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Sustaining India-Economically, Environmentally and Socially

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Abstract

Sustainability is a complex and broad concept incorporating in one way or other-ecologically sustainability, social sustainability & Economical sustainability Indian economy has witness ed a tremendous growth since 1990s. Remarkable performance of Indian economy is clearly visible in growth of GDP and sector al shift in sectors contribution in GDP, poverty reduction etc. India emerged as fastest growing economies of the world and also sustaining itself on the basis of ecological indicators like Area covered under forests, per capita energy consumption, percapita CO2 emission, consumption of ozone depleting chloroflouro carbons and social indicatorslike households with sustainable access to and improved water sources and sanitation. The main objective of this paper is to assess sustainability of India economy on the basis of economic, ecological and social dimensions also supported by Millenium Declaration.

Keywords: sustainability, economic sustainability, GDP, environmental sustainability, energy intensity, social sustainability, head count ratio, millennium declaration

Introduction

Sustainability is a complex and broad concept incorporating in one way or other- Economic sustainability, Environmental Sustainability and Social sustainability. These three are main pillars for sustainable development of a nation.

In 1987, United Nations Bruntland Report defined Sustainable development as a process that "Fulfills the needs of the present without compromising the ability of future generations to meet their own needs.

India and Sustainability- Indian economy has witnessed a tremendous growth since 1990s, taking into consideration 'the needs of the present generations without compromising the ability of future generations'. It is visible in continuous growth of GDP and sectoral shift in sectors contribution in GDP from Primary to secondary and to service sector to make it economically sustainable. India has been in the forefront of preserving biodiversity, reducing emissions and also following sustainable consumption pattern of energy intensity to make its contribution in Environmental Sustainability. Also efforts has been done to ensure social responsibility like Reduction in Poverty Head count Ratio gender equality in education, equitable access to improved sources of drinking water and sanitation in India.

Objectives: The main objectives of this study are:

1. To analyze the growth of GDP and shift in sector wise contribution in GDP.
2. To assess environmental sustainability through trend in energy intensity consumption, per capita CO₂ emission and consumption of CFCs ODP.
3. To analyze trends in Poverty Heads count, gender equality for education and access to improved sources of drinking water and sanitation for social sustainability.
4. To provide suggestions to maintain pace or to speed up pace for sustainability.

Data source: To achieve the above objectives, secondary data sources are utilized from Economics survey Economics survey; Reports of Planning Commission, Report of

International Energy Agency, Reports of Ministry of Statistics and Programme Implementation, MDGs India country Reports and other published Reports.

Economic Sustainability: Growth of GDP and sectoral shift in contribution in GDP of India:

The analysis of Growth of GDP and shift in sectoral contribution of GDP brings out the fact that during economic development process of India, growing testiarisation of economy has taken place. Indian economy is growing and passing through structural shift from agriculture towards Industry and to service "Belief in

economic growth has come to seen as a solution for all India's social and political problems including poverty, social Exclusion and Environmental degradation. This also Explain why Economic growth through rising GDP and sectoral shift is only indicator of progress to which all pay attention." (Lydia& Powell, 2012)

GDP is a well-publicized traditional measure of amount of money being spent in country. It is generally reported as a measure of country's wellbeing.

As table 1 indicates rise in GDP (in ` crores) from 2003-04 to 2013-14.

Table 1: Growth in GDP (in ` crores)

Year	GDP (in ` crores)	Growth rate of GDP (in percentae)
2003-04	2754620	12.2
2004-05	3149407	14.3
2005-06	3586743	13.9
2006-07	4129173	15.1
2007-08	4723400	14.4
2008-09	5321753	12.7
2009-10	6477827	15.1
2010-11	7784115	20.2
2011-12	9009722	15.7
2012-13	10113281	12.2
2013-14	11355073	12.3

