
The Impact of Millennium Development Goals on growth of Human Development Index:**An empirical study of medium human development countries****Kewal krishan Gupta*****Abstract**

In the year 2000, the member countries of United Nations entered into an agreement of implementing Millennium Development Goals, which was called Millennium Declaration. This contained 8 goals with measureable targets and was designed to accelerate the development process of the member countries. The targets were to be achieved by each member country in a period of 15 years beginning with the year 2000 and ending with 2015. The central theme of Millennium development Goals (MDGs) was to deal decisively with problem of poverty and hunger present in developing and least developing countries. At the end of fifteen year period there is great satisfaction of achievement in United Nations and individual countries. Globally, more than one million people could come out of extreme poverty. The rate of enrolment in primary school in developing and least developing countries touched 91 percent as compared to 83 percent in the year 2000. Similarly, in these countries, the target for other MDGs were nearly achieved. In spite of all this progress, inequality remains. MDGs is unfinished agenda and it is heartening to note that Sustainable Development Goals have been adopted by members of United Nations which are to be achieved by 2030. Based on the above progress, it may be expected that MDGs have speeded up the process of human development. This aspect has been empirically examined in this paper.

Key words: Infant Mortality Rate, Human Development Index, Millennium development Goals, Millennium Declaration, Socio Economic Factors.

Introduction

In the year 2000, the member countries of United Nations entered into an agreement of implementing Millennium Development Goals, which was called Millennium Declaration. This contained 8 goals with measureable targets and was designed to accelerate the development process of the member countries. The targets were to be achieved by each member country in a period of 15 years beginning with the year 2000 and ending with 2015. The central theme of Millennium development Goals (MDGs) was to deal decisively with problem of poverty and hunger (MDG 1) mainly present in developing and least developed countries by taking steps to remove root causes such as illiteracy, gender inequality (MDG 2 and 3), poor health among children and grown up including mothers (MDG 4, 5, 6), lack of sanitation and drinking water supply (MDG7). One more important factor was added i.e. globalization (MDG8) which helps development.

All member countries of United Nations aligned their respective development plans in line with MDGs. The progress was controlled from year to year. At the end of the period there is a great satisfaction of achievement in United Nations and individual countries. Globally, more than one million people could come out of extreme poverty. The rate of enrolment in primary school in developing and least developing countries touched 91 percent as compared to 83 percent in the year 2000. Similarly, in these countries, the target to remove gender disparity in primary, secondary and tertiary education has been achieved. The proportion of women in employment outside agriculture is 41 % up from 38 % in

* Visiting Faculty, Amrita School of Business, Amrita Vishwa Vidya Peetham University, Amrita Nagar, Coimbatore-641112, Tamil Nadu, India. Email: kkgupta.1944@yahoo.co.in , kg_kewal@cb.amrita.edu

2000. Women's elected representation has doubled. Child mortality rate and maternal mortality ratio have significantly reduced. HIV infections and malaria incidences were reduced by 40 % and 37 % respectively. Major gains were achieved in Tuberculosis (TB) treatment. There is vast improvement in drinking water supply and sanitation. Globalization in terms of trade, investment and movement of working people increased, greatly (Millennium development goals Report 2015 by United Nations). In spite of all this progress, inequality remains. MDGs is unfinished agenda and it is heartening to note that Sustainable Development Goals have been adopted by members of United Nations which are to be achieved by 2030. Based on the above progress, it may be expected that MDGs have speeded up the process of human development.

Prior to MDGs

Prior to MDGs although each member had its own development plan, such plans were influenced by various global conferences and agreements facilitated at the level of United Nations and other global agencies from time to time. Some of the important conferences which guided the global development agenda are described briefly:

(1) UN conference on Human Environment and UNEP was held at Stockholm, Sweden in 1972. This conference emphasized the danger of pollution and acid rain problems of Northern Europe. The conference resulted in evolving of many national level environment protection bodies and also United Nations Environment Program (UNEP).

(2) World conservation Strategy was released by International Union for Conservation of Nature (IUCN) in 1980. The chapter "Towards Sustainable Development" brought out the main agents of Habitat destruction as poverty, population pressure and social inequity. The report stressed the need for a new international development strategy to address the problem of inequity.

(3) The Climate Change Meeting took place in Austria in 1985. This was jointly organized by World Meteorological Society, UNEP and International Council of Scientific Union. The meeting reported on build up of carbon dioxide and other green house gases in the atmosphere. The meeting predicted Global Warming.

(4) Intergovernmental panel on Climate Change (IPCC) was set up in 1988 to assess the most up-to-date scientific, technical and socio economic research in the field.

(5) The first United Nations conference on Sustainable Development, known as RIO Earth Summit took place in 1992 at RIO de Janeiro, Brazil in 1992. This conference thoroughly discussed the state of environment and sustainable development. The Earth Summit culminated in several important agreements which included "AGENDA-21" – a programme of action adopted by over 178 countries. AGENDA-21 addressed human impacts on the environment at local, national and global levels.

(6) The first meeting of United Nations Commission of Sustainable Development took place in 1993. The meeting ensured enhancing international cooperation and rationalization of intergovernmental decision making.

(7) World Summit for Social Development was held in Copenhagen, Denmark took place in 1995. The nations present expressed a resolute commitment to remove poverty from their respective lands.

(8) Fourth World conference on Women took place in Beijing, China in 1995. The conference accepted that status of women has advanced but remain to be progressed further.

(9) World Summit: "Shaping 21st Century" was held in 1996 for social development.

In addition to above-mentioned global conferences and meetings which influenced the development agenda of member countries of United Nations, the other permanent bodies of United Nations like: World health organization (WHO), International Labour Organization (ILO), United Nations Children's emergency fund (UNICEF), UN women, United Nations Commission on Human Rights, United Nations environmental program (UNEP), United Nations development Program (UNDP), United Nations Office on

Drugs and crime (UNODC) have been active and influencing the United Nations member countries to improve the status of their respective field all over the world.

Through these international efforts, the progress of human development was always moving higher and higher.

Human development Index

The real wealth of a nation does not lie in its money power, military power or infrastructure. The real wealth lies in its people. Development of the nation means that people should be educated, healthy, lead a reasonable standard of life and be creative. United Nations, under its division UNDP, started publishing Human Development Index (HDI) report w.e.f. 1990 for each member country. HDI takes three factors of human development into consideration e.g. living a long and healthy life (measured by life expectancy at birth), education (measured by adult literacy and enrolment at primary, secondary and tertiary level) and standard of living (measured by income). HDI for most countries has been rising from year to year thus indicating that human development is on the increase. MDG's were designed to accelerate the growth of HDI of the various countries.

This paper examines the impact of Millennium Development Goals on the progress of Human development Index. As a case study, the impact on medium development countries has been examined.

Review of studies

Fakuda et al, (2016), stated that in order to assess whether MDGs has contributed to better quality of life in developing nations they established a correlation between various targets of MDGs and subjective well-being (SWB). The authors say that scenario assessment of SWB permitted which area of development should be improved in each region. Hence, they said SWB approach is an innovative approach of human development of assessment of Sustainable Development Goals. As per study by Zare (2016), the socio-economic factors or human development dimensions are significantly correlated with risk of chance mortality in the world. The study further says that HDI is one of the best indicators and predictor to understand health care inequities. As per study, there is there is strong correlation between the education level and infant life expectancy one hand and infant mortality on the other hand.

Phatey (2016) assessed the impact of MDGs on HDI in Gambian perspective. HDR value for 1998 of Gambia was 0.396. In 2012 the HDI value increased to 0.439. Looking at these statistics, one realizes there has been steady increase in countries' HDI. The author says that figuratively, poverty has decreased significantly. But in reality, it is quite opposite.

Farrar (2015) argued that best way to improve human development is through the Capabilities Approach. As per this author, Uganada's policies planned to achieve Millennium Development Goals are having linkage with capabilities framework. The conclusion part of the article explains that Uganada's success in achieving Millennium Development Goals will be significantly influenced by methods adopted in Capabilities Approach. Ajiye (2014) stated that African Countries should concentrate on collection and combining data on progress of Millennium Development Goals. This will help to know how much progress has been achieved. Based on this data future programmes and strategies can be designed. Human capacity should be improved and strengthened while designing future programmes. Mishra and Nathan(2013) evaluated three aggregation methods of computing HDI using axioms. The authors have proposed an alternative measure showing HDI as additive inverse of the distance from the ideal. Perez (2012) stated that Cuatro Santos in Nicaragua made good progress in reduction of poverty through programmers like: Micro Finance home gardening technical training, safe drinking water etc. However this intervention was unequally distributed in these rural areas. The study further says that spatial

analysis brought out the fact the clusters of low participation in interventions overlapped with clusters of high poverty households.

Dervis and Klugman (2011) in a study stated that since its launch in 1990, the Human Development Index (HDI) has been an important marker of attempts to broaden measures of progress. Published annually, the HDI serves multiple functions for academics and policy makers. Adelowe (2011), explains that HDI and some selected poverty related indicators of Millennium Development Goals parameters show a reverse and unexpected relationship. Bio diversity Information Sharing Service (ASEAN Clearing House Mechanism) (2010) states that many of the ASEAN member states have nearly achieved GOAL 1 of Millennium Development Goals: The eradication of extreme poverty and hunger. It further says that still nearly 50 million people in the region are still living below the poverty line of \$ 1 a day. In case the limit is increased to \$ 2 a day, the number of poor people will become much more. HDI varies widely between country to country. Some members like: Cambodia, Indonesia, Lao PDR, Philippines, Thailand and Vietnam have shown significant growth in HDI. This is mainly because of high level of literacy and better use of internet. Nathan and Reddy (2010), stated that selection of optimum number of indicators is basic to any sustainable development indicator research. Too less in number will be inadequate and too many indicators dilute the purpose. A set of criteria is made applicable to arrive at a limited number of indicators from a large set of potential ones. Nathan and Mishra (2010), explained that in the present method of computing HDI, poor attainment in any component may get compensated by better performance in other component. The authors suggested an alternative method of computing HDI based on notion of ideal path and penalty.

(13) Abdesslam Boutayeb (2009) assessed the impact of HIV/AIDS on human development in African countries. He said beyond health issues this disease should be and must be seen as a global development concern affecting all components of human development. The author stressed the necessity of multidisciplinary approaches that predict the real impact of HIV/AIDS on human development of African countries in order to optimize the strategies proposed by national governments and international institutions. Planning Commission, Royal Government Of Bhutan (2007), stated that government has put heavy investments in social sector like health and education. About 33 % portion of development expenses goes to health and education. As a result, the countries' HDI has risen steadily. Improvements have come in all socio economic indicators. Stanton (2007) explains that Human Development Index (HDI) supports Amartya Sen's 'capabilities approach' to appreciate human decent standard of living. Key capabilities are incorporated in HDI by including three aspects of well being: education, income and long and healthy life. These factors are fundamental to human quality of life. Mehrotra (2005) compared human capital theory with capability approach and brought out the problems with the theory. However, human capital theory has been consistently followed by international financial institutions like World Bank for lending in education and health sectors. Nair (2005) explained that development process of Kerala is highly researched subject all over the world. Many papers have been written on this subject and endorsed that the state has attained number one slot in India as far as Human development is concerned. Sachs (2004) said Least Development countries are caught in a poverty trap because of failure of their government policies. In spite of these difficulties, they have potential for achieving sustainable development through better development strategies of their respective governments.

It is seen from the above studies that there is no paper published so far on the topic of impact of MDGs on growth of human development index of middle development countries as a group. Hence the author has chosen the following topic for his paper:

"The impact of Millennium Development Goals on growth of Human Development Index – an empirical study of medium human development countries."

Medium human Development countries taken for study

(1) Botswana (2) Moldova (3) Egypt (4) Gabon (5) Indonesia (6) Paraguay (7) Philippines (8) El Salvador (9) South Africa (10) Vietnam (11) Bolivia (12) Kyrgyzstan (13) Iraq (14) Guyana (15) Nicaragua (16) Morocco (17) Namibia (18) Guatemala (19) Tajikistan (20) India (21) Honduras (22) Syrian Arab Republic (23) Congo (24) Zambia (25) Ghana (26) Lao (27) Bangladesh (28) Cambodia (29) Sao Tome and Principe (30) Kenya

Research question: Have the Millennium development Goals speeded up the average annual growth rate of Human development Index of medium development countries?

