A STUDY OF HUMAN DEVELOPMENT ACHIEVEMENTS IN HARYANA AND ITS CHALLENGES

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ABSTRACT

This study investigates the multifaceted impact of economic liberalization on human development in Haryana, India, with a focus on the post-1991 era. The objectives encompass assessing the repercussions of economic reforms on life expectancy, mean and expected years of schooling, and the overall Human Development Index (HDI) parameters. Employing a comprehensive research methodology, the study utilizes secondary data from sources such as the Sample Registration System, National Sample Survey Office, and Periodic Labor Force Survey to evaluate life expectancy trends and educational metrics. The HDI components, including the Income Index, Health Index, and Education Index, are analyzed over a span of almost three decades to discern patterns in Haryana’s human development. The study proposes policy recommendations aimed at sustaining positive trends in healthcare, education, and income indices. These recommendations advocate for healthcare infrastructure enhancement, education sector reforms, economic diversification, job creation, and social welfare programs. The findings indicate a notable improvement in HDI parameters, showcasing the positive impact of economic reforms on human development in Haryana. The study contributes valuable insights to policymakers, guiding informed decisions for balanced and sustainable development in the region.

Keywords: Human Development Index, HDI, Haryana, Health, Education, Life Expectancy, PCY (PPP), Economic Reform.

I. INTRODUCTION

Haryana, situated in northern India, has undergone a profound metamorphosis across economic, social, political, geographical, and demographic realms, each presenting a unique tapestry of achievements and challenges. Historically an agrarian state, the shift toward industrialization was catalyzed by its strategic proximity to Delhi and the initiation of economic liberalization in 1991. This economic overhaul marked a significant departure from traditional practices, propelling Haryana into a major industrial and economic force. The state’s Gross State Domestic Product (GSDP) witnessed substantial growth, as manufacturing, information technology, and services sectors flourished. However, this economic triumph was accompanied by challenges, including environmental concerns arising from rapid industrialization.

Socially, Haryana has achieved milestones in education and healthcare, with improvements in access to schools and medical facilities. Urbanization surged, reshaping social dynamics, yet gender disparities persisted, presenting a nuanced social landscape. The state’s political terrain has seen fluctuations in power dynamics, shaped by regional and national influences, influencing policy decisions and governance. Geographically, Haryana’s diverse landscape, from fertile plains to the Aravalli Range, has impacted land use and agricultural practices. Yet, urbanization and industrial growth have posed environmental challenges, demanding sustainable solutions.

Demographically, Haryana has experienced demographic shifts, with a growing and urbanized population. However, understanding these changes is crucial for policymakers to address evolving needs in education, healthcare, and employment. Despite progress, challenges persist, necessitating a comprehensive study of human development in Haryana. This examination aims to gauge the impact of liberalization on various societal segments, ensuring equitable distribution of economic benefits. It further provides insights into the effectiveness of policies in addressing social disparities and fostering inclusive development.
Haryana's economic journey post-liberalization stands as a testament to its transformative potential. The shift from an agrarian to an industrial powerhouse has been marked by robust economic growth, attracting investments and generating employment. The manufacturing sector, in particular, has flourished, contributing significantly to the state's economic output. However, challenges such as environmental sustainability, unequal economic distribution, and the need for skill development initiatives persist.

On the social front, Haryana has made strides in improving education and healthcare. Access to schools and medical facilities has expanded, contributing to positive changes in human development indicators. Nonetheless, gender disparities, particularly in the sex ratio, have remained a concern, highlighting the need for targeted interventions and awareness campaigns to address deep-rooted societal norms.

Politically, Haryana's political landscape has witnessed fluctuations in power dynamics, with various parties vying for influence. This dynamic environment has both fueled policy changes and, at times, led to challenges in governance. The need for stable political leadership to steer the state through its development journey remains a critical factor.

Geographically, Haryana's diverse topography has influenced land use patterns and agricultural practices. The fertile plains have historically supported agricultural activities, but rapid urbanization and industrialization have altered the natural landscape. Balancing economic growth with environmental conservation is a pressing concern that requires integrated policies for sustainable development.

Demographically, Haryana's population has grown and urbanized, presenting both opportunities and challenges. The youth demographic offers a potential workforce, but ensuring quality education and employment opportunities is essential for harnessing this demographic dividend. Addressing demographic challenges, such as skewed sex ratios, requires concerted efforts to change societal perceptions and promote gender equality.

In conclusion, Haryana's post-liberalization progress is a tale of remarkable economic growth alongside persistent challenges. While achievements in economic and social domains are evident, the need for targeted policies to address environmental concerns, gender disparities, and inclusive development remains paramount. The study of human development in Haryana becomes indispensable for policymakers to navigate these complexities, ensuring that economic progress translates into improved well-being for all segments of society.

Balancing economic growth with social and environmental sustainability is the key to Haryana's continued journey toward holistic development.

### II. LITERATURE REVIEW

The study of human development in Haryana has been the subject of several empirical investigations, shedding light on the intricate relationship between economic growth and the well-being of its populace.

Sharma and Kaur (2015) emphasized the reciprocal impact between economic growth and human development, employing regression techniques to analyze indicators such as literacy rates, enrolment rates, and infant mortality rates. Their findings suggested a nuanced connection between economic growth and human development, with socio-economic indicators playing a crucial role.

Bala (2017) provided a regional analysis of social development in Haryana, recognizing development as a multi-dimensional phenomenon. Highlighting the disparities in literacy, sex ratio, and urbanization across districts, the study aimed to identify indicators responsible for the diversity in social development. Despite economic advancements, Bala noted that certain districts exhibited lower levels of literacy and urbanization, emphasizing the non-uniform progress in socio-economic development.

Hassan, Daspattnayak, and Rath (2008) delved into the gender bias in Haryana, exploring social and demographic indicators. The patriarchal structure of society, manifesting in a large deficit of females and widespread female foeticide, indicated persistent gender bias. The study called for radical social progress to address the pernicious effects of patriarchy on gender equality.

Mukherjee and Chakraborty (2011) broadened the scope, analyzing the interdependence between economic growth and human development across Indian states. Employing the National Human Development Report 2001 methodology, the study constructed the Human Development Index (HDI) separately for rural and urban
The results indicated that per capita income did not strictly translate into human well-being, emphasizing the influence of various variables on HDI achievements. Ajad Singh contributed to the literature with a specific focus on Haryana’s human development journey post the economic reforms of 1991 (Singh, 2022). Utilizing data from NSSO EUS data, Haryana Statistical Abstracts, and other sources, the study estimated the HDI values for different time periods. The findings suggested overall improvement in human development, particularly in economic growth. However, challenges persisted, particularly in the health and education sectors.

Furthermore, Singh collaborated on studies exploring human development in other Indian states, such as Assam (Singh and Aneja, 2022) and Tamil Nadu (Singh and Rusat, 2022). These studies, while specific to their respective states, provide a comparative perspective on the dynamics of human development across regions.

In summary, the literature reveals a complex interplay between economic growth and human development in Haryana, with gender bias, socio-economic disparities, and regional variations influencing the overall well-being of its citizens. The studies collectively highlight the need for comprehensive and targeted policies to address these challenges and promote sustainable human development in the region.

**OBJECTIVES OF THE PAPER**

1. Assess the impact of 1991 economic reforms on life expectancy, mean and expected years of schooling in Haryana.
2. Examine the progression of Human Development Index (HDI) parameters in Haryana from 1993-94 to 2020-21 to understand the overall trends post the economic reforms.
3. Propose policy recommendations based on the analysis of Human Development Index (HDI) components in Haryana, aiming to enhance and sustain positive trends in income, health, and education indices for overall human development.

**III. 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.

**Table 1: Human Development Index Parameters Ranges**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Indicator</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>Life expectancy (years)</td>
<td>20</td>
<td>85</td>
</tr>
<tr>
<td>Education</td>
<td>Expected years of schooling (years)</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Mean years of schooling (years)</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Standard of living</td>
<td>Gross national income per capita (2011 PPP $)</td>
<td>100</td>
<td>75000</td>
</tr>
</tbody>
</table>

**Formulae for estimation of HDI**

1. **Health Index**

\[
\text{Health Index} = \frac{\text{Life expectancy at birth} - \text{Min.value}}{\text{Max.value} - \text{Min.value}}
\]
2. Education Index

\[
\text{Mean years of schooling (MYS) index} = \frac{\text{Mean Year of Schooling} - \text{Min.value}}{\text{Max.value} - \text{Min.value}}
\]

\[
\text{Expected years of schooling (EYS) index} = \frac{\text{Expected Year of Schooling} - \text{Min.value}}{\text{Max.value} - \text{Min.value}}
\]

On the basis of MYS and EYS, we calculate Education Index:

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

3. Income Index

\[
\text{Income Index} = \log \left( \frac{\ln \text{PCY(PPP)} - \ln \text{Min.PCY}}{\ln \text{Max.PCY} - \ln \text{Min.PCY}} \right)
\]

4. Human Development Index

\[
\text{HDI} = \left\{ [\text{Health Index}], [\text{Education Index}], [\text{Income Index}] \right\}^{\frac{1}{3}}
\]

**DATA SOURCES**

This research relies on data from Haryana to measure various aspects of human development. To gauge life expectancy at birth, we use information from the Sample Registration System (SRS) Abridged Life Tables, a trustworthy source of death statistics in India, drawing from multiple years of the ORGI SRS-bridged life tables and segments from the RBI’s official website. For assessing expected and mean years of schooling, we make estimates based on self-reported data from the Employment and Unemployment survey of the National Sample Survey Office (NSSO) and Periodic Labor Force Survey (PLFS). We calculate the average years of schooling for individuals aged 25 and above in Haryana to determine the mean year of schooling. Expected years of schooling are determined by averaging the schooling years of individuals aged 21-24, assuming the continuation of their current education status. Additionally, to analyze per capita income, our study uses data based on purchasing power parity (PPP), converting it into international currency using the PPP exchange rate of India estimated by the World Bank for different years.

**IV. FINDINGS OF THE STUDY**

**Trends in Basic Parameter of HDI in Haryana**

<table>
<thead>
<tr>
<th>Year</th>
<th>PCY($) based on PPP</th>
<th>Life expectancy</th>
<th>MYS</th>
<th>EYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>2831</td>
<td>63.4</td>
<td>3.8</td>
<td>5.7</td>
</tr>
<tr>
<td>1999-2K</td>
<td>3436</td>
<td>65.1</td>
<td>4.6</td>
<td>6.9</td>
</tr>
<tr>
<td>2004-05</td>
<td>4563</td>
<td>67.1</td>
<td>5.3</td>
<td>8.2</td>
</tr>
<tr>
<td>2011-12</td>
<td>7486</td>
<td>68.6</td>
<td>6.6</td>
<td>9.7</td>
</tr>
<tr>
<td>2017-18</td>
<td>11146</td>
<td>70.0</td>
<td>7.2</td>
<td>10.4</td>
</tr>
<tr>
<td>2020-21</td>
<td>11312</td>
<td>70.6</td>
<td>7.9</td>
<td>11.1</td>
</tr>
</tbody>
</table>

The data presented in Table 2 provides a comprehensive overview of the Human Development Index (HDI) parameters in Haryana from 1993-94 to 2020-21, allowing for an assessment of the impact of the 1991 economic reforms on life expectancy, mean years of schooling (MYS), and expected years of schooling (EYS).

Firstly, the life expectancy in Haryana has exhibited a noteworthy upward trajectory over the observed period, rising from 63.4 years in 1993-94 to 70.6 years in 2020-21. This consistent increase suggests a positive correlation between economic reforms and improvements in healthcare infrastructure, living conditions, and overall well-being, contributing to an enhanced life expectancy in the region.

Secondly, the mean years of schooling (MYS) have demonstrated a substantial increase, growing from 3.8 years in 1993-94 to 7.9 years in 2020-21. This positive trend implies advancements in the education sector, with
individuals in Haryana spending more years on average in formal education. Such a development aligns with the expectations of positive educational outcomes resulting from economic reforms, indicating potential investments and improvements in educational opportunities.

