

**IN DEFENCE OF INCLUSION OF
HAPPINESS IN PUBLIC POLICY FOR INDIA**

IN DEFENCE OF INCLUSION OF HAPPINESS IN PUBLIC POLICY FOR INDIA

Prof. V. K. Shrotryia*

&

Shashank Vikram Pratap Singh**

[Professor and **Research Scholar, Department of
Commerce, Delhi School of Economics,
University of Delhi, Delhi]



भारत नीति प्रतिष्ठान
India Policy Foundation

It is mandatory to give credit to the publication for using its content for reference.

Published by:

India Policy Foundation
New Delhi-110016
Email: indiapolicy@gmail.com
Website: www.indiapolicyfoundation.org

© India Policy Foundation

Edition:

First: March 2019

ISBN: 978-93-84835-30-9

Price: 150/-

Printed by: Deepak Offset

IN DEFENCE OF INCLUSION OF HAPPINESS IN PUBLIC POLICY FOR INDIA

Outline

The focus of planning and development in India has been widely influenced by the indicators reflecting economic progress. It has fetched good results as Indian economy is estimated to be the third largest economy of the world with a size of around USD 10 trillion. It boasts of being the fastest growing major economy of the world when it comes to annual GDP growth. Economically our growth trajectory witnesses satisfactory progress. However, from the perspective of holistic development, India lags behind in providing basic amenities to its citizens and its indicators on health and education have not relatively improved as compared to economic development. The ultimate goal of all public policies needs to be providing satisfaction to the people whereby improving their happiness levels. Sadly, it has not been addressed thus so when it comes to broader policy priorities in India which is one of the most populated countries of the world and has been considered a geography famously known as golden bird. It was known for its rich cultural heritage and some of the world's greatest educational institutions. Over the decades and centuries, the invaders exploited the resources for their advantage and when we got independence in 1947, we were left with the state of backwardness and one of the poorest economies of the world

of that time. The richness of erstwhile India; its status of golden bird; and its strength as an impressive intellectual nation; seem to have just textual value for the present generation.

There are two important factors which have caused fading of the glory of this region. One – exploitation of resources by British under the rule of East India Company which includes spoiling the education system; two – Influence of British legacy in development policies of India after post-independence including the dominance of feudal mindset and prevalence of rote learning in its education delivery.

This brief document is an effort to develop an argument for prioritizing human happiness through effective policy shift from GDP focused to people centric policies. GDP which translates into per capita income, is an important indicator but it can not be considered as an end of state policy. It is merely a means to the end of assuring happiness to all citizens of our great nation. It is in this context that we argue with the help of data and practices across globe to identify and focus on the end of improving citizens' satisfaction and their well-being. This shift shall help the country sustain better and would help to regain its lost glory.

INCEPTION OF GDP

The idea of Gross Domestic Product or GDP as it is popularly known, stems from National Income Accounting and its roots are found in the contributions made by a versatile English scholar, William Petty in the 17th century literature. One of the reasons for measuring national income was to arrange required resources for expenditure for Second Anglo-Dutch War 1664-1667. There was an environment created to project that England could bear higher burden of taxes reflecting on its better capability than powerful neighbours like Holland and France. The belief was that, to ensure possible victory over potential enemies. English were self-sufficient through available economic resources. It provided a significant economic insight.¹ Double Entry bookkeeping was introduced to maintain the official records of the whole nation resulting in comparative advantage for England in consolidation of National Income Statistics facilitating to a greater extent, an accurate calculation of future output and tax revenue. As France did not have such economic statistics until 1781, Jacques Necker, the then finance minister of France, submitted a report to the King in 1781, which enabled the King to raise new loans. Although influential, politicians and economists had tried to assign an economic value on the size and nature of the economy through the published work of Thomas Mun in 1621. Mun believed in the mercantilism² and was deeply concerned with the philosophy and practice of

1. See Mitra-Kahn (2011); Coyle (2014); Lepenies(2016); etc.

2. Adam Smith called him the father of mercantilism.

balance of payments. The notion of mercantilism prevailed from 1620s till Adam Smith's Wealth of Nations.³ During this period economist typically had the notion that, nation would grow by maximising the balance of trade surplus⁴ which was completely different from the Petty's political arithmetic⁵.

As far as economic agenda of William Petty was concerned, it was exclusively related to domestic conditions and the distribution of income which was reflected through very comprehensive national accounts for England purely based on domestic activities.⁶ It is also reported that Petty was typically concerned with domestic capacity and people's consumption, and focused on high level of employment and economic activity, not on the accumulation of wealth.⁷ Thus, his focus was on the domestic economy rather than international trade.⁸ The economy was defined through National Income Accounts unlike mercantilism and it was believed that the national wealth of a country should depend on the way land, animals and capital were utilised. Petty argued persuasively that for economic growth or growth in national income, one had to understand the social makeup of a nation and this should be the base for national accounting relationship. It is important to note here that, Petty rejected money and relative price, and instead focused on the economic value which was defined as "the days food of an adult man, at a medium, and not the days labour."⁹ Much of the views of Petty were in contrast with the very philosophy of mercantilism as disseminated by Thomas Mun. Hence, there were two explicit theories of economics in the 17th century,

3. See Heckscher (1994)

4. See Heckscher (1994) and McClusker, (2001)

5. See Petty (1676)

6. See Mitra-Kahn (2011)

7. See Ekelund and Hebert (1990)

8. As advocated by Mun (1621)

9. See Petty (1676)

i.e., from Mun's first work in 1621 (mercantile approach) to Petty's last posthumous publication in 1691 (national income approach). 18th century witnessed the historic contribution of Adam Smith¹⁰ which crowned him as the father of economics for introduction of systematic approach to economics based on practical thinking. Productive and Unproductive labour was distinguished for allocation and division of labour, considered as one of the prominent factors of production. Manufacturing was found to be the focus domain and services were not found to be adding to the wealth of nation. Hence the value of services was excluded as it was believed that commodity production makes the nation richer whereas services drain economy. It was in 1860 when Robert Dudley Baxter, Karl Marx and Alfred Marshal challenged that thought and the distinction between productive and unproductive labour was discarded by the new classical economists.¹¹ Marshall voiced and defended consideration of material, personal or non-material wealth and inclusion of services in the national income.¹² It is visible that the purview of national income was flexible based on political and military need of the time as well as intellectual advancements and academic arguments. It was in 1932 when Colin Clark¹³ wrote *The National Income 1924-31* and estimated national income in UK on quarterly basis providing details of production and expenditure. Simon Kuznets¹⁴ did similar exercise in the United States bringing out detailed account of national income in 1934. The economy of the US was badly affected by the great depression of 1930. When Roosevelt became the President of the US in 1933, he wanted to have clear picture of

10. Adam Smith wrote *The Wealth of Nations* in 1776 which was edited by Alan B. Krueger in 2003 with his introduction to the volume. See Krueger (2003)

11. See Mitra-Kahn (2011)

12. See Marshall (1890)

13. See Clark (1932)

14. See Kuznets (1934)

the economy. Kuznets took this complex task and followed Clark's method of measuring national income which influenced new recovery program announced by Roosevelt. This was precisely the first survey in history of national accounting that was carefully prepared for the whole economy.¹⁵ Kuznets mentions -

"It would be of great value to have National Income estimates that would remove from the total the elements which from the standpoint of a more enlightened social philosophy than of an acquisitive society represent dis-service rather than service. Such estimates would subtract from the present National Income, total all expenses on armament, most of the outlays on the advertising, a great many of the expenses involved in financial and speculative activities, and what is perhaps most important, the outlays that have been made necessary in order to overcome difficulties, that are properly speaking cost implicitly in our economical civilisation. All the gigantic outlays in our urban civilisation, subways, expensive housing etc. which is our usual estimates we include at the value of the net product they yield, on the market, do not really represent net services to the individual comprising the nation are from their viewpoint an evil necessary in order to be able to make a living."¹⁶

Roosevelt wanted to measure the economy in such a way that indicates the total capacity to produce, but does not show additional government expenditure on armaments as reducing the national output. This was one of the problems in the definition of national income during pre-war time. So, it was a hurdle to bear war expenditure for the government, thus they changed the definition of National Income to the concept of GDP.¹⁷ There was a heated debate between Kuznets and other

15. See Coyle (2014)

16. As cited by Mitra-Kahn (2011)

17. See Mitra-Kahn (2011); Coyle (2014); Lepenies (2016)

economists specially Milton Gilbert. The debate highlighted one of the key issues - what was the meaning of economic growth and why it was measured by statisticians? Gilbert was very clear that the aim was to have a measurement that was useful to the government in running its fiscal deficit. The arguments were put forth for inclusion of defence expenditure in fiscal spending and it was argued that it would reflect positively on economic growth, regardless of whether it actually benefited individual's economic welfare or not. In this tussle, Kuznets lost and war time real politics won. It is considered to be the turning point in the history of measurement of national income. This led to the initial development of the concept of GDP which was dominated by wartime economists. J M Keynes¹⁸ acknowledged the contribution of Colin Clark for measuring national income in one of the much talked about writing entitled *How to Pay for the War* in 1940. Before that Keynes had already published one of the classical texts - *The General Theory of Employment, Interest and Money*¹⁹ which had an impact on GDP and its measurement methodology. It had elaborative discussion on the variables like national income, personal consumption, investment and employment, interest rate and level of government spending. Austin Robinson a British Treasury Official, was very much impressed with the compelling arguments given by Keynes. He commissioned two young economists, Richard Stone and James Meade to develop an economic model typically based on Keynes's arguments which later became the first modern set of national accounts and GDP. This work was published in UK's 1941 budget. Stone contributed a lot in defining GDP in more standardised and precise way. This was the beginning of modern GDP. It had to

18. See Keynes (1940)

19. This book was published in 1936.

cover long journey in order to become universally accepted measure of economic progress.

In 1946 United Nations formed a committee of British and American statistical experts to draw up specific recommendations for collecting national statistics on behalf of the UN. The committee met at Hunter College in New York in 1946 and gave some recommendations. George Marshall, the US secretary of state, in a speech at Harvard University on 5th June 1947 stated -

"United Nations should do whatever it is able to assist in the return of normal economic health in the world. Without which there can neither be political stability nor assured peace. Our policies are directed not against hunger, poverty, and desperation. Its purpose should be the revival of a working economy in the world, so as to permit the emergency of political and social condition in which free institution can exists."²⁰

It reflects how the purpose of economic growth changed from financing the war expenditure to ensuring stability and eradicating poverty from the world. Even World Bank report says that nothing besides long-term high rates of GDP growth can solve the world's poverty problem.²¹ In 1947, UN issued a technical report prepared by Richard Stone in which method for calculating GDP was given. The first official system of national accounts was published in 1953²² by the UN. The communist countries agreed in 1969 to follow their own national accounting standard which is called Material Product System (MPS 69). As the time passed more and more countries started following these practices resulting in organising data

20. Borrowed from the speech by George Marshall available at <http://www.oecd.org/general/themarshallplanspeechatharvarduniversity5june1947.htm>

21. See Commission on Growth and Development (2008)

22. Abbreviated as SNA 53.

and producing national accounts statistics with higher degree of sophistication and advancement. We have reached to a time when most of the international (IMF, World Bank, ILO, etc.) and local agencies are using GDP as one of the most important indicators for guiding and assisting policies.

GDP data allow us to answer certain key questions like: whether a country is fastest growing economy or not; has the Chinese economy overtaken the US economy; will India surpass the Chinese economy in coming years; is Ghana a poor country or not; and many more. The answers to these questions might look black and white but they would not be appropriately reflecting the true health of economic and social progress. We need to ask a question as to whether it is really indicating economic and social welfare of the nations. We may need to understand the conversion of economic development in social indicators leading towards holistic development. In the present context it is rather impossible to get a satisfactory answer as to whether GDP really reflect on social development or holistic development. This is what is driving social scientists, environmentalists, and academic activists to question this indicator and to look for some more convincing and viable alternatives. It is in this context that in the next part we shall look into the limitations of GDP.

LIMITATIONS OF GDP

The constructive criticism of GDP is as old as its noble birth. It can be perceived from the preceding discussion that the practical purpose of GDP was different than the way it is being typically used in policy discussions and decisions across the world. It was never developed for precisely measuring social welfare. Some ‘Non-Market’ production is included in GDP such as defence spending by government but many important economic activities are excluded from GDP calculation.²³ This can be clearly observed from Kuznets’s address to the USA Congress in 1934. While ceremoniously presenting the GDP in US Congress, Simon Kuznets candidly discussed its practical and extensive uses and limits. After presenting the uses of GDP, he noted that “services of housewives and other members of the family”, “relief and charity”, “services of own durable goods”, “earnings from odd jobs” and “earnings from illegal pursuits” are the items that are excluded, while measuring GDP. Moses Abramowitz²⁴ a noted expert on business cycle and economic growth, said “we must be highly sceptical of the view that long-term changes in the rate of growth of welfare can be gauged even roughly from changes in the rate of growth of output”.

