

Daily News Decoding

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Decarbonization

Prelims & GS Paper - III

NITI Aayog proposes decarbonising of industrial emissions

The Hindu Bureau

NEW DELHI

Carbon Capture Utilisation and Storage (CCUS), the technology for decarbonising emissions from high polluting sectors such as steel, cement, oil, gas, petrochemicals, chemicals and fertilizers, has a critical role to play for the country to halve carbon dioxide emissions by 2050, says a report on the policy framework of the CCUS prepared by the NITI Aayog and MN Dastur & Company.

The report, released here on Tuesday by NITI Aayog Vice-Chairman Suman K. Bery, said the CCUS technology would help in promoting the low carbon-hydrogen economy and in removal of the CO₂ stock from the atmosphere.

Mr. Bery said the key challenge would be to reduce the cost of the mechanisms to implement the technology. "NITI Aayog will try to develop a consensus with other Ministries on the matter," he said. "We need a sustainable solution for the decarbonisation of sectors that contribute to 70% of emis-

sion. CCUS has an important and critical role to play in it, especially for India to accomplish net-zero by 2070."

Mr. Bery said CCUS could enable the production of clean products while utilising rich endowments of coal, reducing imports and thus leading to a self-reliant India economy. "CCUS also has an important role to play in enabling sunrise sectors such as coal gasification and the nascent hydrogen economy in India," he added.

Power Secretary Alok Kumar said the focus should be on research and development, particularly on cutting-edge technologies. "NTPC has taken some R&D projects. Ministry has supported it," Mr. Kumar said.

NITI Aayog Member V.K. Saraswat said that through the technology, CO₂ coming from various thermal power plants or industrial plants would be captured.

The report said the key to a successful CCUS implementation was to enact a policy framework that supported the creation of sustainable and viable markets for CCUS projects.

Context: NITI Aayog presented a report on the policy framework for Carbon Capture Utilization and Storage (CCUS), the technology for Decarbonizing emission from high polluting sectors, such as steel, cement, oil, gas, petrochemicals, etc.

What is Decarbonization:

- Decarbonisation is the term used for **removal or reduction of carbon dioxide (CO₂)** output into the atmosphere.
- Decarbonisation is **achieved by switching to usage of low carbon energy sources.**

- Decarbonisation will **require a fundamentally different energy system**, by using **alternative energy sources** based on green electricity and green molecules (such as biofuels and hydrogen).

Carbon Capture Utilization and Storage:

- The International Energy Agency (IEA) defines **Carbon Capture, Utilization and Storage (CCUS)** as a **group of technologies for capturing of CO₂ from large and stationary CO₂ emitting sources**, such as fossil fuel based power plants and other industries.
- CCUS also involves the **transport of the captured CO₂** (typically by pipeline and in certain situations by shipping, rail or trucks also) to sites, either for utilization in different applications or injection into geological formations or depleted oil & gas fields for permanent storage and trapping of the CO₂ .

Current Trends:

- India is the **3rd largest emitter of CO₂** in the world after China and the US, with estimated annual emissions of about **2.6 gigatonne per annum (gtpa)**.
- The Government of India has committed to **reducing CO₂ emissions by 50% by 2050 and reaching net zero by 2070**.
- The **growth of renewable power capacity** has been one of the key success stories of the **clean energy transition** in India; however, the **power sector only contributes to about 1/3 rd of the aggregate CO₂ emissions**, which will continue to abate as renewables increasingly replace fossil fuel based power generation.
- The **growing industrial economy emits close to another third of the aggregate emissions** that are hard to abate, and will continue to increase unless new technologies and carbon abatement mechanisms are deployed.
- At the same time, while India phases down the use of coal over time, India will be dependent on fossil energy sources like coal for a long time to support the industry and meet the requirements for affordable and reliable baseload power.

Sectors Required to be Incorporated in Decarbonization:

- **India's power and industrial sectors** contributed around 1,600 mtpa of CO₂ emissions (around **60%**) out of the total emissions of 2,600 mtpa in 2020.
- The **remaining 40% of emissions** come from **distributed point emissions** sources like **agriculture, transport, and buildings** which are not amenable for CCUS.
- **Steel:**
 - **CCUS** can also enable the **scalable and profitable conversion of waste gasses from Blast Furnace, Coke Oven and Basic Oxygen Furnaces** of Integrated Steel Plants to blue hydrogen at a cash cost of less than Rs. 100 per kg.
 - **Blue hydrogen can be used within the steel plant** as a source of clean energy..
 - The blue hydrogen can also be sold to external consumers, thus propelling the clean hydrogen economy in India.
- **Cement: Cement is another major CO₂ emitting sector**, where fossil fuels are difficult to replace in the cement-making process. The **capture, sequestration and conversion of CO₂ to aggregates and other chemical products provide synergies for the cement sector**.
- **Oil & Gas Refineries and Chemicals:** This is another hard-to-abate sector, where CCUS is

essential for ensuring sustainability. Carbon capture is inbuilt in many of the processes, which makes CCUS costs competitive for this sector.

