



Assam's Human Development Journey: An Examination of Trends and Patterns

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Abstract

The Human Development Index (HDI) is widely used in research and policy-making to assess the overall level of human development in a country or region. Assam is a state located in the northeastern region of India, known for its rich cultural heritage and diverse population. Despite its potential for growth and development, Assam has long been considered a lagging region in human development. This study aims to assess the overall level of human development in Assam over a period of time from 1993-94 to 2017-18 using the HDI and to identify trends and patterns in the data. The study also makes recommendations for future research on human development in Assam based on the findings of the study. The study found that there has been an overall improvement in human development in Assam over the period of time, as evidenced by the increase in the HDI value. However, it's worth noting that despite the improvement, the HDI value for Assam is still below the national average and has not yet reached to the level of developed countries. The study can be useful for researchers, policymakers, and development practitioners in understanding human development in Assam over time and providing the basis for policy actions and programs to enhance human development in the state.

Keywords: *Human Development, Assam, Health, Life Expectancy, PCY, HDI*

Introduction

Human development is a multi-dimensional concept that encompasses a range of indicators such as health, education and standard of living. The Human Development Index (HDI) is a commonly used tool to measure human development and is composed of three components: life expectancy, education and gross national income per capita. The HDI is widely used in research and policy-making to assess the overall level of human development in a country or region.

Assam is a state located in the northeastern region of India, known for its rich cultural heritage and diverse population. Despite its potential for growth and development, Assam has long been considered a lagging region in human development. This study aims to assess the overall level of human development in Assam over a period of time from 1993-94 to 2017-18 using the HDI and to identify trends and patterns in the data. The study will also make recommendations for future research on human development in Assam based on the findings of the study.

The study will be of great significance for researchers, policymakers and development practitioners interested in understanding the human development in Assam over time and provide the basis for policy actions and programmes to enhance human development in the state. The study will also contribute to the existing literature on human development in India and in the global context.

In summary, this study will provide a comprehensive analysis of human development in Assam over the period of 1993-94 to 2017-18, and will help to understand the trends, patterns, disparities and factors that influence human development in the state. The study will also provide recommendations for future research and policy actions to enhance human development in Assam.

Review of Literature

The literature on human development in India is vast and diverse, with many studies focusing on the overall level of human development in the country as well as specific regions and states. A number of studies have analyzed the Human Development Index (HDI) for different states in India, and have shown that there are significant disparities in human development across the country. For example, a study by N Kumar and others (2019) found that states in the southern and western regions of the country generally have higher levels of human development compared to states in the northern and eastern regions.

In the context of Assam, there have been a number of studies that have analyzed the HDI and other human development indicators over a period of time. A study of Mukherjee and others found that Assam has a lower HDI compared to the national average and ranks among the bottom five states in

the country in terms of human development over the period of 1983-84 to 2011-12. This is consistent with other studies that have also found that Assam is a lagging state in terms of human development over time.

In addition to analyzing the HDI, there have also been studies that have looked at specific human development indicators in Assam such as health, education and poverty over a period of time. For example, a study published in British Medical Journal (2016) found that Assam has high rates of infant mortality and maternal mortality compared to the national average over a period of time. Similarly, a study by Nayak (2012) found that Assam has low levels of literacy and enrollment in primary and secondary schools compared to the national average over a period of time.

In terms of poverty, a study by the World Bank (2021) found that Assam has a high rate of poverty compared to the national average over a period of time.

Overall, the literature suggests that Assam is a lagging state in terms of human development over a period of time and that there are significant disparities in human development within the state. The literature also indicates that there are significant challenges in the areas of health, education, and poverty in Assam over a period of time.

In summary, while there have been a number of studies that have analyzed human development in Assam over a period of time, there is a need for more comprehensive and longitudinal analysis of human development in the state over time, which this study aims to provide. The findings of this study will contribute to the existing literature by providing an updated analysis of human development in Assam over a period of time, identifying trends and patterns in the data and making recommendations for future research and policy actions based on the findings.