Economists well aware with GDP and its methodology (of data collection and measurement) have highlighted that it is precisely a specialised tool designed for measuring the economic activities without measuring ‘economic well-being’

23. See New Economic Foundation (2004) (2013)

24. See Abramowitz (1959)

which needs to be the focus of policy. Many scholars²⁵ have been questioning GDP when it is considered as an indicator of general well-being and expressed that it is an inaccurate measure. "GDP is not wrong as such but is incorrectly used"²⁶. The US Bureau of Economic Analysis states that the purpose of measuring GDP is to answer key questions such as "how fast is the economy growing", "what is the pattern of spending on goods and services", "what is the percentage increase in production due to inflation", "how income is/has been divided into consumption and savings"²⁷ but it never addresses the issue of well-being of people. GDP is not inherently bad, it is being misused as an indicator of something it does not measure and was never intended to measure²⁸. "A major question raised by critics of economic growth is whether we have been growing at all in any meaningful sense. Gross national product statistics cannot give the answers, for GNP is not a measure of economic welfare... Economists all know that, and yet their everyday use of GNP as the standard measure of economic performance apparently conveys the impression that they are evangelistic worshipers of GNP"²⁹.

The political leaders of the world have been voicing out their concern for reflection of well-being through GDP and questioning this measure for frequent and prominent use for policy direction.

While addressing the students at the university of Kansas in 1968, the US President Kennedy said "GDP counts air pollution and cigarettes, advertising and ambulances to clear

25. See Kuznets (1941); Galbraith (1958); Samuelson (1961); Easterlin(1974), (1995), (2001); Scitovsky (1976); Cobb et. al. (1999); Cedric et.al. (2008); Goossens et. al. (2007); Stiglitz et. al. (2010); Posner et. al. (2011); Antal and Bergh (2014); and many more.

26. See Stiglitz et. al. (2010)

27. See McCulla and Smith (2007)

28. See Constanza et. al. (2009)

29. See Nordhaus and Tobin (1972)

our highways of carnage. It counts special locks for our doors and the jails for the people who break them. It counts the destruction of the redwood and the loss of our natural wonder in chaotic sprawl. It counts napalm and counts nuclear warheads and armoured cars for the police to fight the riot sin in our cities. It counts Whiteman's rifle and speck's knife and the television programs while glorify violence in order to sell toys to our children yet GDP does not allow for the health of our children, the quality of their education or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages, the intelligence of our public debate or the integrity of our public officials. It measures neither our wit nor our courage, neither our wisdom nor our learning, neither our compassion nor our devotion to our country, it measures everything in short except that which makes life worthwhile.”³⁰

It was in 1972, when the 4th King of Bhutan, Jigme Singye Wangchuk, declared in the UN assembly that for Bhutan Gross National Happiness is more important than Gross National Product. It became the development mantra thereafter for all public policies drafted and implemented. When in 2008 Bhutan enacted its constitution and initiated its transformation into a democratic nation, GNH was instituted as a goal for all policies of the government³¹. Former Prime Minister of Bhutan, Jigme Y Thinley have been talking about his opinion and belief that beyond a level, an increase in material consumption is not accompanied by a concomitant rise in happiness³². Similarly, former British Prime Minister, Tony Blair stated - “we have failed to see how our economy, our environment and our society are all one. And that the best possible quality

30. Available at: <https://www.jfklibrary.org/Research/Research-Aids/Ready-Reference/RFK-Speeches/Remarks-of-Robert-F-Kennedy-at-the-University-of-Kansas-March-18-1968.aspx>

31. For detailed discussion on GNH in Bhutan, see Shrotryia and Mazumdar (2017).

32. See Thinley (1999)

of life for us all means more than concentrating solely on economic growth".³³

The President of the French Republic in 2007, Nicholas Sarkozy was not happy with the statistical information with reference to its economy and society which influenced him to establish a commission to identify the limits of GDP as an indicator of economic performance and social progress which included measurement problems. He mentions in the foreword of the report by the Commission on the Measurement of Economic Performance and Social Progress – “If we give no value in accounts to the quality of public service; if we remain locked into an index of economic progress that includes only what is created and not what is destroyed; if we look only at GDP, which rise when there has been an earthquake, a fire, or an environmental disaster; if we do not deduced from what we produce what we consume in the course of production; if we do not include the drafts that we are drawing on the future; if we do not take account of how innovation is accelerating capital depreciation- how can we expect to realize what we are really doing and face up to our responsibilities?”³⁴ Former US President, Barak Obama had stated that “the success of our economy has always depended not just on the size of our Gross Domestic Product, but on the reach of our prosperity; on the ability to extend opportunity to every willing heart – not out of charity, but because it is the surest route to our common good.”³⁵

Former Presidents of India, Abdul Kalam and Pranab Mukherjee³⁶ have also expressed their reservations as to

33. As cited by NEF document available at: https://b.3cdn.net/nefoundation/70e2c4fbed5826b19e_dvm6ib0x9.pdf

34. See Stiglitz et al (2010)

35. Available at: <http://www.gutenberg.org/cache/epub/28000/pg28000-images.html>

36. See <https://www.financialexpress.com/india-news/besides-gdp-there-should-be-gross-domestic-happiness-ex-president-pranab-mukherjee/980472/>

whether GDP really reflect correct picture of social and economic progress. Kalam³⁷ stated – “While we are happy that our economy is in an ascending phase and our GDP has been growing at as high as 9 per cent per annum, it is evident that the economic growth is not fully reflected in the quality of life of a large number of people, particularly in rural areas and even in urban areas.”

An economy operates in a large system which typically consists of human capital (people's skill, ability, and health), social capital (friends, neighbours, trust, cooperation, organization and governments), natural resources, natural capital, and complex eco-system. Economy benefits from the natural, social, and human capital in terms of raw material and factors of production. It grows when output increases based on economic productivity and is positively affected by employee motivation and well-being.³⁸ It is believed that people high in well-being standard earn higher incomes and perform better at work than people who report low well-being. Happy workers are better organizational citizens. It means they help other people of organizations in various ways. Employee motivation and well-being depends on many key factors like happiness, quality of life, life satisfaction, and relationship with society and peers³⁹, but unfortunately economists do not consider these critical variables while calculating GDP. It resolutely ignores fundamental changes in natural, social, and human components of community capital on which communities rely for continued existence and social well-being.⁴⁰

GDP does not account for negative effect of pollution or the depletion of natural assets because cutting a forest for timber is valued more in GDP than eco-system service that

37. See Kalam (2012: 52)

38. See Diener and Seligman (2004)

39. See Felce and Perry (1995); Ryan and Deci (2001); Easterlin (2003); McAllister (2005); Layard (2006); and many more.

40. See Costanza et. al. (2009)



SOURCE: <http://www.northeastern.edu/econpress/2017/01/23/a-critique-of-gdp-per-capita-as-a-measure-of-wellbeing/>

forest will provide, if it left uncut.⁴¹ As a result an estimated 60 per cent of the world's eco-system services have been degraded or overused since mid-20th century. During the same period of time, economy grew by more than five times. If it continues to grow at same rate it will be 80 times bigger in 2100 than it was in 1950⁴². Although eco-system service consists of biodiversity habitat, reducing flooding from severe storms, absorption of CO₂, and producing oxygen but unfortunately these are not part of the market economy and hence not counted while calculating GDP. Herman Daly has stated that the current national accounting treats the earth as a business in liquidation.⁴³ Hence, GDP invariably fails to measure the environmental degradation which is one of the key aspects of quality of life. Not only that, it also encourages activities that are against the long-term community well-being.

41. See Nordhaus and Tobin (1972)

42. See Jackson (2009)

43. Stated by Herman Daly, as cited in Costanza et al. (2009: 14).

44. .

GDP per capita typically indicate an average income distribution which is highly skewed specially in developing world. Many established economists have raised this issue and calls for effective distribution of income so that unequal opportunities are created for personal development and well-being. GDP per capita in the US is considered to be rising steadily whereas median household income has been falling.⁴⁵ Individuals or family with low income, benefit relatively more when income rises than the family with higher income because of diminishing marginal utility of income.⁴⁶ However, GDP per capita does not differentiate between expenditure of poor on basic goods and expenditure of rich on luxury goods. Income disparity is believed to be detrimental to economic welfare as it leads to increase in crime, reduces worker productivity and investment⁴⁷. Thus, GDP remains a measure of economic quantity and not economic quality or well-being.

45. See Stiglitz (2016)

46. See Jeroen (2007; 2009)

47. See Talberth, Cobb and Slattery (2007)

INCOME, INEQUALITY AND HAPPINESS

There have been considerable increases in inequality across globe over last many decades. It is reported that the share of top 1 per cent income earners is now at its highest level since 1922 in the national income. Top 1 per cent earners captured less than 21 per cent of total income in the 1930s, before dropping to 6 per cent in early 1980s, rising to 22 per cent in 2014. During 1950-1980, bottom 50 percent group captured 28 per cent of the total growth and income of this group grew faster than the average, while the top 0.1 percent income earners decreased. During 1980-2014, top 0.1 per cent of earners captured a higher share of total growth than bottom 50 per cent (12 per cent vs 11 per cent), while top 1 per cent received a higher share of total growth than the middle 40 per cent (29 per cent vs 23 per cent)⁴⁸. Within the OECD, the income of the richest 10 per cent is on average nine times greater than that of the poorest 10 per cent. The past 20 years have been marked by a significant rise in income inequality and relative poverty⁴⁹. One fifth of the world's population is found to be earning just 2 percent of the global income whereas the richest 20 per cent earn 74 per cent of the world's income which is an indication that even in the developed world inequality is higher than it was 20 years ago.⁵⁰ The World Inequality Report (WIR) 2018⁵¹ states that the top 10 percent earners in 2016 (Table 1).

48. For detailed discussion on data on inequality, see Chancel and Piketty (2017).

49. See Cassiers and Thiry (2014)

50. See Jackson (2009)

51. See World Inequality Report (2018)

Table 1: Top 10 percent earners in 2016

<i>Country/Region</i>	<i>Percentage of country population</i>
Middle East	61
India	55
US	47
Russia	46
China	41
Europe	37

The other observation of this report is that, since 1980, income inequality has increased rapidly across the globe, but the rate of growth is not equal. Despite rise in economic growth in China and India in last decade, the global inequality has worsened, i.e., top 1 percent richest individuals in the world experienced twice as much growth as the bottom 50 per cent individuals since 1980. It is reported that 82 per cent of all global wealth created in the last year went to the top 1 per cent, while the bottom 50 percent people saw no increase at all⁵². It means globally 3.7 billion people saw no increase in their wealth. In India, 73 per cent of the total wealth created last year went to top 1 per cent richest whereas the lowest half of the population saw their wealth rise by just 1 per cent.

Income inequality also leads to corruption and low level of trust in the society⁵³ especially in a democratic country where wealth and political power go hand in hand. Thus, more the skewness in the wealth distribution, more possibility of corruption in the society leading towards favoritism, policy manipulation and crony capitalism. If the rich is influencing

52. See Oxfam (2018)

53. See You and Khagram (2005); Ardelyanova and Obryvalina (2018)

political outcome through lobbying activities or membership in special interest groups, it leads to more inequality resulting in poor redistribution.⁵⁴ This further deepens inequality in society, which undermines economic growth by reducing the efficient allocation of public and private resources and by distorting investment. Income disparity can be detrimental to economic welfare by increasing crime, reducing worker productivity and reducing investment⁵⁵. Increase in economic inequality above the moderate level may constrain demand so is the case with economic growth.⁵⁶ This vicious cycle may further worsen economic growth. Higher income inequality especially in developing countries, leads to more import of sophisticated goods, which causes downward pressure on the labour market.

When income inequality deeply penetrates into the society (especially in developing countries), it causes more import leading to fall in exchange rate. The state has to pay more on foreign debt which causes reduction in the budget of health, education, and industrial development.⁵⁷ The level of the average health of a population rises with its average income and falls with higher income inequality, hence higher income inequality is associated with lower average health, holding average income constant and influencing health well-being of the people in general. Life expectancy in rich countries correlates closely with income inequality. Greece has an average income about half that of US, but income distribution is more equal and its life expectancy is higher.⁵⁸ Several researches have been published and numerous reviews have been done to examine the relation of income inequality and social health.⁵⁹ The first large review⁶⁰ of

54. See Glaeser, Ressner and Tobio (2008)

55. See Talberth, Cobb and Slattery (2007); Muller and Seligson (1987)

56. See Wade (2006)

57. See Bernasek (2006); Wade (2006)

58. See Wilkinson (2005)

59. See Wilkinson and Pickett (2006)

60. The review of 98 researched was done by Lynch and others which was published in 2004, it was cited by Wilkinson and Pickett (2009:2).

its kind included 98 studies, where, 42 percent were found to be wholly supportive (measure of association showed statistically significant relationship between smaller income differences and better health), 25 percent were showing partial support and 33 percent were showing no support. Another large meta-analysis of 168 studies concluded that unequal distribution of income led to obesity, teenage birth, mental illness, homicide, low level of trust, low social capital, racism, hostility, poor educational performance among school children, drug overdose mortality, and low social mobility⁶¹. All these are worse in income unequal society.

