# HUMAN DEVELOPMENT INDEX AND POVERTY LINKAGES

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## Abstract:

In this paper an attempt has been made to analysis of income and human development index (HDI) on poverty ratio for 15 states of India and for some selected Asian Nation. Our hypothesis is that both HDI and the growth of per capita income to play a significant role in the perspective of reduction of poverty. Data pertaining to 15 major states of India has been considered to study the linkages between these three variables over time with the help of correlation and regression technique. The empirical analysis clearly revealed that per capita income and human development have profound influence on the reduction of poverty. Another important result is that over time the linkage between the three variables is getting strengthened. While there is a sizeable decline in poverty ratio of majority of states, still there is a long way to go. It may be concluded by saying that greater attention needs to be paid to human development mainly by increasing budgetary and plan expenditure on social sector and generation of ample employment opportunities.

**Keywords:** Human Development Index, Poverty Ratio, Per Capita Income, sCorrelation, Regression.

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## INTRODUCTION:

The first Human Development Report in 1990 opened with the simply stated premise that has guided all subsequent Reports: "People are the real wealth of a nation." By backing up this assertion with an abundance of empirical data and a new way of thinking about and measuring development, the Human Development Report has had a profound impact on development policies around the world.

The Human Development Report defines Human Development as a process of both widening people choices and the level of there achieved well-being. The primary objective of development is overall human development. It is a new concept and claims that it differs from the conventional approaches to economic growth, human capital formation, human welfare or basic human needs. However, we must not forget that growth in income is a process of economic development but not sufficient for human development. Human beings are active participants in the process economic development rather than as passive beneficiaries. Finally, economic development focuses on human choices rather than on provision of goods and services that the deprived groups need. Economic development can be better expressed in terms of human development. Human development is the ultimate end of all human beings,  men, women, young and old in the present and is likely to remain so in future. Economic development is just a means to this end. Human development index is a means of raising productivity of material and human resources in the country. It helps reducing the size of the family, as education, health care facilities and awareness regarding, unemployment, poverty, inequality, etc., make people aware of disadvantages of having an undesirably large size family. It is also good for the physical environment of pollution free sustainable economic development. A reduction in the size of family facilitates the establishment of a healthy civil society. Finally, human development may prevent civil disturbances and can ensure political stability in any country.

The concept of human development is as old as the economic thought  but its quantitative measurement is of recent origin. A variety of instruments to access human development have emerged in recent years, which resulted in new sets of measures on development. The HDI is a composite index of achievements in three fundamental dimensions of basic human development. They are i) a long and healthy life ii) education and iii) a decent standard of living as measured by real GDP per capita based on purchasing power parity in terms of US dollars. The weight of each

indicator in HDI is the same. Hence, the HDI is a simple average of life expectancy index, educational attainment index and the adjusted real per capita GDP index. Each index has been assigned a minimum and a maximum value. Generally, countries or state or a district in a state with values below 0.5 is considered as less developed countries, those between 0.5 to 0.8 as medium level countries and above 0.8 are ranked as developed countries.

The origins of the HDI are found in the annual Human Development Reports of the United Nations Development Programme (UNDP). These were devised and launched by Pakistani economist Mahbub ul Haq in 1990 and had the explicit purpose "to shift the focus of development economics from national income accounting to people centered policies". To produce the Human Development Reports, Mahbub ul Haq brought together a group of well-known development economists including: Paul Streeten, Frances Stewart, Gustav Ranis, Keith Griffin, Sudhir Anand and Meghnad Desai. But it was Nobel laureate Amartya Sen's work on capabilities and functionings that provided the underlying conceptual framework. Haq was sure that a simple composite measure of human development was needed in order to convince the public, academics, and policy-makers that they can and should evaluate development not only by economic advances but also improvements in human well-being. Sen initially opposed this idea, but he went on to help Haq develop the Human Development Index (HDI). Sen was worried that it was difficult to capture the full complexity of human capabilities in a single index but Haq persuaded him that only a single number would shift the attention of policy-makers from concentration on economic to human well-being.

The Human Development Index (HDI) is used to distinguish whether the country is a developed, a developing or an under-developed country, and also to measure the impact of economic policies on quality of life. There are also HDI for states, cities, villages, etc. by local organizations or companies. Starting with the 2011 Human Development Report the HDI combines three dimensions (1) A long and healthy life: Life expectancy at birth.(2) Education index: Mean years of schooling and Expected years of schooling. (3) A decent standard of living: GNI per capita purchasing power parity (PPP US$).

The present study is divided into four sections and focused on inter-states analyses. Ist section deals with introduction of Human Development Index (HDI) and poverty. The Second section deals with the State-wise analysis of human development. In section III, is focused on result and

linkages of HDI, poverty and per capita income. In Section IV, summary and policy implications of the study are given.

## Objectives:

The basic objectives of the study are

1. To examine the relationship between national human development index and poverty ratio.

2. To examine the relationship between poverty ratio and per capita income at factor cost.

3. To examine the extent of poverty ratio for fifteen Indan states and some Asian countries.

4. To compute the correlation & simple regression analysis between poverty, per capita income and human development index.

5. To suggest appropriate strategy of poverty alleviation and also suggest measures for improving the existing human development status of our country.

## Methodology:

The present research work extensively depends on the secondary data collected from respective census of India, report of Center for Monitoring Indian Economy, World Development Report, India Development Report, National Human Development Report, Human Development Report. The analysis of the paper is based on cross section data of 15 states in India and some selected Asian Countries. Regression analysis used to determine the impact of per capita income and HDI on poverty ratio.

PR = a + b PCI + u …….(i)

Poverty ratio(true) = constant + coefficient(per capita income at factor cost) + resudial.

PR = a + b HDI + u……..(ii)

Poverty ratio(true) = constant + coefficient(human development index) + resudial.

## The Problem of poverty:

Poverty is the lack of a certain amount of material possessions or money. Absolute poverty or destitution is inability to afford basic human needs, which commonly includes clean and fresh water, nutrition, health care, education, clothing and shelter. About 1.7 billion people are estimated to live in absolute poverty today. Relative poverty refers to lacking a usual or socially acceptable level of resources or income as compared with others within a society or country.

Fundamentally, poverty is a denial of choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate effectively in society. It means not having enough to feed and clothe a family, not having a school or clinic to go to, not having the land on which to grow one's food or a job to earn one's living, not having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities. It means susceptibility to violence, and it often implies living in marginal or fragile environments, without access to clean water or sanitation.

Poverty is pronounced deprivation in well-being, and comprises many dimensions. It includes low incomes and the inability to acquire the basic goods and services necessary for survival with dignity. Poverty also encompasses low levels of health and education, poor access to clean water and sanitation, inadequate physical security, lack of voice, and insufficient capacity and opportunity to better one's life.

In view of the Asian Development bank (ADB), poverty is a deprivation of essential assets and opportunities to which every human is entitled. Everyone should have access to basic education and primary health services. Poor households have the right to sustain themselves by their labor and be reasonably rewarded, as well as having some protection from external shocks. Beyond income and basic services, individuals and societies are also poor and end to remain so if they are not empowered to participate in making the decision that shape their lives. Poverty is, thus, better measured in terms of basic education, health care, nutrition, water and sanitation, as well as income, employment and wages. Such measures must also serve as a proxy for other important intangibles such as feelings of powerlessness and lack of freedom to participate.

The concept of poverty covers not only levels of income and consumption, but also health and education, vulnerability and risk, and marginalization and exclusion of the poor from the mainstream society.

## Findings of the Study:

India may not rank that high on the Human Development Index when compared to many other countries. But In almost all underdeveloped countries where per capita income is very low, income inequality has resulted in a number of evils, of which poverty is certainly the most serious one. The issues of poverty in the Asian countries involve hunger, illiteracy and the lack of health services or safe water, the human development index constructed by the United Nations Development Programme focused on the deprivation in the following three elements of human life – longevity, knowledge, and a decent standard of living.

Table 1

**CORRELATION COEFFICIENT OF SELECTED ASIAN COUNTRIES**

| YEAR | HDI & POVERTY | HDI & PCI | POVERTY & PCI |
|------|---------------|-----------|---------------|
| 2011 | -0.829 | 0.893 | -0.678 |

It is clearly evident from the results that in asian countries exists a strong negative relationship between human development and poverty ratio (r=-0.82). This negative correlation indicates a relation in which as one variable (HDI) increases the other variable (poverty) has a tendency to decrease. HDI and PCI shows a strong positive correlation(0.89) between human development and per capita income. This positive correlation indicates a relation in which as one variable (HDI) increases the other variable (per capita income) has also a tendency to increase.