- **Coal Gasification:** Coal gasification is a sunrise sector and

key to ensuring the materials and energy security of India, based on India's rich endowments of coal. CCUS is critical to enabling the coal gasification economy in India and the production of clean products.

Converting Captured CO2 to Value Added Products - Opportunity:

- **Green Urea:** Green urea can be produced from the captured CO2 and cost-competitive green hydrogen, from renewable energy based electrolysis of water. Green urea can replace/complement the traditional LNG/NG based production and import of ammonia and urea.
- **Building Materials:** There is a large market for aggregates and concrete in a developing country like India, providing a pathway for utilizing CO2 for producing building materials through concrete curing and aggregate formation.
- **Chemicals:** : Conversion of CO2 to methanol and ethanol from CO2 is proven at a commercial scale in different parts of the world.
- **Polymers:** : Conversion of CO2 to various polymers has been

attempted globally at different scales, and presents another possible CO2 utilization route. These polymers have multiple applications, such as laptop packaging, cell phone casings, furniture etc. and provide an interesting futuristic optionality for CO2 utilization and conversion.

- **Enhanced Oil Recovery (EOR):** CO2 based EOR has been successfully operating for decades for producing low-carbon oil from maturing oil fields in North America and other geographies. For carbon capture projects in India with proximity to oil fields, CO2 EOR can play a role in residual oil extraction that is environmentally sustainable and economically feasible.

Challenges to Decarbonization:

- **Structural Changes:** According to the Brookings Institution, achieving net zero by 2050 is technically and economically feasible with current technologies and those in development, but it will require enormous behavioral changes, rigorous new policies, and international cooperation.
- **Huge Investment:** One thing that makes decarbonization challenging is that while it will be profitable over the long-term, it will require huge investments in the short term. It will likely take \$275 trillion between 2021 and 2050 to decarbonize the sectors above, with power generation, transportation, and buildings using 75 percent of the spending on physical assets.
- Research has predicted that to completely decarbonize industry would take four to nine times as much zero carbon electricity as it would if we do nothing to decarbonize, so the cost of electricity is expected to rise as renewable resources are expanded and the grid infrastructure is built out.

Pendency of Court Cases

Prelims & GS Paper - II

Doubling court strength won't end pendency: SC

Judiciary is overburdened because of the system, says Chief Justice of India Chandrachud; he points out that it is already difficult to find good lawyers to fill judicial vacancies in High Courts

Krishnadas Rajagopal
NEW DELHI

The Supreme Court on Tuesday said that increasing the number of judges will not demolish the perennial problem of pendency, noting that it is already difficult finding good lawyers to accept the call to the Bench in High Courts.

The court said that a public interest litigation (PIL) petition seeking to “double” the number of judges in the High Courts and the district judiciary was a rather “simplistic” solution to arrears.

At one point, Chief Justice of India D.Y. Chandrachud asked petitioner-advocate Ashwini Kumar Upadhyay whether he wanted the Supreme Court to increase its judicial



This kind of petition will not be heard by the American Supreme Court. That is also the reality of our judicial system... that we have widened access to the Supreme Court to a point that is becoming dysfunctional

D.Y. CHANDRACHUD,
Chief Justice of India

strength to 70 from the current 34.

Mr. Upadhyay said that the judge-population ratio in developed countries was 50 for every million. Mr. Upadhyay said that there were at least 10 crore cases pending in the district judiciary alone.

“Then let me tell you something. This kind of petition will not be heard by

the American Supreme Court. That is also the reality of our judicial system... that we have widened access to the Supreme Court to a point that is becoming dysfunctional. This petition will not be entertained by the U.S. or the U.K. Supreme Courts,” Chief Justice Chandrachud reacted.

The Chief Justice said that the judiciary was

“overburdened because of the system”. He added, “If we apply the brakes, we will be absolutely clear of arrears.”

“The American Supreme Court does not hear lawyers on whether you should admit a case for hearing. The U.K. Supreme Court decides which 180 cases they have to hear,” the CJI observed orally.

Chief Justice Chandrachud recounted how, when he was the Chief Justice of the Allahabad High Court, he had received a letter from the Law Minister to increase the judicial strength in the court by 25%. “I said ‘good heavens, I cannot fill up my 160 and you want to increase from 160 by 25%’,” the CJI said.

