

The Role of Human Capital in India's Economic Development

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Abstract

Human development has become one of the most important indicators of a nation's progress, extending beyond the traditional concept of economic growth. It emphasizes the improvement of people's quality of life through better education, healthcare, income, and equal opportunities. The present study analyses the status of human development in Tamil Nadu with reference to the Human Development Index (HDI), Inequality-adjusted Human Development Index (IHDI), and Gender Development Index (GDI), and compares its position at the national level in India. The study highlights the relationship between economic growth, inequality, poverty, and human development. Although economic growth is necessary for development, it is not sufficient to ensure equitable distribution of resources and improvement in living standards. Inequality and poverty continue to hinder human development, particularly during the early stages of economic progress. Hence, effective public policies and government expenditure on education and healthcare are essential for enhancing social welfare and reducing disparities. The study also emphasizes the role of public expenditure as a major instrument for promoting human development. Investments in education and healthcare help overcome market failures, improve

human capital formation, and ensure inclusive growth. The findings reveal that Tamil Nadu has made significant progress in human development indicators compared to many other Indian states due to better social infrastructure, literacy, healthcare facilities, and welfare measures. The study concludes that sustained investment in human capital, equitable distribution of resources, and inclusive public policies are essential for achieving balanced and sustainable human development.

Keywords: Human Development Index, Gender Development Index and Inequality-adjusted Human Development Index

Human Development in India and Tamil Nadu

Human development has recently emerged as the ultimate objective of human progress, replacing the traditional emphasis on mere economic growth. Human development refers to the expansion of people's choices and opportunities in ways that enable them to lead longer, healthier, and more fulfilling lives. It encompasses improvements in education, health, income, and overall quality of life. Empirical evidence reveals that countries with similar levels of per capita income may exhibit significantly different levels of human development depending on the manner in which income is distributed and utilized. According to the Kuznets' inverted "U" hypothesis, inequality tends to increase during the initial stages of economic development. Such inequality often intensifies poverty and creates obstacles to human development. Therefore, although economic growth is essential, it alone is not sufficient to eradicate poverty and improve human welfare. Policy makers must not only understand the factors that stimulate economic growth but also identify mechanisms that ensure equitable distribution of the benefits of growth. Traditionally, taxation and public expenditure on public goods have been considered important instruments of redistribution. In recent years, however, public expenditure on education and healthcare has gained greater significance as an effective means of promoting social equity and human development. Since the primary responsibility of the government is to enhance social welfare, public spending is regarded as a powerful tool for achieving this objective. Public expenditure can help overcome market failures that worsen poverty, such as the inability of poor households to finance education, inadequate access to healthcare information, and the negative externalities associated with poor health conditions. Investments in education and healthcare contribute significantly to improving the quality of human capital and raising living standards. "The importance of public expenditure in the process of human development has therefore been widely recognized. In this context, the present study attempts to examine the status of the Human Development Index (HDI), Inequality-adjusted Human Development

Index (IHDI), and Gender Development Index (GDI) in Tamil Nadu and to analyse its position at the national level in India.

Review of Literature

Devin and Kathenn (2015) observed that Tamil Nadu achieved greater human development gains than Gujarat due to its inclusive development ideology and effective public administration. The study pointed out that although both states are characterized by political competition between two major political parties, Tamil Nadu has consistently invested more in the human development of women and socially disadvantaged sections. Policies introduced during the 1980s significantly contributed to the divergence in human development outcomes between the two states. The authors further argued that historical conditions, political legacies, and support bases shaped the differing policy agendas of the states. The study also highlighted that reservation policies and efficient public administration in Tamil Nadu played a major role in facilitating the human and economic development of disadvantaged social groups to a greater extent than in many other parts of India.