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224

Table 2

**Simple Regression Analysis of selected Asian Countries**

| Regression Analysis | (POVERTY & PCI) 2011 | (POVERTY & HDI) 2011 |
|---|---|---|
| **R Square** | **0.459** | **0.688** |
| **Adjusted R** | **0.382** | **0.643** |
| **Standard E** | **18.38** | **13.964** |
| **Constant** | **54.973** | **156.418** |
| **Independent** | **-0.006** | **-217.913** |

P-Value of Poverty & PCI for Intercept and variable are respectively, 0.003 and 0.044. A $p < 0.05$ is generally interpreted as indicating a statistically significant. P-Value reflect the strength of the overall relationship between both independent variables (HDI & PCI) and poverty ratio, and between each individual independent variable and poverty.

The R SQUARE value identifies the proportion of variance in poverty ratio accounted for by per capita income in the first column and for by human development index in the second column. In this case 45.9% of the variance in poverty ratio is explained by per capita income and 68.8% of the variance in poverty ratio is explained by human development ratio in the selected Asian Nation. R SQUARE is an accurate value for the sample drawn but is considered an optimistic estimate for the population value. The ADJUSTED R SQUARE is considered a better population estimate. In this case 38.2% of the variance in poverty ratio is explained by per capita income and 64.3% of the variance in poverty ratio is explained by human development ratio.

Table 3

**Correlation Coefficient of Selected Indian State**

| Year | HDI & POVERTY | HDI & PCI | POVERTY & PCI |
|------|---------------|-----------|---------------|
| 1991 | -0.667 | 0.698 | --0.698 |
| 2001 | -0.687 | 0.744 | -0.801 |
| 2005 | -0.587 | 0.773 | -0.656 |

Correlation coefficient between HDI, Per Capita Income and Poverty Ratio of selected Indian state for 1991, 2001and 2005 have been calculated and are presented in table. It is clearly evident from the results that there exists a negative relationship between poverty ratio and human development index and also between poverty and per capita income. There exists a positive relationship between HDI & PCI not only over a period of time but also the degree of association is getting stronger.

The analysis was also carried out to estimate the percentage change in poverty ratio with respect to the per capita change in human development index and per capita income, simple regression techniques were used to assess the influence of two variables, viz., HDI and PCI on poverty ratio. Table shows the estimate of poverty ratio with respect to human development index. It is clearly evident from the result that 44.5% of the variance in the poverty ratio is explained by HDI in the year 1991. Coefficient and Constant for the linear regression equation for the year 1991 is:

Poverty ratio = 79.109 – 114.277(HDI)

Table 4

**Simple Regression Analysis(Poverty Ratio & HDI)**

| Regression Analysis | 1991 | 2001 | 2005 |
|---|---|---|---|
| R Square | 0.445 | 0.473 | 0.345 |
| Adjusted R | 0.402 | 0.432 | 0.298 |
| Standard E | 8.652 | 9.473 | 9.416 |
| Constant | 79.109 | 77.100 | 65.766 |
| Independent | -114.277 | -114.61 | -86.614 |

The impact of HDI on poverty is negative. Table shows that R squares are between 0.345 to 0.473 shows that 34.5% to 47.3% changes in poverty ratio is explained by changes in HDI. The result given in table implies that, if HDI increases, poverty ratio decreases in the states and vice-versa.

Table 5

**Simple Regression Analysis (Poverty Ratio &PCI)**

| Regression Analysis | 1991 | 2001 | 2005 |
|---|---|---|---|
| R Square | 0.488 | 0.643 | 0.431 |
| Adjusted R | 0.449 | 0.615 | 0.390 |
| Standard E | 8.310 | 7.796 | 8.776 |
| Constant | 55.011 | 50.621 | 43.732 |
| Independent | -0.009 | -0.002 | -0.001 |

The impact of per capita income on poverty ratio is negative. The results given in table, implies that, if per capita income increases, poverty ratio decreases in the states and vice-versa. R-square shows that change in poverty ratio is explained by changes in per capita income.

## CONCLUSION:

The above empirical analysis clearly revealed that human development index and per capita income have profound influence on the reduction of poverty. Effect of human development index and per capita income on poverty reduction is found significant in this study for the selected Asian nations. Another it may be concluded that some high per capita income states are suffering with high inequality. Growing per capita income with growing inequality is a crucial feature of Indian Economy. The data suggest that inclusive growth is a far cry for Indian Economy. While there is a substantial decline in poverty ratio of majority of states, still there is a long way to go. It may be concluded by saying that greater attention needs to be paid to human development particularly by increasing budgetary and plan expenditure on social sector and generation of adequate employment opportunities. So right policy to protect the rights of women, children, minorities, good health facilities, education, population control, economic growth from grass root level etc. are required to get a balanced and inclusive growth with poverty reduction.

