

ENVIRONMENT

UNEP Report on Construction Emissions

In context: The new UNEP report “*Building Materials and The Climate: Constructing a New Future*” outlines how developing, developed countries can reduce emissions from constructions.

What is the report about?

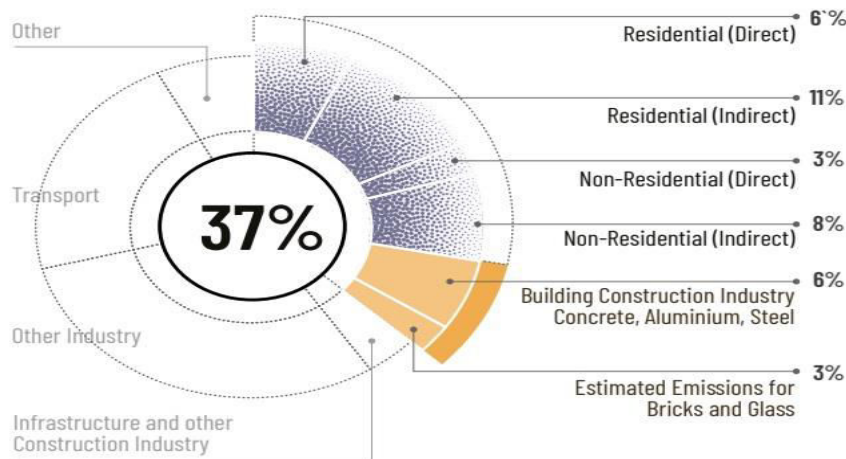
The buildings and construction sector is by far the largest emitter of greenhouse gases, accounting for a staggering 37% of global emissions.

- ✓ Launch- The report is launched by UN Environment Program (UNEP) and Yale Centre for ecosystems and architecture.
- ✓ It highlighted the pressing need to establish innovative cooperation models to decarbonize building materials.
- ✓ These models are critical to achieve the world's ambitious target of net zero emissions from the built environment sector by mid-century.
- ✓ The report highlights the overarching strategies which need to be implemented together to decarbonize building materials.
 - Avoid unnecessary extraction and production
 - Shift to regenerative materials
 - Improve decarbonization of conventional materials

What are the key highlights of the report?

- ✓ Embodied vs Operational Emissions - Indirect operational emissions from residential buildings make up a majority of emissions (11%), while embodied emissions from the use of concrete, steel, etc. account for at least 6%.
- ✓ The UNEP warns that embodied carbon is projected to surge from 25% to nearly 49% by 2050.
- ✓ The share of operational carbon emissions will shrink due to increased adoption of renewable energy and improvement of energy-efficient buildings.
- ✓ Renovated building- The report highlighted that a renovated building generates 50-75% fewer emissions than new construction.
- ✓ Cement - Processing of cement, the binding agent in concrete, contributes to 7% of global carbon emissions.

Global share of buildings and construction operational and process CO₂ emissions, 2021



How to reduce the emissions?

- ✓ Circular design - The experts call for incorporating circular design strategies to reduce GHG emission by 10-50%. Circular design process enables the recovery of products, parts and materials when a building is disassembled or renovated.
- ✓ Recycled materials- Avoiding raw material extraction by promoting steel reuse and producing steel from scrap (discarded steel or steel product) can save around 60-80% of the energy. If G7 countries and China use recycled materials, they could reduce emission in the material cycle of residential buildings by 80-100% by 2050.
- ✓ Lifetime of buildings- Increasing the lifetime of buildings creates significant opportunities to reduce aggregate embodied carbon.
- ✓ Bio-based materials- To reach net zero emissions in the built environment sector, the building materials of the future has to be procured from renewable or reusable sustainable sources.