Another concern of GDP as a measure of progress is the “threshold effect.” According to this, as GDP increases, overall quality of life often increases up to a limit only, beyond that, the quality of life decreases as GDP increases. This is so because increase in GDP is compensated by cost associated with increasing income inequality, loss of leisure time and natural capital depletion, etc. Not only this but beyond a certain level it causes negative side effects⁶² of lowering communities’ cohesion, healthy relationship, knowledge, wisdom, a sense of purpose, connectivity with nature, and dimension of human happiness. “For every society there seems to be a period in which economic growth bring about an improvement in the quality of life, but only up to a point—the threshold point, beyond which, if there is more economic growth, quality of life may begin to deteriorate.”⁶³

The increase in GDP and inequality has been found to be closely correlated. Similarly, it is also found that improvements in physical quality of life does not complement increase in life satisfaction, subjective well-being or happiness. It is

61. See Wilkinson and Pickett (2007)

62. See Easterlin (1974; 1995); MaxNeef (1995); Layard (2006); Talberth, Cobb and Slattery (2007); Helliwell (2003); Jebb, Tay, Diener and Oishi (2018); etc.

63. See MaxNeef (1995: 117)

discussed at length by economists and psychologists that improvements in GDP have not translated in enhancing life satisfaction of people.⁶⁴ Though their physical standard of living has meaningfully improved manifolds, their sensory perceptions towards their life has not improved. The disparities have increased leaps and bounds. Though the nations are becoming economically developed, richer and independent, yet the problems of work-life conflict, discrimination, crime, depression, environmental imbalance, social alienations, and other social problems are on the rise. As per survey carried out by BBC⁶⁵, 47 per cent people identified that family relationship is more important for their own happiness and wellbeing; only 8 percent of people ranked money and financial situation highest in importance, concluding that increase in reported life satisfaction is weakly correlated with rising income which is called wellbeing paradox quite the same as Easterlin Paradox⁶⁶. For example, in UK the income has almost doubled since the early 1970s but the proportion of people saying they were “very happy” has fallen from 52 per cent in 1957 to just 36 per cent in 2006. It is also found that somewhere in between 1950 and 1970, the increase in welfare stagnated or even reversed into a negative trend in most western countries⁶⁷ despite a steady pace of GDP growth⁶⁸. Income in most of the western countries nearly doubled since 1973, with no

64. See Blanchflower and Oswald (2004); Cobb, Gary, Goodman and Mathis (1999); Costanza, Hart, Posner and Talbert (2009); Coyle (2014); Diener and Seligman (2004); Easterlin (1974), (1995), (2001); Frey and Stutzer (2002); Goossens, Makipaa, Philipp, and Isabel (2007); Helliwell (2003); Jackson (2006), (2009); Jebb, Tay, Diener and Oishi (2018); Jeroen (2007), (2009); Layard (2006); MaxNeef (1995); Nordhaus and Tobin (1972); Posner and Costanza (2011); Sen (1976), (1979); Stiglitz, Sen and Fitoussi (2010); and many others.

65. See Jackson (2006)

66. Easterlin Paradox believes that as income increases both among and within nations, happiness of people does not increase in the same proportion beyond a limit where human needs are met. For detailed discussion see Easterlin (1974)

67. OECD countries

68. See Jeroen (2007)

significant increase in life satisfaction⁶⁹. It is because of the phenomena of relative measure of well-being. It means individual's aspirations are constantly compared with the achievements of others' and economic growth can never completely fulfil them⁷⁰. Subjective well-being studies also show that, income does not perfectly correlate with welfare at individual level⁷¹.



“Happiness is state of mind.”

69. See Cassiers and Delain (2006)

70. See Easterlin (1974; 1995);Cassiers (2006); Jeroen (2007; 2009); Layard (2006)

71. See Easterlin (2001); Frey and Stutzer(2002)

WELL-BEING, HAPPINESS AND POLICY

The literal meaning of the word 'Well-being' refers to the state of being, comfortable, healthy or happy. It connotes different meaning to different people. There are various sociological, economical, psychological, philosophical and anthropological factors that significantly affect human's state of being. Thus, Human Well-being (HWB) is associated with complex interplay of the social, political, economic, religious, ideological and other forces that are around the human being⁷². There are various internal and external activities or achievements of people that can affect or constitute a good form of life.⁷³ It seems difficult to track all those activities systematically and scientifically to precisely define what exactly constitutes well-being. Based on intellectual, political and wartime political climate, scholars, social scientists and practitioners of different periods tried to precisely conceptualise it. Hence, the notion of well-being differs from classical scholars like Adam Smith, Pigou, Marshall, Hicks, Samuelson, Colin Clark, Kuznets, Stone, Keynes, Galbraith, and Scitovsky to contemporary scholars like Richard Easterlin, Ed Diener, Ruut Veenhoven, Richard Layard, John Helliwell, etc. Based on the complexity, Griffin⁷⁴ defined well-being as a part of complex conceptualisation which reflects pictures of personhood and of science. Felce and Perry⁷⁵ tried to narrow

72. See Estes (2017: 3)

73. For detailed discussion, see Estes and Sirgy (2017: 3-82).

74. See Griffin (1986)

75. See Felce and Perry (1995)

down its operational definition up to some extent by defining it as objective descriptors and subjective evaluations of physical, material, social and emotional well-being, together with the extent of personal development and purposeful activity, all weighted by a set of value. Thus, it was suggested that two approaches (Subjective and Objective Well-being) may be followed for measuring HWB. Two distinct philosophies surrounding well-being, viz., hedonism (reflecting pleasure or happiness, and eudemonism (actualisation of human potential)⁷⁶ were also identified for clarity.

At individual level, well-being refers to psychological, physical and social states that are distinctively positive⁷⁷. Well-being is not merely a sensation of happiness. Human beings have more faculties than just feeling happiness, pleasure or pain; not only they are creature of reasoning and meaning making imagination, they also have intra and inter societal links and identities⁷⁸. Well-being is referred to whatever is assessed in an evaluation of a person's situation, or more fittingly and narrowly, in any such evaluation which is focused on the person's being.⁷⁹ Concept of well-being is seen as an abstraction that is used to refer to any of the many well evaluated aspects of life⁸⁰ yet it is found to be a very complex matter to define well-being.⁸¹ McAllister⁸² surveyed the published literature and put forth following perspectives on well-being to make it easy to understand.

76. See Ryan and Deci (2001)

77. McAllister (2005) cited this paper by Huppert, Baylis and Keverne (2004).

78. See Gasper (2007)

79. See Gasper (2002)

80. See Travers and Richardson (1993)

81. See McAllister (2005)

82. See McAllister (2005)

83. .

- Well-being is more than the absence of illness or pathology;
- Well-being has both subjective and objective dimensions. It can be assessed in subjective terms (seeking individuals view in survey) or objectives terms (by measuring access to physical, environmental, social and others resources). Both types of information are useful and together they provide a better picture of well-being.
- The terms life satisfaction, quality of life, happiness and well-being are often used interchangeably. Because all these terms have global reflection of satisfaction, rather than indication of monetary mood.
- Most researchers agree on the following domains of well-being: physical well-being; material well-being; social well-being; development and activity; emotional well-being. These domains can be paraphrased as physical health, income and wealth, relationships, meaningful work and leisure, personal stability, and lack of depression. These elements/domains are seen as drivers of well-being.
- Both individual and societal well-being are important and measurable.

Over the period of time, numerous attempts have been made to conceptualise well-being as mentioned above. During the time of Pigou and Marshall, utilitarian conception of well-being was in practice, which focused on the greatest happiness of the greatest number which meant greater the income, higher will be the consumption translating into more utility or happiness. Hence, income was the standard measure of well-being. Utilitarian notion of well-being is based on information hence it will be altogether amazing if moral goodness has nothing to do with well-being. There seems to be widespread

consensus on the notion that well-being is a multidimensional concept that includes all aspects of human life. A range of different theories have emerged that shed light on different aspects of well-being, like the subjective well-being approach,⁸⁴ human capability approach,⁸⁵ the basic human value approach,⁸⁶ the intermediate needs approach⁸⁷, the universal psychological needs approach,⁸⁸ the axiological categories approach,⁸⁹ the universal human value approach,⁹⁰ the dimensions of well-being approach,⁹¹ and the central human capabilities approach.⁹²

Subjective Well-being (SWB) is used as a proxy for quality of life, happiness, and well-being. SWB refers to how people experience the quality of their lives and it includes both emotional reactions and cognitive judgments.⁹³ Individuals are the best judges of their quality of life, as a result it is a straightforward strategy to ask them about their well-being.⁹⁴ Now taking the answer to this question as a proxy for SWB, it is then possible to define indicator based on the mean, median, or the variance of the distribution.⁹⁵ Thus, SWB attempts to measure satisfaction with quality of life or people's mood and emotions.⁹⁶ The intent of SWB is to measure the extent to which human needs are actually being met as this measure is based on self-reporting.

84. See Diener (1984); Cummins (1996)

85. See Sen (1993)

86. See Grisez, Boyle and Finnis (1987)

87. See Doyal and Gough (1991; 1993)

88. See Ramsey (1992)

89. See Max-Neef (1993)

90. See Schwartz (1994)

91. See Narayan, Chambers and Petesch (2000)

92. See Nussbaum (2000) and many others like Andrews and Withey (1976), Stewart (1985), Lasswell (1992), Allardt (1993), Rawls (1993), Galtung (1994), and Qizilbash (1996) have also proposed different approaches for measuring well-being and/or different aspects of it.

93. See Shrotryia and Mazumdar (2017)

94. See Frey and Stutzer (2002)

95. See Afsa, et al., (2008)

96. See Diener and Suh (1999)

The score indicated by a person lies on a cognitive assessment to what extent their overall quality of life is judged in a favourable way.⁹⁷ In Germany, a single item question on 11-point scale called German Socio-Economic Panel was adopted. It asks the question, all things considered, how satisfied are you with your life? Among the multiple item approaches the most prominent is the Satisfaction with Life Scale (SWLS).⁹⁸ Some researchers⁹⁹ have advocated the use of this type of indices to complement standard GDP measure.

The SWB approach is found to be valid under three conditions, viz., the respondents are able to evaluate their life on a numeric scale and have no difficulty in answering; they understand the questions in similar way; and they use the same scale¹⁰⁰ but the question is, to what extent these conditions are satisfied. Most studies¹⁰¹ observe that, measure of SWB contain a great deal of validity. However, it is considered the best way to obtain first-hand opinion of a person's level of satisfaction with different variables.

Thus, from the above discussion it is evidently clear that, well-being as such lacks a universally acceptable definition and has numerous interpretations. But it can be argued that, there are many aspects of objective well-being (such as, health, family life, employment, recreation, quality of death) that have major influence on subjective well-being, but the irony is that all these aspects of objective well-being nowhere positively correlates with income.¹⁰² It was found that there are weak

97. See Veenhoven(1993)

98. This scale was developed by Edward Diener and is widely used in many geographies and different type of populations. See Diener (1984).

99. See Diener (2000; 2006); Kahneman et. al. (2004); Kahneman and Krueger (2006), etc.

100. See Afsa, et al. 2008

101. See Diener (1994); Diener and Suh(1999); Layard (2006); Kahneman and Krueger (2006); etc.

102. See Travers and Richardson (1993)

correlation between material well-being (well-having), happiness, health and participation in society. Supporting these arguments another research¹⁰³ found that, marital satisfaction, self-esteem, self-management skills, financial stability, and leisure are more important for happiness in America than wealth.

Hence to use income as proxy for well-being or happiness can be seriously misleading. The ultimate goal of human being is to lead a happy and peaceful life. The state needs to provide an environment where the citizens feel satisfied and happy. It has to reflect in its policies. The policies which are focused on improving economic growth does not lead to improve well-being or in assuring happiness to the citizens. The economic progress which is reflected through GDP measure is lop-sided and does not include social and human progress. It is in this context that there is strong need to shift focus towards assuring happiness of citizens. The basic question as to how happiness is measured has been catching attention of the policy makers. Many countries have started tracking citizen's satisfaction, their well-being, or happiness and surveys are conducted to measure it which further help in identifying gap areas and designing suitable policies. This is strongly needed in India as well as places where social indicators are not very positive and there is no mechanism through which their well-being or happiness is tracked. Strong policy on improving GDP has left us in a state where social indicators are compromised and there is dominance of market forces all around leading towards an attitude which is tilted towards the end of earning more rather than leading towards enjoying happy life. In the next section we shall be discussing the alternatives available for future policy focus.

