Economic Development and its Transformation into Happiness: A Perspective of Sustainable Development Goals of Nepal

Dhruba Bhattarai, PhD, Faculty of Economics, Kathmandu Model College, Tribhuvan University, Kathmandu Nepal,
dhrubakmc77@gmail.com

Abstract

The present paper attempts to explore the relationship between people's well-being engendered by GDP Per Capita Income and happiness. The paper assumes the overall development of a country's economy must be translated into people's well-being and happiness and uses relevant data to see the validity of the assumption. The secondary data of Human Development Index, Gross Domestic Product, Per Capita Income and Happiness Index of the last 20 years have been analyzed for the purpose. To assess the psychological aspects of the happiness concept, the relevant happiness indicators such as life expectancy, educational attainment and index of economic freedom have also been estimated. Regression method has been used for the purpose. The results show a positive and strong relationship between Real Gross Domestic Product, Human Development Index, Per Capita Income and Happiness Index. The study has indicated the effective association between the strategies and Sustainable Development Goals (SDGs) in the economy of Nepal.

Key Words: GDP Per Capita Income, Human Development, Transformation, Happiness, Life Expectancy, SDGs.

Introduction of the study

Economic development measured in Gross Domestic Product (GDP) and its distribution as in per capita income as an income of the country is generally considered to be a measure of a person's standard of living and is associated with person's purchasing power of goods and services that lead to the desired level of satisfaction or happiness in this globalized and competitive world (Behera and Dash, et al,2024). The causal relationship between per capita income and happiness is examined using the macro data collected from the published sources in the national level or international agencies like the World Bank (WB), United Nations Development Program (UNDP), (The world economy.com, countryeconomy.com and et al) A number of research work use different supportive indicators as education, life expectancy at birth, subjective well-being, and other emotional aspects of mankind. This study has used the Happiness Index (HI), considering all these factors. The First World Happiness Report was released on 1 April 2012 as a foundational text for the UN High Level Meeting: Well-being and Happiness: Defining a new Economic Paradigm. According to the data by the Gallup World Poll, as of March 2024, Finland has been ranked the happiest country in the world seven times in a row World Happiness Report, 2025). Based on the same report Nepal is ranked 93rd out of 150 countries. The data is collected from people in 150 countries by using the variables: real GDP per capita, social support, healthy life expectancy, freedom to make life choices, generosity and perceptions of corruption.

Each variable measured reveals a populated-weighted average score on a scale running from 0 to 10. The score 10 represents the best and 0 the least.

According to Human Development Report 2023/24, National Planning Commission/Nepal, Nepal's Human Development Index has climbed to a value of 0.601 and Nepal ranks 146th globally. The value increase by 1.32 on average annually. The Per Capita Gross National Income (PPI$) has reached 4026. The life expectancy at birth has reached 70.5 years. The expected years of schooling has reached 12.6. Similarly, the Gender Development Index and Gender Inequality Index has reached a value of 0.885 and 0.495 respectively.

The Sustainable Development Progress Report of Nepal published by United Nations in 2023 indicates Nepal Ranks 99th among the 166 countries with a score of 66.5%. Nepal has made a very positive progress in achieving the SDGs. The average achievement of Nepal stood at 58.0%, in 2022, and it is estimated that the country will be able to achieve at least 60% of the target by 2030.

This study is carried out to examine the nexus between development and its transformation into happiness; and therefore, the main idea of the study is concerned with the analysis of the relevant data of economic development as supported by literature and uses econometrics tools. For this purpose, the economic development variables: Gross Domestic Product (GDP), Human Development Index (HDI), and Economic Freedom Index (EcoF) have been analyzed.

Review of Literature (Theoretical Background of Development and Happiness)

The Human Development Report (HDR), which is published by UNDP, ranked Nepal 139th among 188 countries with a score of 0.630 in the Human Development Index (HDI). The HDI was introduced in 1990 as part of UNDP to provide a means of measuring economic development in three composite areas: per capita income, health and education. The HDI traces the changes in the level of countries over the time in the given indicators in between 0 to 1. Based on it, the score from 0-0.49 shows low development, 0.5-0.69 medium development, 0.7-0.79 as high development and 0.8 and above shows very high development of the country. As the report mentioned by the global Economy.Com(2020) is 0.724 points. Norway ranks the highest with the HDI of 0.957points and Nigeria ranks the lowest with 0.394points.

Gupta, Clements and Tiongson (1998) analyze the data of 118 developing countries and their transition, and conclude that public spending on education and health has a positive effect on the formation of human capital which boosts economic growth while promoting equity and reducing poverty. They also explain 'production and beneficial spending on education and health… depends on how funds are allocated within these sectors.'