- Mass timber has emerged as an attractive alternative to concrete and steel due to scalability, sustainability, strength and flexibility in mid-rise urban buildings.
- Bamboo can be processed and manufactured into engineered bamboo whose structural performance similar to that of cross-laminated timber and steel.
- ✓ Decarbonise energy- UNEP recommended electrifying and decarbonising the energy that is supplied to the production and maintenance of materials, buildings and urban infrastructure across their life cycle.
- ✓ Sustainable alternatives- Solutions such as reducing the clinker (produced from limestone and chalk)-to-cement ratio and increasing the share of cement alternatives, etc. could help in decarbonising the sector.
- ✓ Carbon capture and utilisation (CCU) - It is a process of removing carbon from the atmosphere and storing it within the building material itself over time. It is estimated that CCU concrete can remove 0.1 to 1.4 gigatonnes of CO₂ by 2050.

GOVERNANCE

Patents (Amendment) Rules, 2023:

In context: Last month, the Draft Patents (Amendment) Rules, 2023 were made public by the Department for Promotion of Industry and Internal Trade. Various advocacy groups have raised concerns over the draft rules.

What is a Patent?

- ✓ A patent is the granting of a property right by a sovereign authority to an inventor.
- ✓ This grant provides the inventor exclusive rights to the patented process, design, or invention for a designated period in exchange for a comprehensive disclosure of the invention.
- ✓ The Office of the Controller General of Patents, Designs and Trade Marks (CGPDTM), also known as India Patent Office, grants patent so that any invention can be freely commercialised or utilised without any fear of infringement.
- ✓ The head patent office is located in Kolkata, West Bengal.
- ✓ The Indian Patent Office grants patents which are governed by the Indian Patents Act, 1970.

Patents in India: Legal structure

- ✓ The Patents Act 1970, along with the Patents Rules, 1972, came into force in April 1972, replacing the Indian Patents and Designs Act, 1911.
- ✓ It was largely based on the recommendations of the Ayyangar Committee Report headed by Justice N. Rajagopala Ayyangar.
- ✓ Later, India became the member of the Trade Related Intellectual Property Rights (TRIPS) system.
- ✓ Significantly, India also became signatory of the Paris Convention and the Patent Cooperation Treaty in 1998 and thereafter signed the Budapest Treaty in 2001.
- ✓ Being a signatory to TRIPS, India was under a contractual obligation to amend its Patents Act to comply with its provisions.
- ✓ Subsequent amendments were made to the Indian Patents Act, 1970 with the most recent being the Patents (Amendment) Rules, 2021.

Draft Patents (Amendment) Rules, 2023:

- ✓ In August 2023, the Ministry of Commerce and Industry proposed and published Draft Patent (Amendment) Rules, 2023 (the “draft rules”).
- ✓ It invited objections and suggestions from all stakeholders within a timeline of 30 days from the date of the publication of the draft Rules.

Key Highlights of the Draft Rules:

- ✓ Pre-Grant Opposition
- ✓ Controller can decide a maintainability of the representation and dismiss a pre-grant opposition if found to be frivolous.
- ✓ At present, Controller cannot dismiss the representation without offering a chance of hearing to Opponent.
- ✓ Time period for applicant to reply to notice has been reduced from 3 months to 2 months.
- ✓ Also, Controller has to issue a decision ordinarily within 3 months from the completion of the proceedings.
- ✓ Currently, there is no such in which the Controller has to issue a decision.
- ✓ Reduced timeline for filing Request for Examination
- ✓ As per the draft Rules, the timeline for filing the RFE is now proposed to be reduced to 31 months, which currently is 48 months from the priority date or filing date, whichever is earlier.
- ✓ Statement and undertaking regarding foreign applications
- ✓ Applicant shall keep the Controller informed of the details in respect of applications filed in any country within two months from the date of issuance of first statement of objections.
- ✓ Earlier the duration was six months.
- ✓ Annual Working Report

- ✓ The draft Rules propose that the Annual Working Report is to be filed in respect of every period of three financial years (currently this is to be filed for every financial year).