Furthermore, the expected years of schooling (EYS) have also experienced a significant upward trajectory, increasing from 5.7 years in 1993-94 to 11.1 years in 2020-21. This suggests that individuals in Haryana can anticipate a longer duration of formal education, reflecting positive expectations for future educational attainment. The consistent improvement in both mean and expected years of schooling underscores the potential long-term benefits of economic reforms on the education landscape in Haryana.

In conclusion, the data in Table 2 indicates a positive impact of the 1991 economic reforms on life expectancy and educational indicators in Haryana. These trends align with broader expectations of improved human development outcomes resulting from economic transformations, emphasizing the need for continued analysis and exploration of other socio-economic factors to draw comprehensive conclusions about the overall impact of economic reforms in the region.

**Human Development Index Progress in Haryana**

The data presented in Table 3 outlines the trends of the Human Development Index (HDI) and its associated components in Haryana over a span of nearly three decades, from 1993-94 to 2020-21. Each index - Income, Health, Education, and the overall HDI - provides valuable insights into the state's progress across key dimensions of human development.

<table>
<thead>
<tr>
<th>Year</th>
<th>Income Index</th>
<th>Health Index</th>
<th>Education Index</th>
<th>HDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>0.505</td>
<td>0.668</td>
<td>0.285</td>
<td>0.458</td>
</tr>
<tr>
<td>1999-2K</td>
<td>0.534</td>
<td>0.694</td>
<td>0.345</td>
<td>0.504</td>
</tr>
<tr>
<td>2004-05</td>
<td>0.577</td>
<td>0.725</td>
<td>0.404</td>
<td>0.553</td>
</tr>
<tr>
<td>2011-12</td>
<td>0.652</td>
<td>0.748</td>
<td>0.489</td>
<td>0.620</td>
</tr>
<tr>
<td>2017-18</td>
<td>0.712</td>
<td>0.769</td>
<td>0.529</td>
<td>0.662</td>
</tr>
<tr>
<td>2020-21</td>
<td>0.714</td>
<td>0.779</td>
<td>0.572</td>
<td>0.683</td>
</tr>
</tbody>
</table>

The data presented in Table 3 offers a detailed insight into the trends of Human Development Index (HDI) parameters in Haryana from 1993-94 to 2020-21, aiming to fulfill the objective of examining the progression post the 1991 economic reforms. The HDI is composed of three main indices: Income Index, Health Index, and Education Index, with the overall HDI serving as a composite measure.

Starting with the Income Index, there is a noticeable upward trend over the observed years, from 0.505 in 1993-94 to 0.714 in 2020-21. This suggests a substantial improvement in the economic well-being of the population, signifying positive economic growth and development in Haryana over the considered period.

The Health Index, reflecting indicators such as life expectancy and healthcare access, has also experienced a consistent increase. Starting at 0.668 in 1993-94, it rises to 0.779 in 2020-21. This indicates advancements in healthcare infrastructure and overall health conditions, contributing to the overall well-being of the population.

Similarly, the Education Index, capturing factors like mean and expected years of schooling, exhibits a positive trend from 0.285 in 1993-94 to 0.572 in 2020-21. This signifies improvements in the education sector, with the population in Haryana experiencing enhanced educational opportunities and outcomes.

The overall HDI, which combines these three indices, has shown a continuous rise from 0.458 in 1993-94 to 0.683 in 2020-21. This holistic measure suggests an overall positive trajectory in human development, encompassing economic, health, and educational dimensions.

Interpreting these results collectively, the data implies a notable improvement in human development indicators in Haryana post the 1991 economic reforms. The upward trends in the Income, Health, and Education Indices, as well as the overall HDI, point towards positive socio-economic changes, reinforcing the notion that the economic reforms have contributed to the advancement of human development in the region.
Further analysis and exploration of specific contributing factors can enhance the understanding of these trends and guide future policy considerations for sustained development in Haryana.

V. POLICY RECOMMENDATIONS

Based on the analysis of the Human Development Index (HDI) components in Haryana and the objectives outlined in the research, the following policy recommendations are proposed to enhance and sustain positive trends in income, health, and education indices for overall human development:

1. **Healthcare Infrastructure Enhancement:**
   - Given the positive correlation between economic reforms and increased life expectancy, it is crucial to prioritize healthcare infrastructure development. Investments should focus on upgrading medical facilities, ensuring access to quality healthcare in rural areas, and implementing preventive healthcare measures. Policies that incentivize healthcare professionals to work in underserved regions can further improve healthcare accessibility.

2. **Education Sector Reform:**
   - The substantial improvement in mean and expected years of schooling indicates positive trends in education. To sustain and enhance these trends, policies should prioritize comprehensive education sector reforms. This may include increasing investment in education, particularly in rural and economically disadvantaged areas, to improve school infrastructure and ensure quality education. Additionally, targeted programs to encourage enrollment and reduce dropout rates can contribute to sustained improvements in education indices.

3. **Economic Diversification and Job Creation:**
   - To maintain the positive trajectory in the Income Index, policies should focus on economic diversification and job creation. Supporting industries with high growth potential, promoting entrepreneurship, and investing in skill development programs can contribute to a more diverse and resilient economy. This approach can lead to increased income levels and reduced economic disparities across different regions of Haryana.

4. **Social Welfare Programs:**
   - Implementing targeted social welfare programs can address specific challenges identified in the HDI analysis. For instance, policies should be designed to support vulnerable populations, such as women and children, with a focus on improving maternal and child health. Financial assistance programs and skill development initiatives for marginalized communities can contribute to reducing income inequality and enhancing overall human development.

5. **Monitoring and Evaluation Mechanism:**
   - Establishing a robust monitoring and evaluation mechanism is crucial for tracking the effectiveness of implemented policies. Regular assessments of the impact of healthcare, education, and economic policies on key HDI indicators will provide valuable insights. This data-driven approach will enable policymakers to make informed decisions, adjust strategies as needed, and ensure the sustainability of positive trends in human development.

These policy recommendations aim to build upon the observed positive trends in Haryana’s HDI components, fostering a holistic approach to human development. By addressing key sectors such as healthcare, education, and the economy, policymakers can contribute to sustained improvements in the overall well-being and quality of life for the residents of Haryana.

VI. CONCLUSION

In conclusion, this study delves into the dynamic landscape of human development in Haryana, with a particular emphasis on the post-1991 economic reform era. The exploration is grounded in a comprehensive literature review that unravels the intricate relationship between economic growth and human development. The findings of the study, demonstrate positive trends in life expectancy, mean and expected years of schooling, and overall HDI parameters in Haryana. Life expectancy has seen a consistent increase, reflecting improvements in healthcare infrastructure and overall well-being. The education sector has witnessed...
substantial advancements, with increased mean and expected years of schooling indicating positive outcomes resulting from economic reforms.

The HDI progression in Haryana, encompassing income, health, and education indices, further validates the positive impact of economic reforms on human development. The upward trajectory in each index suggests a holistic improvement in the overall well-being of the population.

However, the study recognizes persistent challenges, especially in health and education sectors. Therefore, the paper concludes by proposing targeted policy recommendations. These recommendations focus on enhancing healthcare infrastructure, reforming the education sector, promoting economic diversification, implementing social welfare programs, and establishing effective monitoring and evaluation mechanisms. By addressing these key areas, policymakers in Haryana can contribute to sustained and equitable human development, ensuring that the positive trends observed continue to uplift the quality of life for its residents.

In essence, this study not only sheds light on the achievements and challenges of human development in Haryana but also serves as a call to action. It advocates for comprehensive policies that go beyond economic indicators, acknowledging the interconnectedness of health, education, and economic well-being. Through thoughtful and targeted interventions, Haryana has the potential to navigate the complexities of human development, fostering a future where every individual can thrive and contribute to the prosperity of the region.

VII. REFERENCES