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Context: *The Supreme Court said that increasing the number of judges will not demolish the perennial problem of pendency, noting that it is difficult finding good lawyers to accept the call to the bench in High Courts.*

Former CJI NV Ramanna once stated regarding pendency and vacancies, *“Unless the foundation is strong, structure cannot be sustained.”*

Current Trends:

- Over **1.82 lacs cases** are pending over **30 years** in higher courts.
- By May 2022, **4.7 Crore cases** are pending in India, out of 87.4% lies in Subordinate Courts and 12.4% in High Courts.
- According to the National Judicial Data Grid, **27% pendency** lies between **December 2019 and April 2022**.
- By the end of 2021, 70,000 cases were pending in the Supreme Court while the court had disposed of 20,000 cases during the same time.
- Congestion Rate (Currently: 3.5) has increased in the last 10 years.
- **Malimath Committee Report** and **230th Law Commission Report** have pointed out that **long vacations** are **detrimental to Court's efficiency**, especially in the light of

rising pendency cases. In fact the summer breaks taken by different courts have presented the same problem:

- **Supreme Court - 6 weeks** (excluding 4 weeks of Diwali and Dussehra)
- **Andhra Pradesh - 5 weeks**
- **Bombay, Rajasthan, and Delhi - 4 weeks**
- **Himachal Pradesh - 1 week**
- Former CJI NV Ramanna, KG Balakrishna, and V Gopala Gowda have said that these OFFs are used by judges to conduct research and write judgements.
- Though the effect of pandemic was not more on constitutional benches pendency (Ayushi Saraogi), scholars like Mihir R have stated that when the court does not decide one a constitutional question without a stay over (uncommon) there are questions as such issues have also left other issues and cases at the Court in limbo. It also somewhere showcases its reluctance to decide controversial issues leaving it to be resolved by political and social negotiations.

Tribunals and Pendency:

- In 1985, **The Administrative Tribunals Act** was enacted and due to which **various tribunals received 13,350 pending cases on transfer from the High Courts** and subordinate Courts under **section 29 of the Administrative Tribunal Act, 1985.**
- The **purpose** for which the **Act** was enacted **seemed to be achieved**, but this was not the case. (Problems faced by tribunals that made them ineffective)
- In the beginning, when **cases were transferred to these tribunals to reduce the burden from High Court and Supreme Court**, the **tribunals worked well and reduced significant burden** from the courts but after some years everything came back to where it was started from.
- The **pendency of cases didn't get reduced** instead as of now the first tribunal i.e The Income Tax Appellate Tribunal has 91,538 cases pending as of end of 2016.

Causes of Court Cases Pendency in India:

- **Generated Consciousness:** The first reason is not exactly negative. However, it has contributed to the immense backlog of cases. Recent socio-economic advances and increased awareness of legal rights have encouraged more people to approach law courts for justice.
- **Vacancies:**
 - The **sanctioned strength of high court judges** in May 2014 was 906, which was increased to **1,079 by December 2018.** But the **current working strength of judges is just 679**, with **37% of the sanctioned strength vacant.**
 - Between the end of 2013 and end of 2018, the sanctioned strength of judicial officers in lower courts went up from 19,518 to 22,833. The working strength has increased from 15,115 to 17,701. This basically means that there is still a shortage of 5,132 judges, which has led to a huge increase in the number of pending cases in lower courts.
- **Frequent Adjournments:**
 - The **laid down procedure of allowing a maximum of three adjournments per case is not followed** in over 50 per cent of the matters being heard by courts.
 - Rule 1 of Order 17 of the Civil Procedure Code (CPC) talks about an adjournment, it clearly says that, if sufficient cause is shown, at any stage of the suit grant time to the parties or any of them, and may from time to time adjourn the hearing of the suit.
- **Early Retirement of Judges:**