Source: Economic Survey 2013-14

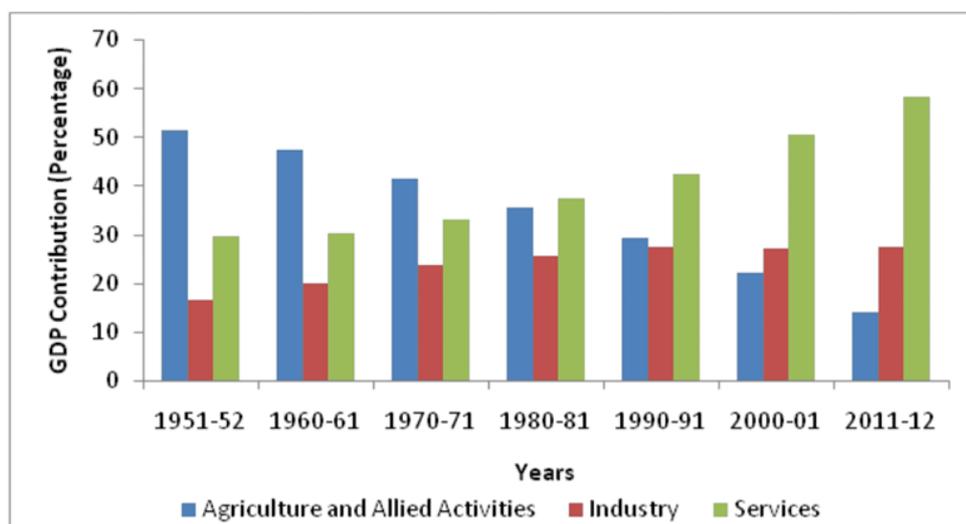
Table 2 indicates from 1951-52 to 1960-61, contribution of service sector has increased from 29.63 to 30.19 but after reform from 190-91 to 2011-12, contribution of service sector in GDP has increased at an alarming rate i.e. from 42.55 to 58.39. In this time period, share of agriculture has

declined in GDP but that of industry remain almost constant. 'The fall in the share of the primary sector has taken 40 years that was achieved by the developed countries in 100 to 150 years' (Papola 2005).

Table 2: Sector wise contribution in GDP (in percentage)

Year	Agriculture and Allied Activities	Industry	Services
1951-52	51.45	16.69	29.63
1960-61	47.65	20.09	30.19
1970-71	41.66	23.62	33.26
1980-81	35.69	25.66	37.65
1990-91	29.53	27.63	42.55
2000-01	22.26	27.25	50.49
2011-12	14.1	27.51	58.39

Source: Central Statistical Organisation (CSO)



India ranked 9th in overall GDP. In the last two decades, "India's growth rate has been second only to China. It has become a key factor in global economics governance, notably as a strong force in the G20, a number of firms especially in IT have made significant investment in India (Rajiv Kumar, Working Paper on topic 'Sustainability of Economic Growth in India 2007).

Environmental Sustainability: Trends in Energy intensity consumed. Per-capita CO₂ emissions and Consumption of CFCs Ozone depletion potential.

Basic economic development is the main driver behind human induced climate change. Increased production of Good and services change in Production processes, increases in population and higher demand etc. leads to high pressure on the atmosphere thereby increasing Greenhouse gases (GHGs) concentration. Greenhouse gases (GHGs) are mainly CO₂ and CFCs (Chloro-Fluro Carbons), NO (Nitrous Oxide) etc. responsible for Global Warming and depletion of Ozone layer.

"As a country India has been in the forefront of preserving biodiversity, sustainable development of forests, reducing emission intensity of the economy and following sustainable consumption and production patterns." (By Supriya Guru, 2012).

Specifically, India has been following a development path that takes into consideration the needs of the present generation without compromising the ability of future

generation to meet their needs. Suitable attention has been given to protecting and conserving critical ecological systems and resources and invaluable natural systems and man-made heritage, which are essential for life –support, livelihood, economic growth and a broad conception of well-being.

As per assessment in 2013, the total forest cover of the country is 697898 sq. km. which is 21.23% of the total geographical area of the country. During 2011-13, there is an increase of 5871 sq. km. in forest cover.

Table 3: Trend in Energy intensity (KWH) per rupee

Year	Energy intensity in KWH
1990-91	0.1594
1995-96	0.1593
2000-01	0.0553
2005-06	0.1374
2006-07	0.1355
2007-08	0.1501
2008-09	0.1355
2009-10	0.1389
2010-11	0.1403
2011-12	0.1453
2012-13	0.1518

Source: Energy Statistics 2014, Ministry of Statistics and Programme implementation (GDP at 2004-05 Prices)



Table 3 indicates energy intensity (Amount of energy consumed for generation one unit of GDP per rupee) has shown an increase from 2011-12 to 2012-13 in terms of GDP which works out to be 4.49% increase. But before this

annual increase, Energy intensity was almost constant or fluctuating negligible.

Table 4: Trends in per capita CO₂ emission (MT) in India

Year	Per capita CO ₂ emission in Million-Tonnes
1990	0.69
1995	0.83
2000	0.96
2005	1.06
2007	1.21
2008	1.26
2009	1.37
2011	1.41
2012	1.58

Source: Key energy statistics by International Energy Agency 2014.



