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## Analysis of inequality – Adjusted human development index in relation to Nepal

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### ABSTRACT

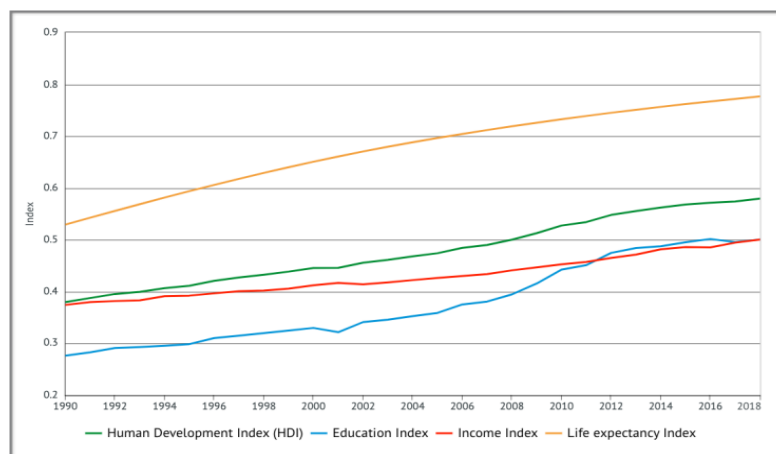
*This paper is exploratory in nature and attempts to present a detailed analysis of the Inequality-adjusted Human Development Index (IHDI) of Nepal since its introduction in 2010 to 2018. By breaking down each dimension of the IHDI and evaluating trends in IHDI in relation to the HDI both qualitatively and quantitatively, the study has utilised secondary data published by the UNDP through multiple tables and graphs.*

**Keywords:** HDI, UNDP, IHDI, Nepal, Development, Life Expectancy Index, Education Index, Income Index, Inequality-Adjusted Life Expectancy Index, Inequality-Adjusted Education Index, Inequality-Adjusted Income Index, Government Policy, Medium Human Development Category, Analysis

### 1. INTRODUCTION

The Human Development Index (HDI) is a summary measure for evaluating long term progress in three basic dimensions of human development- Life expectancy, education and per capita income indicators. HDI is the geometric mean of the normalised indices for each of its three aforementioned dimensions and highlights the trend of human development since its establishment in 1990 by the United Nations Development Programme (UNDP).

As of 2018, Nepal has an HDI value of 0.579, placing it in the medium human development category. Ranked 147 out of 189 countries and territories, Nepal's HDI value has escalated tremendously by 52.6% from 0.380 to 0.579 since 1990. As seen in the table and the graph below, Nepal witnessed an increase of 16.1 years in life expectancy, 4.7 years in expected years of schooling and 130.5 % increase in GNI per capita between 1990 and 2018.



Year	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (2011 PPP\$)	HDI value
1990	54.4	7.5	2.0	1,192	0.380
1995	58.6	8.1	2.2	1,342	0.411
2000	62.3	9.0	2.4	1,532	0.446
2005	65.3	9.6	2.8	1,682	0.474
2010	67.6	12.0	3.3	2,002	0.527

2015	69.5	12.2	4.7	2,496	0.568
2016	69.8	12.2	4.9	2,486	0.572
2017	70.2	12.2	4.7	2,639	0.574
2018	70.5	12.2	4.9	2,748	0.579

