Development of Education and Health Sector for Socio-Economic Transformation in Nepal

Dr. Bisna Acharya¹, Dr. Khom Raj Kharel² and Dr. Yadav Mani Upadhyaya³

¹Faculty Member of Education, Tribhuvan University, Mahendra Ratna Campus, Kathmandu, Nepal. [Email: acharyabisna@gmail.com] ORCID: http://orcid.org/0000-0001-8457-1043 ]

²Associate Professor of Economics, Tribhuvan University, Saraswati Multiple Campus, Kathmandu, Nepal. [Email: khom.kharel@smc.tu.edu.np] ORCID: http://orcid.org/0000-0002-9806-7224 ]

³Assistant Professor of Economics, Tribhuvan University, Saraswati Multiple Campus, Kathmandu, Nepal. [Email: yadav.upadhyaya@smc.tu.edu.np ] ORCID: http://orcid.org/0000-0003-3089-3615 ]

Abstract

The objective of this research is to examine the socioeconomic transformation of Nepal by analyzing the progress made in its education and health sectors. Education is the means to alter society, economic progress, and human wellbeing. The enhancement of a nation's socioeconomic position may be achieved through improving its education system and using technology. The experiences seen in both industrialized and developing countries provide evidence that educational development initiatives have a transformative impact on the socioeconomic position of these nations. The experiences of Nepal indicate that the development of education has played a crucial role in facilitating both social change and economic prosperity. This study employs a descriptive approach by using secondary data and adopting a secondary research strategy. The study's findings suggest that education development plays a crucial role in driving socioeconomic change within the specific context of Nepal. However, Nepal has not yet attained a desirable result in terms of education development and social change. In order to achieve significant socioeconomic progress, Nepal should prioritize the improvement of its education system.

Keywords: Development, Descriptive statistics, Education and health, Socioeconomy, Transformation, GDP
Introduction

Education is a prudent use of resources because it has the potential to provide long-term, transcendental benefits. Knowledge application and knowledge acquisition are two distinct processes. The expansion of education brings about a socioeconomic revolution. According to McKay (1967), the primary purpose of education is to foster cognitive processes and strengthen interpersonal relationships. According to Lucas (1988), the educational attainment of the labour force is positively correlated with the total capital productivity. This relationship can be explained by the assumption that individuals with higher levels of education are more likely to engage in innovative activities, thereby positively influencing the productivity of the entire labour force. According to Wood (1994), the educational attainment and skill level of a developing nation's labour force influence the composition of its factor endowment and, in turn, the composition of its trade.

In a contemporary workplace setting, it is essential for unskilled labourers to possess the fundamental skills of reading, numeracy, and discipline, which are typically learned throughout elementary and lower secondary education. According to Dewey's conceptualization, education may be seen as an ongoing process of actively engaging with and reconstructing one's experiences. This process aims to cultivate and enhance the many capabilities inside a person, empowering them to effectively navigate and exert influence over their surroundings, while also realizing their full potential (Khalid, 1998). Education has a pivotal role as a transformative force that enhances individuals' quality of life and economic prospects, fosters social cohesion, and facilitates sustained economic advancement. Education has a crucial role in the achievement of all 17 sustainable development objectives, as recognized by the United Nations (UN, 2015).

A strong educational and intellectual background is crucial in securing lucrative employment opportunities. The correlation between greater levels of education and achievements and improved career prospects is evident. Individuals with a higher level of education possess a greater likelihood of effecting positive change in their own life, hence making a significant contribution towards reducing poverty rates within a given community. Education plays a pivotal role in fostering economic growth within countries, since it encompasses the acquisition of information and the astute use of that knowledge to enhance the well-being of individuals. It is vital for individuals to comprehend the significance of education in order to get an improved quality of life and experience a state of ease. The prevailing belief among individuals is that education has the potential to enable an individual to attain a position in which they may successfully realize their aspirations and meet their desired outcomes.