Pravas Mishra (2010), in the study entitled “*An Analysis of Orissa (India) Budget during 1990–91 to 2007–09*”, examined trends in social sector expenditure during the post-reform period. The study used secondary data collected from the *Handbook of Statistics on State Finances* published by the Reserve Bank of India. The variables considered included total social sector expenditure in Tamil Nadu and India. The study observed that expenditure on sub-social sectors received comparatively less attention after economic reforms. Therefore, the analysis primarily focused on the post-reform period from 1990–91 to 2009–10 in order to evaluate the changing pattern of public expenditure and its implications for human development.

Amartya Sen (1999), in his work on human development, emphasized that development should be viewed as an expansion of human capabilities and freedoms rather than merely an increase in income. According to the author, education, healthcare, and social opportunities are essential components for improving the quality of human life and achieving sustainable economic development.

Mahbub ul Haq (1995) highlighted the importance of the Human Development Index (HDI) as a comprehensive measure of development. The study argued that economic growth alone cannot reflect the actual welfare of people unless accompanied by improvements in health, education, and living standards.

Dreze Jean and Amartya Sen (2002) observed that public action through investments in education, healthcare, and nutrition significantly contributes to human development. Their study pointed out those Indian states with stronger social sector investments achieved better human development outcomes compared to states with lower public expenditure.

Suryanarayana (2008) examined regional disparities in human development across Indian states and found that southern states, particularly Tamil Nadu and Kerala, performed better due to higher literacy rates, improved healthcare facilities, and effective welfare schemes.

Anand Sudhir and Amartya Sen (2000) analysed the relationship between economic growth and human development and concluded that public policy plays a crucial role in transforming economic growth into human welfare. The study emphasized that equitable distribution of resources and social opportunities are essential for reducing poverty and inequality.

Tilak Jandhyala B.G. (2007) studied the impact of public expenditure on education in India and found that increased government spending on education positively influences literacy, skill formation, and employment opportunities. The study stressed that investment in education is a key factor in human capital formation.

Dev S. Mahendra (2012) examined inclusive growth and human development in India and reported that despite high economic growth, inequalities in income, education, and healthcare continue to persist. The study recommended strengthening social welfare programmes and improving rural infrastructure to ensure inclusive development.

Kaushik Basu (2011) observed that poverty and inequality remain major barriers to human development in India. The study emphasized the need for balanced regional development, effective governance, and targeted public expenditure to improve human development indicators.

Ranis Gustav, Stewart Frances, and Ramirez Alejandro (2000) explored the two-way relationship between economic growth and human development. The study concluded that investment in human development contributes to economic growth, while sustained economic growth provides resources for improving human welfare.

United Nations Development Programme reports consistently highlight that states with better educational attainment, healthcare access, and gender equality achieve higher levels of human development. The reports also stress the importance of reducing inequality through inclusive policies and social sector expenditure.

Profiles of Human Development Index

The United Nations Development Programme has been publishing the Human Development Index (HDI) periodically since 1990 for both developed and developing countries across the world. The HDI was introduced to measure development not merely in terms of economic growth, but also in terms of the overall well-being and quality of life of people. In its methodology, the UNDP replaced the earlier parameter of income poverty measures with per capita income indicators to provide a broader understanding of development.

Human development is defined as the process of enlarging people's choices and improving their opportunities to lead meaningful and productive lives. The most essential choices include living a long and healthy life, acquiring education and knowledge, and enjoying access to adequate resources for a decent standard of living. In addition to this, human development also encompasses political freedom, protection of human rights, social equality, and self-respect.

The Human Development Index is primarily based on the following three dimensions:

- **Longevity** – the ability to live a long and healthy life, measured through life expectancy at birth.
- **Education** – the ability to acquire knowledge, measured through literacy rate, years of schooling, and educational attainment.
- **Standard of Living** – the ability to enjoy a decent quality of life, measured through per capita income or Gross National Income (GNI) per capita.