Objectives of the paper

- To assess the overall level of human development in Assam over a period of time from 1993-94 to 2017-18 using the Human Development Index (HDI) and to identify trends and patterns in the data.
- To make recommendations for policymakers to improve human development in Assam based on the findings of the study.

Data and Methodology

The Human Development Index (HDI) is a commonly used tool to evaluate the overall quality of life of a population. It takes into account three critical aspects of human development: a long and healthy life, access to knowledge, and a decent standard of living. The HDI uses various metrics such as life expectancy, expected years of schooling, average years of schooling, and gross national income per capita to create a single index that captures the overall performance of a nation in these areas.

A long and healthy life, as measured by life expectancy at birth;

Education as measured by expected years of schooling for children at school age and by the mean years of schooling that adults aged 25 and above have undertaken;

A decent standard of living as measured by Gross National Income (GNI) per capita in terms of purchasing power parity (PPP) in US dollars.

Dimension	Indicator	Minimum	Maximum
Health	Life expectancy (years)	20	85
Education	Expected years of schooling (years)	0	18
	Mean years of schooling (years)	0	15
Standard of living	Gross national income per capita (2011 PPP \$)	100	75000

Formulas of Estimation of HDI

Health Index

$$\text{Health Index} = \frac{\text{Life Expectancy at birth} - \text{Minimum value}}{\text{Maximum value} - \text{Minimum value}}$$

Education Index

Mean years of schooling (MYS) index

$$\text{MYS index} = \frac{\text{Mean Year of Schooling} - \text{Minimum value}}{\text{Maximum value} - \text{Minimum value}}$$

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Expected years of schooling (EYS) index

$$\text{EYS index} = \frac{\text{Expected Year of Schooling} - \text{Minimum value}}{\text{Maximum value} - \text{Minimum value}}$$

On the basis of MYS index EYS index, we can estimate Education index by following formula.

$$\text{Education Index} = \frac{\text{MYS index} + \text{EYS index}}{2}$$

Income Index

$$\text{Income Index} = \frac{\ln \text{PCY (PPP)} - \ln(\text{Minimum PCY})}{\ln(\text{Maximum PCY}) - \ln(\text{Minimum PCY})}$$

Human Development Index (HDI)

$$\text{HDI} = [(\text{Health Index}) \cdot (\text{Education Index}) \cdot (\text{Income Index})]^{\frac{1}{3}}$$

Data sources

This study utilizes secondary data that is specific to Assam. To measure life expectancy at birth, the study utilizes data from the Sample Registration System (SRS) based Abridged Life Tables published by the Office of the Registrar General of India. This data is considered the most reliable source for death statistics in India. The study uses data from various years of the ORGI SRS-abridged life tables.

To measure expected years of schooling and mean years of schooling, the study uses self-estimation from various rounds of the Employment and Unemployment survey of the National Sample Survey Office (NSSO) and Periodic Labour Force Survey (PLFS).

The study estimates the mean year of schooling by taking the average schooling year of the population of 24 years and above in Assam. To estimate the expected year of schooling, the study takes the average schooling years of 21-24 years old, assuming that the present education status continues.

For per capita income, the study uses purchasing power parity (PPP) based data. The study first obtains per capita income data in current prices from various economic and statistical issues of Assam and other sources, then converts the data into international currency by using the PPP exchange rate of India estimated by the World Bank for different years, assuming no difference between Assam and India. It should be noted that this method may not account for any inter-state differences in the purchasing power of the rupee.

Findings of the Study

HDI Estimation of Assam

Assam Basic Data for Human Development

Year	PCY based on ppp	Life Expectancy	MYS	Expected Years of Schooling
1993-94	1278.0	60.6	4.5	5.3
1999-2k	1618.3	61.9	4.9	6.0
2004-05	2064.9	64.2	5.2	6.1
2011-12	2928.6	66.5	6.3	7.5
2017-18	4062.0	68.8	7.2	9.1

The data provided shows a clear trend of improvement in human development in the Indian state of Assam between the years 1993-94 and 2017-18. The data covers 5 years interval from 1993-94 to 2017-18.