103. See Lane (1991, 1998)

ALTERNATE MEASURES TO GUAGE PROGRESS

In the earlier section we have discussed the inception of GDP, its usage and limitations both in measuring indicators as well as in using it as a basis for policy decisions. Across globe there have been initiatives to develop alternatives to substitute GDP with more accurate and appropriate measure. It was in early 1970, when some social scientists started discussing about the historical achievement of GDP. The development of these appropriate measures took momentum when “Beyond GDP” conference was organised by European Commission in Nov. 2007.¹⁰⁴ Further in June 2008, French government constituted the Commission on the Measurement of Economic Performance and Social Progress under the chairmanship of Joseph Stiglitz. After that OECD launched its ‘Measuring the Progress of Societies’ website in Oct. 2009, with an objective of allowing ‘Beyond GDP’ practitioners to share and discuss their experience with alternatives measures. Hence, there is an ongoing debate among economists, social scientists, practitioners and policy makers on whether effort should be made towards improving GDP as a measure, or replacing it or supplementing it or altogether replacing it with ore holistic measure of well-being. Those in favour of improving or supplementing GDP, argue that it is a well-established and widely used statistical indicator. Others who advocate for

104. See Bleys (2011)

replacing GDP argue that it is a poor measure and over obsession with it would lead policy making away from general well-being of people.¹⁰⁵ Offer¹⁰⁶ categorised the viable alternatives into two groups, i.e., Extended Economic Accounts; and Social indicators. Another group of researchers¹⁰⁷ classified possible alternative into three groups, i.e., Monetary measures of economic resources; Measures reflecting selected social conditions; and Subjective measures of Happiness and Life Satisfaction.

From 1960 onwards, leading social scientists were inspired by the idea that, well-being cannot be fully captured by monetary indicators, hence they proposed several alternative measures, like Physical Quality of Life Index, Human Development Index, Index of Social Progress, etc. and Psychological Indicators like - Happiness Indicators, Gallup-Health Ways Well-being Index, Happy Life Year Index, Personal Well-being Index, etc. For paucity of consistency and policy direction, we have divided all the alternatives into three broader groups – (i) indicators adjusting GDP which includes traditional economic performance indicators like GDP or national savings rate that are adjusted by including monetized environmental and social factors; (ii) indicators replacing GDP which incorporate indicators that directly assess well-being than GDP; and (iii) indicators supplementing GDP which includes indicators that complement GDP with additional information on the environment and social conditions. All these indicators are put in Annexure 1, with details of the measure, their objectives and scope. Some select alternatives are discussed hereunder:

105. See Gossens et. al. (2007)

106. See Offer (2003)

107. See Boarini, Johansson and Mira d'Ercole (2006)

Measure of Economic Well-Being (MEW)

Nordhaus and Tobin proposed this model in 1972 with a major objective of measuring welfare by developing an index which reflected consumption rather than production. Thus; MEW= GDP-Economic Beds (pollution control) - Regrettable necessities (policies services to combat crime, defence) + Household, illegal production, unreported activities and leisure. MEW reclassified GDP to reflect consumption and make adjustment to some of the 'Beds' and 'regrettable' as well as added some non-market activities in order to calculate true GDP or MEW. It was found to be difficult to estimate how well individual and collective happiness are correlated with consumption. It was considered to be primitive and experimental measure of welfare.

Index of Sustainable Economic Welfare (ISEW)/Genuine Progress Indicators (GPI)

ISEW was originally developed by Herman Daly and John Cobb in 1989. It took into account the links between environment, economy, and society. Later on, it was renamed as Genuine Progress Indicators. It is the measure that uses GDP as a foundation. Through this, an attempt was made to measure economy that would give better guidelines than GNP in promoting economic welfare.¹⁰⁸ It was targeted to provide an index that accounted for both current environmental issues and long-term sustainable use of natural eco-system and resources. In 1995 a group called Redefining Progress issued a revised methodology and changed the name of the measure to GPI. The ISEW was calculated using slightly distinct methods for a range of regions and countries, including Australia, Chile, Denmark, Germany, Italy, Netherland, Scotland, UK and Sweden¹⁰⁹ (Lawn 2003).

108. See Cobb and Daly (1989)

109. See Lawn (2003)

GDP measures the current income, while GPI measures the sustainability of that income. Both GPI and ISEW use the same data of personal consumption as GDP, but make deduction for income inequality, cost of crime, environmental degradation and loss of leisure and make addition for the services from consumer durables and public infrastructure as well as benefits of volunteering and house work. The level of these indexes is lower than the MEW, due to exclusion of leisure time and they are also lower than GDP, due to the incorporation of natural resource depletion and of income distribution.¹¹⁰ GPI was developed by Clifford Cobb¹¹¹. It is similar to the ISEW but incorporates additional elements such as crime, divorce, unemployment, and change in leisure time. It is considered as less complex and more accessible to all people. It provides a robust measure for assessing 'genuine progress' by addressing a series of shortcomings of traditional GDP calculation. GPI methodology provides a flexible framework that can easily be extended to incorporate additional aspects overtime depending on the data availability or new societal concerns.

Genuine Savings (Adjusted Net Savings by World Bank)

It is a simple indicator designed to access an economy's sustainability. It defines wealth more broadly by measuring how much the country is investing in future consumption than the orthodox national account. Its principle objective is to represent the value of the net change in the range of variables that are important for development: produces assets, natural resources, environmental quality, human resources, and foreign assets.¹¹² Thus, it recalculates national savings figure by accounting for depreciation of produced assets, depletion

110. See Afsa et. al. (2008)

111. See Cobb (1998)

112. See Everett & Wilks (1999)

of natural resources, the value of global environmental pollution, and investment in human capital (spending on education is seen as savings rather than consumption as it increases human capital). It can be said that Genuine Savings maintains or increases wealth or total capital (the sum of economic, human, and natural capital) by sufficiently saving it.¹¹³ It has been adopted as a central indicator by the World Bank under the name “adjusted net saving”. Thus, it can be redefined as traditional net savings, subjected to a number of corrections like - the value of natural resources is deducted; the associated pollution damage including economic and health effects are deducted; expenditure on education is considered as saving and investment in human capital, and thus added; net foreign borrowing is deducted; while net official transfers are added; and capital depreciation is deducted.¹¹⁴

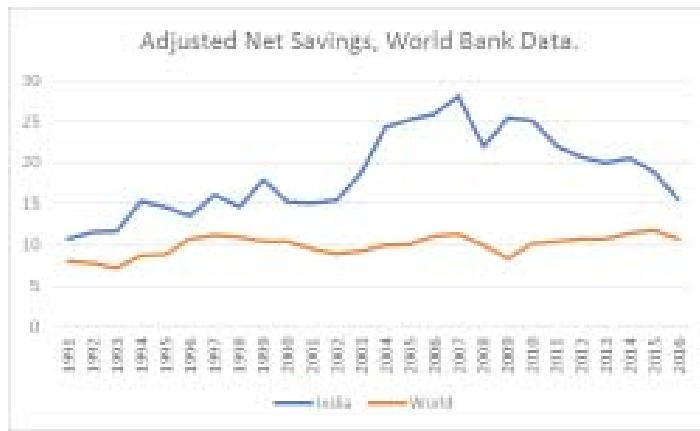
The World Bank calculates this figure as percentage of Gross National Income. The advantage of using this number is that; it gives a single, clear, positive or negative figure. Persistently negative result means that a country is not on the path of sustainable development and hence it causes negative effects on welfare and development in long run. It takes into account the human and natural capital thus it provides a more solid picture than traditional saving rates. It is comprehensive in the sense that it provides information about a country's economic, social, and environmental development.¹¹⁵ “GS draws attention to investment in human capital and good governance that have emerged as important factors as part of a nation's capital and consequently income”¹¹⁶. The loss of human capital through death or knowledge obsolescence is not considered. It does not account for the efficiency of investments made, but merely assesses their amounts.

113. See Hamilton, & Clemens (1999); Dasgupta and Maler (2000)

114. See World Bank (2018)

115. See Everett and Wilks (1999)

116. See World Bank (2006: 87)



Source: *World Bank Data, World Development Indicators.*

Gross National Happiness (GNH)

Bhutan has been known for spearheading the movement to bring happiness of people in the development agenda of the world. It has been voicing out its concern through the concept of GNH in different forums all across the globe¹¹⁷. In 2010, it started measuring happiness of its citizens based on the variables related to quality of life, well-being and happiness. The Planning Commission in Bhutan stated - “The pursuit of GNH calls for a multi-dimensional approach to development that seeks to maintain harmony and balance between economic forces, environmental preservation, cultural and spiritual values and good governance.”¹¹⁸ It uses two kinds of thresholds: Sufficiency thresholds and Happiness threshold, and measures all the 9 domains through 33 indicators (having different weights), and 102 sub-indicators (questions).

- Living standards – material comforts, measured by income, financial security, housing asset ownership.
- Health – both physical and mental health
- Education – types of knowledge, values, and skill

117. For detailed discussion, see Shrotryia (2006; 2009; 2015; 2017)

118. See Planning Commission (2000: 20)

- Good governance—how people perceive government functions.
- Ecological diversity and resilience—people's perceptions on environment.
- Time use – how much time is spent on work, non-work, sleep, work life balance.
- Psychological well-being – quality of life, life satisfaction and spirituality.
- Cultural diversity and resilience—strength of cultural traditions.
- Community vitality—relationship and interaction with community social cohesion and volunteerism.

Human Development Index [HDI]

In response to the need for an indicator that could be used as a proxy for human achievement in several primary capabilities than income-based indices, Human Development Index was introduced in 1990 Human Development Report. The very first report broadly defined human development as "...the process of enlarging people's choices. The most critical of these wide range choices are to live a long and healthy life, to be educated, and to have access to resources needed for a decent standard of living. Additional choices include political freedom, guaranteed human rights and personal self-respect."¹¹⁹ The inaugural report stated that development enables people to have these choices in capability approach for human well-being. No one can guarantee human happiness, but development process can create an inductive environment for people's choices, which might lead to people's happiness. Thus, it set a very strong foundation for human centric development policy. The main objective of the report was to show the management of economic growth and

119. See UNDP (1990)

120. .

human development in different countries of the world. This diverts the attention of people substantially from economic growth to human development.

HDI provide a credible alternative to income-based parameter for measuring human growth and development.¹²¹ The very propose for having HDI, was to search for an index that focuses directly on the lives that people lead and what they succeed in being and doing. HDI followed six basic principles as guidelines that is to: (i) measure the basic purpose of human development- to enlarge people's choice; (ii) include a limited number of variables to keep it simple and manageable; (iii) be composite rather than plethora of separate indices; (iv) cover both social and economic choices; (v) be enough flexible in methodology to incorporate, once better alternatives available; and (vi) not be inhibited by lack of reliable and up-to-date data series¹²².

It was designed to cover achievement in three basic dimensions- longevity, education and living standards. In order to capture the three dimensions, four indicators are used; life expectancy at birth; adult literacy rate; combined gross enrolment for primary, secondary and tertiary education; and GDP per capita in USD adjusted by Purchasing Power Parity. Over the period of time, multiple changes have been made by UNDP like - inclusion of Multidimensional Poverty Index (MPI); Inequality Adjusted Human Development Index (IHDI); and Gender Inequality Index (GII), and in 2014, Gender Development Index (GDI). Human Development Report, (2018), present HDI for 189 countries with the most recent data of 2017. Out of the 189 countries, 59 are in very high human development group, 53 in the high, 39 in the medium and only 38 in the low.

121. See Kelly, 1991; Anand and Sen, 1994

122. See Ul Haq (1995)

Table 2: Human Development Index (HDI)
Trends, 1990-2017

HDI RANK	Name of Country	Value								
		1990	2000	2010	2012	2014	2015	2016	2017	
130	India	.427	.493	.581	.600	.618	0.627	0.636	0.640	
	South Asia	.439	.503	.584	.602	.618	0.625	0.634	0.638	
	World	.598	.642	.698	.709	.718	0.722	0.726	0.728	

Average Annual HDI Growth %

Name of Country	1990-2000	2000-2010	2010-2017	1990-2017
India	1.45	1.64	1.40	1.51
South Asia	1.38	1.51	1.26	1.39
World	0.72	0.84	0.68	0.73

Inequality Adjusted Human Development Index

Name of the Country	Value	Value	Overall loss %	Difference from HDI rank
India	0.640	0.468	26.8	-1
South Asia	0.638	0.471	26.1	-
World	0.728	0.582	20.0	-

Source: UNDP Report, 2018.

Happy Planet Index [HPI]

This was introduced in July 2006, by New Economic Foundation (NEF). It is measured for 178 countries. It is an index of well-being and environmental impact. The indicator shows ecological efficiency by which well-being is delivered¹²³

The index is generated on the basis of four variables which are as follows:

- Well-being: how satisfied the residents of each country feel with life overall on a scale from 0 to 10.
- Life expectancy: the average number of years a person is expected to live in each country based on data collected by UN.
- Inequality of outcome: the inequalities between people within a country in terms of how long they live, and how happy they feel, based on the distribution in each country's life expectancy and well-being data.
- Ecological footprint: the average impact that each resident of a country places on the environment based on the data prepared by Global Footprint Network.

It is based on two objective indicators, i.e., life expectancy and ecological footprint per capita, and one subjective indicator (life satisfaction). Multiplying longevity with life satisfaction, we get Happy Life Year (HLY), which shows the degree to which people live long and happy in a certain country at a given time.

The data source for this indicator is –

1. UN Human Development Report for 'Life Expectancy'
2. The World Data Base for Happiness for 'Life Satisfaction' by Veenhoven
3. The Global Footprint Network for 'Ecological Footprint'.

123. See Goossens et. al. (2007); Saamah et.al.(2009).

HPI does not measure the happiest country in the world, instead it measures the environmental efficiency of supporting well-being in a given country. It reflects the average years of happy life produced by a given society, nation, or group of nations, per unit of planetary resource consumed.

The method for calculating index is simple and easily understandable by public and politician. The variables are applied to different countries and hence easily comparable.

Quality of life Index (QLI)

It is developed by Economist Intelligence Unit (EIU) and combine subjective and objective measures of life satisfaction. The index is composed of measures of material well-being (GDP per person in PPP terms), health (life expectancy at birth), political stability and security, family life (divorce rate), community life (measured by church attendance or trade union membership), job security (unemployment rate), political freedom, and gender equality.

Index of Economic Well-Being (IEWB)

It was designed by Osberg, and Sharpe, in 1998. The centre for the study of living standard has been publishing IEWB since 1998 for Canada and other OECD countries. It consists of four components - 1. Per capita Consumption flow (e.g. consumption of market goods and services, per capita flows of house hold production, leisure and other non- marketed goods and services);

2. Net accumulation of stock of productive resources (eg. tangible capital, housing stocks, consumer durables, environmental costs, the value of natural resources); 3. Income distribution (e.g. intensity of poverty incident and depth); and 4. Income inequality and economic insecurity (e.g. job loss,

unemployment, illness, poverty in old age). Thus, it covers together current prosperity (based on measures of consumption), sustainable accumulation and social topics (reduction in inequalities and protection against 'social risks'). Environmental issues are addressed by considering the cost of CO₂ emission per capita. It has following indicators :

- Real total consumption per capita, adjusted for government spending and unpaid domestic labour.
- Real capital stock + real R&D stock + natural resources stock + human capital stock - net foreign debt - real costs of CO₂ emissions.
- (3/4) poverty rate * poverty intensity rate + (1/4) Gini coefficient for disposable income

(Expected) costs for 4 risks: Unemployment, illness, single parent poverty, and old-age poverty.

Green GDP/Green National Accounting

It is an index of economic growth incorporating the consequences of environmental degradation. It includes the growth in depletion of natural resources and degradation of the environment. This index is based on the notion that ecological or health damage caused by industrial pollution may take years to appear. Green GDP is to account for the non-market benefits of nature, but the practicality and validity of Green GDP is very complicated particularly when it comes to the valuation of natural resources.¹²⁴ It is called the accounting 'eco-system services' rather than valuation of eco-system components. In most cases Green GDP is calculated on the basis of user costs of exploiting natural resources and the value for the social costs of pollution emissions. No country has implemented this concept as official policy guidelines except China. Civil societies have shown their positive consent about the government approach to Green GDP calculation.

124. See Boyd (2006)

Thus, it raises the awareness for sustainability concerns among local officials.

Ecological Footprint (EF)

It is a resource accounting tool which measures the gap between ecological demands and supply of human economy, i.e., the extent to which ecological demand exceeds the capacity of the biosphere to supply goods and services. It measures how many land areas (how many planets), are required to sustain a given population at present level of consumption, technological development, and resource efficiency. The main components of EF are: land used for crops, animal products, fisheries, forest products, built up lands and land needed to absorb and sequester CO₂ emission from fossil fuels. The Footprint of a country should be understood as a measure of its consumption and its world-wide environmental impact.

Regional Quality of Development Index (QUARS)

It consists of 45 environmental, social, and economic variables in seven groups.

1. Environment: assessment of environmental impact of production, distribution, and consumption.
2. Economy and labour: working conditions and income guaranteed by economic system and redistribution of policies.
3. Rights and Citizenship: social inclusion of young people, the elderly people, underprivileged people and immigrants.
4. Equal opportunities: absence of gender-based decimation in economic, political and social life.
5. Education and culture: participation in school system, equality of services, education of the population, and cultural demand and supply.

6. Health: quality and efficiency of the services, proximity, general health of the population.
7. Participation: political and social participation of citizens.

It is probably the best practice in representing and encouraging public participation. It is also a tool for raising awareness on environmental and social implication of development models,

System of Economic Environmental Accounts (SEEA)

It is a satellite system of the System of National Accounts (SNA), and comprises of four categories of accounts – 1. Data relating to Flows of Pollutants and Materials (Resource and Energy); 2. Environmental protection and resource management Account; 3. Natural Resource Assets Measured in Physical and Monetary terms, which allow monitoring stock changes overtime; and 4. Environmentally adjusted macroeconomic aggregates. The monetary indicators mean – indicators such as environmentally adjusted net domestic products, capital formation, or value-added measure sustaining economic activity and growth. Physical indicators are those which present material flows and stocks, notably natural resource input and output of pollutants and wastes.

National Accounting Matrix Including Environmental Accounts (NAMEA)

It gives a framework to present the contribution of industrial and household sector to the environmental concern (emission to air, waste water) in comparison to their economic performance. It was developed in Netherland at the end of 1990s, and is followed in many EU countries. This index addresses the questions like –

- Which is the economic sector of EU contributing most the environmental pressure?
- Which goods and services in EU cause the direct and indirect environmental pressure?
- Are some countries better than others at providing goods and services efficiently?
- Is international trade leading to a shift of environmental pressure from EU and to the rest of the world?
- Has recent development in production and consumption helped to decouple environmental pressure from economic growth?

Thus, this index is very useful in supporting policy design and analysis in the area of sustainable consumption and production. It helps us to get details insights into the environmental implication of production and consumption. The methodology used to calculate this index is well established, sound, and transparent. But its weakness it does not consider social aspect of well-being.

German Environmental Economic Accounting (GEEA)

It is the products of the pioneering efforts at Federal Statistical Office of Germany (DESTATIS). It provides comprehensive data set on interaction between environment and the economy at national level. When it comes to sustainable development, it supports policy advice to the government. Environmental economic accounting shows whatever natural resources are used, consumed, depleted or destroyed by economic activities (production/consumption), and the expenditure occurred (or necessary) for counter measure should also be accounting for. Statistical data have to be provided for the sources of pressures on environment, state of environment, and the measure to protect it. GEEA

focuses on these issues and hence provide three aspects of relationship between the environment and the economy; pressure, states and response.

GEEA Modules

<i>Pressure</i>	<i>State</i>	<i>Responses</i>
Material and Energy Flow accounts, (Physical and material flow). Energy flow accounts. Primary material flow accounts. Air emission account. Water flow account.	State of the environment in terms of quantitative and qualitative changes in the stock of natural capital in physical units.	Environmental protection measures. Environmental protection expenditures. Environmental taxes.

Its indicators have been developed in support of the Germany Strategy for sustainable development e.g. on energy productivity, raw material productivity, greenhouse gas, emission etc. It does not consider the social aspects.

System of Economic and Social Accounting Matrices and Extensions (SESAME)

It is a statistical information system that integrates economic, social, and environmental data. It is in matrix format from which data of core economic, environmental and social-macro-indicators can be derived. It can be used to evaluate environmental performance across different household types (grouping the household according to income, age, and housing measuring environmental performance as emission and repercussion for the greenhouse effect). SESAME database, allows deriving summary indicators (like GDP, population size, inflation, income inequality, environmental indicators, social indicators, socio-economic indicators). It does not indicate anything about sustainable goals or whether one country is on the sustainable path or not.

Sustainable Developmental Indicators (SDI)

It was adopted in June 2001, by European Council and renewed in June 2006. Its aim was to reconcile economic development, social cohesion, and protection of environment. On June 15, 2006 European Parliament asked for balancing the progress by providing equal concern about the qualitative aspect of growth. Hence parliament called for limited key indicators that show sustainability. Thus, more emphasis was given on the indicators like health (quality and distribution of health care, life expectancy, child mortality), awareness (education and culture, ITC access), Inclusion (participation in society's decision and social capital), and environment quality (air and water pollution etc).

EUROSTAT has proposed, a multilayer system for the SDI indicators -

- 1st layer contain headline indicators for initial policy analysis. It is for policy makers and general public. Ten themes are used which are as follow – Economic development, poverty and social exclusion, ageing society, public health, climate change and energy, production and consumption pattern, management of natural resources, transport, good governance, and global partnership.
- 2nd level indicators support evaluation of core policy areas, and more detailed monitoring of progress in achieving headlines objectives. They are constructed for policy makers and general public.
- 3rd level indicators are used by a more specialized audience (academic community), in future policy analysis and better understanding of the trends and complexity of issues.

This model is comprehensive, well-structured, intelligible and illustrated. The SDI framework is supposed to provide a clear and easily communicable structure for assessing policies.

Global Project on Measuring the Progress of Societies

This project is hosted by OECD. World Bank, European Commission, United Nations, UNDP, regional development banks, NGOs and private sectors were participants. Its objectives were to raise awareness of what constitutes progress for their society. It was an effort to widen debate and understanding towards a more holistic assessment of progress and well-being this should lead to increased accountability among policy-makers and a better functioning democracy. It has some scope like;

Advocacy: encourage societies to engage citizens in a dialogue about what progress means for them and how it can be measured.

Develop best practices: aimed at those who want to measure progress or aspects thereof (with special attention paid to developing indicators in emerging such as good governance and social cohesion).

Develop new ICT tools: to bring the evidence to citizens and ensure that statistics are transformed into knowledge and policy.

Economic Environment and Social Statistics

Developed by OECD, its objectives are to provide a global overview of economic, social and environmental trends based on OECD statistics. It has following indicators:

1. Evolution of the population; regional population; ageing societies; elderly population by region.
2. Size of GDP; national income per capita; regional GDP; evolution of GDP; household saving; investment rates; inflation; steel production; labour productivity; multi-factor productivity; value added by activity; evolution of value added by activity; small and medium-sized enterprises.

3. Share of trade in GDP; trade in goods; trade in services; trading partners; balance of payments; FDI flows and stocks; activities of multinationals.
4. Consumer price indices (CPI); producer price indices (PPI); long-term interest rates; rates of conversion; effective exchange rates.
5. Primary energy supply; energy supply and economic growth; energy supply per capita; electricity generation; renewable energy; energy production; oil production; oil prices.
6. Employment rates by gender; employment rates by age group; part-time employment; self-employment; hours worked; unemployment rates; long-term unemployment; regional unemployment.
7. Expenditure on research and development; researchers; patents; size of the ICT sector; investment in ICT; computer and internet access by households; exports of information and communications equipment, telephone access.
8. Water consumption; fisheries; emission of carbon dioxide; municipal waste.
9. International student assessment; tertiary attainment; expenditure on tertiary education; public and private education expenditure.
10. Government deficits; government debt; social expenditure; agricultural support estimates; government support for fishing; official development assistance; total tax revenue; taxes on the average worker.
11. Life expectancy, infant mortality; obesity; public and private health expenditure; tourism: hotel nights; recreation and culture; youth inactivity, income inequality; prison population; road network; road motor vehicles and road fatalities.

12. Trends in inflows of foreign nationals; immigration by category of entry; inflows of asylum seekers trends in migration; immigrant population; immigrant population by region of origin and gender; educational outcomes for children of immigrants; education attainment of immigrants; migration of the highly educated; employment rate of the foreign-and the native-born; remittances.

Society at a glance (OECD Social Indicator)

Its objectives are to provide quantitative evidences on whether our societies are getting more or less or equally healthier and cohesive. It has following indicators-

General Context: National Income per capita; Age-dependency Ratios; Fertility Rates; Migration; Marriage and divorce.

Self-sufficiency: Employment; Unemployment; Mothers in paid Employment; Childcare costs; Tax Wedge on Labour; Out-of-work benefits; Students' performance.

Equity: Material deprivation; Earnings Inequality; Gender Wage Gaps; Intergenerational Mobility; Public Social Spending; Total Social Spending; Poverty Persistence; Housing Costs; Old-Age Pension Replacement Rates.

Health: Life expectancy; Health Care Expenditure; Low birth Weight; Sick-related Absences from work; Long-term Care Recipients; Health Inequalities.

Social cohesion: Voting; Prisoners; Suicides; Work Accidents; Strikes; Trust in Political Institutions; Life Satisfaction.

Index of Social Health (ISH)

It has been developed by Miringoff Institute for Innovation in Social Policy. Its main objective is to make assessment of social progress. It has following indicators:

- Children: infant mortality, child abuse, child poverty
- Youth: teenage suicide, teenage drug abuse, high-school dropouts
- Adults: unemployment, average weekly earnings, health insurance coverage
- Elderly: persons 65 and over in poverty, out-of-pocket health cost ages 65 and over
- All ages: homicides, alcohol-related traffic fatalities, food stamp coverage, affordable housing, income inequality.