## References:

- Economics Survey, Govt. of India 2010-11.
- Human Development Report 2010-11.
- National Human Development Report 2005.
- World Development Report 2010.
- Dreze, J. and A.K. Sen (1989) : Hunger and Public Action, Oxford University Press.
- Sen, Amartya K. (1981) : 'Poverty and Famines: An Essay on Entitlement and Deprivation', Oxford University Press.
- Sen, Amartya K. (1992) : Inequality Re-examined, Oxford University Press.
- Mishra, S.K. and V.K. Puri (2011) : Indian Economy, Himalaya Publishing House.

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228

## Annexure-1

**HDI, Poverty Ratio and Per Capita Income for selected Asian Economies (2011)**

| S. No. | Country | HDI | Poverty Ratio* | Per Capita Income** |
|--------|---------|------|----------------|---------------------|
| 1 | Bangladesh | 0.500 | 49.6 | 1529 |
| 2 | China | 0.687 | 15.9 | 7476 |
| 3 | India | 0.547 | 41.6 | 3468 |
| 4 | Indonasia | 0.617 | 18.7 | 3716 |
| 5 | Nepal | 0.458 | 78.1 | 1160 |
| 6 | Pakistan | 0.504 | 22.6 | 2550 |
| 7 | Sri Lanka | 0.691 | 07.0 | 4953 |
| 8 | Thiland | 0.682 | 10.8 | 7694 |
| 9 | Vietnam | 0.593 | 13.1 | 2805 |

**Note:*Population living below $1.25 Purchasing Power Parity (PPP) Per Day.**GNI Per Capita In Purchasing Power Parity terms.**

Annexure-1

| S.No. | States | 1991-93 | | | 2001 | | | 2005 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | HDI | Poverty Ratio | PCI Rs | HDI | Poverty Ratio | PCI | HDI | Poverty Ratio | PCI |
| 1 | A.P. | 0.377 | 22.19 | 2078 | 0.416 | 15.77 | 9534 | 0.433 | 15.8 | 12352 |
| 2 | Assam | 0.348 | 40.86 | 1559 | 0.386 | 36.09 | 5933 | 0.402 | 19.0 | 6712 |
| 3 | Bihar | 0.308 | 54.96 | 1106 | 0.367 | 42.60 | 3264 | 0.382 | 41.4 | 3773 |
| 4 | Gujarat | 0.431 | 24.21 | 2704 | 0.479 | 14.07 | 13153 | 0.491 | 16.8 | 16878 |
| 5 | Haryana | 0.443 | 25.05 | 3476 | 0.509 | 08.74 | 13681 | 0.521 | 14.0 | 16872 |
| 6 | Karnataka | 0.412 | 33.16 | 2193 | 0.478 | 20.04 | 11257 | 0.523 | 25.0 | 13820 |
| 7 | Kerala | 0.519 | 25.43 | 1958 | 0.638 | 12.72 | 10141 | 0.494 | 15.0 | 13321 |
| 8 | M.P. | 0.328 | 42.52 | 1617 | 0.394 | 37.43 | 7520 | 0.65 | 38.3 | 8238 |
| 9 | Maharastra | 0.452 | 36.86 | 3573 | 0.523 | 25.02 | 14732 | 0.38 | 30.7 | 17864 |
| 10 | Orissa | 0.345 | 48.56 | 1463 | 0.404 | 47.15 | 5206 | 0.568 | 46.4 | 7176 |
| 11 | Punjab | 0.475 | 11.77 | 3829 | 0.537 | 06.16 | 14881 | 0.419 | 08.4 | 16756 |
| 12 | Rajasthan | 0.347 | 27.41 | 1891 | 0.424 | 15.28 | 8466 | 0.552 | 22.1 | 9853 |
| 13 | Tamilnadu | 0.466 | 35.03 | 2240 | 0.531 | 21.12 | 12315 | 0.454 | 22.5 | 13999 |
| 14 | U.P. | 0.314 | 40.85 | 1631 | 0.388 | 31.15 | 5633 | 0.549 | 32.8 | 6138 |
| 15 | WestBengal | 0.404 | 35.66 | 2236 | 0.472 | 27.02 | 9307 | 0.412 | 24.7 | 10584 |