



Impact of Covid-19 on SDGs

Industry, Innovation, and Infrastructure

HS331 - Sociology of Development



Team Members:

Sushant Sinha	1901CS62
Tanishq Malu	1901CS63
Tanushree	1901CS64
Tarusi Mittal	1901CS65
Unique Kaushik	1901CS66

Submitted to:

Dr. Aditya Raj

Mentored by:

Anushka Sinha

OUTLINE

- General Introduction
- What is Development?
- Sustainable Development
- Sustainable Development Goals
- SDG9: Industry, Innovation & Infrastructure
- Impact of Covid-19 on SDG
 - Impact of Covid-19 on Industries
 - Impact of Covid-19 on Innovation
 - Impact of Covid-19 on Infrastructure
- Challenges in attaining SDGs in India
- India's performance in attaining SDGs
- Conclusion

General Introduction

The novel coronavirus wreaked unimaginable havoc across the globe. Its impact on human lives has been calamitous, and global economies are still reeling from the effects on businesses, financial markets, and supply chains. According to the United Nations Conference on Trade and Development (UNCTAD), the pandemic cost the global economy up to \$2 trillion in 2020 alone; warning that shock from the pandemic will cause a recession in some countries and depress global annual growth to below 2.5 percent. [\[Economic Times\]](#)

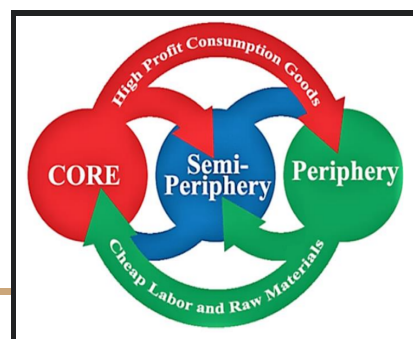
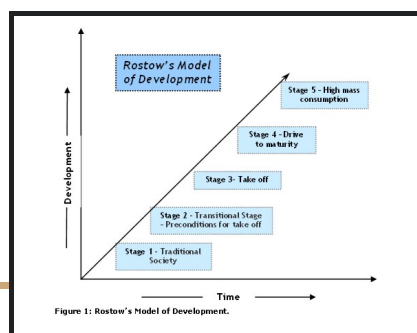
Due to the healthcare emergency it posed, other priorities took a back seat, including the SDGs. The measures that were necessitated by the need to combat the pandemic had a huge bearing on the SDGs' performance.

However, there were some short-term environmental gains, but these gains were merely temporary, as economic activity began to resume and cope with the new normal. [\[1\]](#)

What is Development?

Development is quite a complex process and one can't streamline this idea to any specific terminology and concept.

Development simply can be understood as a social condition within a nation, in which the authentic needs of its population are satisfied by the rational & sustainable use of natural resources and systems. This utilization of natural resources is based on technology, which respects the cultural features of the population of a given country.



Sustainable Development

Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It mainly prevents blind and aimless depletion of resources, which leads to adverse long-term effects.

The aim is to judiciously use the available resources in a way that not only helps us develop, but also does not endanger natural resources.

Not about halting current development, but about finding ways to use resources which does not harshly affect the future generations.



Sustainable Development Goals

As Ban-ki-Moon, Former Secretary-General of the UN said, The sustainable development goals are a 'to-do list for the planet that will transform the world'.



On September 25, 2015, 193 Heads of State at the United Nations General Assembly set up a collection of 17 goals known as The Sustainable Development Goals (SDGs) or simply Global Goals. [\[SDG-UN\]](#)

These goals are developed in order to address challenges we face including poverty, inequality, climate change, environmental degradation, peace, and justice.