Education encompasses the acquisition of improved employment opportunities, the cultivation of achievement in future generations, and the facilitation of positive impact in our everyday existence. In the current knowledge-based economy, individuals who possess higher levels of education are more likely to get employment opportunities that provide health-promoting advantages such as health insurance, paid leave, and retirement provisions. Income has a
significant impact on health outcomes, and those with higher levels of education often command higher earnings (CSH, 2020).

According to research conducted on Nepal, the country is now through a process of socio-economic change via the advancement of education. In a study conducted by Dahal (2016), the author explored the impact of education on the socio-economic growth of Nepal, focusing specifically on the role of education policy. This study aims to examine the instrumental role of education in the development of human capital and its impact on economic growth. The researcher has conducted an analysis using time series data on investment in education across all levels of schooling to identify effective development methods. The research demonstrates that investments in education, training, and vocational education have a noteworthy and beneficial influence on both economic growth and socio-economic development. The article proposes the need for education policy reform with a specific focus on meeting the needs of individuals from low-income backgrounds.

Maharjan (2016) examines the state of education and economic development in Nepal, as well as the connection between education and economic growth. According to her research, education and economic growth have always been interrelated, as people's income increased as their education level increased and vice versa. It is believed that education is the most effective tool for bringing about social revolution. Education has been identified as a major socializing factor, with teachers and educational institutions functioning as socializing agents.

Education has the capacity to alter one's perspective and conventional approaches to addressing social and economic issues, while also augmenting young people's skills and knowledge. Technical education plays a crucial role in advancing industrialization, resulting in profound societal transformations. Education serves not only to preserve but also to transmit the cultural traditions, including customs, traditions, and social values, of a given community to future generations. Education acts as a catalyst for children, motivating them to adopt novel strategies and maintain a progressive mindset. Moreover, it addresses societal needs and disseminates progressive ideas that facilitate transformative social changes in a variety of human existence domains. Education plays a crucial role in molding societal dynamics because it facilitates transformational changes. Alterations in the social fabric have a significant influence on the educational landscape.

Through the examination of several research studies, investigations have been carried out to explore the correlation between the advancement of education and the subsequent economic growth in diverse situations and nations. The aforementioned research has shown a noteworthy correlation between the advancement of education and economic growth. However, it is important to note that these studies did not explore other potential relationships. Therefore, the objective of this research is to analyze the progress of education in Nepal with the aim of facilitating socio-economic change.
Literature Review

The advancement of education leads to a revolution in several socio-economic factors. Education has a pivotal role in fostering the growth and advancement of both the economy and society. Numerous research have been undertaken to examine the function and contribution of education to socio-economic development across diverse sectors. These studies have shown the interconnectedness between education and development. This study examines the correlation between education and socio-economic change by conducting a comprehensive evaluation of many research findings. According to Ozturk (2001), education has a crucial role in enhancing individuals' productivity and creativity, fostering entrepreneurship and technical advancements, and contributing to economic and social development while also improving wealth distribution.

Education has a crucial role in fostering economic growth, since the latter is unattainable in the absence of a robust educational system. According to Burchi (2006), the impact of an educated society extends beyond the economic progress of a nation, benefiting the lives of individuals, particularly those who are socioeconomically disadvantaged. This is primarily achieved through investments in education, as emphasized by the human development approach, which prioritises the allocation of resources towards basic education. Hanushek and Woessmann (2010) posit that education is widely regarded as a crucial determinant of economic prosperity due to its potential to enhance the human capital embedded within the workforce. This, in turn, leads to heightened labour productivity and an augmented capacity for innovation within the economy. The acquisition of new knowledge pertaining to emerging technologies, products, and processes further stimulates economic growth. The competencies possessed by workers have a substantial influence on the development of the economy.

In their study, Mercan and Sezer (2014) conducted an analysis on the correlation between educational expenditures and economic growth, a topic that has garnered significant attention within the field of Economics. The researchers' investigation revealed a significant correlation between expenditures on education and the level of economic development within the Turkish economy from 1970 to 2012. According to the World Economic Forum (2016), education may be characterized as a collection of skills, competences, and other attributes that contribute to increased productivity.