According to key energy statistics 2014, by international Energy Agency, the per capita CO₂ emission MT of India is 1.58 in 2012 which is very less as compared to estimate of

CO₂ emission of world 4.51 MT. India has shown a controlled and steady increase in per capita CO₂ emission as compared to that of Asia also which is 1.59 MT.

Table 5: Indicates Consumption pattern of CFCs ODP (Ozone depletion potential) in tonnes

Year	Consumption pattern of CFCs ODP
1992	4501
1993	5277
1994	6387
1995	6402
1996	6937
1998	5265
2000	5614
2001	4514
2003	2608
2007	998.5
2008	217.862
2010	290.73

Source: Ozone cell, Ministry of Environment and Forest.



CFCs Ozone depletion potential has shown a tremendous fall from 5614 to 217.862 in 2008 and minor increase to 290.733 in 2010.

Social Sustainability: Trend in Poverty Head Count Ratio and Gender equality in Education.

According to Western Australia council of Social Services (WACOSS), "Social Sustainability occurs when the Formal

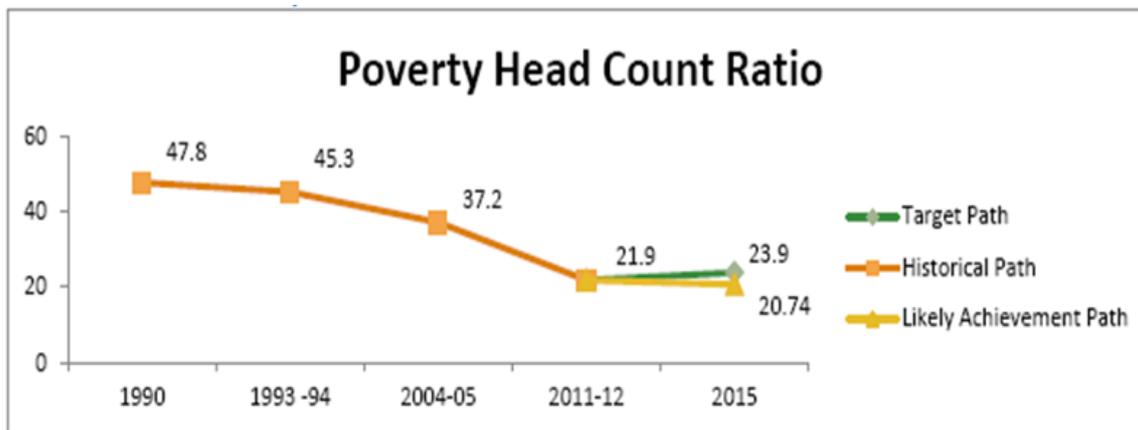
and Informal Process, systems, structures and relationships actively support the capacity of current and future generations to create healthy and livable communities. Socially Sustainable Communities are equitable, diverse, connected and democratic and provide a good quality of life."

India on the growth path has been able to reduce poverty Head count and gender inequality in education through consistent efforts and policy change to create healthy and better quality of life.

Table 6: Trends in Poverty Head Count Ratio (PHCR) between 1990 to 2015

Year	PHCR (in %)
1990	47.8
1993-94	45.3
2004-05	37.2
2011-12	21.9
2015	20.74 (Likely Achievement)

Source: Planning Commission



As per the poverty estimates of 2011-12, PHCR is 21.9%. Target reduction of PHCR for 2015 was set as 9% but India is likely to achieve PHCR to 20.74%.

During 2000-01 to 2013-14, substantial progress has been achieved toward gender equality in education visible

through data provided by Ministry of Human Resource development, Educational Statistics which reveals improvement in girls' enrollment per 100 boys signifying reduction in gender gap for all levels of education.

Table 7: Trends in Enrollment

Indicator	Level of education	2000-01	2013-14
Enrolment of girls as percentage of total enrolment	Primary education (Classes I-V)	43.8%	48.2%
	Upper primary education (Classes VI-VIII)	40.9%	48.6%
	Secondary (IX –X) and higher secondary (XI –XII) education	38.8%	47.1%
Number of girls per 100 boys enrolled	Primary education (Classes I-V)	78	93
	Upper Primary education	69	95
	Secondary education	63	90
	Higher education	58	81

Source: Education for all towards quality and Equity, M/o HRD, Educational Statistics at a glance 2014, M/o HRD

Social Sustainability: Trend in Percentage of households having access to improved sources of drinking Water and Sanitation.

