

GOVERNANCE

SDG India Index 2020-21: NITI Aayog

Recently, the third edition of the Sustainable Development Goals (SDG) India Index and Dashboard 2020–21 was released by NITI Aayog. The SDG India Index 2020–21 is developed in collaboration with the United Nations in India.



Key Points

About:

- The NITI Aayog launched its index in 2018 to monitor the country's progress on the goals through data-driven assessment, and foster a competitive spirit among the States and Union Territories in achieving them.
 - NITI Aayog has the twin mandate to oversee the adoption and monitoring of the SDGs in the country, and also promote competitive and cooperative federalism among States and UTs.
1. The index represents the articulation of the comprehensive nature of the Global Goals under the 2030 Agenda while being attuned to the national priorities.
 2. In 2015, the UNs General Assembly adopted the 2030 Agenda for Sustainable Development.
 3. The 17 SDGs are a bold commitment to finish what the Millennium Development Goals (MDGs) started, and tackle some of the more pressing challenges.
- The SDG India Index 2020–21 is also live on an online dashboard, which has cross-sectoral relevance across policy, civil society, business, and academia.

Methodology:

- The SDG India Index computes goal-wise scores on the 16 SDGs for each State and Union Territory.
- These scores range between 0–100, and if a State/UT achieves a score of 100, it signifies it has achieved the 2030 targets. The higher the score of a State/UT, the greater the distance to target achieved.
- States and Union Territories are classified in four categories based on their SDG India Index score: Aspirant (0–49), Performer (50–64), Front-Runner (65–99), Achiever (100).

Comparison with Previous Editions:

- The SDG India Index 2020–21 is more robust than the previous editions on account of wider coverage of targets and indicators with greater alignment with the National Indicator Framework (NIF).
- The 115 indicators incorporate 16 out of 17 SDGs, with a qualitative assessment on Goal 17, and cover 70 SDG targets.
- This is an improvement over the 2018–19 and 2019–20 editions of the index, which had utilised 62 indicators across 39 targets and 13 Goals, and 100 indicators across 54 targets and 16 Goals, respectively.

National Analysis:

- The country's overall SDG score improved by 6 points - from 60 in 2019 to 66 in 2020–21. Currently, there are no states in the aspirant and achiever category; 15 states/UTs are in the performer category and 22 states/UTs in the front runner category.
- India saw significant improvement in the SDGs related to clean energy, urban development and health in 2020. However, there has been a major decline in the areas of industry, innovation and infrastructure as well as decent work and economic growth.

State Wise Performance:

- Kerala retained its position at the top of the rankings in the third edition of the index, with a score of 75, followed by Tamil Nadu and Himachal Pradesh, both scoring 72.
- At the other end of the scale, Bihar, Jharkhand and Assam were the worst performing States. However, all States showed some improvement from last year's scores, with Mizoram and Haryana seeing the biggest gains.

ODISHA Performance:

- In the third edition of the Niti Aayog's SDG India Index Ranking 2020-21 released, Odisha ranks 16th position.
- While Odisha's show has been poor nationally, the State is in the indicator of decent job creation, it has fallen from its neighbours like Bihar, Chhattisgarh, Andhra Pradesh and West Bengal by yards.
- As per the SDG report 2021, when Andhra Pradesh have been categorised as the front runner with a score of 67, Chhattisgarh, Bihar and West Bengal with a score of 64, 50 and 57, respectively, have emerged as the performer in the SDG of creating decent job creation in their states.
- **2019 Versus 2020:**
 1. In 2019, Odisha had scored 92.08 in Ease of Doing Business (EODB). The scorecard in 2020 was a neat 0.
 2. The unemployment rate in 2019 was 7.1 per cent. The headline number increased to 7.6 per cent in 2020.
 3. Functioning bank branches per lakh population declined to 11.92 from 11.97 in 2019. This shows some bank branches have been closed down due to lack of sufficient business.

ECONOMY

World Employment and Social Outlook Trends 2021 Report: ILO

Recently, the International Labour Organisation (ILO) has released the World Employment and Social Outlook: Trends (WESO) report 2021.

Key Points

Impact of Covid:

- It has pushed over 100 million more workers into poverty worldwide. The world would be 75 million jobs short at the end of this year compared to if the pandemic had not occurred.
- Relative to 2019, an estimated additional 108 million workers are now extremely or moderately poor, meaning that they and their family members are having to live on less than USD 3.20 per day (It is the World Bank poverty line for lower-middle-income countries) in purchasing power parity terms.
- The sharp increase in poverty rates is due to lost working hours as economies went into lockdown, outright job losses, and a decline in access to good quality jobs.
- Five years of progress towards the eradication of working poverty have been undone, as working poverty rates have now reverted to those of 2015.

