



Sustainable Human Development in Changing Climate

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ABSTRACT

Human development is complex and multidimensional concept. Development of human being requires constant materialistic growth. Global economic development is characterized by increased materialistic progress combined with glaring inequality, violence or unrest and increased poverty. Unequal human development is inevitable in process of accelerated economic development. In era of globalization, due to scientific development and human capital formation; human development is passing through inefficient evolutionary process. Human development depends on knowledge and its accumulation. In present knowledge-based economy, many societies are confronted with threat of indigenous cultures; some societies are inadaptable to foreign ideas and lifestyle which may lead to great loss to human development. This article is an attempt to study sustainable human development in twenty-first century in midst of climatic changes and uncertainties. This article is an attempt to understand the specific issues related to the impact of climate change on human development of India.

Keywords: Human Development, Economic Development, Sustainable, Climate Change.

Introduction

The industrial revolution apparently generated race between reduced immunity and increased exposure to risk of disease and its remedial measures to deal with these new emerging consequences in the process of evolution. Due to technical advancement in genetic engineering, the environmental consequences on human mental and physical capabilities are transmittable across generation for unknown future. This issue of paramount importance requires an ethical examination, in view of qualitative human development.

Objective – The aim of this study is sustainable human development in present era amidst global uncertainties of competitive world. This article examines the nature of human development and identifies factors that determine its qualitative improvement.

Methodology – This article is an exploratory study. The information is collected from the websites of UNDP, published journals, books, popular magazines

Discussions and results

Climate change poses major threat to development in meeting the millennium Development Goals and Human development Index. Climate change and human development are interdependent. In India, increased health risks are matter of serious concern. Aim of human development is to reduce poverty and raise standard of health and education. There is a need to give priority to under consumption of basic like adequate food, water shelter transport and energy services.

Human development in India

India with population of 1.20 billion is ranked 131 among 189 countries of world in terms of Human Development Index. India is grouped in medium human development .life expectancy rate is related to healthy life. But in India, the release of toxic and non-biodegradable wastes from industries and urban sewerages, etc has led to serious health hazards. Clean environment and hygienic surrounding are pre-requisites for healthy life. There is improvement in literacy rates I India. Knowledge of country is measured by expected years of schooling and mean years of schooling. Standard of living is measured by PPP

Table1-HDI values of India and some other countries

Sl. No.	Rank	Country	HDI VALUE 2019	Life expectancy at birth(years) SDG3	Expected years of schooling (years) SDG 4.3	Mean years of schooling (years) SDG 4.6	GNI per capita PPP\$ SDG 8.5
1.	1	Norway	0.957	82.4	18.1	12.9	66,494
2.	2	Ireland	0.955	82.3	18.7	12.7	68,371
3.	3	Switzerland	0.955	83.8	16.3	13.4	69,394
4.	11	Singapore	0.938	83.6	16.4	11.6	88,155
5.	17	USA	0.926	78.9	16.3	13.4	63,826
6.	52	Russia federation	0.824	72.6	15.0	12.2	26,157
7.	84	Brazil	0.765	75.9	15.4	8.0	14,263
8.	85	China	0.761	76.9	14.0	8.1	16,057
9.	114	South Africa	0.709	64.1	13.8	10.2	12,129
10.	131	India	0.645	69.7	12.2	6.5	6,681
11.	142	Nepal	0.602	70.8	12.8	5.0	3,457

Source-author's compilation from UNDP, 2020

According to UNDP report India's GNI fell to 6,681, 2019 from 6,829, 2018 on Purchasing Power Parity basis. It is measurement of prices in various countries that uses the prices of specific goods for comparing the purchasing power of country's currencies. According to the same report, in response to climate change girl's health and education have shown adverse effect.

Sustainable development

The concept of sustainable development was defined by Brundtland commission in its report 1987 as "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs" it calls for concerted efforts towards inclusive and sustainable for future generations in this planet. Sustainable development is important for sustainable livelihood, living in harmony with nature and progressive technology

Need for sustainable development-

1. Climate change- increase in atmospheric temperature and extreme climatic events like rising sea levels, extinction threat to small island
2. Scarcity of resources-production of food grains needs to be double in next 40 years, where the world's agricultural land 23% has been degraded. Nearly 2/3 of world's population will be living in water scarce areas by 2025.
3. Over exploitation of natural resources -60% declines in world's marine fisheries and nearly one million species are on verge of extinction.

Core elements of sustainable development

3 core elements of sustainable development are

- Environmental sustainability
- Social sustainability
- Economic sustainability

Sustainable human development generates economic growth and ensures its equitable distribution among people of country. Its pro-poor, pro-nature, pro-jobs and pro-children. UN member states adopted 2030 agenda for sustainable development including set of 17 sustainable Development Goals to end poverty, inequality and fight against injustice and tackle climate change by 2030. India's motto of Sabka Saath Sabka Vikas reflects sustainable human national development.