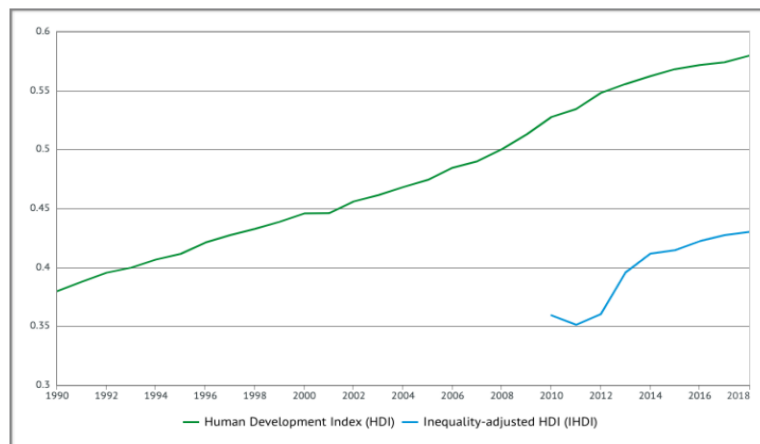
The significant growth in the value of Nepal’s HDI is well in-sync with the global trend owing to technological advancements and better-informed decision making. Development in countries are segregated into 4 tiers of HDI- a. Very high human development (62 countries) b. High human development (53 countries) c. Medium human development (36 countries) d. Low Human Development (35 countries).

While the HDI aids to put people at the centre of development, it masks inequalities and disparities in human development amongst different sections of society in the same country. Inequalities in life expectancy, income and education can cause two countries with distinct distribution of resources to have the same HDI value. Thus, to answer the distributional question, ‘which people are kept at the center of development?’ the UNDP introduced the Inequality-adjusted Human Development Index (IHDI) in 2010. The IHDI establishes a direct link to inequalities in the three dimensions of HDI and, hence, is the true level of development that accounts for loss in potential human development due to disparities. Expressed as a percentage, the loss in HDI due to inequalities aids the government in framing and evaluating policies targeted towards alleviating inequalities. In 2018, Nepal registered an IHDI value of 0.43 against its HDI value of 0.58, hence a loss of 25.8% which is slightly above the global average loss in HDI due to inequalities of 23%.

This paper is exploratory in nature and attempts to present a detailed analysis of the Inequality-adjusted Human Development Index (IHDI) of Nepal since its introduction in 2010 to 2018. By breaking down each dimension of the IHDI and evaluating trends in IHDI in relation to the HDI both qualitatively and quantitatively, the study has utilised secondary data published by the UNDP through multiple tables and graphs.

## 2. ANALYSIS OF THE INEQUALITY-ADJUSTED HUMAN DEVELOPMENT (IHDI) IN RELATION TO NEPAL

Since inequality serves an impediment to human development across the entire population of a nation, discounting the three dimensions of HDI with the inequalities allows for a more accurate determination of human development. For IHDI to be equivalent to the HDI, there must be absence of inequality in the distribution of opportunities and resources in the nation. Therefore, HDI can be interpreted as the index of potential human development with regard to the current levels of life expectancy, education and income.



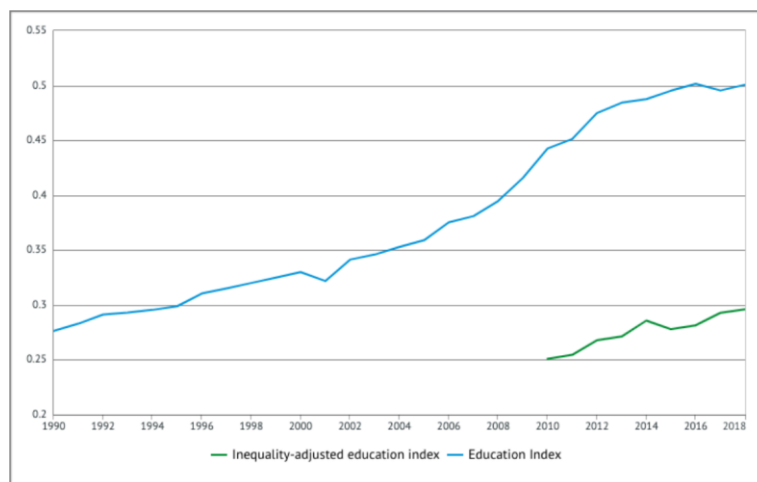
Countries like Nepal categorised under medium human development tend to possess greater multidimensional inequality and thus conceal greater losses owing to the presence of rampant inequality. Consequently, scrutinising Nepal’s development solely through the lens of HDI often leads to an overestimation of development and distract government policies to target areas that require most intervention in terms of reducing inequality. While the regular HDI appears to come across as a culmination of extremely sound economic policies and informed decisions, unclocking the assumption of equality helps understand that true indicator of development, the IHDI. Standing at 0.43, the IHDI suggests that Nepal falls from the medium human development category, once we account for all the inequalities. Nevertheless, as far as the current trends are concerned, the IHDI and HDI are rising at an annual rate of 2.4% and 1.1% respectively. Thus, the outpacing rate of IHDI over HDI has caused the inequality losses to cut down to 25.8% in 2018 from 32% in 2010. This highlights that the gap between the HDI and IHDI is closing and that Nepal is striding towards its potential development levels by minimising the inequalities every year.