Rising Inequality: The pandemic has exacerbated existing inequalities in the labour market, with lower-skilled workers, women, young people or migrants among the most affected.

Loss of Working Hours:

- Many people have held onto their jobs but have seen their working hours cut dramatically.
- In 2020, 8.8% of global working hours were lost compared to the fourth quarter of 2019 -- the equivalent of 255 million full-time jobs.
- While the situation has improved, global working hours have far from bounced back, and the world will still be short the equivalent of 100 million full-time jobs by the end of this year.

Unemployment Rate: Unemployment rate of 6.3% this year (2020-21), falling to 5.7% next year (2021-22) but still up on the pre-pandemic rate of 5.4% in 2019.

Women's Unemployment:

- Women have suffered disproportionate job losses while seeing their unpaid working time increase.
- The burden of intensified childcare and homeschooling activities has disproportionately fallen on them.
- As a result, women's employment dropped by 5% compared with 3.9% for men.

Effect on Workers:

- There will be pandemic's longer-term "scarring" effects on workers and enterprises.

- Looking ahead, the projected employment growth will be insufficient to close the gaps opened up by the crisis,

Recommendation:

- Concerted policy efforts are needed to prevent long-lasting damage.
- It recommended among other things ensuring worldwide access to vaccines and financial assistance for developing countries – including through debt restructuring, or enhancing social protection systems.

Way forward

- Covid-19 has not just been a public health crisis, it's also been an employment and human crisis.
- Without a deliberate effort to accelerate the creation of decent jobs, and support the most vulnerable members of society and the recovery of the hardest-hit economic sectors, the lingering effects of the pandemic could be with us for years in the form of lost human and economic potential, and higher poverty and inequality.
- There is an urgent need to build back better — create productive employment opportunities and foster long-term labour market prospects for the most vulnerable.

AGRICULTURE

Crops Lost to Pests

According to a recent report, as much as 40% of the world's agricultural crops are lost to pests each year. The United Nations declared 2020 as the International Year of Plant Health, which has been extended until 1st July, 2021.

Key Points

Reasons for the Spread: Half of all emerging plant diseases are spread by global travel and trade, which have tripled in volume over the last decade. Weather is the second-most important factor.

Impact of Climate Change: It will increase the risk of pests spreading in agricultural and forestry ecosystems, especially in cooler Arctic, boreal, temperate and subtropical regions.

Controlling Invasive Pests:

- A single, unusually warm winter can be enough to assist the establishment of invasive pests.
- Fall armyworm pests, which feed on crops like maize, sorghum and millet and Tephritid fruit flies (that damage fruit and other crops) have already spread due to a warmer climate.
- Desert locusts (the world's most destructive migratory pests), are expected to change their migratory routes and geographical distribution because of climate change.

Impact of the Plant Pests:

- It leaves millions of people without enough food to eat.
- It adversely impacts agricultural activities and thereby, the primary source of income for rural poor communities.
- Invasive pests cost countries at least USD 70 billion annually and are one of the main drivers of biodiversity loss.

Key Recommendations:

- Farmers should adopt and policymakers should encourage the use of environment-friendly methods such as integrated pest management.
- To make trade safe, it is important to implement international plant health standards and norms, such as those developed by the International Plant Protection Convention (IPPC) and Food and Agriculture Organization (FAO). The IPPC is a plant health treaty signed by over 180 countries including India. It aims to protect the world's plant resources from the spread and introduction of pests, and promote safe trade.
- There is a need for more research as well as investment in strengthening national plant health systems and structures.
- Policymakers and governments should ensure their decisions are based on sound preparation and data.
- Regularly monitoring plants and receiving early warning information about emerging threats, helps governments, agricultural officers and farmers take preventive and adaptive measures to keep plants healthy.

Pest Controlling Methods

- The most popular methods of containing the pest include the use of Genetically Modified (GM) crops and pesticides, however, some armyworms have developed resistance to these tactics and are continuing to destroy crops.