SDG9: Industry, Innovation & Infrastructure

To achieve sustainable development, there is a need for sustained growth and growing opportunities. To overcome many economic, social and environmental challenges, we must strengthen our foundations by building resilient infrastructure and expanding the realms of industries by using the innovative minds of the society. Several targets and their indicators are defined for SDG9:- [UNSTATSI](#)

Target 9.1: Develop sustainable and resilient infrastructure

To provide facilities and a base for other goals to develop upon, we must develop resilient infrastructure which could fulfill socio-economic needs. The infrastructure should be able to withstand stressful conditions and adapt to changing environments. The recovery system, in case of failure, should also be quick.

- **Indicator 9.1.1:** Proportion of rural population who live within 2KM of an all-season road
- **Indicator 9.1.2:** Passenger and freight volumes by modes of transport

India has made great progress in achieving this target:- [INITIAAYOGI](#)

- It is estimated that 98% of targeted inhabitants are covered with all-weather roads

-
- For every 100 persons, 84 have a mobile connection and 55 have an internet subscription

Target 9.2: Inclusive and sustainable industrialization

To achieve economic stability, there needs to be economically sound industrialization through which all parts of society can benefit from. Increasing industries also increases employment and the share of the manufacturing sector in the nation's GDP.

- **Indicator 9.2.1:** Manufacturing value added as a proportion of GDP and per capita
- **Indicator 9.2.2:** Manufacturing employment as a proportion of total employment

Due to government spending and programs like "Make In India", India has made good progress in achieving this target:- [INITIATIVE](#)

- 16.1% of GDP: added from the manufacturing sector
- 12.07% of workforce: employed in the manufacturing sector

Target 9.3: Increased access to financial services and market

Providing small-scale industries with financial support and access to large marketplaces leads to the overall growth of the industries. This leads to equal opportunities for every industry to grow.

- **Indicator 9.3.1:** Proportion of small-scale industries in total industry value-added
- **Indicator 9.3.2:** Proportion of small-scale industries with a loan or line of credit

Target 9.4: Upgrade industries and infrastructure for sustainability

Expanding industries and infrastructure without caring for the environment clearly does not align with the goal of sustainable development. Thus, there is a need to keep a check on the environmental impact of industrialization and scaling up of infrastructure. The goal is to make industries and infrastructure sustainable by 2030.

- **Indicator 9.4.1:** CO₂ emissions per unit of value added. This indicator is measured as kilograms of CO₂ emitted per dollar of GDP.

With more emphasis on green energy and the usage of electric cars, India has been making slow but steady improvements in this field. [INITIAAYOGI](#)

Target 9.5: Enhance research and upgrade industrial technologies

This target aims at fostering innovation and increasing research, the results of which can be used to increase the throughput and resource utilization of industries.

- **Indicator 9.5.1:** Research and development expenditure as a proportion of GDP
- **Indicator 9.5.2:** Number of Researchers (in full-time equivalent) per million inhabitants

With easily available grants and programs such as “Startup India”, India has made significant progress on this target: [INITIAAYOGI](#)

- India is ranked 46th in the Global Innovation Index, 2021
- Interplanetary mission to Mars with significantly less cost
- Self made Vaccines clearly display research in this field

Target 9.a: Facilitate sustainable infrastructure development for developing countries

The aim here is to help other least developed countries to build resilient infrastructure by providing financial, technological, and technical support.

- **Indicator 9.a.1:** Total official international support (official development assistance plus other official flows) to infrastructure

Target 9.b: Support domestic technology development and industrial diversification

- **Indicator 9.b.1:** Proportion of medium and high-tech industry value added in total value added

Target 9.c: Universal access to information and communications technology

The aim is to provide universal and affordable access to the internet to everyone.

-
- **Indicator 9.c.1:** Proportion of population covered by a mobile network, by technology. Counted by considering the number of mobile cell phone subscriptions per 100 people and the share of the given population using the internet.

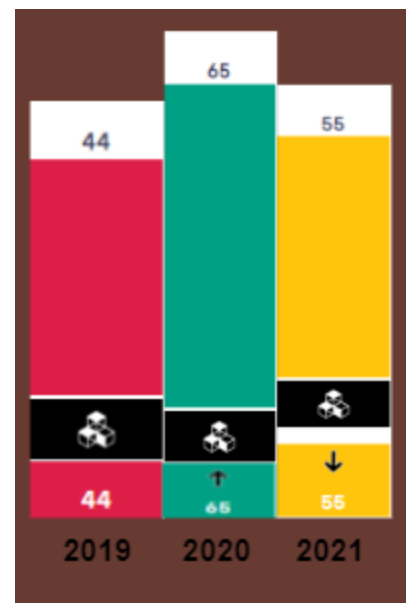
(P.T.O.)






Impact of Covid19 on Industries Innovation & Infrastructure

With the onset of Covid-19, the critical and dependent nature of industries and infrastructure was highlighted. It can be easily seen with the scores of our SDG dropping down from 65 to 55 from 2020 to 2021, as the constraints to achieve the target indicators became tough during the covid time. [\[SDG-RANKING\]](#)

Yet not all impacts have been negative, some services have actually seen an increase in demand or positive effects, reflecting their wide variation and heterogeneous nature.

Increasing GDP, internet and mobile connectivity and renewable sources of energy are a clear indicator of growth in different horizons.



Sno	9.1	9.2	9.3	9.5	9.a	9.b	9.c
I n d i c a t o r	Percentage of targeted habitations connected by all-weather roads under Pradhan Mantri Gram Sadak Yojana (PMGSY)	Percentage Share of GVA in manufacturing to total GVA (current prices)	Manufacturing employment as a percentage of total employment	Innovation score as per the India Innovation Index	Score as per Logistics Ease Across Different States (LEADS) report	Number of mobile connections per 100 persons (mobile tele density)	Number of internet subscribers per 100 population
Score	97.65 	16.1	12.07 	35.59 	3.18	84.38 	55.41 
Target	100	25	20	100	5	100	100
Data Source	PMGSY, Ministry of Rural Development	MoSPI GSVA / NSVA database	PLFS 2018-19	India Innovation Index	LEADS Report 2019	Dept. of Telecommunications	Dept. of Telecommunications

Impact of Covid-19 on Industries^[2]

COVID-19 has served to highlight the critical nature of many industries and infrastructure systems and services.

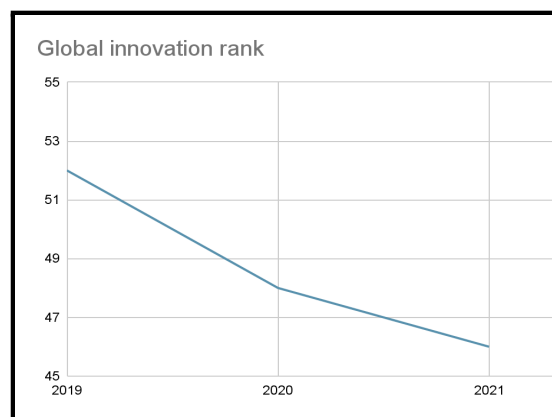
- The lockdown has put a lot of strain on the manufacturing industry, which contributes almost 20% of the GDP. Of this, 50% is contributed by the auto industry. Even prior to the lockdown, the auto industry was not in a great shape, with sales down by more than 15% and production cuts of the order of 5 to 10%
- Aviation and Tourism were the first industries that were hit significantly by the pandemic.
- India's overall petroleum demand in 2020 fell for the first time in more than two decades as the Covid-19 pandemic shuttered businesses and factories.
- The pharmaceutical industry has been on the rise since the start of the Covid-19 pandemic, especially in India, the largest producer of generic drugs globally.

-
- The impact was low on both primary agricultural production and usage of agro-inputs.