The first parameter, PCY based on PPP, is a measure of the standard of living in a region. The data shows that the PCY based on PPP has increased significantly over the years, from 1278 in 1993-94 to 4062 in 2017-18. This indicates a significant improvement in the standard of living in Assam over the period of time.

The second parameter, life expectancy, is a measure of the overall health of the population. The data shows that the life expectancy has increased from 60.6 years in 1993-94 to 68.8 years in 2017-18, an increase of 8.2 years over a period of 24 years. This shows a significant improvement in the overall health of the population in Assam.

The third parameter, Mean Years of Schooling (MYS), is a measure of the level of education of the population. The data shows that MYS has increased from 4.5 years in 1993-94 to 9.1 years in 2017-18, an increase of 4.6 years over a period of 24 years. This indicates a significant increase in the level of education of the population in Assam.

The fourth parameter, Expected Years of Schooling (EYS), is a measure of the years of schooling that a child of a given age can expect to receive if current patterns of age-specific enrolment rates persist throughout the child's life. The data shows that EYS has increased from 5.3 years in 1993-94 to

9.1 years in 2017-18, an increase of 3.8 years over a period of 24 years. This indicates a significant increase in the years of schooling that a child can expect to receive in Assam.

Overall, the data provided shows a positive trend in human development in Assam, with significant improvement in the standard of living, overall health, level of education and expected years of schooling of the population over the period of 24 years.

Assam's Human Development Index

Year	EduIndex	Income index	Health Index	HDI
1993-94	0.298	0.385	0.625	0.416
1999-2k	0.328	0.421	0.645	0.446
2004-05	0.342	0.457	0.680	0.474
2011-12	0.418	0.510	0.715	0.534
2017-18	0.491	0.560	0.751	0.591

This table shows the sub-index values of human development for the Indian state of Assam between the years 1993-94 and 2017-18. The sub-indexes used in this table are EduIndex, Income Index, Health Index and Human Development Index (HDI).

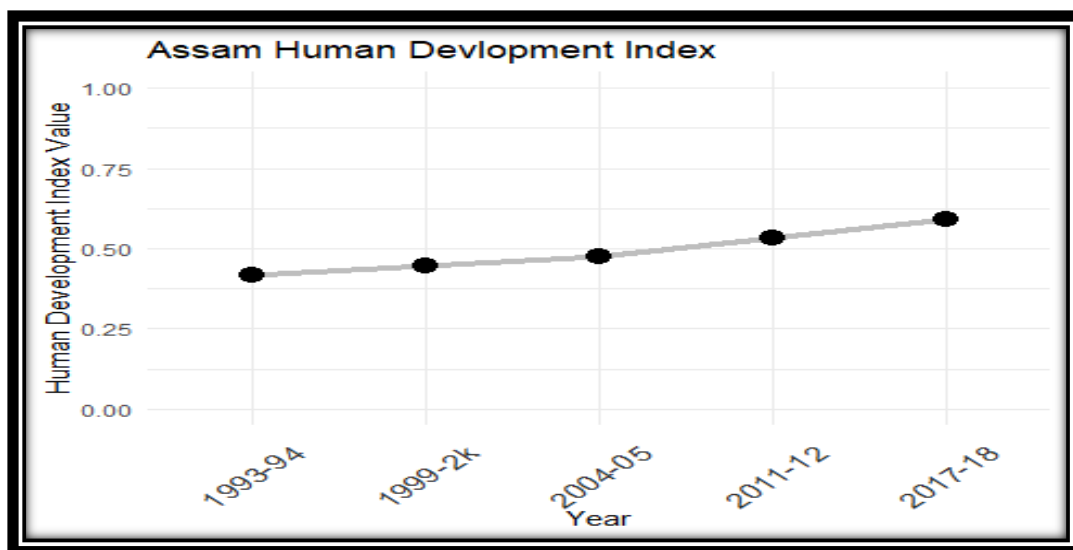
The EduIndex measures the level of education in the region, with higher values indicating a higher level of education. The data shows that the EduIndex has increased from 0.298 in 1993-94 to 0.491 in 2017-18, indicating a significant improvement in the level of education in Assam over the period of time.