Objectives of the study

1. To analyze the impact of Millennium Development Goals on average growth rate of human development index of medium human development countries.
2. To analyze the trend of HDI of India between 1990 and 2014 highlighting its change in position in the table.

Research Methodology

Only secondary data has been used in the study. United Nations Development Programme publishes yearly reports on Human Development Index. The HDI values of various countries indicated in these reports have been used for this study. Similarly the secondary data indicated in Millennium development reports published by United Nations have also been used in this study.

Statistical Analysis

The following tests have been used in testing the hypothesis:

1. Paired t test for difference of means.
2. Sign test for paired data.

Also, Trend Analysis of growth of HDI of India has been carried out.

Paired t test for difference of means*NULL hypothesis*

MDGS have no significant impact in creating higher rate of average annual growth rate (%) of HDI of middle human development countries as compared to 1990 to 2000.

Alternate Hypothesis

MDGS have significant impact in creating higher rate of average annual growth rate (%) of HDI of middle human development countries as compared to 1990 to 2000.

Work out

$n=30$, $D.O.F=29$,

Comparison period

Before MDG = 1990 to 2000

MDG = 2000 to 2014

Testing of Hypothesis

Two tailed test, Level of Significance = 5%

Mean $d = -0.393$

$s^2 = 1.156$

$S^2 = 1.195$

$S = 1.093$

$t(\text{computed}) = -1.969$

$t(\text{table, dof}=29, 5\% \text{ LOS}) = -2.0452$

Conclusion of test

Since computed value of t (-1.969) lies within the acceptance region t (-2.0452), NULL hypothesis i.e. 'MDGS have no significant impact in creating higher rate of average annual growth rate (%) of HDI of middle human development countries as compared to 1990 to 2000.' have been accepted.

Sign test for paired Data

NULL hypothesis

MDGS have not significantly improved the average annual growth rate (%) of HDI of middle human development countries as compared to 1990 to 2000.

Alternate Hypothesis

MDGS have significantly improved the average annual growth rate (%) of HDI of middle human development countries as compared to 1990 to 2000.

Testing of hypothesis

$P_{H_0} = 0.5$

No. of successes =15, No. of failures=15

From Binomial Probability Table for $n=30$, the probability of 15 and more successes=0.5722

Since 0.5722 is more than 0.05, the Null hypothesis can't be rejected.

Conclusion of the test

MDGs have not significantly improved the average annual HDI growth rate as compared to 1990 to 2000 of middle human development countries.

Table1:Trend analysis of HDI of India from 1990 to 2014 highlighting change of position

Country	1990	2000	2010	2014
Syrian Arab Republic	0.553(1)	0.586(1)	0.639(1)	0.594(3)
Swaziland	0.536(2)	0.496(3)	0.525(6)	0.531(7)
Congo	0.534(3)	0.489(4)	0.554(4)	0.591(4)
Honduras	0.507(4)	0.557(2)	0.610(2)	0.606(2)
Zimbabwe	0.499(5)	0.428(8)	0.461(8)	0.509(9)
Kenya	0.473(6)	0.447(6)	0.529(5)	0.548(6)
Ghana	0.456(7)	0.485(5)	0.554(4)	0.579(5)
Cameroon	0.443(8)	0.437(7)	0.486(7)	0.514(8)
India	0.428(9)	0.496(3)	0.586(3)	0.609(1)

India has surpassed eight countries in HDI from 1990 to 2014.

Findings of the Study

The paired t test for difference of means has proved the Null hypothesis to be true. Based on this test it is concluded that MDGS have no significant impact in creating higher rate of average annual growth rate (%) of HDI of middle human development countries as compared to 1990 to 2000. Similarly the sign test for paired data has proved the Null hypothesis to be true. Based on this test it is concluded that MDGs have not Significantly improved the average annual HDI growth rate as compared to 1990 to 2000 of middle human development countries. Based on these two tests, the author concludes that there is no significant impact of Human Development Goals on the average annual growth rate (%) of Human development Index of medium human development countries. Hence objective no. 1 of the study has been achieved.