The World Economic Forum (WEF) additionally posited that education plays a crucial role in enhancing the overall proficiency of the workforce in executing established tasks more expeditiously. Moreover, education serves as a facilitator for the dissemination of knowledge pertaining to novel information, products, and technologies generated by external entities. Furthermore, education augments a nation's inherent capability to generate fresh knowledge, products, and technologies. According to Grant (2017), education is considered a prominent predictor of economic growth, employment rates, and income levels. Disregarding the economic aspect of education poses a significant risk to the well-being of future generations,
as it might have far-reaching consequences on poverty, social exclusion, and the long-term viability of social security systems.

According to Queiro (2018), it has been observed that companies founded by entrepreneurs with higher levels of education tend to have bigger initial sizes and have more growth over the course of their existence. Education has been identified as a crucial element, especially when considered in conjunction with other variables, indicating the need of a more comprehensive concept of human capital. In their empirical research, Ramos and Mourelle (2019) investigated the association between education and economic development at the nation level, specifically focusing on the presence of nonlinearities in this connection. The linear analysis has shown a statistically significant positive association between economic indicators and economic growth. In their study, Lio et al. (2019) examined the relationship between investment in education and sustainable economic development. They emphasized that education, seen as an investment in human capital, plays a crucial role in fostering sustainable economic growth.

Valero (2021) provides an exhaustive summary of the literature examining the relationship between education and economic growth. In addition to establishing a direct connection between human capital and economic performance, the researcher investigates the numerous factors that influence this relationship. This study provides a comprehensive overview of the empirical literature that has investigated the relationship between human capital and national economic performance. According to existing macro research, empirical linkages become more apparent when the concept of human capital is expanded to include variations in education quality in addition to educational attainment and quality measurements.

According to UNESCO (2010), a significant body of research has been accumulated over the course of four decades, emphasizing the beneficial economic impacts associated with the attainment of basic education, especially for those engaged in the agricultural sector. The influence of primary education on the alleviation of poverty and the mitigation of hunger. The extension of excellent learning opportunities for everybody is a crucial factor in determining social transformation and long-term possibilities for economic success. The achievement of greater equality in education enrollment and school quality across all demographic categories might potentially lead to a more equitable distribution of income and a reduction in socio-economic disparities as a whole. Investing in secondary education yields a discernible enhancement in economic growth, surpassing the potential impact of universal elementary education.

The significance of universal primary education within the United Nations Millennium Development Goals was acknowledged, although deemed inadequate (IIASA, 2008). According to Patil (2012), the recognition of education as a tool for social transformation and social development is prevalent in contemporary society. According to her research, education has been crucial in fostering the modernization of individuals' goals for progress and transformation.

Social change incorporates changes in human interactions and interrelationships, whereas society refers to the intricate web of social connections, and social change refers to alterations in the system of social relationships. August Comte proposed, according to Bhat (2016), that
the examination of the evolution of the human mind and intellect across numerous civilizations and historical eras serves as a governing principle for comprehending their evolution. According to Desjardins (2015), educational systems possess both transformative and reproductive characteristics, which have fluctuated significantly over time and continue to vary between nations and global regions. In conclusion, education can be characterised as a means of emancipation, in addition to fulfilling elucidating and transformative roles, thereby having the potential to produce positive outcomes.

The systematic investment in human capital was not accorded significant importance prior to the 19th century, since spending on education, job-training, and other related types of investment were very little. During that century, there was a notable emphasis on the utilization of scientific principles in the development of novel products and the implementation of more effective manufacturing techniques.

Based on the available facts, it can be seen that in the 20th century, the acquisition of education, skills, and knowledge has emerged as pivotal factors influencing an individual's level of production. The prevailing notion posited that the foremost factor influencing a nation's level of prosperity resided in the efficacy of its human capital in cultivating and implementing competencies and erudition, alongside enhancing the well-being and educational attainment of the majority of its populace. Based on assessments of many notable research contributions, it has been determined that the advancement of education serves as a mechanism for socioeconomic change. In the specific context of Nepal, it is essential to do a thorough examination of the progress of education in correlation with social transformations.