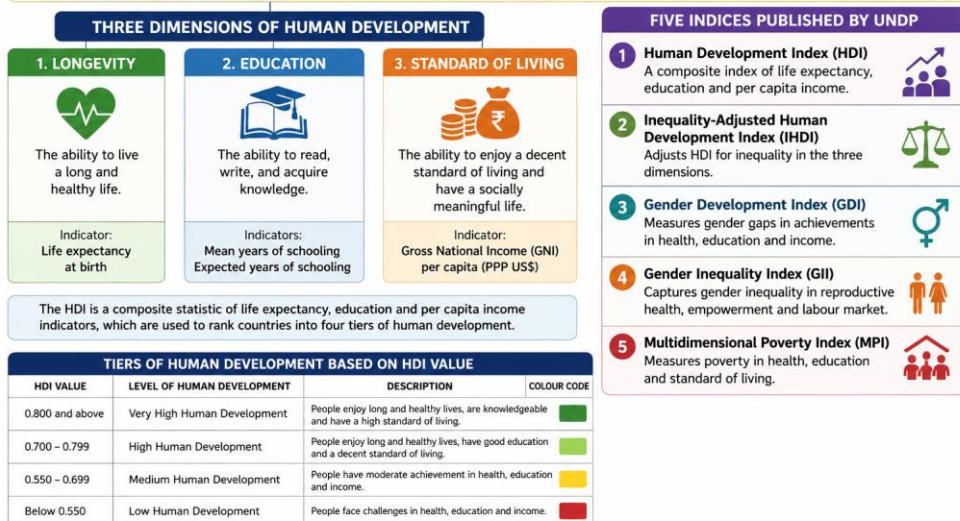
The Human Development Report Office of the UNDP releases five important indices every year to assess various dimensions of development:

1. **Human Development Index (HDI)**
2. **Inequality-Adjusted Human Development Index (IHDI)**
3. **Gender Development Index (GDI)**
4. **Gender Inequality Index (GII)**
5. **Multidimensional Poverty Index (MPI)**

Among these, the Human Development Index (HDI) is considered the most widely used composite indicator. It combines statistics relating to life expectancy, education, and income to rank countries into different categories or tiers of human development. Countries with higher HDI values are regarded as having better standards of living, stronger educational systems, and improved healthcare conditions. The HDI has become an important tool for policy makers, researchers, and governments to evaluate the progress of nations and to formulate policies aimed at improving human welfare and achieving inclusive and sustainable development.

PROFILES OF HUMAN DEVELOPMENT INDEX

The United Nations Development Programme (UNDP) has been publishing the Human Development Index (HDI) for all countries since 1990. Human development is the process of enlarging people's choices and improving their well-being.



Human Development Index: Inter-State Comparison

According to the *National Human Development Report, 2011*, Tamil Nadu significantly improved its position in human development among Indian states. The state advanced from the seventh rank in 1991 to the third rank in 2011. The Human Development Index (HDI) value of Tamil Nadu increased from 0.34 in 1991 to 0.53 in 2011. The corresponding HDI values for India were 0.30 in 1991 and 0.47 in 2011. The comparison clearly indicates that Tamil Nadu performed better than the national average in terms of human development indicators such as education, healthcare, and standard of living. The steady improvement in the HDI value reflects the effectiveness of public policies, social welfare programmes, investments in education and healthcare, and inclusive development initiatives implemented by the state government. The progress achieved by Tamil Nadu demonstrates substantial advancement in the quality of life and socio-economic conditions of the people. Overall, the inter-state comparison highlights that Tamil Nadu has emerged as one of the leading states in human development in India due to its consistent focus on social sector development and human welfare.

A. Human Development Index (HDI): Inter-State Comparison

The following table presents the Human Development Index (HDI) values and rankings of major Indian states during 1991, 2001, and 2011.