Trend analysis of HDI of India between 1990 and 2000 has revealed that India has surpassed eight countries in the table during this period. Hence, objective no. 2 of the study has been achieved.

Conclusion

Medium human development countries have generally maintained their annual growth in HDI from 2000 to 2014. Millennium development Goals were designed to accelerate the growth rate of HDI further. But the analysis in this paper does not support this theory. Although this statement will disappoint many people in the United Nations but unfortunately it is true statistically. Medium Human Development group as a whole has not improved but many individual countries have shown positive results. India has done well on account of MDGs. Its average annual growth rate of HDI was 2.28% during MDG period as against 1.59 % during 1990 to 2000. India has surpassed eight countries in the table during 1990 to 2014.

References

1. Shizuki Fakuda, Michio Murakami , Keigo Noda and Taikan Oki (2016) , “How achieving the Millennium Development Goals increases subjective well being in developing nations.”, Sustainability of MDPI, February 2016.
2. Sayed Ali Moosaniaye Zare (2016), “Correlation between Human Development Index and Infant Mortality Rate, Worldwide” .
3. Biotechnology and Health Sciences, the official Journal of Qazvin University Of Medical Sciences.
4. Farming Phatey (2016) “How human were the Millennium development Goals (MDGs): The Gambian Perspective” Standard.
5. UNDP (2015), “Human Development Report 2015”. The Josef Korbel Journal of Advance International Studies, summer 2015-vol.4.
6. Jordan Farrar (2015), “An assessment of human development in Uganada – The Capabilities Approach, Millennium Development Goals and Human development Index.”
7. Sam Ajiye (2014), Achievements of Millennium Development Goals in Nigeria: A critical examination.
8. United Nations (2015), “The Millennium Development Goals Report 2015”, United Nations.
9. Srijit Mishra and Hippu Salk Kristle Nathan (2013), “Measuring Human Development Index The Old, the new and the elegant”, publication of Indira Gandhi Institute of Development Research, Mumbai: <http://www.igidr.ac.in/pdf/publication/WP-2013-020.pdf> , October, 2013.
10. Wilton Perez (2012), “Millennium Development Goals in Nicaragua: Analysing progress in social inequalities and community action”, Dissertation presented by the author at Uppasala University for Ph.D degree (faculty of Medicine).
11. Adediran Olanrewaju Adelowe (2011), “ Human Development and poverty Reduction in Nigeria: An assessment of Millennium Development Goals (1990-2010).
12. Kemal Dervis and Jeni Klugman (2011), “Measuring human progress: the contribution of the Human Development Index and Related Indices.”, Voir Aussi.
13. Hippu Salk Kristle Nathan and B. Sudhaker Reddy (2010), “Selection Criteria for Sustainable Development Indicators”, publication of Indira Gandhi Institute of Development Research, Mumbai : <http://www.igidr.ac.in/pdf/publication/WP-2010-013.pdf>, August 2010.
14. Hippu Salk Kristle and Srijit Mishra (2010), “Progress in Human Development- Are we on the right path?”, publication of Indira Gandhi Institute of Development Research, Mumbai: <http://www.igidr.ac.in/pdf/publication/WP-2010-010.pdf>, July, 2010.
15. Biodiversity Information sharing Service (2010), “Poverty: A social Challenge that must be addressed.”, ASEAN Clearance House mechanism, 2010

16. Abdesslam Boutayeb (2009), "The impact of HIV/AIDS on human development in African countries", BMC Public Health Planning Commission, Royal government of Bhutan (2007), "Bhutan's Millennium Development Goals needs assessment and costing Report (2006-2015)."
17. Elizabeth A . Stanton (2007), "The human Development Index: A History", working Paper No. 127 series, University of Massachuts Amherst.
18. Santosh Mehrotra (2005), "Human capital or Human Development" Economic and Political weekly, vol 40, Issue no. 04 , 02 January , 2005.
19. KRG Nair (2005), "Kerala's Development experience", Economic and political Weekly, Vol 40, Issue 30, 23 July 2005.
20. Ignacy Sachs (2004), "From Poverty Trap To Inclusive Development in LDCs", Economic and Political Weekly, vol 39, Issue no. 18, 1 May 2004.