Canadian Council on Social Development (CESD)

It is the product of Personal Security Index (Objective) and Perception Index (Subjective). Its objective is to overview the factors impacting security in broad sense. It works on dimensions like Economic security (job and financial security) (weight 35 percent); health security (protection against threats of diseases and injuries) (weight 55 percent); and Physical safety (feeling safe from violent crime and theft) (weight 10 percent). Weights are derived from a survey with a dedicated question about the most important dimension. Its indicators are as follows—

	<i>Objective</i>	<i>Subjective</i>
Economic Security	Disposable income, Poverty gap, Long term Unemployed.	Income Adequacy to Needs, Fear of job loss.
Health	Work Place Injuries Rate, Motor Vehicle Injury Rate	State of Health, Stressful life, Health care services
Safety	Violent Crime, Property Crime	Risk of violent crime in neighbourhood, Risk of property crime in neighbourhood.

Inequality Adjusted Happiness (IAH)

It is developed by R. Veenhoven and W. Kalmijn. Its objective is to do international comparisons of Societal Performance. It reflects combination of utilitarian (average happiness), and egalitarian (equality in happiness) perspective. It works on indicators like – General population surveys in which people are asked how happy they are with their life; Estimates of mean m and standard deviation s of the distribution of the happiness ratings; and Computation of a formula involving m and s with equal weights given to the utilitarian and egalitarian viewpoints.

Index for Living Standards

It is developed by M. Fleurbaey and G. Gaulier. Its main objective is to make international comparison of living standard without usual shortcomings of GDP.

Net national income per capita, adjusted for elements of well-being, both individual and collective, in terms of equivalent income. It has following indicators –

- Leisure (hours worked)
- Employment uncertainty (unemployment insurance)
- Healthy Life years (additional 1 year of healthy life)
- Household's size – Inequalities - overweighting the poor (average income minus Kolm-Atkinson index)
- Sustainability: cost of natural resources depletion, weighted by share of national consumption in total consumption + cost of GHG emissions.

Social Progress Index (SPI)

The SPI is an initiative of India for Competitiveness which has a major objective of making economic and social

assessment of India through various indicators. It offers a systematic and empirical foundation for government, civil society and communities to priorities social and environmental issues. Social progress is defined as capacity of a society to meet the basic human needs of its citizens, establishing the building blocks that allow citizens and communities to enhance and sustain the quality of their lives, and create the conditions for all individuals to reach their full potential¹²⁵. The Social Progress Framework is provided in the Annexure 2. This index is comprehensive and covers most of the progress indicators that many of the international agencies also cover including environmental variables.

125. See Kapoor, Kapoor M. and Krylova (2017)

HOW INDIA NEEDS TO MOVE FORWARD

India has a wealthy past both in terms of tangible resources and intangible capabilities. It attracted foreign invaders and lost its glory. At present, India's key macroeconomic variables show a very positive picture as GDP has grown consistently and as per most of the prominent agencies (World Bank, Asian Development Bank, IMF, OECD, Moody's) it is expected to grow satisfactorily¹²⁶ in the next year. Saving rate (as a percentage of GDP), capital formation and foreign exchange reserve are all positively consistent¹²⁷. The foreign exchange reserve has grown steadily over the last five years. However, India's position among all the developing economies in the indicators reflecting inclusive growth and development¹²⁸ is not satisfactory. Further it is also observed that among the group of lower middle-income countries (37 countries, where 3 countries are from South Asia, viz., India, Pakistan and Sri Lanka) India's position is best when it comes to corruption and rents but when it comes to education, health and basic services it lags behind many countries¹²⁹ suggesting that the economic growth in India is not inclusive. This is where concentration of the policy for future should lie.

126. Refer Annexure 3

127. Refer Annexure 4

128. Refer Annexure 5

129. Refer Annexure 6

In the era of dominance of market forces and enormous capital flows, focus on happiness and well-being in public policy, can be viewed as a transformational initiative. Last two decades have produced voluminous literature on the different aspects of happiness and well-being through all kinds of academic and experiential research. Alternative approaches to GDP to measure progress and development as discussed in the earlier section of this monograph, are being studied and developed so that next generations are able to view societies from newer perspectives and parameters.

The concentration on GDP growth has resulted in creating an infrastructure which does not look very sustainable, especially when we look at the inflow of capital through illegal means. The mindset which is driven by market forces has resulted in a thinking that money is the important mean to achieve almost every goal rather in many cases, acquisition of more wealth has become an end. The dominance of monetizing culture has somehow disturbed the balancing act. Most of the school going children are aspiring to become engineers lured by hefty pay packages. In order to become an engineer, they land up in getting a deal sign up with the coaching centers and learn the art of cracking exams. The responsibility of the state is to have strong public policies to prioritize happiness over GDP and to honestly committing itself for the cause of welfare of its citizens. We would like to suggest some of the following measures to be taken up at the policy level -

First, the state has to look beyond GDP and initiate policies focusing on the well-being and happiness of people. Once the people are satisfied and happy, it takes care of GDP.

Second, the government should initiate a mechanism to measure happiness of people in self-reported format as is done in many other nations.¹³⁰ At present the World Happiness Report takes data of some 3000 citizens from India and generalizes it for the whole of the country. It could be one of the reasons that we fare so poorly in the rank. Once we have our own system of gauging the progress in happiness levels it would help understand the country better and guide our policy effectively.

Third, health and education have to fall in the priority of the government as it is believed that when citizens have good health and good education levels, it takes care of their income measures. In this direction, allocation for health and education has to increase from the present levels so that these basic social needs are met.

Fourth, there has to be a national resolve to remove poverty. After the call of purna swaraj (total self-rule) for which there was a national resolve, (which resulted in India getting independence from the clutches of British rule), we never had any resolve of any kind at national level for which each citizen is committed. In this line we need to have a strong national resolve to alleviate poverty. Can we make sure that in a country like ours where we boast of one of the highest GDP growth levels, at least no one sleeps without meal.

Fifth, an infrastructure to support strong agriculture base has to be created through linking of rivers across regions for better irrigation support in order to reduce the dependence on monsoon.

130. Many alternatives are given but we need to develop our own methodology which can incorporate Indian conditions and is able to measure the levels accordingly.

Sixth, the menace of corruption has to be tackled seriously. The present government has been able to control it to a very great extent. We further need strong system to improve governance measures which also is leading towards leading happy and peaceful life. General perception of society has to change towards the people who acquire wealth much disproportionate to their legal sources of income.

There could be many more such ways through which the country can improve on happiness measures. Tangible infrastructure cannot sustain itself until intangible values are strong. Growth that is merely objective, development that is lopsided, progress that is based on just quantification, may not take us to a better future. It is overdue that happiness is given priority over generally quantifiable measures.



Source: <https://www.thehindu.com/opinion/open-page/india-is-happy-and-the-rankings-just-dont-match/article18190887.ece>

REFERENCES

- Abramowitz, M. (1959). The welfare interpretation of secular trends in the National Income and Product; in the allocation of economic resources; Essay in honour of Bernard, Francis Haley, Stanford California; Stanford University Press.
- Afsa, Cedric, et al. (2008). Survey of Existing Approaches to Measuring Socio-Economic Progress. Paper for the Commission on the Measurement of Economic Performance and Social Progress. OECD,2008.
- Allardt, E. (1993). Having loving being; an alternative to the Swedish model of welfare research. In M. Nussbaum and A. Sen (eds), *The quality of life*. Oxford; Clarendon press for UNU-WIDER, 88-94.
- Anand, P., and Sen, A. (1994). *Human Development Index; Methodology and Measurement*. HDR Occasional Papers.
- Andrews, F. M. and Withey, S. B. (1976). *Social indicators of well-being; American's perception of life quality*. New York: Plenum Press.
- Antal, M., and Bergh V. Jeroen, (2014). Evaluating Alternative to GDP As Measures of Social Welfare/ Progress. *European Commission European Research Area*.
- Ardelyanova, Y. and Obryvalina, O. (2018). Comparative analysis of inequality, corruption, and trust studies in modern societies. *Mediterranean Journal Of social sciences*, Vol. 9
- Bernasek, A., 25th June, 2006, Income inequality and its cost. The New York Times. <http://www.nytimes.com/2006/06/25/business/yourmoney/25view.html>retrieved on August, 2017.

Blanchflower, D. G., and Oswald, A. J. (2004). Well-being over time in Britain and the USA. *Journal of Public Economics*. 88(7-8). 1359-1386.

Bleys, B. (2011). Beyond GDP, Classifying Alternative Measures For Progress. Springer Publication.

Boyd, J. (2006). The Nonmarket Benefits of Nature. What Should Be Counted in Green GDP?

Cassiers, I., and Delain, C. (2006). La croissance ne fait pas le Bonheur; les, économistes, le saventils? <http://ses.enslyon.fr/ses/fichiers/Articles/RE038.pdf>

Cassiers, I., and G. Thiry (2014). A high-stakes shift- turning the tide from GDP to new prosperity indicators, Discussion paper 2014-2

Chancel, L., and Piketty T. (2017). Indian Income Inequality, 1922-2014, From British Raj to Billionaire Raj, WID, working paper series N- 2017/11. <http://wid.world/document/chancelpiketty2017widworld/>

Clark, Colin. (1932). The National Income 1924-1931. London: Macmillan & Co.

Cobb, C., Gary, S., Goodman, and Mathis, W. (1999). Why Bigger Isn't Better: The Genuine Progress Indicator—1999. Update. *Redefining Progress*, (Nov). Accessed from http://www.nber.org/~rosenbla/econ302/lecture/GPI_GDP/gpi1999.pdf

Cobb, J., and Daly, H. (1989). *For the common good, redirecting the economy toward community, the environment and a sustainable future*, Boston, Beacon Press.

Cobb, J.B. (1998). Economics for the Common Good. Paper delivered at a conference in Hamburg, Germany. <http://www.religion-online.org/showarticle.asp?title=263>.

- Commission on Growth and Development. (2008). The Growth Report: Strategies for Sustained Growth and Inclusive Development. Washington, DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/6507> accessed on 25th July 2017.
- Costanza, R., Hart, M., Posner, S., and Talbert, J. (2009). Beyond GDP: The need for new measures of progress. The Pardee Papers No. 4, Jan 2009. The Frederick S. Pardeecenter for the study of the Longer-Range Future. Boston University.
- Coyle, D. (2014). *GDP - A brief But Affectionate History*, Princeton University Press
- Cummins, R. A. (1996). Domains of life satisfaction; an attempt to order chaos. *Social Indicators Research*, 38(3); 303-328.
- Dasgupta, P., and Maler K.G. (2000). Net national product, wealth, and social well-being. *Environment and Development Economics* 5(1-2): 69-93.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95(3), 542-575.
- Diener, E. (2000). Subjective Well-Being. The Science of Happiness and a Proposal for a National Index, *American Psychologist*, 55, 34-43.
- Diener, E. (2006). Guidelines for national indicators of subjective well-being and ill-being, *Journal of Happiness Studies*, 7: 397-404.
- Diener, E. and E. M. Suh. (1999). National Differences in Subjective Well-Being. *Well-Being: The Foundations of Hedonic Psychology*. Kahneman, Diener and Schwarz. New York: Russell Sage Foundation: 434-450.
- Diener, Ed. and Seligman, M. (2004). Beyond Money, towards an economy of well-being. *Psychological Science in the Public Interest*. 5(1). 1-31.
- Doyal, L. and Gough, I., (1991). *A Theory of Human Need*. London: Macmillan.

- Doyal, L. and Gough, I., (1993). Need satisfaction as a measure of human welfare. In W. Blass and J. Foster (eds), *Mixed Economies in Europe*. London: Edward Elgar.
- Easterlin, Richard A. (1974). Does Economic Growth Improve the Human Lot? Some Empirical Evidence. In Paul A. David and Melvin W. Reder, (Eds.) *Nations and Households in Economic Growth: Essays in Honor of Moses Abramowitz*. (pp. 89–125) NY: Academic Press.
- Easterlin, Richard A. (1995). Will raising the incomes of all increase the happiness of all? *Journal of Economic Behavior and Organization*. 27(1). 35-48.
- Easterlin, Richard A. (2001). Income and happiness: Towards a unified theory. *The Economic Journal*. 111: 465-484.
- Easterlin, Richard A. (2003). Building a better theory of well-being. March 2003, IZA Discussion Paper, No- 742.
- Ekelund, R.B. and Hebert. R.F. (1990). *A history of Economic Theory and Method*. McGraw-Hill Book Company.
- Estes, R.J. (2017). The search for well-being: from ancient to modern times, In Estes, R.J & Sirgy, M. (ed.) *The Pursuit of human well-being, international handbook of quality of life*. (pp. 3-30) Springer international publication.
- Estes, R.J. and Sirgy, M. (2017). *The Pursuit if Human Well-being, the untold global history*. Edited volume. Springer international publication, Switzerland.
- Everett, G., and Wilks, A. (1999). The World Bank genuine savings indicator: a useful measure of sustainability? *Bretton Woods Project*
- Felce and Perry (1995). Quality of life: Its definition and measurement. *Research in Developmental disabilities*. 16 (1): 51-74.
- Frey, B. S., and Stutzer, A. (2002). What can economists learn from happiness research? *Journal of Economic Literature*. 40 (June). 402–435.