- In comparison to other countries, India's **retirement age of Judges is the lowest.**
- Many times it has happened that when the judges are appointed they have only a few years of work left for them, even there have been cases where judges retired after a few months of the appointment because of that judges are not able to properly settle in the court and before they can understand the working of the court they retire.
- **Special Leave Petition:**
 - Under Article 136 of the Indian Constitution gives an extraordinary jurisdiction to the Supreme Court of India and a power to High Courts and tribunals i.e to grant special leave to appeal from any judgment, decree, determination, sentence or order in any cause or matter, passed or made by any court or tribunal in the territory of India.
 - This **power was granted for the people in case grave injustice was done to them**, but instead, it **became a contributing factor towards an increase in pendency.**
- **Judicial Activism:** Judicial activism is one of the most effective tools for safeguarding citizens' rights. It is very important in implementing social policies on problems such as individual rights, civil rights, public morality, etc. So, PIL has been manifested from judicial activism, and the active judiciary's introduction of new devices like PIL resulted in more cases.
- **Lack of Infrastructure:**
 - Mr. Dipak Mishra, former chief justice of India in an interview said that the main cause of the litigation pendency is lack of infrastructure for the judges, litigants and court staff
 - Subordinate courts lack basic facilities like proper washroom facilities, canteen facilities, parking, library for advocates, sitting facilities for advocates and drinking water facilities.
 - In the 21st century electronic means most of the work done in court is on paper. Courts are ready to run with the upgrading society but the government is not ready to provide facilities (equipment's) to the court like a computer, software, internet facility etc.
- **Underfunding:**
 - One of the reasons which are mentioned above is the Inadequate appointments of judicial and non - judicial officers.
 - A hidden reason behind this underfunding of courts. Now why it is a hidden reason is due to low funding, courts do not have enough infrastructure to accommodate those officers to work and also due to low funds paying them becomes a liability and many times it has happened that they are underpaid.
 - For the proper working of any institute, funds are needed so that the institute is well maintained and can work at its full potential. Since the courts are not funded well, the district courts of the country where the maximum number of cases are pending cannot work properly, hence the pendency cannot be reduced.
 - For instance, the Allahabad High Court has a total strength of 160 Judges due to its extensive jurisdiction, but currently, only 92 Judges are there and also there is a lack of infrastructure to accommodate all the 160 Judges to sit in the court at a time.
 - **The Indian Judiciary is allotted only 0.1% to 0.4% of the budget.** Hence, **modernization and computerization have not embraced** all the courts.

Note:

- The Law Commission had recommended 50 Judges per million.
- 245th Law Commission of India Report deals with the establishment of additional courts in elimination of delay and speedy clearance of matters. Hon'ble supreme court in a matter of Imtiyaz Ahmad v. State of U.P. directed the Law Commission of India to set up additional subordinate courts for elimination of delays and speedy disposal of cases and also direct advocates to reduce their cost.

Way Forward:

- Courts have to stop unnecessary filing of cases in Courts and promote the alternative remedies of disposing the case like ADR, Lok Adalats, plea bargaining etc.
- **Fast Track Courts:** In 2005 the Eleventh Finance Commission recommended a scheme for creation of fast track courts.
 - It recommended 1734 fast track courts for the disposal of pending cases in India.
 - The Supreme Court viewed all this by a case called Brij Mohan Lal vs. Union of India.
 - The Ministry of Finance provides funds to the state government for the creation and development of Fast Track courts in the state with the consultation of the concerned High court of that state.
- **Gram Nyayalaya:** Gram Nyayalayas (court) is like a Mobile Court. In 2009 an act came into force called The Gram Nyayalayas act 2008.
 - Its purpose is to provide access to justice to people at their doorstep and to ensure justice to every person without social, economic barriers.
 - Out of 29 states of India only 11 states have notified 320 Gram Nyayalayas out of which 204 have become operational.
- In April 2017, the **Nyaya Mitra Scheme** was launched to appoint retired judicial officers to expedite disposal of cases pending for over 10 years.

Key Terms:

- **Disposal time** is measured as the time span between the date of filing and the date when the decision is passed.
- The **Case Clearance Rate (CCR)** is the ratio of the number of cases disposed of in a given year to the number of cases instituted in that year, expressed as a percentage.
- **Congestion Rate** is the time of how long an instituted case spends in the Court before it is disposed of.

Universal Health Coverage

Prelims & GS Paper - II & III

N.K. Singh bats for universal health cover

The Hindu Bureau
NEW DELHI

Fifteenth Finance Commission chairperson N.K. Singh on Tuesday called for a substantial increase in budgetary allocations for the health sector and restructuring of centrally sponsored schemes to enable greater flexibility for States.

Mooting the inclusion of 'health' in the Concurrent list under the Constitution, Mr. Singh also made a pitch for universalising health insurance to capture 'the missing middle' – people who are not rich enough to buy private health cover nor poor enough to qualify for government schemes.

'Avoid complacency'

While India's response to the pandemic may have taken the 'world by surprise', it should not lull policymakers into a state of complacency, Mr. Singh cautioned, citing uncertainties and the need to address 'endemic' issues beyond the COVID-19 pandemic.

"There is no getting away from the fact that public outlays in the health sector need to be substantially augmented. We need to enhance public outlays (on health) to 2.5% of GDP by 2025," he said at the CII Health Summit.

This, he explained, would entail a major jump over this year's Budget numbers and require States to target 8% of their budgets towards the health sector, which was 'a daunting challenge'.