Table - 1

Human Development Index for India combined from 1991 to 2011

States/UTs	1991 Value	1991 Rank	2001 Value	2001 Rank	2011 Value	2011 Rank
Andhra Pradesh	0.298	9	0.377	9	0.416	10
Assam	0.237	15	0.308	15	0.367	15
Bihar	0.360	4	0.431	6	0.479	6
Gujarat	0.360	5	0.431	5	0.509	5
Haryana	0.346	6	0.412	7	0.478	7
Karnataka	0.500	5	0.591	13	0.394	1
Kerala	0.245	1	0.328	4	0.523	12
Madhya Pradesh	0.363	14	0.452	12	0.404	4
Maharashtra	0.267	3	0.45	2	0.537	11
Orissa	0.411	11	0.475	11	0.424	2
Punjab	0.256	2	0.347	3	0.531	9
Rajasthan	0.343	12	0.466	14	0.388	3
Uttar Pradesh	0.305	13	0.404	1	0.638	8
West Bengal	0.305	8	0.443	6	0.479	6
Tamil Nadu	0.34	7	0.46	3	0.53	3
All India	0.30	7	0.46	3	0.53	3

Source: Tamil Nadu: An Economic Appraisal.

The above table reveals the progress in Human Development Index (HDI) values and rankings across major Indian states during 1991, 2001, and 2011. The data indicates considerable improvement in human development across most states over the two decades.

Tamil Nadu improved significantly from an HDI value of 0.340 in 1991 to 0.530 in 2011. Its ranking also improved from seventh position in 1991 to third position in both 2001 and 2011, indicating substantial advancement in education, healthcare, and living standards.

Kerala, traditionally known for strong social development indicators, maintained a leading position in human development. Maharashtra and Gujarat also recorded steady improvements in HDI values over the years. States such as Assam and Madhya Pradesh showed comparatively lower HDI values, reflecting slower progress in human development indicators.

The HDI value for India increased from 0.300 in 1991 to 0.530 in 2011, showing overall improvement in national human development. However, interstate disparities continue to exist due to differences in economic growth, literacy rates,

healthcare facilities, and public welfare measures. The inter-state comparison highlights that southern states, particularly Tamil Nadu and Kerala, have performed better in human development compared to many other Indian states. Tamil Nadu's remarkable improvement in HDI ranking demonstrates the positive impact of social welfare policies, public expenditure on education and healthcare, and inclusive development initiatives. The findings emphasize the importance of sustained investment in human capital for achieving balanced regional and national development. The Human Development Index (HDI) classified ten States as medium human development Status, while nine are low human development Status, for the year 2014 (Table- 2) The medium human development states show an average loss of 28 per cent because of inequalities, while low human development States show 33 per cent loss due to inequalities on average. Tamil Nadu occupied fifth position in terms of Inequality-Adjusted Human Index IHDI, and 6th position in terms of HDI. Whereas Kerala stands first both in IHDI and Punjab is retained the second position.

Table-2
HDI and IHDI Estimates Across Indian States - 2012

Sates	HDI	IHDI	Ratio	Loss %	Rank HDI	Rank IHDI	Difference
Andhra Pradesh	0.485	0.332	0.685	31.55	11	12	-1
Assam	0.341	0.341	0.718	28.17	12	11	1
Bihar	0.447	0.303	0.679	32.06	18	16	2
Chhattisgarh	0.449	0.291	0.649	35.14	17	18	-1
Gujarat	0.514	0.363	0.705	29.50	8	7	1
Haryana	0.545						
Himachal Pradesh	0.558	0.403	0.722	27.81	3	3	0
Jharkhand	0.464	0.308	0.663	33.67	15	14	1
Karnataka	0.508	0.353	0.696	30.44	10	9	1
Kerala	0.625	0.520	0.832	16.78	1	1	2
Madhya Pradesh	0.451	0.290	0.643	35.74	14	19	-3
Maharashtra	0.549	0.397	0.722	27.75	4	4	0
Orissa	0.442	0.296	0.669	33.11	19	17	-2
Punjab	0.569	0.410	0.720	28.04	2	2	0
Rajasthan	0.468	0.308	0.660	34.02	14	13	1
Tamil Nadu	0.544	0.308	0.272	27.28	6	5	-1
Uttar Pradesh	0.468	0.307	0.655	34.47	13	15	-2
Uttar hand	0.515	0.345	0.670	33.03	7	10	-3
West Bengal	0.509	0.360	0.707	29.30	9	8	1
India	0.504	0.343	0.680	32.00			

Source: UNDP India, 2014.