Todaro (2000) wrote a book on "Economic Development" in which he discussed the development aspects of the economy based on the HDI. He pointed out that the most recent and most ambitious attempt at classification of the countries on the basis of development comes from UNDP with the focus on different aspects of "human development" that go beyond income to include such non-economic variables as life

expectancy at birth and educational attainment along with real per capita income to construct the Human Development Index (HDI).

He further categorized 174 countries into three development aggregates as “high” (64 nations, including several LDCs), “medium” (65 countries), and “low” (45 countries). Finally, he focused on every country developing a set of common and well-defined goals, and these include reduction of poverty, inequality, and unemployment; the provision of minimum levels of education, health, housing, food of every citizen; the broadening of economic and social opportunities; and the forging of a cohesive nation-state. The central idea of this explanation is that the HDI is the core index that defines a country’s development as high, medium and low.

Kelly and Evans (2010) examine the relationship between economic development and happiness of nations using evidences of income, education, health and other indicators of social well-being. They sampled 32 countries and reached the conclusion that the more goods such as education and income diffuse through a society, the less they enhance the people’s subjective well-being; however, the nation’s level of economic development has a strong, independent positive effect on well-being. Furthermore, they conclude that economic growth enhances well-being, especially for poor people, more in poor nations than in rich nations.

Thirlwall (2014) in the Human Development Report (HDR) and compared the level of development of different countries of the world based on the HDI. He considered the HDI based on the same variables used by UNDP: life expectancy at

birth, educational attainment (adult literacy, primary, secondary and tertiary school enrollment ratios) and standard of living (measured by PCY and PPP).

Nurhayati and Hamzah (2015) carried out research on the effect of government spending and investment on the growth of per capita income and analyzed the effect of growth in Human Development Index (HDI) by using multiple regressions with panel data of Indonesia. The results show a significant effect on the per capita income growth and human development index (HDI).

Esmail and Shili (2018) mentioned that the economics of happiness is an approach to assess the social dimension which combines the theories used by economists and psychologists where the index of happiness is one of the combined indicators developed from 33 indicators based on notion of the (United Nations, 2017) with the classification of nine areas: mental health, health, education, cultural diversity, flexibility, use of time and good governance, community vitality, environmental diversity, flexibility and living standards. The research on the topic “the relationship between happiness and economic development” concluded that the main source of happiness drives economic development and therefore governmental societies should accord happiness a major importance as an input not just an output.

Omodero (2019) explores the idea in his article entitled “Government General Spending and Human Development”, that the human development is a strategy to improve human skills, create avenues for people to make better choices that boost a healthier, longer and fulfilled lives. The predominant aim of every government’s spending is to guarantee a long and healthy life for citizens; ensure they are

knowledgeable people and enjoy a decent standard of living. In fact, this is a phenomenon that can upgrade the HDI of the country.

The World Development Report 2020 showed that the SDGs-Index (as a measure of SDGs fulfillment) and well-being are strongly correlated and that fulfillment of SDGs can be explained. There is 60 per cent variance in happiness levels between countries. Subjective well-being could thus be an indicator or proxy for the successful achievement of a development policy.

Renz (2021) reviewed the concept “Development Policy based Happiness” with the aim to provide an overview of the applications of happiness to development issues to answer the question whether happiness and well-being, love, spirituality and friendship can be measured, and concluded that if happiness compared across and within countries in the same way as income is measured.

Maurya and Kanaujiya (2023) assess development and happiness in their research article using the panel data econometrics tests. They have concluded that development does lead to happiness and nations experiencing long episodes of high economic growth show the positive rise in happiness whether they are developed or developing economies.

Lee and Goh (2023) explore whether happiness ess-led growth policies implemented in some countries are viable for achieving better economic well-being proxied by GDP per Capita using a panel dataset covering 104 countries from 2006 to 2018. The research applied the panel Granger Causality test and empirical results suggest that the economic growth of 1% to 3% can be obtained by increasing

happiness. Furthermore, the research shows the positive effect of happiness. The effect is four times greater in developed countries than in the developing countries. Therefore, it is recommended that the happiness-led model should be included in conventional economic growth models to achieve a holistic approach in designing development policies.

Behera, Rahut and Dash (2024) study socioeconomic determinants of happiness by using the empirical evidence of 166 countries for 15 years. For this, they consider per capita income, social support, freedom to make life choices, gender inequality and so on as the main factors. The results show that the per capita income, social support, freedom to make life choices positively impact happiness. The findings suggest that income can mediate happiness by promoting emotional well-being, gender equality and clean environment.