Context: *Fifteenth Finance Commission chairperson, NK Singh for a substantial increase in budgetary allocations for the health sector and restructuring of centrally sponsored schemes to enable greater flexibility for States.*

What is Universal Health Coverage (UHC)?

- UHC means that **all individuals and communities receive the health services they need without suffering financial hardship.**

- It includes the **full spectrum of essential, quality health services, from health promotion to prevention, treatment, rehabilitation, and palliative care** across the life course.
- The delivery of these services require adequate and competent health and care workers with optimal skills mix at facility, outreach and community level, and who are equitably distributed, adequately supported and enjoy decent work.
- UHC strategies enable everyone to access the services that address the most significant causes of disease and death and ensure that the quality of those services is good enough to improve the health of the people who receive them.
- **Achieving UHC** is one of the **targets** the nations of the world set when **adopting the SDGs** in 2015.
- WHO contributes to achieving the Thirteenth General Programme of Work 2025 target that 1 billion more people benefit from UHC, while also contributing to the 2 other billion targets of 1 billion more people better protected from health emergencies and 1 billion more people enjoying better health and well-being. It also contributes to WHO's mission of the right to the highest attainable standard of health, to Health for All and the SDGs.

Other Facets of UHC:

- According to the **World Bank**, Universal health coverage (UHC) is about ensuring that people have access to the health care they need without suffering financial hardship.
 - UHC allows countries to make the most of their strongest asset: human capital.
 - Supporting health represents a foundational investment in human capital and in economic growth—without good health, children are unable to go to school and adults are unable to go to work.
 - It is one of the global economy's largest sectors and provides 50 million jobs, with the majority held by women.
 - Twelve co-signatories including the WBG (**World Bank Group**) also launched the **Global Action Plan for Healthy Lives and Well-being for All** (GAP) to jointly support countries in delivering on the SDG3 targets.
- According to **OECD**, Universal Health Coverage is about everyone having access to good quality health services without suffering financial hardship.
- The 2019 **UHC Global monitoring report**, which the OECD contributed to, contains some stark messages.
 - According to the report, the world will need to double health coverage between now and 2030. It warns that if current trends continue, up to 5 billion people will still be unable to access health care in 2030.
 - The report calls for countries to increase spending on primary health care by at least 1% of their gross domestic product (GDP) if the world is to close glaring coverage gaps and meet health targets agreed in 2015.
 - The report highlights that more people are suffering the consequences of paying for services out of their own pockets than 15 years ago.
 - About 925 million people spend more than 10% of their household income on healthcare; 200 million people spend more than 25% of their income on health.

Measuring Universal Health Coverage:

- Monitoring progress towards UHC should focus on 2 metrics:
 - The proportion of a population that can access essential quality health services (SDG 3.8.1)
 - The proportion of the population that spends a large amount of household income on health (SDG 3.8.2).
- Together with the World Bank, WHO has developed a framework to track the progress of UHC by monitoring both categories, taking into account both the overall level and the extent to which UHC is equitable, offering service coverage and financial protection to all people within a population, such as the poor or those living in remote rural areas.

WHO uses 16 essential health services in 4 categories as indicators of the level and equity of coverage in countries:

- **Reproductive, maternal, newborn and child health:**
 - Family planning
 - Antenatal and delivery care
 - Full child immunization
 - Health-seeking behavior for pneumonia.
- **Infectious diseases:**
 - Tuberculosis treatment
 - HIV antiretroviral treatment
 - Use of insecticide-treated bed nets for malaria prevention
 - Adequate sanitation.
- **Noncommunicable diseases:**
 - Prevention and treatment of raised blood pressure
 - Prevention and treatment of raised blood glucose
 - Cervical cancer screening
 - Tobacco (non-)smoking.
- **Service capacity and access:**
 - Basic hospital access
 - Health worker density
 - Access to essential medicines
 - Health security: compliance with the International Health Regulations.

Key Conventions for Promoting Universal Health Coverage:

- **Astana Declaration:**
 - On 25–26 October 2018, WHO in partnership with UNICEF and the Ministry of Health of Kazakhstan hosted the Global Conference on Primary Health Care, 40 years after the adoption of the historic Declaration of Alma-Ata.
 - Ministers, health workers, academics, partners and civil society came together to recommit to primary health care as the cornerstone of UHC.
 - The Declaration aims to renew political commitment to primary health care from governments, non-governmental organizations, professional organizations, academia and global health and development organizations.
- **UHC2030:**
 - UHC2030 provides a multi-stakeholder platform to promote collaborative working at global and country levels on health systems strengthening.
 - UHC2030's strategic focus is to mobilize political commitment and collective action for UHC.
 - To realize its strategic focus, UHC2030 targets results in three areas:
 - ★ Voices for UHC
 - ★ Working better together for UHC
 - ★ Knowledge and networks for UHC.