Research Methodology

The present study employs secondary data and a descriptive research methodology to analyze the data. The use of tables, diagrams, and examples conforms to the requirements of descriptive and analytical study designs. Using econometric and statistical methods and models, the impact of education on GDP and other relevant variables has also been investigated. This study investigates the effect of education development on socioeconomic transformation, with a particular focus on the contribution of education and health to GDP. In addition, it examines social transformation by analyzing literacy and enrollment rates at the primary and secondary levels. The investigation utilizes both published and unpublished sources pertinent to the topic.

Model Specification

The formulation of an economic model provides an answer to the question of what role the development of education has played in Nepal's socioeconomic transformation. The authors anticipated that education development would have a positive influence on dependent variables such as GDP/economic growth. The formulation of an economic model provides an answer to the question of what role the development of education has played in Nepal's socioeconomic transformation. The authors anticipated that education growth would also have a positive effect on dependent variables such as GDP and economic growth.

- To examine the impact of education expenditure on GDP, the following regression model is estimated as:
(i) 
\[ \text{GDP}_t = \alpha_0 + \beta_1 \text{EE}_x + \xi_t \] 

Where, GDP is the Gross Domestic Product which is expected to be positive influence due to increase in education expenditure (EEx).

- To examine the impact of education expenditure on GDP, the following regression model is estimated as:

\[ \text{GDP}_t = \alpha_0 + \beta_1 \text{EE}_x + \beta_2 \text{EH}_x + \xi_t \] 

Where, GDP is the Gross Domestic Product which is expected to be positive influence due to increase in education expenditure (EEx) and expenditure on health (EHx).

Results and Discussions

Education Development and Social Transformation

The expansion of education is frequently viewed as a significant factor in the acquisition of social values, with educational institutions serving as key agents in the socialization of individuals. Education is a multifaceted process involving the acquisition of knowledge, the development of abilities, and the internalization of values and characteristics through experiential learning. Education plays a crucial role in nurturing economic and technological progress within a community, while also serving as a crucial impetus for the establishment of a truly democratic society.

To facilitate social change, it is expected that individuals will have a high level of proficiency, expertise, and aptitude, as well as a profound comprehension of human values. Social change can be understood as a transformation in the cognitive processes, behavioural patterns, belief structures, methods of life, and cultural norms exhibited by society's individuals. There is a significant correlation between social transformation and education, in which education facilitates the development of people into valuable members of society by providing opportunities to engage in civic experiences, thereby cultivating self-reliance and independence.

The advancement of education has resulted in an increase in the education economy, the equitable distribution of justice, increased citizen participation in decision-making processes, and the use of scientific technology in numerous sectors, including industry, agriculture, and other professional disciplines. These developments have contributed to the modernization and social transformation processes.

Since the implementation of comprehensive education in Nepal, societal changes and transformations have advanced significantly. These include increases in the rates of literacy, life expectancy, urbanization, transportation infrastructure, banking and financial services, technological utilization, communication accessibility, and per capita income growth. Similarly, individuals are transferring from the agricultural sector to the non-agricultural sector. Indicators such as life expectancy, literacy rate, access to basic sanitation, and availability of basic potable water can indicate societal transformation. Significant progress has been made in relation to these factors.
Table 1: Life Expectancy, Literacy Rate (6+ above age), and Sanitation & Drinking Water