Methodology

Gross Domestic Product (GDP) and Per Capita Income (PCI) are the main dependent variables and Happiness Index (HI), Human Development Index (HDI), Economic Freedom Index and Educational Attainment data of Secondary School and Higher-Level Education Enrollment are the independent variables of the study. Furthermore, the research includes Globalization Index (GI) and Global Peace Index as proxies to analyze the globalization aspects. Furthermore, life expectancy is also included to measure the strength of happiness: the longer the life the stronger the happiness. The study presented a causal comparative research design to observe the

descriptive statistics and coefficient correlation of the variables for regression analysis. The results are the outcome of the cause-and-effect relationship.

Nature and Source of Data

This study uses the secondary data for analysis. The secondary data sources are the Ministry of Finance and Ministry of Education of the Government of Nepal. Likewise, the data from the Global Economy.Com, World Bank, Wikipedia.com and Countryeconomy.com for the period of 20 years (2004 – 2023) are incorporated.

The Model

The equation to be estimated has been specified as follows:

$$\ln Y_t = \beta_0 + \beta_1 \ln HDI_t + \beta_2 \ln HI_t + e_t \quad \ldots\ldots (1)$$

$$\ln PCI_t = \beta_0 + \beta_1 \ln HI_t + \beta_2 \ln EcoF_t + \beta_3 \ln SSE_t + \beta_4 \ln HEE_t + e_t \quad \ldots\ldots (2)$$

$$\ln HI_t = \beta_0 + \beta_1 \ln GI_t + \beta_2 \ln GPI_t + \beta_3 \ln LE_t + e_t \quad \ldots\ldots (3)$$

Where,

Y_t = GDP of the year t., HDI_t = Human Development Index of the Year t., HI_t = Happiness Index of the Year t., PCI_t = Per Capita Income of the Year t, $EcoF_t$ = Economic Freedom of the Year t., SSE_t = Secondary School Enrollment of the Year t, HEE_t = Higher Education Enrollment of the Year t., GI_t = Globalization Index of the Year t, ei= Error term, GPI_t = Global Peace Index of the Year t., β_0 = Constant, Regression Coefficients = β_1- β_4 ln= Log natural.

Model I: Determinants of GDP in relation to remittance and HDI independent variables

Model I analyzes the relation of the Human Development Index and the Happiness Index to the GDP of the country. The estimate shows the Human Development Index has a positive and significant role to contribute to the GDP of Nepal. The relation of the Happiness Index to the GDP is positive but insignificant.

Table 1: Determinants of GDP in relation to the HDI and HI

Variables	Coefficients	Std. Error	t-value	p-value	VIF
(Constant)	13.390	0.510	26.264	0.000	
lnHDI	6.451	0.351	18.355	0.000	1.192
lnHI	0.204	0.253	0.805	0.432	1.192
No. of Observations: 20, R-square: 0.961, Adjusted R-Square: 0.956, F-value: 2008.342, F-sig: 0.000.					

Notes: Significant at *** less than 1%, ** less than 5%, * less than 10%

Source: Output estimated by the researcher.

The results show that 1% increase in GDP indicates 6.451% unit increase in human development index and 0.204% units of happiness index. The findings support and justify the policies which have been employed for the economic development and contribute to Sustainable Development Goals (SDGs) as both Human Development Index and Happiness Index, have positively contributed to the economy of Nepal.

Model II: Determinants of PCI in relation to HI, EcoF, SSE and HEE

Table 2 shows the results of Model II variables in relation to Per Capita Income and Happiness Index (HI), situation of economic freedom in the country in terms of Economic Freedom Index (EcoF), the Secondary School Enrollment (SSE) and Higher Education Enrollment (HEE). The results show secondary school enrollment and higher education enrollment have positive and significant relation to happiness and the role they play for each other's value. The coefficients are statistically significant. On the contrary, the coefficient of economic freedom index result is not as expected. There is a need enhance the national and the international trade business to develop the economic freedom.

Table 2: Determinants of PCI in relation to HI, EcoF, SSE and HEE

Variables	Coefficients	Std. Error	t-value	p-value	VIF
(Constant)	-7.990	3.136	-2.548	0.022	
lnHI	0.609	0.268	2.268	0.039	1.450
lnEcoF	-1.361	0.800	-1.701	0.110	1.404
LnSSE	1.278	0.189	6.746	0.000	4.320
LnHEE	0.206	0.099	2.091	0.054	5.121
No of Observations: 20, R-square: 0.962, Adjusted R-Square: 0.952, F-value: 94.900, F-sig: 0.000					

Notes: Significant at *** less than 1%, ** less than 5%, *less than 10%

Source: Output estimated by the researcher.