Universal Health Coverage in India:

- A **High Level Expert Group (HLEG) on Universal Health Coverage (UHC)** was constituted by the **Planning Commission of India** in October 2010, with the mandate of **developing a framework for providing easily accessible and affordable health care to all Indians.**
 - While financial protection was the principal objective of this initiative, it was recognised that the delivery of UHC also requires the availability of adequate healthcare infrastructure, skilled health workforce and access to affordable drugs and technologies to ensure the entitled level and quality of care given to every citizen.
 - Further, the design and delivery of health programmes and services call for efficient management systems as well as active engagement of empowered communities.
- The **National Health Policy (NHP) 2017** commits to **free provision of primary care by the public sector**, an assured, comprehensive primary care with linkages to referral

hospitals, assured free drugs, diagnostic and emergency services to all in public hospitals.

- **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) was launched** on 23rd September 2018, as a step towards **Universal Health Coverage (UHC)**.
 - The Scheme aims to cover the poorest 40% of the population covering over 50 crore Indian population with an insurance cover of 5 lakh per family per year to protect them from catastrophic health expenditure incurred in secondary and tertiary care.
 - Further, the second pillar of Ayushman Bharat (AB-HWC) aimed to transform 1.5 lakh sub-centres and primary health centers into Health and Wellness Centres to provide affordable and quality primary care to the last mile.

Out of Pocket Expenditure (OOP) and Related Challenges:

- India's high Out-of-Pocket (OOP) spending — health spending through payments at the point of care — at almost 60 per cent, one of the highest in the world. Over two-thirds of OOP spending is on account of out-patient consultations, medicines and diagnostic tests accompanying it.
- Average OOP spending on out-patient care is over Rs 1,250 per person per annum, a conservative estimate based on NSS 2017-18.
- OOP spending on out-patient care is a double threat. Not only is the financial burden larger, it is also harsher on poorer segments of the population. Imagine a family engaged in part-time agricultural labor in rural UP — they likely belong to the bottom 20 per cent and will spend almost 6.5 per cent of their total household expenditure on out-patient care.
- Only one-fourth to one-third of out-patient care is sought in government facilities in urban and rural areas respectively, despite the availability of free or low-cost treatment for a wide range of primary care services.
- There is virtually no insurance product available for out-patient care.
- The high OOP spending on medicines must be addressed. Medicines account for 70 per cent of the total out-patient spending, more than twice that of consultation fees and diagnostic tests combined. Rationalizing the use of medicines and further increasing provision of free medicines can significantly help reduce the financial burden of out-patient care.

MOMENTUM IAS

Waste Segregation in India

Prelims & GS Paper - III

UNDP to help waste segregation workers access govt. schemes

The Hindu Bureau

NEW DELHI

The United Nations Development Programme (UNDP) is helping workers in the waste segregation industry in India to move into the formal economy, by helping them access government welfare programmes.

As part of the initiative, United Nations Under-Secretary-General Usha Rao-Monari will distribute "Jan Dhan" account kits to waste segregation workers on December 1 during her first visit to the country.

The opening of the accounts has been facilitated through the UNDP's plastic waste management programme.

The programme promotes the collection, segregation, and recycling of all plastics to move towards a circular economy.

The programme also ensures the well-being and fi-

A key objective of the programme is to help move the sector from informal to formal

nancial inclusion of the *Safai Sathis* or waste-pickers, by linking them to social protection schemes.

According to the UN agency, a key objective of the programme is to help move the sector from informal to formal. So, the UNDP has been assisting the *Safai Saathis*, who contribute immensely to resource management and yet occupy the lowest rung of the ladder of the circular economy.

This is done by linking the workers to social protection schemes such as the Jan Dhan accounts, Aadhaar cards, Ayushman Bharat, pension schemes and scholarships for children.

Context: *The United Nations Development Programme is helping workers in the waste segregation industry in India to move into the formal economy, by helping them access government welfare programmes.*

About:

- **Scientific disposal of solid waste through segregation, collection and treatment and disposal in an environmentally sound manner minimizes the adverse impact on the environment.**
- **The local authorities are responsible for the development of infrastructure for collection, storage, segregation, transportation, processing and disposal of Municipal Solid Waste.**
- According to the 12th Schedule of the 74th Constitution Amendment Act of 1992, urban local bodies (ULBs) are responsible for keeping cities and towns clean.

Waste Management:

- Waste management rules in India are based on the principles of "sustainable development", "precautionary" and "polluter pays".