The above table presents the estimates of the Human Development Index (HDI) and Inequality-adjusted Human Development Index (IHDI) across major Indian states for the year 2012. The HDI measures achievements in health, education, and income, whereas the IHDI adjusts these achievements by considering inequalities prevailing within society.

Among the states, Kerala recorded the highest HDI value of 0.625 and IHDI value of 0.520, securing the first rank in both indices. Kerala also experienced the lowest percentage loss of 16.78 percent due to inequality, indicating relatively balanced human development.

Punjab and Himachal Pradesh also performed well with high HDI and IHDI values and minimal differences in rankings. In contrast, states such as Madhya Pradesh, Chhattisgarh, and Uttar Pradesh experienced higher percentage losses due to inequality, reflecting uneven distribution of development benefits. Tamil Nadu recorded an HDI value of 0.544 and an IHDI value of 0.396. The state secured the sixth rank in HDI and improved to fifth rank in IHDI, indicating comparatively better distribution of human development achievements. The percentage loss due to inequality in Tamil Nadu was 27.28 percent, which is lower than the national average loss of 32 percent. At the national level, India recorded an HDI value of 0.504 and an IHDI value of 0.343, indicating that inequality significantly reduces the overall level of human development in the country. The analysis of HDI and IHDI estimates across Indian states reveals significant interstate disparities in human development and inequality. Kerala emerged as the best-performing state with the least inequality-adjusted loss, while several economically weaker states experienced substantial reductions in human development due to inequality. Tamil Nadu demonstrated comparatively strong performance in both HDI and IHDI rankings, reflecting effective social welfare measures and relatively inclusive development policies. The findings emphasize the importance of reducing inequality to achieve balanced and sustainable human development.

Human Development Index and Gender Development Index in Tamil Nadu

This Status Planning Commission, which prepared the first State Human Development Report with the support of the National Planning Commission and The UNDP has just brought out the Human Development Index (HDI) Report adopting the methodology of the UNDP and the National Planning Commission (Table-3). It is the Sixth State in India to bring out its State's HDI, as a blueprint for future action. Like UNDP and the National Planning Commission, the State Planning Commission has assessed the well-being of the people in the people in terms of the same indicator like attainment of education, health, life expectancy, income, access to safe drinking water, sanitation facilities etc, The HDI and GDI for

the distribution in Tamil Nadu are presented below in descending order for the year 2014.

District-wise HDI and GDI in Tamil Nadu

The following table presents the district-wise Human Development Index (HDI) and Gender Development Index (GDI) values in Tamil Nadu.

Table-3
District-Wise HDI and Values- 2014

District	HDI Value	District	GDI
Chennai	0.757	Chennai	0.766
Kancheepuram	0.712	Kancheepuram	0.710
Kanniykumari	0.711	kanniykumari	0.708
Thuthukudi	0.703	Thuthukudi	0.703
Coimbatore	0.699	Coimbatore	0.697
Nilgiris	0.685	Nilgiris	0.686
Thiruchirapalli	0.671	Thiruchirapalli	0.671
Madurai	0.661	Madurai	0.661
Vellore	0.658	Vellore	0.656
Erode	0.658	Erode	0.656
Tirunelveli	0.658	Tirunelveli	0.655
Thiruvallur	0.654	Thiruvallur	0.652
Nagapattinum	0.654	Nagapattinum	0.649
Virudhunagar	0.651	Virudhunagar	0.649
Karur	0.647	Karur	0.643
Cuddalore	0.644	Cuddalore	0.641
Dindigul	0.641	Dindigul	0.638
Sivagangai	0.640	Sivagangai	0.635
Tiruvarur	0.637	Tiruvarur	0.633
Namakkal	0.636	Namakkal	0.631
Thanjavur	0.630	Thanjavur	0.629
Ramanathapuram	0.629	Ramanathapuram	0.628
Theni	0.628	Theni	0.626
Selam	0.626	Selam	0.625
Pudkottai	0.618	Pudkottai	0.615
Tiruvannamalai	0.612	Tiruvannamalai	0.608
Perambalur	0.596	Perambalur	0.592
Villupuram	0.587	Villupuram	0.582
Dharmapuri	0.584	Dharmapuri	0.582
Tamil Nadu	0.657	Tamil Nadu	0.654
All-India	0.571	All-India	0.553