Impact of Covid-19 on Innovation

The Covid-19 health emergency has pushed society toward an unprecedented crisis which has driven governments to launch wide-scale and fast-tracked innovation policies. [\[wiley\]](#)

- Initiatives such as hackathons, open research calls, financial support, and funds to support new development.
- Indian startups bring know-how to the COVID fight: We witnessed the emergence of a large number of startups aimed at helping people, be it booking vaccines or finding hospital beds or oxygen cylinders.
- There were improvements in Gross Domestic R&D expenditure. However, the total innovation policies in India was only 8.
- Gross domestic R&D expenditure improved but the contribution of the number of innovation policies and triadic patent families remained low.
- During the Covid-19 crisis, India was among the four countries that completely revolutionized their approach to innovation policies with external organizations: We can see in the below graph that the global innovation rank of India improved during post covid period.



Impact of Covid-19 on Infrastructure

The COVID-19 pandemic demonstrated the importance of healthcare facilities in India.

HEALTHCARE: [\[survey\]](#)

- Temporary hospitals were built to handle the influx of patients, prioritizing care. “Telehealth” solution was introduced where care and information can be administered remotely through telecommunication services.
- Testing capacity in the country increased exponentially. Tests for COVID-19 were also made free in all government centers. Rapid Antigen Test kits were introduced.
- The manufacturing capacity of N-95 masks, ventilators, personal protective equipment kits, and sanitizers was ramped up in a mission mode. Massive infrastructure was created for isolation beds, dedicated intensive care unit beds, and supply of medical oxygen.

POWER CONSUMPTION: [\[iea\]](#)

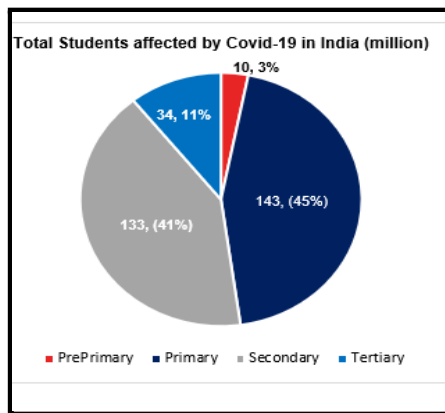
- Covid-19 caused power demand to fall by 28% up to the end of March 2020, according to the system operator POSOCO (IEA Global Energy Review 2020).

EDUCATION INFRASTRUCTURE: [\[survey\]](#)

Education was widely impacted during the pandemic. Education services have demonstrated remarkable resilience and flexibility.

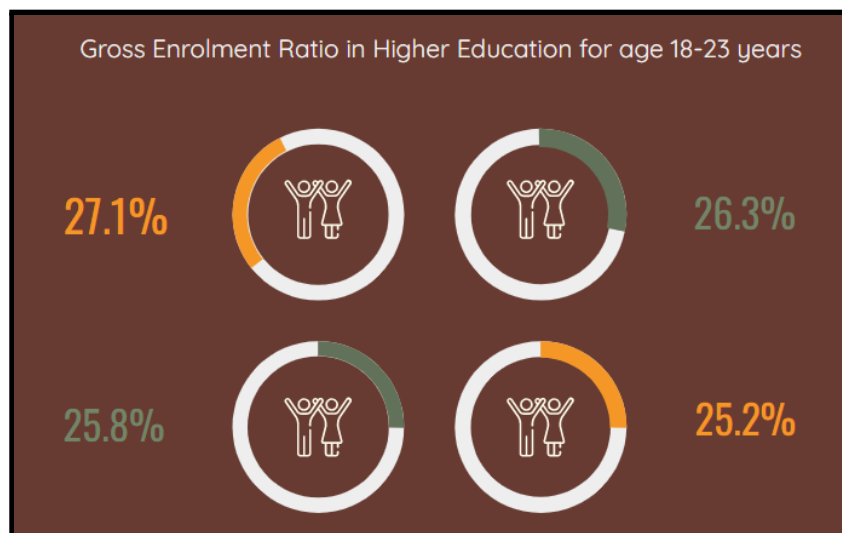
- While education has been disrupted, a number of creative solutions have been implemented to continue learning particularly in the use of technologies for distance learning.
- As per the latest available data, school infrastructure – both in terms of the number of recognized schools & colleges and basic facilities in schools – and teachers'

availability reflected in the Pupil-Teacher Ratio, showed an improvement in 2019-20 over earlier years.