- Natural approaches, including breeding predators such as wasps, to be released into fields when necessary, as well as developing a “germ warfare” that isolates diseases to which the caterpillar (armyworm) is prone, are being explored by the scientists.
- A quarantine system, under which imports of grains and plants that can host such insects are inspected at shipping ports, airports and land border crossings is the first line of defence taken by the countries across the world.
- The quarantine system in India is governed by the Plant Quarantine (Regulation of Import into India) Order of 2003, which is notified under the Destructive Insects and Pests Act of 1914. In India, quarantine responsibility lies with the Directorate of Plant Protection, Quarantine & Storage (headquartered in Faridabad, Haryana). The short staffed directorate and the lack of a strong legislation have made the task of policing borders difficult in India.

BIODIVERSITY AND ENVIRONMENT

CEM-Industrial Deep Decarbonization Initiative

Recently, India and the UK have launched a new workstream to promote industrial energy efficiency under Clean Energy Ministerial's (CEM) Industrial Deep Decarbonization Initiative (IDDI) coordinated by UNIDO (United Nations Development Industrial organisation). It was launched in the ongoing 12th CEM (CEM12) Meeting, which is virtually hosted by Chile.

Key Points

About 12th CEM Meeting:

- The objective is to infuse green technologies and stimulate demand for low-carbon industrial material.
- India is committed to cut emissions intensity per unit of GDP by 33 to 35% by 2030 (stated in Nationally Determined Contributions).
- The commitment hinges on effective deployment of low carbon technologies in Energy Intensive Sectors like Iron & Steel, Cement and Petrochemicals.
- Government policies have resulted in substantial savings in energy at the demand side such as AgDSM (Agriculture Demand Side Management programme), MuDSM (Municipal Demand Side Management) etc.

About Clean Energy Ministerial (CEM):

Establishment:

- It was established in December 2009 at the UN's Framework Convention on Climate Change conference of parties in Copenhagen.
- The Framework for the Clean Energy Ministerial, adopted at the seventh Clean Energy Ministerial in 2016, defines the CEM governance structure and outlines the mission statement, objectives, membership, and guiding principles.

Purpose: CEM is a high-level global forum to promote policies and programs that advance clean energy technology, to share lessons learned and best practices, and to encourage the transition to a global clean energy economy.

Focus Areas: The CEM is focused on three global climate and energy policy goals:

- Improve energy efficiency worldwide.
- Enhance clean energy supply.
- Expand clean energy access.

Members: 29 countries are part of CEM. India is also a member country.

11th Clean Energy Ministerial: The CEM11 was hosted by the Kingdom of Saudi Arabia in 2020 that was convened at a critical moment to consider the role of clean energy in supporting a rapid, sustainable recovery, and the role of the CEM community in shaping the next clean energy decade.

Industrial Deep Decarbonization Initiative (IDDI):

About:

- IDDI is an initiative of CEM.
- It is a global coalition of public and private organisations who are working to stimulate demand for low carbon industrial materials.
- In collaboration with national governments, IDDI works to standardise carbon assessments, establish ambitious public and private sector procurement targets, incentivise investment into low-carbon product development and design industry guidelines.

Supporting Countries: Coordinated by UNIDO, the IDDI is co-led by the UK and India and current members include Germany and Canada.

Goals:

- Encouraging governments and the private sector to buy low carbon steel and cement.
- Sourcing and sharing data for common standards and targets.

SCIENCE AND TECHNOLOGY
Satellite Internet

According to an estimate, 1,250 satellites will be launched annually this decade, with 70% of them for commercial purposes. Various private companies are aiming to deliver broadband satellite Internet around the world through their fleet of Low Earth Orbit (LEO) satellites. The idea of a space internet system is not new. It is being used through Geostationary Satellite for selective users.

Key Points
Satellite Internet and LEO Technology:

- **Positioning of Satellites:** LEO satellites are positioned around 500km-2000km from earth, compared to stationary orbit satellites which are approximately 36,000km away.
- **Latency:** Latency, or the time needed for data to be sent and received, is contingent on proximity. As LEO satellites orbit closer to the earth, they are able to provide stronger signals and faster speeds than traditional fixed-satellite systems. Additionally, because signals travel faster through space than through fibre-optic cables, they also have the potential to rival if not exceed existing ground-based networks.
- **Higher Investment:** LEO satellites travel at a speed of 27,000 kph and complete a full circuit of the planet in 90-120 minutes. As a result, individual satellites can only make direct contact with a land transmitter for a short period of time thus requiring massive LEO satellite fleets and consequently, a significant capital investment. Due to these costs, of the three mediums of Internet – fibre, spectrum and satellite – the latter is the most expensive.

Geostationary Satellite Internet:

- **Positioning of Satellites:** Geostationary orbit is located at a height of 35,786 km over the Earth's surface, directly above the Equator. Most of the existing space-based Internet systems use satellites in geostationary orbit. Satellites in this orbit move at speeds of about 11,000 km per hour, and complete one revolution of the Earth at the same time that the earth rotates once on its axis. To the observer on the ground, therefore, a satellite in a geostationary orbit appears stationary.
- **Coverage:** The signals from one geostationary satellite can cover roughly a third of the planet — and three to four satellites would be enough to cover the entire Earth.
- **Easier Connectivity:** As satellites appear to be stationary, it is easier to link to them.
- **Latency Issues:** The transmission from a satellite in geostationary orbit has a latency of about 600 milliseconds. The geostationary satellites are located at higher altitudes compared to LEO, thus the longer the distance that needs to be covered results in greater latency.

Related Initiatives:

- **'Five to 50' service (OneWeb):** OneWeb, a private company, has successfully launched constellations of 218 satellites in LEO. The company only has one more launch to complete before it obtains the capacity to enable its 'Five to 50' service of offering internet connectivity to all regions north of 50 degrees latitude. The Five to 50 service is expected to be switched on by June 2021 with global services powered by 648 satellites available in 2022.
- **Starlink:** It is a venture of SpaceX. Starlink currently has 1,385 satellites in orbit and has already started beta testing in North America and initiating pre-orders in countries like India. However, Starlink's satellites fly closer to the earth and therefore, the company requires a larger fleet to provide global connectivity than OneWeb.
- **Project Kuiper:** It is a project of Amazon announced in 2019.
- **Loon Project:** Google launched its 'Loon' project in 2013, using high-altitude balloons to create an aerial wireless network. After testing the service in rural Kenya, Google's parent company, Alphabet, abandoned the project in 2021.

Issues in LEO Satellites Launch:

- **Regulation Issues:** During the days of the Sputnik and Apollo missions, governments dominated and regulated space-based activities.
 1. However, today, the balance of power has shifted from countries to companies.
 2. As a result, there are questions related to who regulates these companies, especially given the large number of nations that contribute to individual projects.

3. It makes the regulatory framework complicated.
- **Logistic Challenge:** There are logistical challenges with launching thousands of satellites into space as well.
- **Difficulty in Space Observation:** Satellites can sometimes be seen in the night skies which creates difficulties for astronomers as the satellites reflect sunlight to earth, leaving streaks across images.
- **Interruptions:** Satellites travelling at a lower orbit can also interrupt the frequency of those orbiting above them.
- **Space Junk:** There are already almost 1 million objects larger than 1cm in diameter in orbit, a byproduct of decades of space activities. Those objects, colloquially referred to as 'space junk,' have the potential to damage spacecraft or collide with other satellites.

IMPORTANT FACTS FOR PRELIM

China's 'Artificial Sun' EAST

Recently, China's Experimental Advanced Superconducting Tokamak (EAST) achieved a peak temperature of 288 million degrees Fahrenheit, which is over ten times hotter than the sun. China is not the only country that has achieved high plasma temperatures. In 2020, South Korea's KSTAR (Korea Superconducting Tokamak Advanced Research) reactor set a new record by maintaining a plasma temperature of over 100 million degrees Celsius for 20 seconds.

Tokamak

- The tokamak is an experimental machine designed to harness the energy of fusion.
- Inside a tokamak, the energy produced through the fusion of atoms is absorbed as heat in the walls of the vessel.
- Like a conventional power plant, a fusion power plant uses this heat to produce steam and then electricity by way of turbines and generators.

Key Points

About: The EAST reactor is an advanced nuclear fusion experimental research device located at the Institute of Plasma Physics of the Chinese Academy of Sciences (ASIPP) in Hefei, China.

Establishment: EAST first became operational in 2006.

Purpose:

- The purpose of the artificial sun is to replicate the process of nuclear fusion, which is the same reaction that powers the sun.
- This is part of the International Thermonuclear Experimental Reactor (ITER) facility, which will become the world's largest nuclear fusion reactor when it becomes operational in 2035. The ITER Members include China, the European Union, India, Japan, Korea, Russia and the United States.

Working:

- It is based on the Nuclear Fusion Process that is carried out by the Sun and the Stars.
- For nuclear fusion to occur, tremendous heat and pressure are applied on hydrogen atoms so that they fuse together. The nuclei of deuterium and tritium - both found in hydrogen - are made to fuse together to create a helium nucleus, a neutron along with a whole lot of energy.
- The gaseous hydrogen fuel is heated to temperatures of over 150 million degrees Celsius so that it forms a hot plasma (electrically charged gas) of subatomic particles.
- With the help of a strong magnetic field, the plasma is kept away from the walls of the reactor to ensure it does not cool down and lose its potential to generate large amounts of energy. The plasma is confined for long durations for fusion to take place.