Criticism of the Draft Rules:

- ✓ The release of draft rules has raised concerns among civil society organisations, academics, and intellectual property and public health experts.
- ✓ Discretionary authority to the Controller
- ✓ Patient groups and public health experts argue that granting the Controller discretionary authority to determine who may file pre-grant oppositions is beyond the scope of the Patents Act.
- ✓ It also contradicts prior judicial rulings, which clearly allowed organisations, as well as anyone, to file pre-grant oppositions.
- ✓ This could curtail the ability to file pre-grant oppositions to prevent the grant of unmerited patents on medicines to ensure timely availability of quality-assured, affordable generic medicines.
- ✓ Extension for filing AWR
- ✓ Extending the interval for filing working statements to three years from the existing one year and removing the requirements to disclose how it is worked could significantly impede the process of obtaining compulsory licenses.
- ✓ This will also affect the availability of essential medicines to the public at an affordable price.
- ✓ This could lead to patent evergreening and unmerited monopolies.
- ✓ Fees for filing Pre-Grant Oppositions
- ✓ The amendments introduce a dynamic and increased fee for filing pre-grant oppositions, granting excessive authority to the Controller to determine the maintainability of the representation.
- ✓ Currently, there is no fees for pre-grant opposition filings.
- ✓ The proposed introduction of fees running into thousands of rupees for pre-grant oppositions could impose a significant financial burden on organisations representing patients' interest.
- ✓ Transparency Concerns
- ✓ Under the existing Patents Act, patent applicants must periodically disclose foreign patent applications and related developments on their legal status, ensuring transparency.
- ✓ The proposed amendment to the Rules could replace this ongoing periodic requirement with a one-time obligation.
- ✓ This could potentially hinder timely updates and critical information sharing, which could result in the grant of frivolous and unmerited patents.

Paris Convention: The Paris Convention for the Protection of Industrial Property, signed in Paris, France, in 1883, was one of the first intellectual property treaties. It applies to industrial property in the widest sense, including patents, trademarks, industrial designs, utility models, service marks, trade names, geographical indications and the repression of unfair competition.

Patent Cooperation Treaty: The Patent Cooperation Treaty is an international patent law treaty, concluded in 1970. It provides a unified procedure for filing patent applications to protect inventions in each of its contracting states.

Budapest Treaty: Adopted in 1977, the Budapest Treaty concerns a specific topic in the international patent process.

PRELIM FACTS

1. World Ozone Day 2023:

In Context: Every year on September 16th, World Ozone Day, also known as the International Day for the Preservation of the Ozone Layer, is observed.

Introduction: Every year on September 16th, World Ozone Day, also known as the International Day for the Preservation of the Ozone Layer, is observed. This day serves as a reminder of the ozone layer's important role in protecting our world. The ozone layer, which is mostly formed of Trioxxygen molecules (O₃), acts as a protection against the sun's harmful Ultraviolet (UV) rays.

The Year 2023 Theme: The topic of World Ozone Day 2023 is "Montreal Protocol: Fixing the Ozone Layer and Reducing Climate Change." This subject underlines the Montreal Protocol's critical significance in not just safeguarding the ozone layer but also in also mitigating climate change.

Historical Perspective of World Ozone Day: The Ozone Layer Depletion Crisis World Ozone Day finds its origins in the alarming discovery of the depletion of the ozone layer. During the 1970s and 1980s, scientists uncovered a significant hole in the ozone layer over Antarctica. This discovery raised urgent concerns about the potential consequences for human health and the environment.

The Montreal Protocol:

On 16th September 1987, a landmark environmental treaty known as the Montreal Protocol was established in Montreal, Canada. This protocol marked a turning point in the global effort to combat the depletion of the ozone layer. It specifically targeted Ozone Depleting Substances (ODS), including Chlorofluorocarbons (CFCs), Halons, Carbon Tetrachloride, and Methyl Chloroform.

2. Afghan-Pakistan Torkham Border:

IN CONTEXT: Afghan-Pakistan Torkham border clashes intensify as Taliban builds a border post on Pakistan soil.

About Torkham Crossing

- ✓ The Torkham Crossing, a critical border point connecting Pakistan and Afghanistan.
- ