Implementing Sustainable Development Goals in India: Progress So Far

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Author’s contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

As the world inches towards 2030, there is barely a precious decade left towards achieving the United Nations Sustainable Development Goals. Given the socio-economic fragility of the economies proven during the ongoing COVID-19 pandemic, it becomes imperative to strive maximum in order to achieve a harmony between economic, environmental and social progress in these economies. With 17.7% of share in the total world population, India has a very high degree of responsibility towards achievement of world SDGs. The spill over score for India is 98.8 which implies that India is in a strong position to create very positive spillover effects to other countries. With a federal structure comprising of 28 states and 8 UTs, the progress made by the Indian economy will depend on the progress made by these states and UTs. In this context the current article is an attempt to understand the extent of progress made in India towards achieving the various sustainable development goals. The analysis of the progress made on the various SDG goals is done at two levels: Global Level and State level. At a global level, a comparison is done on the progress of SDGs made in India with other developed and developing economies respectively. To do the comparison the economies have been ranked on the basis of their progress in SDG goal achievement based on UN reports and their per capita incomes. This comparison is done to understand whether wealthier nations are faring better in the achievement of SDGs. An important finding from this table is that the countries with highest per capita income do not necessarily have the highest rankings. This finding could have very meaningful implications on

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policy making and resource mobilization for the various goals in under developed and developing economies, including India. Further the analysis progress on various SDGs is done at a state level for India. This analysis is done to understand which states are doing good in terms of goal achievement and which states are lagging behind. The state level analysis can also point out to the best practices that are in practice and which can be adapted by other lagging states. The analysis is done based on the Global Sustainable Development Report as well as the Sustainable Development Report prepared by NITI Ayog, Government of India. As the Central government as well as the State governments along with various stakeholders make efforts towards achieving these goals, a macro level analysis of the progress made on these goals can help in course correction at the correct time and thus optimize precious time and resources.

Keywords: Sustainable development goals; growth; development; India; economy.

1. INTRODUCTION

As the world moves towards the end of the year 2020, nearly a decade remains for the completion of the SDGs by 2030. Given the global pandemic caused by novel corona virus-2019, the world is facing immense challenges in maintaining the resource commitment towards the achievement of the SDGs. With 17.7 % of share in the total world population, India has a very high degree of responsibility towards achievement of world SDGs. The spill over score for India is 98.8 which implies that India is in a strong position to create very positive spillover effects to other countries [1].

2. METHODOLOGY

With a federal structure comprising of 28 states and 8 UTs, the progress made by the Indian economy will depend on the progress made by these states and UTs. The NITI Ayog which is a nodal agency to coordinate the efforts of the SDGs for India has been publishing yearly SDG index reports detailing the progress made by the different states in the various indicators towards achievement of the 17 SDGs. (A detailed discussion on the methodology and the results at a micro level can be found at niti.gov.in)

2.1 Review of Literature

A research note on SDGs and achievements in India prepared by Govt. of India [2] has discussed about the progress of the various goals in India and the early lessons to be drawn from them. In another study on SDGs and challenges for India, M. Prabhakar Christopher David [3] has made an attempt to understand the challenges encountered by India in achieving the SDGs and the ways of overcoming them. Bhanja R and Roychowdhury K., [4] discuss the present status of India’s primary target of SDGs with the help of a composite index. Using a cluster analysis region specific and issue specific problems of sustainable development in India were analyzed. A study by Technology and Action for Rural Advancement [15] has discussed in detail about the financial requirements and gaps in achieving the SDGs in India. An in-depth study was made Tiwari6G et al, [3] on the challenges of localizing SDGs in small cities. In light of the above mentioned studies, an attempt has been made in this article to study the overall SDGs using the United Nation and Niti Ayog Data for various states in India.

2.2 India and SDGs: An International Perspective

Table 1 shows the rankings of select countries in terms of their progress made towards achieving their SDGs. To get a proper relative perspective a comparison here is made of the progress made by India in comparison to other developed and developing economies. The various countries have been ranked on the basis of the overall score in the progress made towards achieving all the 17 SDGs. The per capita income of these economies at purchasing power parity has also been added for a holistic comparison of the SDG progress made. The ideal score for the SDGs is 100. The data is sourced from the SDG global report 2020.