<table>
<thead>
<tr>
<th>Year</th>
<th>Life Expectancy</th>
<th>Literacy Rate (6+ Years of age)</th>
<th>Basic Sanitation Access (%)</th>
<th>Basic Drinking Water Access (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011/12</td>
<td>54.4</td>
<td>60.9</td>
<td>45.9</td>
<td>82.35</td>
</tr>
<tr>
<td>2012/13</td>
<td>58.6</td>
<td>65.9</td>
<td>64.30</td>
<td>82.94</td>
</tr>
<tr>
<td>2013/14</td>
<td>62.3</td>
<td>65.9</td>
<td>70.30</td>
<td>83.60</td>
</tr>
<tr>
<td>2014/15</td>
<td>65.3</td>
<td>65.9</td>
<td>82.00</td>
<td>86.45</td>
</tr>
<tr>
<td>2015/16</td>
<td>67.6</td>
<td>65.9</td>
<td>87.10</td>
<td>87.00</td>
</tr>
<tr>
<td>2016/17</td>
<td>69.5</td>
<td>78.0</td>
<td>96.60</td>
<td>87.40</td>
</tr>
<tr>
<td>2017/18</td>
<td>69.8</td>
<td>78.0</td>
<td>98.60</td>
<td>88.00</td>
</tr>
<tr>
<td>2018/19</td>
<td>70.2</td>
<td>78.0</td>
<td>99.70</td>
<td>89.00</td>
</tr>
<tr>
<td>2019/20</td>
<td>70.5</td>
<td>78.0</td>
<td>100.00</td>
<td>91.00</td>
</tr>
<tr>
<td>2020/21</td>
<td>70.8</td>
<td>78.0</td>
<td>100.00</td>
<td>91.50</td>
</tr>
</tbody>
</table>


Table 1 presents the trends observed in life expectancy, literacy rate, availability to basic drinking water, and basic sanitation standards from 2011 to 2020. The data demonstrates a notable and meaningful improvement in the measures of social change, which may be attributed to the progress in education and the focus on meeting public expectations.

Figure 1: Life Expectancy, Literacy Rate (6+ above age), Basic Sanitation and Drinking Water

Figure 1 illustrates the temporal evolution of the specified parameters from 2011 to 2020. Based on the available data and graphical representation, it can be seen that all the variables exhibit an upward trend, indicating a good orientation.
Contribution of Education and Health Expenditure to GDP

The education sector plays a substantial role in the gross domestic product (GDP) of any nation's economy. In contemporary times, there has been a notable emphasis placed by nations on the advancement of education. Nepal has placed significant emphasis on the growth of education, particularly during the 1990s, with the implementation of privatization and liberalization programs. The education sector in Nepal has made a substantial contribution to the country's gross domestic product (GDP), hence playing a crucial role in the overall national economy.

Figure 2: Contribution of education to GDP (2000-2020).


Figure 2 illustrates the patterns of the education sector's contribution to Nepal's Gross Domestic Product (GDP) across a span of two decades. The studied periods have shown a shifting tendency in the contribution of education to GDP. The research period yielded data indicating that the contribution of education to GDP ranged from 3 percent to 8 percent.

Regression Analysis

A regression analysis has been conducted to examine the relationship between the dependent variable, GDP of Nepal, and the independent variable, education expenditure (EEx), in order to assess the influence of education expenditure on GDP. The primary objective of this research is to examine the impact of education spending on the gross domestic product (GDP) of Nepal. The regression analysis was conducted using EViews 11 software, as shown in Table-2.
Table 2: Regression between GDP and Expenditure on Education

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std.Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>26012.000</td>
<td>7044.0790</td>
<td>3.6927</td>
<td>0.0017</td>
</tr>
<tr>
<td>Expenditure on Education</td>
<td>10.8015</td>
<td>0.4156</td>
<td>25.9890</td>
<td>0.0000</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.9740</td>
<td>Mean dependent var</td>
<td>168696.9</td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.9726</td>
<td>S.D.dependent var</td>
<td>119233.9</td>
<td></td>
</tr>
<tr>
<td>S.E. of regression</td>
<td>19736.7100</td>
<td>Akaike info criterion</td>
<td>22.71299</td>
<td></td>
</tr>
<tr>
<td>Sum squared resid</td>
<td>7.01E+09</td>
<td>Schwarz criterion</td>
<td>22.81256</td>
<td></td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-225.1299</td>
<td>Hannan-Quinn criter.</td>
<td>22.73243</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>675.4320</td>
<td>Durbin-Watson stat</td>
<td>0.514971</td>
<td></td>
</tr>
<tr>
<td>Prod (F-statistic)</td>
<td>0.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