- These principles mandate **municipalities and commercial establishments** to **act** in an **environmentally accountable** and **responsible manner** — **restoring balance**, if their actions disrupt it.
- The increase in waste generation as a by-product of economic development has led to various subordinate legislations for regulating the manner of disposal and dealing with generated waste are made under the umbrella law of Environment Protection Act, 1986 (EPA).

Types of Wastes:

- In order to segregate waste appropriately, it is important to correctly identify the type of waste that is generated.
- For the purposes of waste segregation at source, waste is identified and classified into the following categories depending on their biological, physical and chemical properties:
 - **Dry Waste** – Refers to all items that are not considered wet/soiled items. This includes both recyclable and non-recyclable materials. Dry waste includes items such as bottles, cans, clothing, plastic, wood, glass, metals and paper.
 - **Wet Waste** – Refers to all items that are organic like food items, soiled food wrappers, hygiene products, yard waste, tissues and paper towels, as well as any other soiled item that would contaminate the recyclables.
 - **Sanitary Waste** – Refers to all liquid or solid waste originating solely from humans and human activities. (Can also include items from medical waste)
 - **Hazardous Household Waste** – Refers to all household products that contain corrosive, toxic, ignitable, or reactive ingredients, other than used oil.
 - **E - Waste** – Refers to all kinds of electronic waste.
 - **Hazardous Waste** – Refers to all items, products and by-products that contain corrosive, toxic, ignitable or reactive ingredients.
 - **Inert Waste** – Refers to waste items that are neither chemically or biologically reactive nor decompose easily.

Significance:

- The key to efficient waste management is to ensure proper segregation of waste at source and to ensure that the waste goes through different streams of recycling and resource recovery.
- Then reduced final residue is then deposited scientifically in sanitary landfills.
- Sanitary landfills are the ultimate means of disposal for unutilised municipal solid waste from waste processing facilities and other types of inorganic waste that cannot be reused or recycled.

Issues:

- With **rapid urbanization**, the country is facing a **massive waste management challenge**.
- Over **377 million urban people live in 7,935 towns and cities** and **generate 62 million tonnes** of municipal solid waste **per annum**.
- Only **43 million tonnes (MT) of the waste is collected**, **11.9 MT is treated** and **31 MT is dumped in landfill sites**.
- A report by IIT Kanpur (2006) found the potential of recovering at least 15 per cent or 15,000 MT of waste generated every day in the country. This, the report said, could also provide employment opportunities to about 500,000 rag-pickers.
- The report added that despite immense potential in big cities in this area, participation from non-profits or communities is limited.

- In some urban centers, **people working in the informal sector collect solid waste** for each doorstep to get a **collection fee** and **derive additional income from sale of recyclables**. The informal recycling industry plays a major role in waste management. It also ensures that less waste reaches landfills.
- More than **three-fourth of solid waste management budget is allotted to collection and transportation**, leaving very little for processing or resource recovery and disposal.

Potential and Limitations:

- There has been technological advancement for processing, treatment and disposal of solid waste.
- **Energy-from-waste is a crucial element of SWM** because it reduces the volume of waste from disposal and also helps in converting the waste into renewable energy and organic manure. Ideally, it falls in the flow chart after segregation, collection, recycling and before getting to the landfill. But many waste to energy plants in India are not operating to their full potential.
- **Installation of waste-to-compost and bio-methanation plants** would reduce the load of landfill sites.
 - The biodegradable component of India's solid waste is currently estimated at a little over 50 per cent.
 - Bio-methanation is a solution for processing biodegradable waste which also remains underexploited.
 - It is believed that if segregated biodegradable waste from the rest, it could reduce the challenges by half.
 - E-waste components contain toxic materials and are non-biodegradable which present both occupational and environmental health threats including toxic smoke from recycling processes and leaching from e-waste in landfill into local water tables.
- The **concept of a common waste treatment facility** is being widely **promoted and accepted** as it **uses waste as a resource** by either using it as a co-fuel or co-raw material in manufacturing processes. This has led to the rise of Public Private Partnership (PPP) models in waste management which has opened doors for doing business in waste management.
- Bio-medical waste (management and handling) rules, 1998 prescribe that there should be a Common Biomedical Waste Treatment Facility (CBWTF) at every 150 kms in the country. CBWTFs have been set up and are functioning in cities and towns.
 - However, establishment of a functional CBWTF throughout the country must be ensured. Integrated common hazardous waste management facilities combine secured landfill facilities, solidification/stabilization and incineration to treat hazardous wastes generated by various industrial units.
 - They contribute about 97.8 per cent of total landfill waste and 88 per cent of total incinerable hazardous waste generated in the country, as per an environment ministry report.