As per the data in Table 1, the Scandinavian countries led by Sweden, Denmark and Finland lead the table with an index score of approximately 84. India with an index score of 61.92 is ranked 117 out of 193 member countries. An important finding from this table is that the countries with highest per capita income do not necessarily have the highest rankings. For instance, Switzerland and the United States of America, two of the richest countries in terms of per capita income are ranked much below. This
implies that monetary resources are not the most important variable leading to achievement or progress towards SDGs.

In comparison to the developing economies also, India ranks much below. Countries like Brazil, China which are more or less similar to India also have a better ranking. Small countries like Malta, Croatia and Serbia have shown a good progress level in the SDGs. Thus, it shows that progress towards achieving the SDGs depend more on the commitment and resource utilisation and management (Table 2).

**Table 1. Developed Economies Vs India**

| Developed Economies | GDP per capita (ppp) ($) | Index score | Rank |
|---------------------|--------------------------|-------------|------|
| Sweden              | 55814.5                  | 84.72       | 1    |
| Denmark             | 59830.2                  | 84.56       | 2    |
| Finland             | 51323.8                  | 83.77       | 3    |
| France              | 49435.2                  | 81.13       | 4    |
| Germany             | 66831.9                  | 80.77       | 5    |
| Norway              | 66831.9                  | 80.76       | 6    |
| Austria             | 59110.6                  | 80.70       | 7    |
| Netherlands         | 59686.8                  | 80.37       | 9    |
| United Kingdom      | 48709.7                  | 79.79       | 13   |
| Switzerland         | 70989.3                  | 79.35       | 15   |
| New Zealand         | 43952.5                  | 79.20       | 16   |
| Japan               | 43235.7                  | 79.17       | 17   |
| Canada              | 51341.7                  | 78.19       | 21   |
| Spain               | 42214.1                  | 78.11       | 22   |
| United States       | 65280.7                  | 76.43       | 31   |
| India               | 7034.2                   | 61.92       | 117  |

*Source: Author’s calculations based on World Development Indicators database [7], World Bank for PCI and SDG report 2020 for rank and index scores*

**Table 2. Developing Economies Vs India**

| Developing Economies | GDP per capita (ppp) ($) | Index score | Rank |
|----------------------|--------------------------|-------------|------|
| Croatia              | 29973.4                  | 84.72       | 1    |
| Malta                | 45651.6                  | 84.56       | 2    |
| Serbia               | 18989.0                  | 83.77       | 3    |
| Costa Rica           | 20434.4                  | 81.13       | 4    |
| Thailand             | 19228.3                  | 80.77       | 5    |
| Moldova              | 13574.1                  | 80.76       | 6    |
| Ecuador              | NA                       | 80.70       | 7    |
| Ukraine              | 13341.2                  | 80.37       | 9    |
| China                | 16784.7                  | 79.79       | 13   |
| Vietnam              | 8374.4                   | 79.35       | 15   |
| Bosnia Herzegovina   | 15791.7                  | 79.20       | 16   |
| Argentina            | 22947.1                  | 79.17       | 17   |
| Kyrgyz Republic      | 5470.8                   | 78.19       | 21   |
| Brazil               | 15258.9                  | 78.11       | 22   |
| Azerbaijan           | 15000.8                  | 76.43       | 31   |
| India                | 7034.2                   | 61.92       | 117  |

*Source: Author’s calculations based on World Development Indicators database [7], World Bank for PCI and SDG report 2020 for rank and index scores*
Table 3. Performance Track of SDGs for India

| Goal No. | Goals Description         | Current Status          | Future Trend                                      |
|---------|---------------------------|-------------------------|--------------------------------------------------|
| 01      | No poverty                | Facing Significant      | On track of maintaining SDG achievement.         |
|         |                            | challenges              |                                                  |
| 02      | Zero hunger               | Facing Major challenges | Score though moderately improving, is insufficient to attain goal |
| 03      | Good health               | Facing Major challenges | Score though moderately improving, is insufficient to attain goal |
| 05      | Gender equality           | Facing Major challenges | Score is stagnating or increasing at less than 50% of required rate |
| 06      | Clean water and sanitation| Facing Major challenges | On track of maintaining SDG achievement         |
| 07      | Clean energy              | Facing Major challenges | Score though moderately improving is insufficient to attain goal |
| 08      | Economic growth           | Facing Challenges       | On track of maintaining SDG achievement         |
| 09      | Industry innovation & infrastructure | Facing Major challenges | Score though moderately improving is insufficient to attain goal |
| 10      | Reduced inequalities      | Facing Major challenges | Trend information unavailable                    |
| 11      | Sustainable cities        | Facing Major challenges | Score stagnating or increasing at less than 50% of required rate |
| 13      | Climate action            | SDG achieved            | On track or maintaining SDG achievement         |
| 14      | Life below water          | Significant challenges remain | Score stagnating or increasing at less than 50% of required rate |
| 15      | Life on land              | Facing Significant      | Score decreasing                                 |
|         |                            | challenges              |                                                  |
| 16      | Peace justice & strong institutions | Facing Major challenges | Score stagnating or increasing at less than 50% of required rate |
| 17      | Global partnership        | Facing Major challenges | Score stagnating or increasing at less than 50% of required rate |

Source: SDG report 2020

Table 4. Trend Performance of Select Indicators under SDG 2030 in India

| Indicators                                      | 2011  | 2013  | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  |
|------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Poverty head count ratio at $1.90 per day      | 14.95 | 10.65 | 7.41  | -     | 4.64  | -     | -     | 2.30  |
| Poverty head count ratio at $3.20 per day      | 52.53 | 45.88 | 39.96 | -     | 33.23 | -     | -     | 24.61 |
| Prevalence of undernourishment (%)             | 17.50 | 16.90 | 15.50 | -     | 14.50 | -     | -     | -     |
| Life expectancy at birth years                 | 66.87 | 67.77 | 68.37 | -     | 68.97 | -     | 69.50 | 69.73 |
| Literacy rate%                                 | 69.30 | 71.96 | -     | -     | 74.37 | -     | 74.04 | -     |
| Ratio of female-to-male labor force participation rate | 30.39 | 29.11 | 29.65 | 29.96 | 30.25 | 30.03 | 29.80 | -     |
| Population using at least basic sanitation services (%) | 44.03 | 49.17 | 54.35 | 56.94 | 59.54 | -     | -     | -     |
| Population with access to electricity (%)      | 67.60 | 80.88 | 88    | 89.65 | 92.62 | -     | -     | -     |
| Population with access to clean fuels and technology for cooking (%) | 35.42 | 37.81 | 39.88 | 41.04 | -     | -     | -     | -     |
| Unemployment rate % of total labor             | 5.64  | 5.67  | 5.57  | 5.51  | 5.42  | 5.33  | 5.36  | -     |
| Indicators | 2011  | 2013  | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|
| force      |       |       |       |       |       |       |       |       |
| Population using the internet % | 10.07 | 15.10 | 17    | 22.00 | 34.45 | -     | -     | -     |
| Expenditure on research and development % of GDP | 0.83  | -     | 0.62  | -     | -     | -     | -     | -     |
| Reduce inequality within and among countries. | 43.22 | -     | -     | -     | -     | -     | -     | -     |
| Satisfaction with public transport (%) | 67.68 | 70.31 | 68.38 | 73.54 | 74.44 | 71.94 | -     | -     |
| Access to improved water source, piped % of urban population | 69.93 | 69.24 | 68.56 | 68.22 | 67.87 | -     | -     | -     |
| Electronic waste kg/capita | -     | -     | 1.5   | -     | -     | -     | -     | -     |
| Energy-related CO₂ emissions CO₂/capita | 1.39  | 1.50  | 1.67  | 1.72  | 1.76  | -     | -     | -     |
| Mean area that is protected in marine sites important to biodiversity (%) | 37.72 | 37.72 | 37.72 | 37.72 | 37.72 | -     | -     | -     |
| Permanent deforestation % of forest area, 5-year average | -     | -     | -     | -     | -     | 0.04  | -     | -     |
| Mean area that is protected in terrestrial sites important to biodiversity (%) | 22.37 | 25.58 | 25.65 | 25.66 | 25.66 | 25.66 | -     | -     |
| Property Rights | -     | -     | -     | -     | -     | -     | 4.41  | -     |
| Corruption Perception Index | -     | 36.00 | 38.00 | 40.00 | 40.00 | 41.00 | 41.00 | -     |
| Other countries: Government revenue excluding grants % of GDP | 11.50 | 12.61 | 12.42 | 13.23 | 12.86 | -     | -     | -     |

Source: SDG report 2020 and [8] for life expectancy and literacy rate

**Table 5. Assessment of Macro Economic Variables for Achieving SDGs 2030**

| Good progress | Moderate progress | Minimal progress | No progress |
|---------------|------------------|------------------|------------|
| poverty       | Life expectancy  | Female education | Clean water access in urban areas |
| General nutrition | Control of infectious diseases | Fresh water stress | Air pollution |
| Cereal yield  | Literacy and education | Treatment of waste water | species extinction |
| Land cultivation efficiency | Female labour force participation | Scientific and technical research | Media freedom |
| General health | Women representation in govt.bodies | Research and development | species extinction |
| Maternal mortality | Basic sanitation | Income inequalities | species extinction |
| Basic drinking water | Clean cooking fuel | Child labour | species extinction |
| Access to electricity | Municipal solid waste | Govt exp on health and education | species extinction |
| Access to financial inclusion | Sustainable fishing | | |
| Gdp growth rate | Ocean health | | |
| Unemployment rate | Marine biodiversity | | |
| Internet access | Land biodiversity | | |
| Public transport | corruption | | |
| Electronic waste | | | |
| Energy related emissions | | | |
| deforestation | | | |

Source: Author's calculations based on [9,10]
Table 6. Absolute SDG performance gaps in 2020 (%)

| SDG goals | Performance Gaps (%) |
|-----------|----------------------|
| 1         | 21.8                 |
| 2         | 23.8                 |
| 3         | 24.5                 |
| 4         | 17.3                 |
| 5         | 29.2                 |
| 6         | 23.1                 |
| 7         | 19.7                 |
| 8         | 14.0                 |
| 9         | 21.5                 |
| 10        | 17.6                 |
| 11        | 27.2                 |
| 12        | 8.8                  |
| 13        | 5.2                  |
| 14        | 16.6                 |
| 15        | 22.0                 |
| 16        | 18.7                 |
| 17        | 20.8                 |
| Spill Overs | 2.5                  |

Source: SDG report 2020

Table 3 shows that for majority of the goals there is a large number of challenges present for making progress towards the 2030 target achievement. A trend analysis of select indicators of these goals is done in the table below to give a more accurate picture of the progress made and the existing challenges. A detailed analysis of these obstacles and challenges would explain the roadblocks and the strategies needed to overcome these challenges.

Table 4 shows the trend behavior of select important indicators from the period of 2011 onwards. On the basis of the trends seen a general reading can be made as to the various degrees of progress made in the achievement of various goals which is summarized in the table below, 4.5 and 4.6.

Table 6 shows an estimate of performance gaps for each goal for India in 2020. Higher the performance gap farther is the country in achieving the target value of that goal by 2030. An important observation from table 6 is that the spill over value of India is positive, it implies that the actions taken by India would have positive carry-on effects on the other economies. For instance, in goal no. 5 the gap towards the desired outcome is 29%. Thus, if India tries to bridge the gap in gender equality by even 25%, it would bring the world target that much closer to the desired levels.

2.3 State Level Analysis of SDG Performance in India

The Table 7 shows the ranking of the different states and UTs based on the progress made by them towards achieving the various SDGs. Based on the various indicators and the parameters it shows that in 12 out of 17 goals the progress made is above average. In case of poverty, food security and nutrition and gender equality, the progress is less than average.

Table 8 lists the states as leading and lagging based on their index values achieved which has been calculated on the progress made for achieving overall 17 SDGs. State level per capita domestic product figures have also been added for a comparison. The all India PCI in 2018-19 was Rs. 126406. It can be seen that the states which are leading in terms of their performance are not the states with the highest level of PCI. States like Delhi, Haryana, Punjab and Gujarat which are rich states are lagging states. This implies that it is not only the resource availability but also the intent and the ability to utilise the resources that go a long way towards the goal achievement.
Table 7. State Level Index Scores on SDG 2030