Furthermore, the trends showcase that while IHDI experienced a decline between 2010 and 2011, the HDI increased significantly. This implies that Nepal only expanded its potential for greater human development and technically witnessed a decline in human development. Nevertheless, the period between 2012 and 2014 registered the greatest upsurge in IHDI, meaning that a substantial proportion of the population was freed from the clutches of poverty and experienced a higher standard of living. However, the growth in HDI in the same period was less drastic compared to the IHDI, highlighting the fact that Nepal developments catered towards reducing the inequalities in the three dimensions. In the following years, both the HDI and IHDI were seen to rise at a similar rate consolidating the idea that the level of disparities and inequalities remained rather intact.

On one hand the progress that Nepal has managed to make in terms of the HDI and IHDI since 1990 is rather promising from the surface level. Because the 25.8 % loss in human development is higher than the world average loss in HDI due to inequalities, the Nepalese government must devise more effective policies and intervention to tackle this issue and attain a spot at the Medium Human Development Category. In order to garner a complete picture of Nepal's IHDI, we now must evaluate each of the three dimensions and connect its implications with the HDI.

### 3. THE INEQUALITY-ADJUSTED EDUCATION INDEX

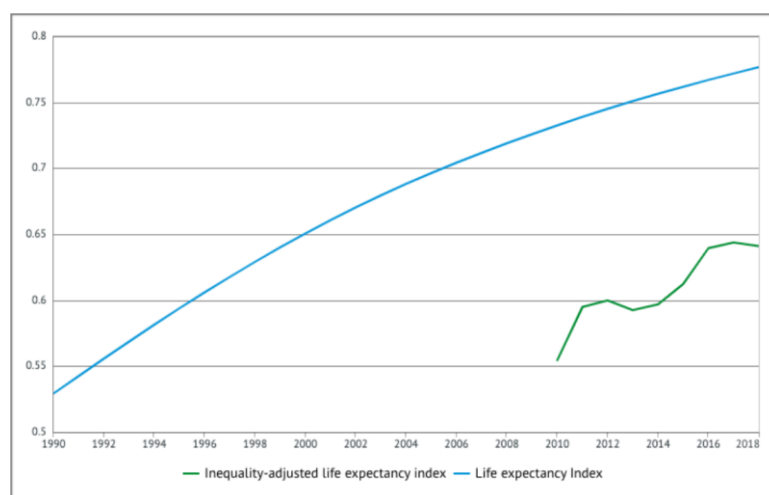
Education is deemed as the driver of economic prosperity and sets path towards conflict resolution, gender equality amongst many other essential factors of overall human development. However, harnessing the true power of education to steer Nepal towards development demands eradication of inequalities associated with it. The graph above portrays 13.1% growth in education index (EI) of Nepal with an average annual growth rate of 1.6% since 2010. Whereas, the inequality-adjusted education index (IEI) has witnessed a 20% growth with an average annual growth rate of 2.5% since 2010. As observed in the graph, the losses in EI reduced 43.2% to 40% by 2018, substantiate the idea that inequalities have barely reduced over the years despite a significant growth in IEI. These variations stem from the rapid increase in the EI in relation to the IEI between the 2011 and 2015. Another major aspect that overpowers the outpacing rate of IEI to minimise the inequality losses is partly due to the decline in IEI between 2014-2015 and slow recovery rate of 4 years. Nonetheless, the relatively faster growth rate of IEI could reveal increased investments directed towards increasing accessibility of education for the less privileged part of the society.