Wet Leasing

Prelims & GS Paper - III

WET LEASING AN AIRCRAFT

The govt has allowed airlines to take planes on wet lease for up to one year, up from the six months allowed so far



The country's largest airline, IndiGo, plans to take aircraft on wet lease. *File*

EXPRESS NEWS SERVICE
NEW DELHI, NOVEMBER 29

IN EFFORTS to boost international air traffic, the civil aviation ministry has allowed Indian airlines to take wide-body planes on wet lease for up to one year.

A senior ministry official said on Sunday that the rules had been relaxed, allowing the wet leasing for a year as opposed to the six months permitted so far.

What is wet leasing

Wet leasing means renting the plane along with operating crew and engineers, while dry leasing refers to taking only the aircraft on rent.

OAG, a global travel data provider, says on its website, "The technical term for wet leasing is ACMI which stands for aircraft, crew, maintenance and insurance. These are the aspects of the operation that the wet lease airline takes care of, while the airline client will still be responsible for paying for direct operating costs such catering and fuel as well as fees such as airport fees, ground handling charges and navigation fees."

Operations of an aircraft on wet lease is not encouraged by the Directorate General of Civil Aviation (DGCA) as the crew is often not approved by Indian authorities.

Also, wet leasing is generally a short-term arrangement, as it is more expensive than a dry lease.

Why limit extended

The country's largest airline, IndiGo, has announced it plans to wet lease some aircraft. "We have plans for inducting B777 aircraft on wet/damp lease basis during the current winter schedule," the airline said.

The relaxation will be available to all Indian carriers and will be granted based on international destinations they wish to operate to.

With Covid-related restrictions lifting, international travel is picking up, and the wet leasing will allow airlines to add more flights at a short notice. Wide-body planes can accommodate more passengers and fly longer flights, boosting revenue. Also, as most airlines acquire more aircraft to scale up operations, there is a shortage of planes, and wet leasing is sometimes the only solution.

Why airlines lease aircraft

A lot of planes used by airlines in India are not owned but leased. Airlines and aircraft operators prefer leasing planes in order to avoid massive lump sum payments that buying them would entail, and to quickly increase capacity, perhaps temporarily, on certain routes or sectors.

Context: *In bolstering the international air traffic, the civil aviation ministry has allowed Indian airlines to take wide-body planes on wet lease for up to one year.*

What is Wet Leasing?

- It's a term **peculiar to the aviation industry** and refers to the **leasing of an aircraft to an airline**, along with a **crew to fly the plane** and **provide the onboard service**.
- According to OAG Aviation, the technical term for wet-leasing is ACMI, which stands for **aircraft, crew, maintenance and insurance**. This means the airline leasing the plane

from another carrier gets not just the vehicle, but also its crew, maintenance staff and insurance, but has to cover operating costs, such as fuel and airport fees, on its own.

Why Do Airlines Rely on Wet Leasing?

- Airlines often turn to wet leasing when they want to **ensure smooth operations during peak times**, to **deal with unexpected delays or maintenance**, or as a **means of testing new routes**.
- Wet lease aircraft also **serve** as a **means of reducing service disruption** in the event of **unforeseen situations** such as a lack of available crew or technical faults.
- ACMI leasing allows airline operators to **continue a seamless service** without affecting their service.
- The **most pressing need** will be when an **aircraft develops a technical problem** and can't be flown.
- To **minimize service disruption**, a wet lease aircraft can be slotted into the schedule to operate the flights that should be flown by the faulty aircraft.
- As with peak seasonality, airlines sometimes find opportunities where demand is for a short period only, such as major sporting events. Using wet leased aircraft on these occasions allows the airline to market and promote its own airline without the long term commitment to taking on additional aircraft.

Dry Leasing: Dry leasing is an arrangement where the lessor offers only an aircraft, without crew and ground staff. Here the lessee will be responsible for the operations of aircraft. In dry leasing, the aircraft is also operated under the lessee's air operator certificate.

Major Cons of Wet and Dry Leasing in India:

- **Wet leasing is slightly costlier** and **can increase operational costs** for the airline as the lessor provides for maintenance and crew.
- In dry leasing, the **lessee is responsible for training the crew, costs of maintenance, staffing** etc., thus, increasing the incurred cost on the lessee. In this case, the airline will also be in full control of the flying experience.

Leasing Rules in India:

- According to regulator DGCA rules, wet lease is only permitted in emergency situations for up to three months and the contract is subject to an additional extension of three more months.
- Meanwhile, dry leasing is permitted for up to 12 months and the contract can be extended for 12 more months.

MOMENTUM

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