- Galbraith, J.K., (1958). *The Affluent Society*. Boston: Houghton Mifflin Company.
- Galtung, J. (1994). *Human rights in another key*. Cambridge: Polity Press.
- Gasper, D. (2002). Is Sen's Capability Approach an adequate basis for considering human development? *Review of political economy* 14 (4); 453-61.
- Gasper, D. (2007). Human well-being, concept and conceptualisation in; McGillivray M. (eds), *Human well-being – studies in Department Economics and Policy*- Palgrave Macmillan, Landon.
- Glaeser, L.E, Ressnerger, M.G, and Tobio, K. (2008). Urban Inequality. Working paper 14419, National Bureau of economic research.
- Goossens, Y., Makipaa, A., Philipp, S., and Isabel, van de Sand. (2007). *Alternative Progress Indicators to Gross Domestic Product (GDP) as a Means towards Sustainable Development*.Policy Department, Economic and Scientific Policy.
- Griffin, J. (1986). *Well-being; its meaning, measurement and moral importance*. Clarendon Press.
- Grisez, G., J., Boyle and J. Finnis. (1987). Practical principles, moral truth, and ultimate ends. *American Journal of Jurisprudence*, 99-151.
- Hamilton, K., and Clemens, M.A. (1999). Genuine savings rates in developing countries. *World Bank Economic Review* 13(2): 333-356.
- Heckscher, Eli F. (1994). *Mercantilism*. Third Edition. 2 volume. London. Routledge.
- Helliwell, J. (2003). How's life? Combining individual and national variations to explain subjective wellbeing. *Economic Modelling*. 20: 331-360.

- Jackson, T., and McBride, N. (2005). Measuring Progress? A review of 'adjusted' measures of economic welfare in Europe. Prepared for the European Environment Agency, Copenhagen.
- Jackson, Tim. (2006). *Beyond the well-being paradox: well-being, consumption growth, and sustainability*. CES working paper 06/06, Centre for environmental strategy, University of Surrey. Guildford (Surrey) UK.
- Jackson, Tim. (2009). *Prosperity with Growth - Economics for a finite planet*, London: Earthscan Publications.
- Jebb, A. T., Tay, L., Diener, E. and Oishi, S. (2018). Happiness Income Satiation and turning points around the world. *Nature Human Behaviour*. 2 (33-38).
- Jeroen, C.J.M. van den Bergh. (2007). *Abolishing GDP*. Tinbergen Institute Discussion Paper TI 2007-019/3.
- Jeroen, C.J.M. van den Bergh. (2009). GDP paradox, *Journal of economic Psychology*. 30(2). 117-135.
- Kahneman, D., & Krueger, A.B. (2006). Developments in the measurement of subjective well-being, *Journal of Economic Perspectives*, 20:1, 3-24.
- Kahneman, D., Krueger, A.B., Schkade D., Schwarz N., and Stone A. (2004), Toward National Well-Being Accounts, *American Economic Review, Papers and Proceedings*, vol. 94, pp. 429-434.
- Kalam, A. P. J. Abdul. (2012). *Turning Points – a journey through challenges*. New Delhi: Harper Collins Publishers India.
- Kapoor, Kapoor M. and Krylova. (2017). Social Progress Index: States of India – Eleven Years of Progress. Social Progress India. Institute of Competitiveness. Gurgaon, India.
- Kelley, A. (1991). Human Development Index; "Handle with Care". *Population and Development Review*, Vol. 17, No. 2, pp. 315-324.

- Keynes, J. M., (1936). *The general theory of employment, interest and money*. London: Macmillan & co.
- Keynes, J.M. (1940). *How to Pay for the War. A Radical Plan for the Chancellor of the Exchequer*. Melbourne: Macmillan & Co.
- Krueger, Alan B. (2003). (ed.) *The Wealth of Nations – Adam Smith*. New York: Bentham Classics.
- Kuznets, S. (1934). National Income, 1929-32, 1934. National Bureau of Economic Research, New York. <http://www.nber.org/chapters/c2258.pdf>
- Kuznets, S. (1941). National income and its composition 1919–1938. National Bureau of Economic Research, New York.
- Lane, R. E., (1991). *The market experience*. New York: Cambridge University Press.
- Lane, R. E., (1998). The road not taken: friendship, consumerism and happiness. In D.A. Crocker and T. Linden (eds). *Ethics of consumption- the good life, justice and global stewardship*. Lanham, MD: Rowman and Littlefield: 218-48.
- Lasswell, H. D. (1992). *Jurisprudence for a free society; studies in law, science and policy*. New Haven Press.
- Lawn, P.A. (2003). A theoretical foundation to support the Index of Sustainable Economic Welfare (ISEW), Genuine Progress Indicator (GPI), and other related indexes. *Ecological Economics* 44(1): 105-118
- Layard, R. (2006). *Happiness: Lessons from A New Science*. Penguin, London.
- Lepenies, P. (2016). *The power of a single number, a political history of GDP*. Columbia University Press, New York.
- Marshall, A. (1890). *Principles of Economics*. Macmillan and Co.
- MaxNeef, M. (1995). Economic growth and quality of life: a threshold hypothesis. *Ecological Economics* 15(2): 115–118.

- McAllister, F. (2005). Well-being concepts and challenges. Discussion paper prepared for sustainable development research network. December 2005.
- McClusker, John J. (2001). *Mercantilism and the Economic History of the Early Modern Atlantic World*. Cambridge University Press.
- McCulla, S., H., & S. Smith. (2007). *Measuring the Economy: A Primer on GDP and the National Income and Product Accounts*. Washington, DC: Bureau of Economic Analysis: US Department of commerce.
- McGillivray, M. (1991). HDI yet another redundant composite development indicator. *World Development*. 19(10), 1461-1468.
- Mitra-Kahn, Benjamin H. (2011). Redefining the Economy: how the economy was invented 1620. (Unpublished Doctoral thesis, City University London).
- Muller, E.N., and Seligson, M.A. (1987). Inequality and Insurgency. *The American Political Science Review*, Vol. 81 (2), P. 425-452.
- Mun, Thomas. (1621). A discourse of trade, from England unto the East Indies; Answering to diverse objections which are usually made against the same. Landon UK; Nicholas Okes for John Pyper.
- Narayan, D.; Chambers, M. K. Shah and Petesch, P. (2000). *Voices of poor; crying out for change*. Oxford University Press.
- New Economic Foundation (2004). Chasing Progress beyond Measuring Economic Growth; the power of well-being 1. http://b.3cdn.net/nefoundation/70e2c4fbed5826b19e_dvm6ib0x9.pdf
- New Economic Foundation (2013). Beyond GDP; valuing what matters and measuring natural capital. Published by NEF as part of MSEP projects to build the socio-economic capacity of marine NGOs, Economics in policy making.

- Nordhaus, W., and Tobin, J. (1972). Is Growth Absolute. In *The Measurement of Economic and Social Performance* Milton Moss, (ed.). National Bureau of Economic Research
- Nussbaum, M. C. (2000). *Women and Human Development; the capabilities approach*. Cambridge University Press.
- Oxfam (2018). Reward Work, Not Wealth. Oxfam International. https://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/bp-reward-work-not-wealth-220118-summ-en.pdf
- Petty, Sir, W. (1676). (1691). Political Arithmetic, or a discourse concerning the... value of lands, people, etc. London: Mortlock at the Phoenix, St. Pauls Church Yard.
- Planning Commission. (2000). *Bhutan National Human Development Report 2000—Gross National Happiness and Human Development: Searching for common ground*. Planning Commission Secretariat, Thimphu: Royal Government of Bhutan.
- Posner, S. and Costanza, R. (2011). A Summary of ISEW and GPI Studies at Multiple Score and New Estimates for Baltimore City, Baltimore Country and the State of Maryland. *Ecological Economics*. 70(11), 1972–1980.
- Povot, W. and Diener, Ed. (1993), the effective and cognitive context of self-reported measures of subjective well-being. *Social Indicators Research* 28(1): 1-20.
- Qizilbash, M. (1996). Capabilities, well-being and human development; A Survey. *Journal of development studies*, 33(2); 143-162.
- Ramsey, M. (1992). *Human Needs and Market*. Aldershot: Avebury.
- Rawls, J. (1993). *Political Liberalism*. Columbia University Press.
- Ryan, R., and Deci, E. (2001). On happiness and human potential: A review of research on hedonic and eudemonic well-being. *Annual review of Psychology*, 52. 141-166

- Saamah, A., et al. (2009). *The Happy Planet Index 2.0; Why Good Lives Do Not Have to Cost the Earth*, New Economic Foundation, London.
- Samuelson, P.A. (1961). *The evaluation of social income: capital formation and wealth*. In: F. Lutz and D. Hague (eds). *The Theory of Capital*. St. Martin's Press, New York.
- Schwartz, S. H. (1994). Are there universal aspects in the structure and contents of human value? *Journal of Social Issues*, 50. 19-54.
- Scitovsky, T. (1976). *The Joyless Economy*. Oxford University Press, New York.
- Shrotryia, V. K. (2006). Happiness and Development – Public Policy Initiatives in the Kingdom of Bhutan. In Ho, L. S. and Ng, Y. K. (eds.) *Happiness and Public Policy: Theory, Case Studies, and Implications* (pp. 193-208) Hampshire: Macmillan-Palgrave.
- Shrotryia, V. K. (2009). Shift in the Measures of Quality of Life viz-a-viz Happiness: A Study of Phongmey Gewog and Trashigang Town in Eastern Bhutan, In Ura, K. and Penjore, D (eds.) *Gross National Happiness: Practice and Measurement* (pp. 525-547), Thimphu: The Centre for Bhutan Studies.
- Shrotryia, V. K. (2015). Bhutan's Experiments with Gross National Happiness – Leading towards Sustainable Development. Proceedings of *International Forum on Sustainable Happiness and Sustainable Development*. Rangsit University (Economic & Business Research Center for Reforms, Faculty of Economics): Thailand
- Shrotryia, V. K. and Mazumdar, K. (2017). The History of Well-Being in South Asia, In Estes R., Sirgy, M., (eds). *The pursuit of Human well-being – The Untold Global History. International Handbook of Quality of Life*. (pp 349-380). Switzerland: Springer International Publishing.

- Stewart, F. (1985). *Basic needs in developing countries*. Johns Hopkins University Press.
- Stiglitz, J. E. (2015). Inequality and Economic Growth. *The Political Quarterly*, 86 (S1). 134-155.
- Stiglitz, J. E., Sen, A., and Fitoussi, J. (2010). *Mismeasuring our lives, why GDP does not add up*, New Delhi: Book well Publications.
- Talberth, J., Cobb C., and Slattery, N. (2007). The Genuine Progress Indicator 2006: A Tool for Sustainable Development. Oakland, California: *Redefining Progress*.
- Thinley, J. Y. (1999). Values and Development: Gross National Happiness. In Gross National Happiness – Discussion papers (edited by The Centre for Bhutan Studies. Thimphu: Bhutan.
- Travers, P. and S. Richardson. (1993). Material Well-being and human well-being, Summary in F. Ackerman, D. Kiron, N.R. Goodwin, J.M. Harris and K. Gallagher (eds). *Human Well-being and Economic Goals*. (Washington DC, Island Press) 26-39.
- Ul Haq, M. (1995). *Reflection on human development*. Chapter 4. Oxford University Press.
- UNDP. (1990). Human Development Report 1990. United Nations Development Program. Oxford University Press, New York.
- Veenhoven, R. (1993). *Happiness in nation: Subjective Appreciation of life in 56 nations, 1946-1992*. Rotterdam; Erasmus University Press. <https://personal.eur.nl/veenhoven/Pub1990s/93b-part1.pdf>
- Wade, R.H. (2006). Should we worry about income inequality? *International Journal of Health Service*, 36 (2), 271-294.
- Wilkinson, R.G. (2005). *The impact of inequality; How to make sick societies healthier*. NY; New Press.

- Wilkinson, R.G. and Pickett, E. K. (2006). Income inequality and population health; A review and explanation of the evidence. *Social Science & Medicine* 62; 1768-1784.
- Wilkinson, R.G. and Pickett, E. K. (2007). Problems of relative deprivation; why some society doo better than other. *Social Science Medicine*, 62. 1768-1784.
- Wilkinson, R.G. and Pickett, E. K. (2009). Income inequality and social dysfunctional. *Annual Review of Sociology*, 35. 493-511.
- World Bank. (2006). *Where is the wealth of nations?* The International Bank for Reconstruction and Development/the World Bank
- World Bank. (2018). Estimating the World Bank's Adjusted Net Saving; Methods and Data. Environment and Natural Resources Global Practices, World Bank.
- World Inequality Report, (2018). Published by World Inequality Lab. <http://wir2018.wid.world/files/download/wir2018-full-report-english.pdf>
- You, J., S., and Sanjeev K. (2005). A Comparative Study of Inequality and corruption. *American Sociological Review*; 136-157.