Correcting the losses owing to inequalities in education is not only imperative from an economic standpoint for Nepal but also a step towards upholding the fundamental human right of education. To wield the positive impacts of education for overall development, Nepal ought to provide quality education to all sections of society. Investments in schooling infrastructure and ensuring qualified teaching would help close the gap and bring about fairness in access to education. Inequalities in Education also manifests the cultural and socio-economic disadvantages that hide in the veneer of glorified statistics of the HDI. Since greater educational inequality is associated with greater probability of conflict, equitable provision of education across the nation becomes imperative for conflict management in Nepal. With reference to political instability and unrest in the nation, education could be used as a tool to minimise losses springing from nation-wide strikes and riots by reducing conflicts. Thus, monitoring and correcting disparities in access to education could introduce Nepal to its potential development capability and bring about huge rewards in the long run in terms of economic prosperity and political stability.

### 4. THE INEQUALITY-ADJUSTED LIFE EXPECTANCY INDEX

Life Expectancy index serves as the prime metric for evaluating population health as it captures the mortality throughout the course of life. It measures the average number of remaining years of life for people at a certain age group with regard to prevailing mortality conditions.

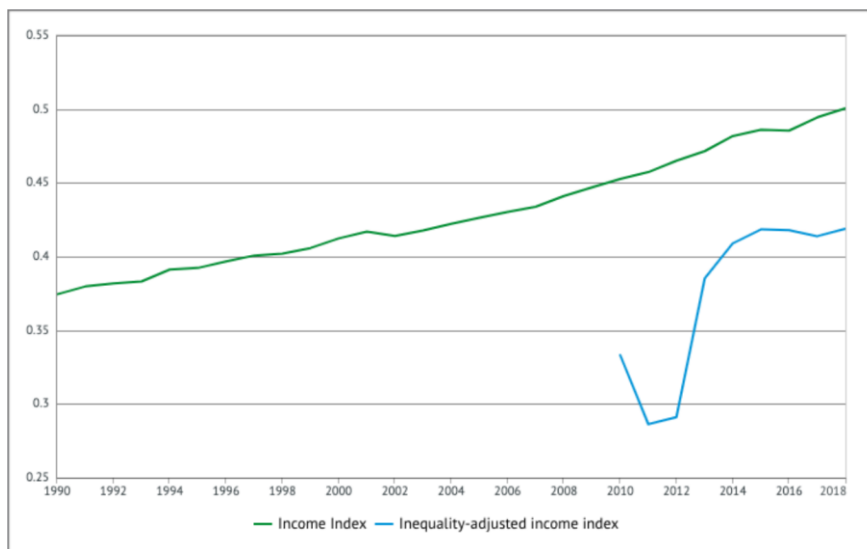


Global life expectancy has risen at an enormous rate since the Age of Enlightenment. However, life expectancy is extensively dependent on the economic climates of nations and hence richer the countries, better the health of people. Moreover, greater advancements in medicinal knowledge, living standards, education and improved nutrition play pivotal roles in determining the life expectancy of a country. Since 1990, Nepal's Life Expectancy Index (LEI) has upsurged by an impressive 47.2% and hence shows rapid developments in health care and living standards. This increase comes across as a successful implementation of policies centred towards improving public health until the inequality-adjusted Life Expectancy Index (ILEI). The average annual growth rate in ILEI has been much faster than that of LEI at 2.04% and 0.85% respectively. This corroborates the idea that public health policies have been effective towards limiting the inequalities in life expectancy as the years progressed.

