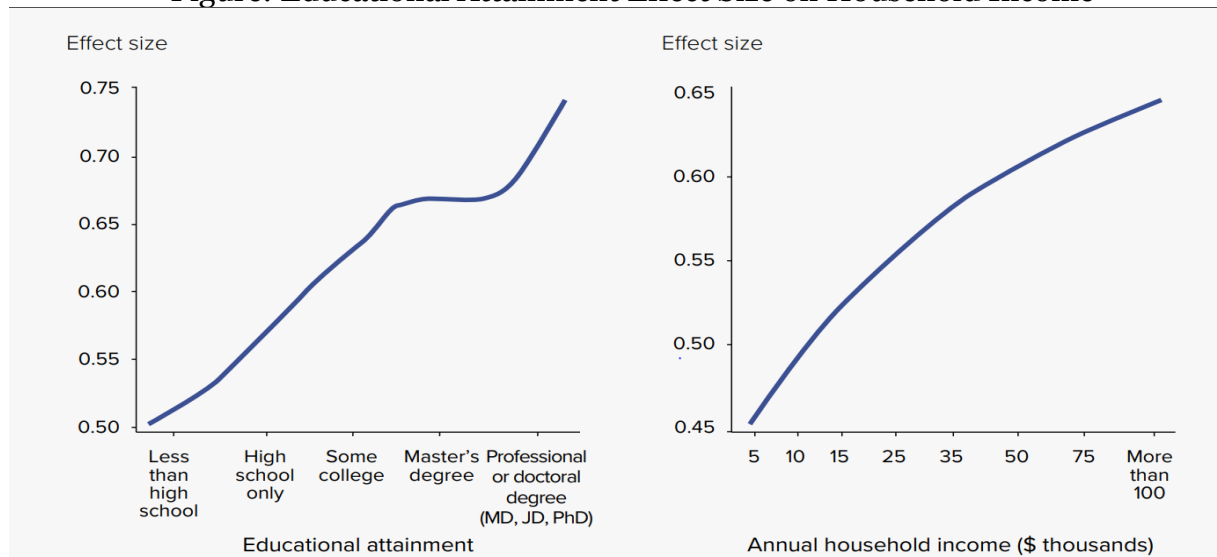




Source: Pakistan Economic Survey 2023-24 and for India's data Statista Research Department, 2025

Table 5 and 6 show that education has been given a secondary importance in Pakistan. The public sector allocation towards education has been very meagre compared with other neighbouring countries.

**Figure: Educational Attainment Effect Size on Household Income**



Source: UDNP-HDR 2023-24





The literacy rates of the population of 10 years and above has shown only a meagre improvement as indicated in Table 7 . The literacy rate is higher in urban areas compared to rural ones. Overall literacy rate is only 62.8% even after the independence of over 75 years. Another dilemma is that those who are literate, majority of them are just having very general education which has little utilization in this competitive world. Resultantly, Pakistan is facing acute problem of unemployment, poverty and inequality.

Table 7: Literacy Rate in Pakistan (10 years and above)

	2001-02	2009-10	2019-20	2020-21
Overall	45	57	60	62.8
Male	58	69	70	73.4
Female	32	45	50	51.9
Urban Areas	64	74	74	77.3
Male	72	81	79	83.5
Female	56	67	67	70.8
Rural Areas	36	48	52	54.0
Male	51	63	64	67.2
Female	21	33	39	40.8

Source: Pakistan Economic Survey 2023-24

## Health Conditions in Pakistan

Human capital is a key to socio-economic development and sustained growth while education and health are the key indicators to develop human capital of any country. Developed and rapidly growing countries have given top precedence to health and education. Health is an integral part to the efforts of reducing poverty and inequality. Globally Health indicators had been assigned top priority for the achievement of Millennium Development Goals (MDGs) and now for Sustainable Development Goals (SDGs). However, health facilities are not adequately available to majority of the people of different regions worldwide as well as in Pakistan.

In 2018 [an estimated 6.2 million children and adolescents under the age of 15 years died](#), mostly from preventable causes. Of these deaths, 5.3 million occurred in the first 5 years, with almost half of these in the first month of life. The main reason for this poor health is non availability of trained manpower in health sector<sup>6</sup>.

[Over 40 per cent](#) of all countries have fewer than 10 medical doctors per 10,000 people; over 55 per cent of countries have fewer than 40 nursing and midwifery personnel per 10,000 people<sup>7</sup>. Non availability of basic health and civic facilities along with poverty has been a serious challenge and leads to many other dimensions of inequality like: gender, b) region, c) economic class, d) social identity, e) health and f) education, etc. which further aggravate vicious circles of poverty and inequality in Pakistan.