Annexure 1: Social Progress Framework

BASIC HUMAN NEEDS	FOUNDATIONS OF WELLBEING	OPPORTUNITY
Nutrition and Basic Medical Care	Access to Basic Knowledge	Personal Rights
Infant mortality rate	Net primary enrolment	Property rights
Underweight children	Gross secondary enrolment	Human trafficking
Maternal mortality rate	Literacy	Judiciary
Anaemic children	Gender parity	Personal Freedom and choice
Water and Sanitation	Dropout rates	Family planning
Prevalence of typhoid	Access to Info and Communications	Child labour
Prevalence of diarrhoea	Access to TV	Corruption
Improved water source	Internet subscribers	Early marriage
Drinking water covered habitation	Phone subscribers	Inclusion
Rural sanitation	Newspaper circulation	Child sex ratio
Shelter	Health and Wellness	Financial inclusion-bank branches
Power deficit	Obesity male	Financial inclusion-women
Access to electricity	Obesity female	Women in Panchayati Raj Institutions
Pucca houses	Suicides	Insurance coverage
Housing shortage	Respiratory infections	Scheduled tribe enrolment, higher education
Personal Safety	HIV prevalence	Access to Advanced Education
Road deaths enrolment	Life expectancy at 60	Higher education
Murder crimes	Leprosy prevalence	Female graduates
Rape crimes	Environmental Quality	Technical institute
Violent crimes	Renewable energy	Colleges (UGC)
	Change in forest cover	
	Water withdrawals	
	Land degradation.	

Annexure 2: Alternative Measures for Policy Focus

S. No.	Organisation/ Author/s	Measure	Year of publication	Objectives	Scope/ Dimensions	Indicators	Geograph coverag	References
Indicators 'Adjusting' GDP								
1.	Nordhaus and Tobin	Measure of economic well-fare	One shot estimation for the 1929-1965 period	Proposing a measure of economic welfare complementing GDP.	Private household consumption, net of expenditures that are considered as not directly contributing to welfare, share of public expenditure that contribute to welfare.	US only	Nordhaus, W. & Tobin, J. (1973), Is Growth Absolute? <i>In the measurement of economic and social performance, national Bureau of Economic Research, 1973.</i>	
2.	Nordhaus and Tobin	Sustainable measure of economic welfare (SMEW)	One shot estimation for the 1929-1965 period.	Proposing a measure of economic welfare complementing GDP.	MEW corrected, for changes in reproducible capital, some elements of non-reproducible capital (land and foreign assets), health and educational capital.	US only	Nordhaus, W. & Tobin, J. (1973), Is Growth Absolute? <i>In the measurement of economic and social performance, National Bureau of Economic Research, 1973.</i>	

3.	M&M (Miringoff, institute for innovation in	Index of Social Health (ISH)	1987	Assessment of social progress	Per age; children, youth, adults, elderly, all ages.
4.	Daly, Cobb, redefining progress for GPI	ISEW (Index for sustainable well- being) and GPI (Genuine Progress Index)	ISEW 1989 GPI 1995	Does not take into account the valuation of leisure but take into accounts inequality and the depletion of natural resources.	Consumption inequality, value of house work and parenting, higher education and volunteer work, services of consumer durables, loss of leisure time, co2 damage, resource depletion.
5.	Lars Osberg and Andrew Sharpe, Centre for study of living standards	Index of economic well-being (IEWB)	1998. Covering 1971-2002 for Canada and USA, 19980-2001 for others.	Global assessment of country achievements in terms of economic well- being	Real total consumption per capita, real capital stock, R&D resource Stock+human capital-real cost of Co ₂ emission.

6.	World Bank, Genuine Saving	Where is the wealth of nation? Measuring capital for xxi century	1998	To measure savings in the economy after taking into an account, investment in human capital, depletion of natural resources and damage caused by pollution.	Natural resources, pollutants, and human capital
7.	Green GDP, of Green National Accounting				Natural resources, pollutants, and human capital
Indicatore ‘Replacing’ GDP					
8.	UNDP, Human Development	HDI	1990	Global assessment of country achievement in different areas of human development.	Longevity, Knowledge and standard of living
					Life expectancy at birth; Adult literacy; GDP per capita.
					175 Countries
					http://hdr.undp.org/en/statistics/data/

9.	Canada Council on social development (CCSD)	Personal security index (objective), perception index (subjective)	1998, annual.	Overview of factors impacting security in a broad sense and assessment of evolution	Economic security, health security, physical safety,	Canada	http://www.ccsd.ca/pubs/2003/psi/index.htm
10.	New Economic Foundation	Happy Planet Index (HPI)	2006	Accessing a country ability for supporting good and long lives,	Satisfaction, life expectancy, environmental sustainability	178 countries.	http://www.happyplanetindex.org/index.htm
11.	R. Veenhoven and W. Kalwijn, Erasmus University Rotterdam	Inequality adjusted happiness (IAH)	2005 covering 1973-2004.	International comparison of societal performance	Reflect a combination of utilitarian (average happiness) and egalitarian (equality in happiness)	Survey which show, how people are happy with their life.	http://www2.eur.nl/fsw/research/veenhoven/Pub2000s/2005c-full.pdf
12.	M. Fleaubaut & G. Gaulier	Index of living standards	One-off research published in 2006,	International comparison of living standard without usual shortcomings of GDP	NNI adjusted for elements of well-being i.e. leisure and healthy life	24 OECD Countries	http://www.cepii.fr/francegraph/publications/lettres/resumes/2006/let260.htm

13.	Florence Jany-Catrice, Stephen Kampelmann (CLERSE-)	Index of economic well-being (France)	Assessment of France achievement in terms of economic well- being	Consumption flows, stock of wealth, equality social risk.
14.	G. Ponthiere, University de Liege	One shot, experimental work, not intended for regular publication	International comparison of living standards	House hold final consumption per capita, adjusted for elements of well-being; leisure, healthy life, and economic exclusion
15.	OECD- Alternatives measure of well-being	One of the working paper released in 2006, plus special chapter in OECD report “going for growth and society at a glance and statistical	To assess whether GD per capita is an adequate proxy as a measure of well-being or whether other indicator is more suitable for that purpose.	Economy as a whole; GDP per capita adjusted for leisure; indicators of social outcome; Survey measure of social outcome; and Happiness and Life satisfaction.

16.	Morris David Morris	Quality of Life Index	To measure quality of life or well-being of a country.	Literate population, Infant mortality rate, life expectancy, physical quality of life.	https://www.gov.bt/co_aa/gross-national-happiness-commission/
17.	GNH	Gross National Happiness	2008	To measure collective happiness	Bhutan
18.	Yale University's Center for environmental law and policy with Columbia University and World Economic Forum	Environmental Sustainable Index	Between 1999-2005	To evaluate environmental sustainability relative to the path of other countries.	

19.	Yale University's Center for environmental law and policy with Columbia University and World Economic Forum	Environ-mental Performance Index	Published in 2006] 2008 2010.	To simplifying the index for policy makers.
20.		Regional Quality of Development Index (QUARI\$)		
21.	Global Footprint Network	Ecological Footprint	2006 To measure huijman demand on nature.	200 nations
Indicators “Supplementing” GDP				
22.	UN, division for sustainable development	CSD, Sustainable Development Indicators	1996 on sustainable development Increase focus Governance; Health; Education; Demographic; Natural Hazards; Atmosphere; Land; Oceans Seas; Economic Develop- ment; consumption and production pattern	Poverty; 53 CSD Member state http://www.un.org/esa/sustdev/index.html

23.	UN Millennium Development Goals	A universal framework for development	2000 Eradicate poverty and hunger 2. Universal primary education 3. Gender equality 4. Reduce child mortality 5. Improve maternal health 6. Combat HIV/AIDS 7. Environmental sustainable 8. Develop global partnership for development	Eight main goals- education, gender, equality, health, environment development	Poverty, Hunger, 189 countries http://mdgs.un.org/unsd/mdg/
24.	OECD, Directorate For Employment, Labour and Social Affairs-Social Indicators	Society at a glance- OECD social Indicators	2000, Biannual annual	Provide quantitative evidences on whether our societies are getting more or less equal, healthier and cohesive 1. General Context 2. Self-Sufficiency 3. Equity 4. Health 5. Social Cohesion	OECD Countries http://www.sourceoecd.org/societyatglance

			3. Health (health outcome and policies) 4. Social Cohesion (crime, suicides, Volunteering)		
25.	OECD, Environment Directorate- Environmental Indicators	Key Environmental Indicators	Tracking environmental progress, support of policy evaluation, information of the public.	Pollution Issues, and natural resources and assets 1. Climate Change 2. Ozone Layer 3. Air quality 4. Waste generation 5. Fresh water Quality 6. Energy Resources 7. Biodiversity	OECD Countries http://www.oecd.org/environment
26.	Global project on measuring the progress of progress		To raise citizen awareness of what constitute progress for their society.	1. Advocacy 2. Develop best practices. 3. Develop new ICT tools	http://www.oecd.org/oecdworldforum
27.	OECD – Economic Environmental I and Social	Fact book	2005	To provide a global overview of economic, social, and	http://pubc.sourceoecd.org/vl=009004/cl=14/nw=1/rpsv/factbook

Statistics	environmental trends on OECD statistics.	3. Economic Globalisation 4. Prices 5. Energy 6. Labour 7. Science and Technology 8. Environment 9. Education 10. Public Finance 11. Quality of Life	Produced capita, Human capital, Natural capital, Social Capital Five monetary indicators and ten physical indicators like climate, air quality, water quality, ecological integrity, soil productivity, health status, etc.

29.	System of Economic Environmental Accounts (SEEAA)	Satellite system of SNA	To provide statistical information about environment and economic data.	Pollutants and Materials, environmental protection and resource management, Natural Resources, environmentally adjusted macroeconomic aggregates.
30.	Statistics Netherland	National Accounting Matrix Including Environmental Accounts	To present a framework for showing the contribution of industrial and household contribution to environmental concern.	Environmental I pressure and economic aspect
31.	DESTATIS, Federal Statistical Office of Germany	GEEA, German Environmental Economic Accounting	Focus relationship between environment and economy.	Environmental pressure, environment state, and response.
32.	System of Economic and social Accounting matrices and Extensions	SESAME	To integrate economic, social and environment data.	Environmental performance,

Annexure 3: India's GDP predictions by different organization.

Sl.no.	Name of Agency	Rate of Growth In %	
		2017-18	2018-19
1.	World Bank	7.6	7.8
2.	Asian Development Bank	7.40	7.60
3.	United nations world economic situations & prospects	7.70	7.60
4.	IMF	7.20	7.60
5.	OECD	7.30	7.80
6.	Moody's	7	7.5

Annexure 4: India's Key Macroeconomic Variables

Data Categories	Unit	2012-13	2013-14	2014-15	2015-16	2016-17
Growth Rate (GDP)	%	5.6	6.6	7.2	8 ¹	7.1 ¹
Saving Rate	% of GDP	33.8	33.0	33.0	32.5	NA
Capital Formation	% of GDP	38.6	34.7	34.2	NA	NA
Foreign exchange Reserve	US & billion	292.0	304.2	342.6	360.2 ¹	370*

Source: Economic Survey, Government of India 2015-16 vol 2 p 2 and Economic Survey, Government of India 2016-17, vol 1 and 2.

NA= Not available

1. Economic survey 2016-17, VOL. 2 and 1.

* - Economic survey Vol 2, p 60, figure is upto March 2017.

Annexure 5: Inclusive Growth and Development Index

		Value Overall (1-7) 1=worst, 7=best	Rank (with in developing economies)
India		3.38	60/79
S. No.	<i>National Key Performance Indicators (1-7)</i>	<i>Value</i>	<i>Rank</i>
1.	Growth & Development	2.59	65/79
	GDP per capita \$	1806	52/79
	Labour productivity \$	14681	49/79
	Healthy life expectancy years	59.60	54/79
	Employment %	52.2	57/79
2.	Inclusion (1-7)	2.60	67/79
	Net income inequality Gini	2.61	67/79
	Poverty ratio %	58	60/79
	Wealth inequality Gini	87.6	70/79
	Median income \$/ day (PPP) Per capita	NA	NA
3.	Intergenerational Equity (1-7)	4.95	43/79
	Adjusted net saving % GNI	4.95	43/79
	Carbon Intensity of GDP kt CO ₂ /\$bn GDP	162.9	60/79
	Public Debt % GDP	69.1	65/79
	Dependency Ratio % working age population	52.4	36/79

Source: WEF Inclusive Growth and Development Report, 2017

Annexure 6: Policy and Institutional Indicators

S. No.	Pillars	Score (1-7) 1= worst, 7= Best Middle Income)	Rank (within Peer group, Lower
1.	Education & Skills	3.94	25/34
	Access	3.53	30/36
	Quality	3.67	29/37
	Equity	4.62	16/35
2.	Basic Services & Infrastructure	4.32	18/37
	Basic and digital infrastructure	4.22	16/37
	Health services and Infrastructure	4.42	25/37
3.	Corruption and Rents	4.56	1/37
	Business and Political ethics	4.35	2/37
	Concentration of rents	4.77	1/37

Source: WEF Inclusive Growth and Development Report, 2017, chapter/
Country Profile.