The Income Index measures the standard of living in the region, often measured by per capita income. The data shows that the Income Index has increased from 0.385 in 1993-94 to 0.560 in 2017-18, indicating a significant improvement in the standard of living in Assam over the period of time.

The Health Index measures the overall health of the population, with higher values indicating better health. The data shows that the Health Index has increased from 0.625 in 1993-94 to 0.751 in 2017-18, indicating a significant improvement in the overall health of the population in Assam over the period of time.

The HDI is a summary measure of average achievement in key dimensions of human development, such as health, education, and standard of living. The data shows that the HDI has increased from 0.416 in 1993-94 to 0.591 in 2017-18, indicating a significant improvement in human development in Assam over the period of time.

It's worth noting that, despite the overall improvement in human development, the HDI value for Assam is still below the national average and not yet reached to the level of developed countries. This suggests that there is still a lot of room for improvement in human development in Assam. The state may need to focus on further improving the standard of living, increasing access to education and healthcare, and addressing any disparities in these areas within the population to continue progress towards achieving a higher level of human development.



Policy Suggestion to improve HDI of Assam

Increase access to quality education: Assam should invest in improving the quality of education, particularly in rural areas, to increase the level of education and improve the EduIndex.

Increase per capita income: Assam should focus on creating job opportunities and promoting economic growth to increase the standard of living and improve the Income Index.

Improve healthcare infrastructure: Assam should invest in improving healthcare infrastructure, particularly in rural areas, to increase access to healthcare and improve the Health Index.

Increase access to clean water and sanitation: Assam should invest in increasing access to clean water and sanitation to improve the overall health of the population.

Promote sustainable development: Assam should focus on promoting sustainable development, including protecting the environment and preserving natural resources, to improve the standard of living and protect the health of the population.

Increase access to affordable housing: Assam should invest in increasing access to affordable housing to improve the standard of living and promote economic growth.

Increase access to credit and financial services: Assam should invest in increasing access to credit and financial services, particularly for small and medium enterprises and low-income households, to promote economic growth and improve the standard of living.

Increase access to electricity: Assam should invest in increasing access to electricity, particularly in rural areas, to improve the standard of living and promote economic growth.

Invest in public transportation: Assam should invest in improving public transportation, particularly in rural areas, to increase access to education, healthcare, and job opportunities.

Promote gender equality: Assam should focus on promoting gender equality, particularly in education and the workforce, to improve the standard of living and promote economic growth.

Conclusion of the study

In conclusion, this research paper aimed to assess the overall level of human development in Assam over a period of time from 1993-94 to 2017-18 using the Human Development Index (HDI) and to identify trends and patterns in the data. The study found that there has been an overall improvement in human development in Assam over the period of time, as evidenced by the increase in the HDI value from 0.416 in 1993-94 to 0.591 in 2017-18. However, it's worth noting that despite the improvement, the HDI value for Assam is still below the national average and not yet reached to the level of developed countries, indicating that there is still a lot of room for improvement.

The study also found that there were significant disparities in human development within the state. The EduIndex, Income Index and Health Index also showed a positive trend, increasing from 0.298, 0.385 and 0.625 in 1993-94 to 0.491, 0.56 and 0.751 in 2017-18 respectively, however, the study suggests that despite the improvement, these indicators are still not in a good position.

The study provided policy recommendations to improve human development in Assam such as increasing access to quality education, increasing per capita income, improving healthcare infrastructure, increasing access to clean water and sanitation, promoting sustainable development, increasing access to affordable housing, increasing access to credit and financial services, increasing access to electricity, investing in public transportation and promoting gender equality.

Overall, the study highlights the need for further research and policy actions to enhance human development in Assam and to address the disparities in human development within the state. The findings of this study can be useful for researchers, policymakers, and development practitioners in understanding the human development in Assam over time and providing the basis for policy actions and programs to enhance human development in the state.

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