<sup>6</sup> <https://www.un.org/sustainabledevelopment/health/>

<sup>7</sup> <https://www.un.org/sustainabledevelopment/health/>



Table 8: Health & Nutrition Expenditure as % of GDP

Fiscal Years	Health Exp as % of GDP	Fiscal Year	Health Exp as % of GDP
2000-01	0.72	2012-13	0.60
2001-02	0.59	2013-14	0.70
2002-03	0.58	2014-15	0.70
2003-04	0.57	2015-16	0.90
2004-05	0.57	2016-17	1.00
2005-06	0.51	2017-18	1.20
2006-07	0.57	2018-19	1.10
2007-08	0.57	2019-20	1.10
2008-09	0.56	2020-21	1.00
2009-10	0.54	2021-22	1.40
2011-12	0.70	2022-23	1.00

Source: *Pakistan Economic Survey 2019-20; 2023-24*

In Pakistan low priority had been given to human capital development. Spending on education and health has always been given secondary importance. The public spending on health is very low and has stagnated below 1 % of GDP for most of the time. It is the lowest among SAARC countries.

## Burden of disease

An independent study on health indicators of Pakistan shows that cardiovascular, diabetes, cancer, and chronic respiratory diseases are the major Non-communicable Diseases (NCDs) in Pakistan. As mentioned earlier, prevalent poverty, mal-nutrition, lack of awareness and access to health are the major causes for high rate of NCDs in women than men.



Table 9: Percentage of the Population with Coronary Artery Disease, High Blood Pressure and Mixed Anxiety/ Depressive Disorder for the Year 2007<sup>8</sup>

	MALE	FEMALE	TOTAL
Coronary Artery Diseases	23.7	30.0	26.9
% of the Population with High Blood Pressure (45 years and above) U=urban; R=rural	U-36.9 R-25.9	U-45.8 R-31.2	41.3
Mixed Anxiety/Depressive disorder	10-33	29-66	34

Source: *Health Indicators of Pakistan, Gateway Paper –II, Sania Nishtar, 2007*

The data in the table 9 shows that a significant proportion of population is suffering from coronary artery diseases, high blood pressure, anxiety and depressive disorder.

Table 10: Registered Medical and Paramedical Personnel in Pakistan

Health Manpower	2023
Doctors	299,113
Dentists	36,032
Nurses	127,855
Midwives	46,110
Lady Health Visitors	24,022

Source: *Pakistan Economic Survey 2023-24*

The data in table 10 shows the total availability of Registered Medical and Paramedical Personnel in Pakistan. The total doctors, dentists, nurses, midwives and lady health visitors available for 241 million population are only 299,113, 36,032, 127,855, 46,110 and 24,022, respectively<sup>9</sup>.

## Conclusion and Recommendations

Human capital has been pivotal to sustainable socio-economic growth and development. Since, developed countries have given much attention to their human capital, which in retrospect has reinforced the 'virtuous cycle' of faster growth, enhanced human capital accumulation by leading to three Es i.e., efficiency, effectiveness and economy. Financial resource allocation towards human capital development is much higher in developed as well as in most of the middle-income countries compared with least developed countries and especially Pakistan. In USA, investment on human capital contributed about 44% of physical capital, in South Korea, 40% and in UK 29%, as compared to developing countries with just 6 to 7%. While in Pakistan, the allocation to education and health is around 2% and 0.7% of GDP, respectively.

<sup>8</sup> Sania Nishtar, "Health Indicators of Pakistan, Gateway Paper –II, 2007" is the latest available study

<sup>9</sup> Pakistan Economic Survey 2023-24



Due to secondary importance to human capital, instead of proving an engine of growth, this resource has dragged Pakistan into a 'vicious circle' of poverty and dependency, failure of adoption of new technologies, poor health, rapid population growth, gender discrimination, etc. Literacy rate is just around 63% and, most of the literate population, has just general and skill-less education.

Because of the above-mentioned facts and critical analysis, the country still lags behind the average of comparable low-middle income countries in education, training, R&D, nutrition, health, poverty alleviation and in other social indicators representing human development. High growth of population, low labour force participation rate, unskilled labour force, unemployment, illiteracy, low health and nutrition, income inequality and poverty constitute critical problems. As a result, human capital has failed to prove an engine of growth for the economy of Pakistan.

A holistic and sincere reform agenda is required to harness this exquisite and sizeable resource to materialize the dream of rapid socio-economic growth and development and prosperous Pakistan. Based on the analysis, the following recommendations are made:

- Dedicated emphasis on access and quality of education
- *Provision of marketable vocational/ technical education for youth.*
- Critical infrastructure for all levels of education.
- *Adopting of triple helix model by linking academia, industry and the government.*
- *Development of an integrated labour market information system (LMIS).*
- Making *school environment* attractive and safe especially for female children.
- Public expenditure on education must be increased by up to 5% of GDP.
- Public Sector should concentrate on preventive health care and share responsibility of curative care with the private sector.
- Clean Drinking Water and Sanitation facilities for all.
- Social Health Protection and Insurance should be implemented after thorough assessment and of its feasibility.
- Establishment of strong and viable monitoring & evaluation units at federal and provincial levels.
- Food support for poor and vulnerable population & Dietary diversification.
- Women Empowerment in formal sector.
- Developing Social Safety Nets for the neglected segments of the population i.e. poor, women, children, disabled and old.
- Public Private Partnerships Programme for human capital building.
- Encouraging Youth entrepreneurship by actively engaging them in policy making.

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