| Goal No. | Goal Description                        | India score/100 | Progress made     |
|----------|-----------------------------------------|-----------------|-------------------|
| 01       | No poverty                              | 50              | average           |
| 02       | Zero hunger                             | 35              | Less than average |
| 03       | Good health                             | 61              | More than average |
| 04       | Quality education                       | 58              | More than average |
| 05       | Gender equality                         | 42              | Less than average |
| 06       | Clean water and sanitation              | 88              | More than average |
| 07       | Clean energy                            | 70              | More than average |
| 08       | Economic growth                         | 64              | More than average |
| 09       | Industry innovation & infrastructure    | 65              | More than average |
| 10       | Reduced inequalities                    | 64              | More than average |
| 11       | Sustainable cities                      | 53              | More than average |
| 12       | Responsible consumption &production      | 55              | More than average |
| 13       | Climate action                          | 60              | More than average |
| 14       | Life below water                        | na              | Na                |
| 15       | Life on land                            | 66              | More than average |
| 16       | Peace justice strong institutions        | 72              | More than average |
| 17       | Global partnership                      | na              | Na                |

*50 is average, >50 is more than average, < 50 is less than average

Source: author’s calculations based on SDG India index report 2019-20 [11]

Table 8. State Wise Performers

| Leading states | Per capita income | Lagging states     | Per capita income |
|----------------|-------------------|--------------------|-------------------|
| Andhra Pradesh| 164025            | Arunachal Pradesh  | *127748           |
| Goa           | 467998            | Assam              | *74204            |
| Himachal Pradesh| 179188         | Bihar              | 43822             |
| Karnataka     | 210887            | Chattisgarh        | 96887             |
| Kerala        | *184000           | Gujarat            | *174652           |
| Sikkim        | 357643            | Haryana            | 226844            |
| Tamilnadu     | 193750            | Jharkhand          | 76019             |
| Telengana     | 205896            | Madhyapradesh      | 90998             |
| Chandigarh    | *297313           | Maharashatra       | *176102           |
| Puducherry    | 220461            | Manipur            | *65411            |
|               |                   | Meghalaya          | *81098            |
|               |                   | Mizoram            | *141210           |
|               |                   | Nagaland           | *102581           |
|               |                   | Odisha             | 93352             |
|               |                   | Punjab             | 154598            |
|               |                   | Rajasthan          | 109105            |
|               |                   | Tripura            | *105044           |
|               |                   | Uttar Pradesh      | 61351             |
|               |                   | Uttarakhand        | 198738            |
|               |                   | West Bengal        | 109491            |
|               |                   | Andaman and Nicobar Islands | *159664 |
|               |                   | D&N haveli         | na                |
|               |                   | Damant &Diu        | na                |
|               |                   | Delhi              | 365529            |
|               |                   | J&K                | na                |
|               |                   | Lakshadweep        | na                |

*Index values 65-99: leading
Index values 50-64: lagging
PCI is the net state domestic product values measured at current prices (2018-2019)
*PCI measured at 2017-2018 values

Source: Author’s calculations based on SDG India Index report 2019-20 and RBI data base for PCI [12]
Table 9 shows a summary of the different goals for various states where the performance is far from below. These are the areas where the state governments need to address their policy directives in a focused and sustained manner.

Based on the above analysis following are some of the findings:

3. FINDINGS

On the basis of the above analysis, the progress made on SDGs in India can be classified in three categories:

1. Category A: Goals requiring maximum effort
   Zero poverty, Zero Hunger, Gender equality, Industry Innovation, Sustainable cities, Climate Action.

2. Category B: Goals requiring moderate effort
   Good Health, Education, Inclusive Economic growth, Reduced Inequalities and Sustainable production and Consumption

3. Category C: Goals requiring Minimum effort
   Clean water and sanitation, Affordable clean energy, Life on Land, Peace and Justice.

4. CONCLUSION

The above analysis is done based on the Global Sustainable Development Report as well as the Sustainable Development Report prepared by NITI Aayog, Government of India. As the Central government as well as the State governments
along with various stakeholders make efforts towards achieving these goals, a macro level analysis of the progress made on these goals can help in course correction at the correct time and thus optimize precious time and resources. Policies made at the central and state level need to be made after studying the ground realities. At the same time best practices from the model performing states can be analysed and shared and adapted for better results in the achievement of the various sustainable development goals. All over the world, local leaders are working together to drive measurable, reportable, and verifiable progress within sustainable development and India is a signatory towards Voluntary Progress Review for the UN SDGs 2030. In this context it becomes imperative to measure, monitor and work towards the achievement of the goals by 2030. Since there are seventeen goals, and India is a big heterogeneous country with great diversity in social, political and economic aspects, mapping the SDGs at a state level will help in achieving optimal results.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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