Table 8: Trend in percentage of households having access to improved source of drinking water

Year	% of Households having access to.	Without Access to Sanitation)
1990	64.84	76.18
1993	68.20	69.70
1999	77.90	64.00
2004	86.70	60.80
2006	87.90	53.30
2012	87.8	43.40
2015	98.21 (likely to achieve)	47.31 (likely to achieve)

Source: NFHS, DLHS, NSS

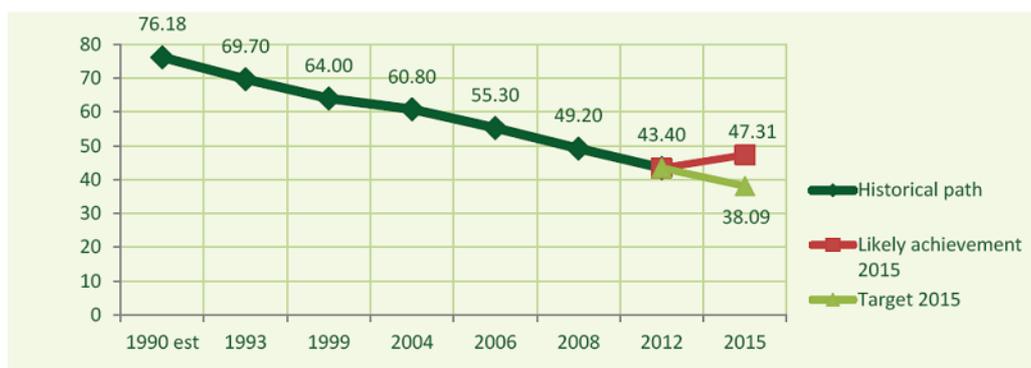
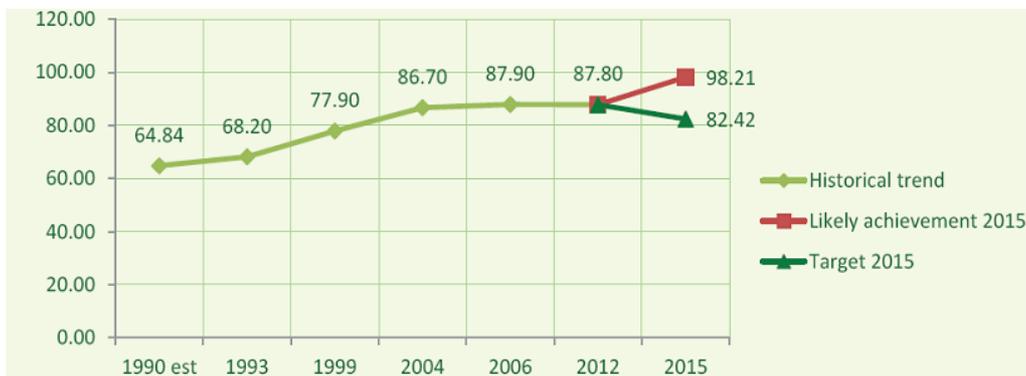


Table 8 indicates percentage of households having access to improved source of drinking water has been increased and India is likely to reach 98.21% by End of Dec. 2015 as set by MDGs. Table 8 also presenting fall in percentage of households without access to sanitation in India to 38.09. Data reveals that India is marching towards clean and better quality of life which will make us socially sustainable.

India and millennium declaration: In Sept. 2000, Millennium Declaration was adopted at Millennium Summit held in the framework of the 55th General Assembly of United Nations. The Summit was attended by heads of states or Government of nearly all United Nation member states. India being a member state of United Nations also adopted MDGs by signing the Millennium Declaration.

India has made notable progress towards reaching MDGs but achievements across the Goal Varies". (UNESCAP Feb. 2015).

World is approaching a milestone for Global development in 2015. As MDGs reached their December 2015 deadline, a new set of transformative and Universal Goals called as Global sustainable Development Goals (SDGs) will be adopted by world leaders as well as India as a part of post 2015 Development Agenda at UN General Assembly of Sept. 2015.

Suggestions: As three sustainability's are interlinked while deciding about growth, environmental issues should be factored in. For instance, loss or preservation of important environment resources should be taken into account while preparing estimates of growth and well-being of people. Alternatively, economic policy can be framed for growth strategy of no net loss of environmental assets so as to ensure sustainable development.

World's developed economics have efficient technologies that permit them to exploit natural resources from forests and biodiversity to land and minerals in ways that are sustainable and capable of supporting increase in GDP. For the sake of sustainable growth of developing countries;

there is need for transfer of such green technologies by developed countries to developing one, like India.

Transformation of developing countries to greener economies will create millions of new jobs the poor and uplift them out of poverty.

Thus Green technology is a mean to sustainable development, a strategy to get prosperity for people and the planet, today and tomorrow.

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