Other Tokamaks in China:

- Apart from the EAST, China is currently operating the HL-2A reactor as well as J-TEXT.
- In December 2020, HL-2M Tokamak, China's largest and most advanced nuclear fusion experimental research device, was successfully powered up for the first time — a key milestone in the growth of China's nuclear power research capabilities.

Significance:

- It is significant as far as China's Green Development is concerned.
- Nuclear fusion is a process through which high levels of energy are produced without generating large quantities of waste. Unlike fission, fusion also does not emit greenhouse gases and is considered a safer process with lower risk of accidents.

DAILY ANSWER WRITING PRACTICE

Qns. Model Code of conduct has been a remarkable step in ensuring free and fair elections in India. However, the present digital era has posed challenges to it. Comment.

Ans:

Introduction

The Model Code of Conduct (MCC) is a document from the Election Commission of India that lays down the minimum standards of behavior for political parties and their candidates contesting elections, by defining their dos and don'ts in the electoral battle.

It ensures that the party in power doesn't gain an unfair advantage and free and fair elections can be conducted. However, the emergence of social media and other online platforms has posed challenges for the effective implementation of the Model Code of Conduct.

Body**Limitations Faced By Model Code Of Conduct In The Digital Age**

- **Jurisdiction issues:** Digital companies like Facebook are run by companies located overseas. Holding them accountable has been difficult for Indian agencies. EC will face a similar challenge in preventing MCC violations.
- **Fake News:** Digital media is a potent source of unverified and deliberate fake news. EC lacks resources as well as surveillance capacity to implement and punish the violation of MCC.
- **Difficult to Identify Perpetrator:** Most of the information during elections is targeted through the algorithm of [online] platforms to push in much more subtle marketing messaging blended with political canvassing.
- **Unregulated Nature of Digital Media:** All the current measures in place to regulate elections online are being implemented based on voluntary commitments made by online platforms.

So, there are no legally binding obligations on, for instance, Facebook or Twitter to take certain actions and there are no penalties prescribed for failing to do so.

Conclusion

The election-commission recently has taken steps to regulate electioneering in the digital world. However, the effective implementation of MCC needs an entirely new approach with stringent focus on accountability of digital mediums.

DAILY QUIZ

Q1. With reference to the religious history of India, consider the following statements:

1. Sautrantika and Sammitiya were the sects of Jainism.
2. Sarvastivadin held that the constituents of phenomena were not wholly momentary, but existed forever in a latent form.

Which of the statements given above is/are correct?

- a. 1 only
- b. **2 only**
- c. Both 1 and 2
- d. Neither 1 nor 2

Q2. With reference to Indian history, who among the following is a future Buddha, yet to come to save the world?

- a. Avalokiteshvara
- b. Lokeshvara
- c. **Maitreya**
- d. Padmapani

Q3. Consider the following:

1. Deification of the Buddha
2. Treading the path of Bodhisattvas
3. Image worship and rituals

Which of the above is/are the feature/ features of Mahayana Buddhism?

- a. 1 only
- b. 1 and 2 only
- c. 2 and 3 only
- d. **1, 2 and 3**

Q4. Consider the following statements regarding Basavanna

1. Basavanna rejected gender or social discrimination, superstitions and rituals.

2. He was the founding saint of the Lingayat sect.

Which of the statements given above is/are correct?

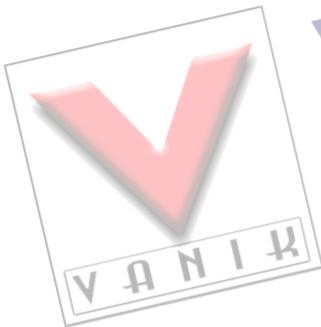
- a. 1 only
- b. 2 only
- c. **Both 1 and 2**
- d. Neither 1 nor 2

Q5. With reference to criteria for name selection of tropical cyclones, consider the following statements:

- 1. The proposed names are rotated every few years
- 2. The maximum length of the name will be eight letters
- 3. The name should be short and readily understood when broadcasted

Which of the given above statements is/are correct?

- a. 1 and 2 only
- b. **2 and 3 only**
- c. 1 and 3 only
- d. 1, 2 and 3



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