The estimated results show that 1% increase in PCI increases 0.609% units of happiness Index. Likewise, the 1% change in PCI also increases 1.278% units of

secondary school enrollment and 0.206% units in higher school enrollment. It means the PCI is transforming the happiness as well as education in Nepal. Therefore, both variables support and justify the development of social well-being in terms of education which has positive association with per capita income of the people. They also play an effective role in increasing the happiness among people. The economic freedom is not supportive as expected in the growth of the economy of Nepal.

Model III: Determinants of HI in Relation to GI, GPI and LE

Model III is a supportive analysis to review whether globalization and global peace index can be associated with enhancing happiness in Nepal. Results show globalization contributes to happiness in Nepal, a developing country. The results show the life expectancy at birth and happiness has positive and significant correlation. It shows increase in the longevity of life gives happiness to the people in Nepal.

Table 3: Determinant of HI in relation to the GI, GPI and LE

Variables	Coefficients	Std. Error	t-value	p-value	VIF
(Constant)	-13.240	3.753	-3.528	0.003	
lnGI	-0.342	0.404	-0.846	0.410	3.091
lnGPI	-0.154	0.113	-1.363	0.192	3.403
lnLE	3.834	0.889	4.312	0.001	1.834
No of Observations: 20, R-square: 0.538, Adjusted R-Square: 0.451, F-value: 6.207, F-sig: 0.005					

Notes: Significant at *** less than 1%, ** less than 5%, * less than 10%

Source: Output estimated by the researcher.

The data shows that 1% change in happiness results 3.834% units of increment in life expectancy rate. The other indicators like globalization index and global peace index are not in the position of expected results and therefore, yet to require to improve from all the dimension so as to contribute for the happiness and also for the international relation and gain the benefit for the nation from international arena that means global facets.

Conclusion

The available literature and the results of the study show that a higher economic growth translates to a higher level of well-being and happiness. This study also showed the relationship between the economic development in terms of GDP per capita growth and happiness by including the major factors of economic and social growth. The GDP, Per Capita Income (PCI) and Happiness Index are considered the dependent variables and human development index, secondary school enrollment, higher education enrollment, life expectancy at birth; economic freedom index, globalization index and global peace index are considered as the independent variables respectively. The regression method is used to measure the cause and effects. The results show that 1% increase in GDP indicates the 6.451% unit increase in human development index and 0.204% units of happiness index. The findings support the policies which have been employed for achieving Sustainable Development Goals (SDGs). The findings show the strong association of Human Development Index and Happiness Index, and have associated to the contribution to the economy of Nepal.

The estimated results show that 1% increase in PCI increases 0.609% units of Happiness Index. Likewise, 1% change in PCI also increases 1.278% units of secondary school enrollment and 0.206% unit increase in higher school enrollment. It means the PCI is transforming happiness as well as education in Nepal and therefore, both variables support and justify the development of social well-being in terms of education that have positive association with per capita income of the people. PCI also plays effective role in increasing and developing happiness among people. Finally, the data shows that 1% change in happiness results 3.834% units of increment in life expectancy rate.

This study is the outcome of the literature by Lee and Goh (2023) who applied the Causality test in their research that suggested a nation can achieve the economic growth of 1% to 3% by increasing the happiness of its people and, in the same way, an increase in GDP per capita can lead to the social well-being which can transform to happiness for the nation.

Policy Implications

1. The economic policies should prioritize sustainable growth, recognizing the micro level impact of economic development on happiness (Behera, et al., 2024).
2. Emphasize governance reforms to enhance freedom and transparency that should foster the opportunities for individual growth and choice at all level of equalities.
3. Prepare adequate economic infrastructure, standard social services, international quality schools, health services and all level of government institutions should be

developed so that they can utilize every resource for the optimum well-being of the people.

4. Design multi-dimensional policies that can cover various aspects of cultural, social, economic, international and environmental issues and best utilize them for the purpose of enhancing the happiness of the people.

References

Arrow, K. (2002). Distributed Information and the Role of State', in R.B. Freeman (ed.), Inequality Around World. Palgrave/MacMillan and IEA.

Aziz, B., Khan, T. & Aziz, S. (2008). Impact of Higher Education on Economic growth of Pakistan. GC University Fasalabad, MPRA paper No. 22912.