Source: Tamil Nadu Human Development Report, 2013,

The table presents the district-wise Human Development Index (HDI) and Gender Development Index (GDI) values in Tamil Nadu. The findings reveal considerable variation among districts in terms of human and gender development achievements. Chennai recorded the highest HDI value of 0.757 and GDI value of 0.766, indicating better performance in education, healthcare, income, and gender equality. Districts such as Kancheepuram, Kanniyakumari, Thoothukudi, and Coimbatore also showed high levels of human and gender development. On the other hand, districts like Dharmapuri, Viluppuram, and Perambalur recorded comparatively lower HDI and GDI values, indicating the need for improved social infrastructure and welfare measures. The overall HDI and GDI values for Tamil Nadu were 0.657 and 0.654 respectively, which are significantly higher than the all-India averages of 0.571 and 0.553. This demonstrates that Tamil Nadu has achieved substantial progress in human development and gender equality compared to the national average. The district-wise analysis highlights that Tamil Nadu has performed well in both human development and gender development indicators. Urbanized and industrially developed districts recorded higher HDI and GDI values, while comparatively backward districts lagged. The findings suggest that balanced regional development, increased public expenditure on education and healthcare, and gender-inclusive policies are essential to reduce inter-district disparities and achieve sustainable human development across the state.

I. CONCLUSION

A comparison between the Gender Development Index (GDI) and Human Development Index (HDI) is useful in assessing the extent of gender equality in society. Tamil Nadu recorded a GDI value of 0.654 as against the all-India value of 0.553, indicating that Tamil Nadu has achieved a better level of gender equality compared to the national average. However, significant inter-district variations exist in the Gender Development Index within Tamil Nadu. The GDI values ranged from a high of 0.766 in Chennai to a low of 0.582 in Dharmapuri. Chennai secured the first position in gender development, whereas Dharmapuri and Viluppuram occupied the lowest positions. Other districts that performed well in GDI include Kanniyakumari, Thoothukudi, Kancheepuram, and Coimbatore. These districts also performed well in terms of HDI, reflecting strong achievements in education, healthcare, income, and gender equality. The Human Development Index classification for the year 2014 identified ten Indian states under the category of medium human development and nine states under low human development. Medium human development states experienced an average loss of 28 percent due to inequality, while low human development states recorded an average loss of 33 percent. Tamil Nadu secured the fifth position in terms of the Inequality-Adjusted

Human Development Index (IHDI) and the sixth position in terms of HDI among Indian states. Kerala ranked first in both HDI and IHDI, while Punjab retained the second position. Several districts in Tamil Nadu recorded HDI values higher than the state average. These include Chennai, Kancheepuram, Kanniyakumari, Thoothukudi, Coimbatore, Nilgiris, Ramanathapuram, Madurai, Vellore, Erode, and Tirunelveli. Among them, Chennai occupied the top position with an HDI value of 0.757. In contrast, Dharmapuri, with an HDI value of 0.584, and Viluppuram, with 0.587, were positioned at the lower end of the human development ladder. Nevertheless, it is noteworthy that all districts of Tamil Nadu recorded HDI values higher than the all-India average of 0.571, reflecting the state's overall advancement in human development. The analysis reveals that Tamil Nadu has achieved considerable progress in both human development and gender development compared to the national average. The state's higher HDI and GDI values reflect effective public policies, social welfare programmes, and investments in education and healthcare. However, disparities among districts persist, emphasizing the need for balanced regional development and targeted welfare measures to improve human development in comparatively backward regions.

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