According to Table 2, the allocation of resources towards education expenditure (EEx) has a significant influence on the economic performance of Nepal, specifically in relation to its Gross Domestic Product (GDP). The present analysis elucidates a positive correlation between educational spending and gross domestic product (GDP) using data spanning the years 2000 to 2019. The result seems to be valid since all diagnostic measurements have provided evidence supporting the association, with the regression coefficient being statistically significant at the 5% level (p<0.05). The results indicate that there is a statistically significant relationship between the reduction in education spending and the change in GDP during the duration of the research.

Table 3: Regression between GDP and Expenditure on Education and Health

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std.Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>24883.22</td>
<td>11192.30</td>
<td>2.2232</td>
<td>0.0400</td>
</tr>
<tr>
<td>Expenditure on Education</td>
<td>-12.7540</td>
<td>3.9403</td>
<td>-3.2367</td>
<td>0.0048</td>
</tr>
<tr>
<td>Expenditure on Health</td>
<td>105.4550</td>
<td>8.3879</td>
<td>12.5723</td>
<td>0.0000</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.9553</td>
<td>Mean dependent var</td>
<td>168696.9</td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.9501</td>
<td>S.D.dependent var</td>
<td>119233.9</td>
<td></td>
</tr>
<tr>
<td>S.E. of regression</td>
<td>26646.32</td>
<td>Akaike info criterion</td>
<td>23.3572</td>
<td></td>
</tr>
<tr>
<td>Sum squared resid</td>
<td>1.21E+10</td>
<td>Schwarz criterion</td>
<td>23.5055</td>
<td></td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-230.5617</td>
<td>Hannan-Quinn criter.</td>
<td>23.3853</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>181.7169</td>
<td>Durbin-Watson stat</td>
<td>1.8668</td>
<td></td>
</tr>
<tr>
<td>Prod (F-statistic)</td>
<td>0.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Table 3 presents the correlations between expenditures allocated to the education and health sectors and the Gross Domestic Product (GDP). The relationship between education spending, health sector expenditure and GDP has been examined by regression analysis, revealing a substantial beneficial influence of both education and health sector expenditure on GDP. The total model has statistical significance, as shown by a high coefficient of determination...
(R²=0.95) and a p-value less than 0.05. This implies that there is a positive correlation between the growth of GDP and the rise in expenditures allocated to the education and health sectors. Collectively, these data suggest a positive relationship between the percentage of spending allocated to the education and health sectors and the corresponding percentage of the Gross Domestic Product (GDP).

Conclusions
The significance of education in influencing the likelihood of socio-economic transformation within a nation cannot be overstated. The degree of investment a country allocates to its educational system is closely associated with the nation's advancement in several domains. This study was conducted in Nepal with the aim of examining the impact of increased educational possibilities on the country's broader socioeconomic transformation. The education system in Nepal has seen significant advances, resulting in notable advancements in several social change indicators, including life expectancy, literacy rate, access to basic sanitation facilities, and availability of basic drinking water resources. Based on the study results, there has been a significant enhancement in the extent to which education contributes to the Gross Domestic Product (GDP) as economic development progresses.

The allocation of financial resources towards sectors such as education, healthcare, and social welfare has a significant and advantageous impact on the Gross Domestic Product (GDP). Education has a positive impact on Gross Domestic Product (GDP), as does investment in the education and healthcare sectors, all of which also contribute positively to GDP. Based on the study results, it is evident that both the public and private sectors have allocated little financial resources to the domains of education and healthcare so far. Based on the study results, it is recommended that a heightened emphasis be placed on the implementation of development education in Nepal, with the aim of facilitating socio-economic transformation. This objective might be achieved by a heightened allocation of resources towards the education and health domains.

References