Balasubramanyam, V.N., Salisu, and D. Sapsford (1996) ' Foreign Direct Investment and Growth in EP and IS Countries', Economic Journal, 106, PP92-105.

Barro, R. (1997) Determinants of Economic Growth: a Cross- Country Study. Cambridge (US): MIT Press.

Behera,D.K, Rahut,D.R.and Dash, A.K. (2024) Socioeconomic Determinants of Happiness: Empirical Evidence from Developed and Developing Countries, Journal of Behavioral and Experimental Economics 109(2024) 102187 (US): MIT Press.

Beine M., F. Docquier and H. Rapport (2001) Brain Drain and LDCs' Growth: Theory and Evidence', Journal of Development Economics, 64 (1).

Docquier, F. and A. Marfouk (2004) ' Measuring the International Mobility of Skilled Workers, 1990-2000 (Release 1.0) 'World Bank Policy Research Working Paper 3381.

Finance, M.O. (2017-2024) Economic Survey, Ministry of Finance, Kathmandu.

Kelley, J. and Evans, N.D.R(2010) Economic Development and Happiness: Evidence from 32

Nations, Polish Sociological Review, this publication at:

https://www.researchgate.net/228649252.

Lee, Y.Y.and Goh, K. L. (2023) The Happiness-Economic Well-Being Nexus: New Insights from Global Panel Data, Journals.sagepub.com/home/sgo1-17.

Mourya, N.K., & Kanaujiya, K.S. (2022) 'Does Development Lead to Happiness?' Contribution to Indian Social Sciences Vol 14, Page 498-515, Journal of the Indian Association of Social

Science Institutions, India.

Noorbakhsh, F., A. Paloni and A. Youssef (2001) ' Human Capital and FDI Inflows to Developing Countries: New Empirical Evidence', World Development, 29, pp 1593-1610.

Omodero, C.,O., (2019) "Government General Spending and Human Development: A Case Study of Nigeria," Academic Journal of Interdisciplinary Studies, Richtmann Publishing Ltd. Vol. 8.

Stevens, P., & Weale, M. (2004). Education and Economic Growth. (G. Jones, & J. Jones, Eds.)

UK and USA: Edward Elgar Publishing.

Timon, R. (2021), Development Policy Based on Happiness? A review of concepts ideas and

pitfalls, Diskussionsbeitrage No. 75, Freiburg, 1-27.

UNESCO (2015) World Education Forum Final Report pp 12, 75352, Paris.

Velde, D.W.T (2005), Globalization and Education, Working Paper 254, Overseas Development

Institute, Londan, UK, pp 26.

Appendix I:

YEAR	PCI	YT	HDI	HI	EcoF	SSE	HEE	LF	GPI	GI
2004	319	8297	0.489	4.685	51.2	216303	136000	64.82	0.00	37.19
2005	355	9331	0.495	4.685	51.4	225031	121670	65.46	0.00	37.87
2006	389	10316	0.505	4.57	53.7	274210	173157	65.87	0.00	40.96
2007	441	11777	0.509	4.75	54.4	307078	159497	66.33	0.00	43.04
2008	532	14310	0.518	4.441	54.1	342632	203529	66.42	2.02	43.20
2009	543	14663	0.53	4.922	53.2	385146	208956	66.76	1.92	44.28
2010	672	18253	0.543	4.156	52.7	397759	243557	66.81	2.00	44.83
2011	795	21685	0.553	3.811	50.1	419121	179284	67.31	2.08	45.56
2012	794	21703	0.561	4.16	50.2	403936	437564	67.47	2.00	45.89
2013	809	22162	0.57	4.156	50.4	394933	458621	67.97	2.01	46.78
2014	827	22722	0.576	4.156	50.1	405338	480891	68.09	1.97	48.01
2015	882	24361	0.579	4.514	51.3	437326	374647	67.46	1.86	47.92
2016	880	24524	0.586	4.793	50.9	445564	441461	68.78	1.99	48.76
2017	1028	28972	0.594	4.962	55.1	463700	453092	68.91	2.00	48.98
2018	1162	33112	0.601	4.88	54.1	475003	423996	68.98	2.04	48.04
2019	1186	34186	0.611	5.449	53.8	482983	441819	69.56	2.03	47.02

2020	1139	33434	0.604	5.137	54.2	484278	466828	69.25	2.04	46.00
2021	1229	36927	0.602	5.269	50.7	495648	460826	68.45	2.03	46.00
2022	1348	41183	0.6	5.377	49.7	484924	579448	71.45	1.98	44.52
2023	1378	40907	0.6	5.47	51.4	484924	633053	71.74	2.02	44.52