Table 2-Following table shows list few states and union territories by HDI,2019 with respective comparable country

Rank	1	2	3	4	5	6	7	8	9	10
State/UT	Kerela	Chandigarh	Goa	Lakshadweep	Delhi	Andoman and Nicobar islands	Puducherry	Himachal Pradesh	Punjab	Sikkim
HDI,2019	0.782	0.776	0.763	0.751	.746	0.741	0.740	0.725	0.724	0.717
Comparable country	Sri lanka	Armenia	China	Moldova	Algeria	Dominica	Maldives	Tonga	Libya	Bolivia

Source –www.wikipedia.org-list of Indian states and UT by HDI

Impact of climate change on human development

People of developing countries like India are the most vulnerable to health risks posed by climate changes. Warmer temperatures lead to hotter days and heat wave, which further aggravates health risks like cardiovascular, respiratory and cerebrovascular disease. Certain populations are more vulnerable like outdoor workers, students, and homeless people, and low income households, older adults, and young children, pregnant women. Climate change in its extreme form affects human health in following ways

- Reduced availability of safe food and drinking water
- Damaging roads and bridges, disrupting access to basic essential
- Interruption in communication, utility and health care services
- Increased stomach and intestinal illness
- Worsening mental health impacts

In rural India, an estimated increase in **mean surface temperature** by 2040 could lead to 13% reduction in agricultural productivity and average per capita household consumption by 6%. Climate change could reduce calorie availability and increase issue of malnutrition. Due to high price of food grains, poor people are forced to depend on staple food. It further reduces the quality of their diet and affects their health.

In many parts of the country, climate change is affecting water supplies. Many places are under severe water stress as demand is more than supply. It is estimated that by 2030, freshwater withdrawal might increase by 405 besides industrial and domestic consumption.

Conference of Parties (CoP26)-PANCHAMRITA

At 26 CoP26, Indian PM declared fivefold strategy called as Panchamrita includes following

- By 2030, India will get its non-fossil energy capacity 500 gigawatt(table 3)
- By 2030, India will meet 50 % of its energy requirements from renewable energy
- From 2030, India will reduce the total projected carbon emissions by one billion tons
- By 2030, India will reduce the carbon intensity of its economy by less than 45%
- By 2070, India will achieve the target of Net Zero

Table 3-to meet target one-installed capacity will be 817GW and power generation 2,518 billion units in 2030

	Non-fossil energy	Installed capacity 2019	Generation (billion units) 2019	Installed capacity 2030	Generation (billion units) 2030
1	Coal and gas	228	1,072	282	1393
2	Hydro	45	139	61	206
3	Renewable	82.5	126	455	805
4	Nuclear	6.7	378	19	113
		362	1376	817	2,518

Author's own compilation from UNDP

India has to increase new renewable capacity (hydroelectricity) to 630 W. on the other hand, India has to restrict its coal-based energy. India's at present CO₂ emissions, 2021 are 2.88 Gt, according to Centre for science and environment projections and by 2030 it will be 4.48 Gt. India has set ambitious goal to cut its emissions by 22%. Carbon intensity measures CO₂ emissions of different sectors of the economy.. india is on its path of reduction.

Safety net for poor

India has adopted **Mahatma Gandhi National Rural Employment Guarantee Scheme**. Its role in building ecosystem resilient to climate changes is being recognized in India. It aims at reducing rural poverty. It adopts various public works which are directed towards climate change adaptation needs like water conservation, afforestation, minor irrigation works, drought proofing. In 2020-21, it has undertaken rural works program in 711 districts and 268,524 gram panchayats related to **Natural Resource Management**. It is a major step towards improving the productive capacity of land, water and forest resources. It reduces climate risk like groundwater availability increases, soil fertility improves, enhances tree cover and drought and flood proofing measures are put in proper place. There are other initiatives of government of India in the direction of sustainable human development. They are as follows-

- **Sashakt Bharat-Sabal Bharat**(empowered and resilient India)- 271 million people came above poverty line through economic growth and empowerment.
- **Swachh Bharat-Swasth Bharat** (clean and Healthy India)- Universal health coverage has been institutionalized through Ayushman Bharat providing benefits to 100 million families.
- **Samagra Bharat-Saksham Bharat** (Inclusive and entrepreneurial India)-social inclusion is achieved through universalizing access to nutrition, health, education for employment and entrepreneurship. Jan dhan yojana is step towards financial inclusion.
- **Satat Bharat-Sanatan Bharat**(sustainable India)- India stands in world third in renewable power, fourth in wind power and fifth in world in solar power. India reduced 38 million tones of CO₂ emissions annually and set a target to install 450GW of renewable energy and restore 26 million hectares of degraded land by 2030.
- **Sampanna Bharath-Samridh Bharat**(prosperous and vibrant India)- India is one of the fastest growing emerging economies with youth population. India strives to become USD 5 trillion economy by 2025.



Local government can effectively communicate to local people through public consultations and participatory decision making. Government of India has adopted **National Action Plan** on Climate Change. There should be coordination between various ministries like ministry of environment and forest, Ministry of water resources and department of land resources.

Conclusion and Suggestions

Vasudhaiva kutumbakam, an ancient Indian phrase, indicates india's approach to all aspects of economic development. Indian economy maintains balance among three pillar os development-economic, social and environmental. Sabka Sath, Sabka Vikas is the memorable phrase of the present government ensuring the sustainable human development. Government of India will work collaboratively with local and global stakeholders to accelerate efforts for sustainable development for future generations.

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