Source: UNESCO

We can see here that 2019-20, witnessed an improvement in enrolment rates. The gross enrolment ratio in higher education recorded an increase during COVID.



Particulars	2018-19	2019-20
Primary & Upper Primary schools (in lakhs)	12.37	12.22
Secondary and Sr. Secondary schools (in lakhs)	2.76	2.85
College (numbers)	39931	42343
Universities (numbers)	993	1043
Comparison of the education infrastructure pre and post Covid		

TRANSPORT INFRASTRUCTURE:

- **On Road Infrastructure:**

Road construction progressed during lockdown periods since there was less traffic on the roads, allowing for uninterrupted work, although supply chain disruptions slowed progress.

- **On Airports Infrastructure:** [lifci](#)

Airports were also deeply affected by Covid-19 and had to adjust rapidly to falling demand for air travel. Aside from revenue losses due to fewer takeoffs and landings, non-aeronautical revenues from parking lots, restaurants, and shops have also decreased significantly. As a result, many airports have delayed or scaled-back expansion and modernization projects.

- **On Railways Infrastructure:**

Due to the financial crisis caused by Covid19, all new infrastructure projects approved for 2020-21 were halted after the government issued orders suspending new schemes, with costs up to Rs 500 crore.

CHALLENGES IN ATTAINING SDGs FOR INDIA

There are 4 major challenges for India in attaining SDGs as discussed below. [\[Business-Standard\]](#)

➤ **Defining the Key Indicators:**

We need to develop appropriate indicators to effectively assess the progress of SDGs. For example, water from hand pumps and tube wells is considered as safe according to India's myopic definition of "safe" drinking water, thus 86% of Indians have access to safe drinking water. However, the no. of waterborne diseases and deaths due to diarrhea clearly demonstrate that this is not the case.

➤ **Financing Sustainable Development Goals:**

Achieving the SDGs in India by 2030 will cost roughly \$14.4 billion. Union government's recent cuts to social sector schemes, will lead to fund gap.

➤ **Monitoring & Ownership:**

Centre is expected to play a key role, however, ownership will be required not only at the national level, but also at the state and local levels.

➤ **Measuring the Progress:**

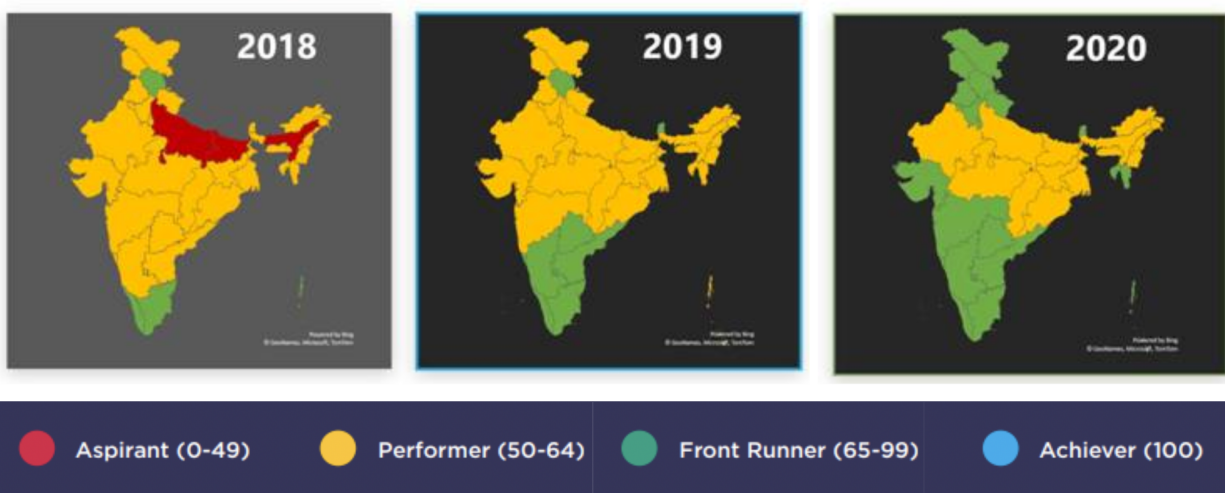
The lack of data, particularly from sub-national areas, and the incomplete coverage of administrative data made accurate measuring of progress nearly impossible.