Higher growth rate of inequality-adjusted life expectancy index could suggest that mortality conditions for the financially weaker sections of society have improved significantly causing the losses to reduce down from 24.6% in 2010 to 21.9% in 2018. Inequalities in life expectancy offset any benefits brought about any increase in it. This is because from the root-level lower life expectancy is the result of poor health and hence, results in increased expenditures in health care countervails advantages of higher life expectancy. These inequalities in life expectancy stem from disparities in socioeconomic status to educational levels. Hence, controlling them requires collaboration and coordinated actions from ministers accountable for education, social protection, health among other sectors. For Nepal to maximise its benefits from its constant progress with life expectancy over the years, it must work towards minimising the health care expenditures as the result of avoidable diseases and inadequate nutrition. Having a higher life expectancy with minimal inequalities would not only contribute immensely to overall human development but also help Nepal alleviate thousands from the vicious cycle of poverty.

### 5. THE INEQUALITY-ADJUSTED INCOME INDEX

The income index showcases household disposable income in a certain year. It corresponds to the human development index most intuitively as it becomes a determining factor for education level and life expectancy. As countries have witnessed a rise in their level of incomes, the inequality has widened over the years. Income inequality in Nepal majorly comes from privatisation, remoteness and corruption (Source: Nepali Times). As shown in graph above, Nepal has experienced a considerable 35.13% overall growth in its income index since 1990 with an annual growth rate of 1.25%. However, from 2010-2018 the income index has risen 11% whereas, the inequality-adjusted income index has risen by 27% in the same period. In addition, the losses in income index due to inequalities have decreased from 26.7% in 2010 to 16.1% in 2018. These trends corroborate the fact that while income index has risen tremendously, Nepal has managed to reduce inequalities at the same time despite undergoing a 12% decline between 2010 and 2011. While losses due to inequalities threaten human development, it is often argued that inequality is a necessary evil and could to an extent drive economic growth by incentivizing entrepreneurs to take risks and innovate. However, some theorists also believe that inequality could lead to a swathe of people being unable to attain skills required to get employed and hence, miss out on being productive for the economy. Moreover, inequality is deemed to ignite political instability which in turn leads to welfare losses. Achieving the potential income index is imperative for Nepal to increase its human development index rapidly. Reducing income inequalities would not only help increase accessibility to education and health care but also lead to a more productive workforce and hence, facilitate greater economic growth. Curtailing the inequalities would require the Nepalese government to effectively use taxation, increase public spending on social protection, invest in education and health care etc. Although implementation of these policies and strategies might lead to short-term disruptiveness in government spending and steer the economy from its natural course, in the long term minimizing these inequalities would help increase potential of other dimensions.



### 6. CONCLUSION

Inequalities prevalent in life expectancy, education and income mars development in Nepal. Progress made by Nepal in terms of human development is rather impressive until significance of Inequality-adjusted human development index (IHDI) is discerned. Accounting for inequalities has proven to be helpful to uncloak the true development patterns in Nepal and has shown that Nepal falls from the medium human development category. While losses in all education, life expectancy and income of HDI due to inequalities have reduced by 3.2%, 2.7% and 10.6% respectively since 2010, Nepal still has a long way to go in terms of curtailing

these losses through effective implementation of policies centred towards improving health care infrastructure, education and engendering equitable growth in income. Inequalities in income have reduced significantly in relation to other components, highlighting the idea that policies catered towards re-distribution of income have been effective. Furthermore, relatively lesser decrease of inequalities in life expectancy and education showcases vehement disparities in health care and disadvantages in cultural and socioeconomic statuses. These inequalities require coordinated actions from education ministers to healthcare ministers in order to increase access to education and health for weaker sections of society. Thus, inequalities accentuate areas that the Nepalese government needs to strengthen in order to attain its potential human development.

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