Identifying priorities, determining appropriate locally relevant policies, harnessing innovation, and ensuring proper implementation and monitoring is must.

INDIA'S PERFORMANCE IN ATTAINING SDGs

India's Index Score: State/UT Performance (2018 to 2019)

In 2019, 3 states moved from being Aspirants to becoming Performers



The country's overall SDG score increased by 6 points, from 60 in 2019 to 66 in 2020-21, due to better performance in providing services such as clean water and sanitation, as well as affordable and clean energy.^[3]

Goals 6 (Clean Water and Sanitation) and 7 (Affordable and Clean Energy) with composite Goal scores of 83 and 92, respectively, drive us toward achieving the targets.

Kerala has retained its top spot, while Mizoram, Haryana, and Uttarakhand have improved their rankings the most since 2019. The worst-performing states in this year's India index were Bihar, Jharkhand, and Assam.

CONCLUSION

The need for a strong and resilient social infrastructure became even more important during the ongoing COVID-19 pandemic that brought into focus the vulnerabilities in social infrastructure across the country.

In order to overcome the current crisis and prepare for future ones, innovative and proactive responses to resilience challenges are required, bringing together the elements of resilience for what could become a new infrastructure landscape.

In the end, we need to move out from the shadow of the crisis and try to bring the economy back on the road without losing focus on sustainable development.

References:

[1][2020]:
<https://www.sustainability100plus.com/msite/abinbev-article-page/will-the-covid-19-pandemic-derail-indias-sdg-achievement-6378641.html>

[2][2020]:
<https://www.manufacturingtodayindia.com/sectors/7361-the-covid-19-lockdown-and-the-indian-manufacturing-industry-effects-and-recovery>

[3][2021]:
<https://pib.gov.in/PressReleasePage.aspx?PRID=1723952>

[wiley][2021]:
<https://onlinelibrary.wiley.com/doi/full/10.1111/radm.12495>

[survey][2021-22]:
https://www.indiabudget.gov.in/economicsurvey/ebook_es2022/index.html#p=371

[iea][2020]:
<https://www.iea.org/commentaries/india-needs-a-resilient-power-sector-lessons-from-the-covid-19-crisis>

[Economic Times][2020]:
<https://economictimes.indiatimes.com/news/international/business/coronavirus-outbreak-could-cost-global-economy-up-to-usd-2-trillion-uncad/articleshow/74560638.cms?from=mdr>

[SDG-UN][2022]:
<https://sdgs.un.org/goals>

[SDG-RANKING][2021]:
<https://sdgindiaindex.niti.gov.in/#/ranking>

[Business-Standard][2015]:
https://www.business-standard.com/article/punditry/four-challenges-that-india-faces-in-achieving-sustainable-development-goals-115102600232_1.html

[UNSTATS][2021] :
<https://unstats.un.org/sdgs/metadata/?Text=&Goal=9&Target>

[NITIAAYOG][2021]:

https://sdgindiaindex.niti.gov.in/assets/Files/SDG3.0_Final_04.03.2021_Web_Spreads.pdf

[ifc][2020]:

https://www.ifc.org/wps/wcm/connect/26d83b55-4f7d-47b1-bcf3-01eb996df35a/IFC-Covid19-Airport-FINAL_web3.pdf?MOD=AJPERES&CVID=n8lgpkG
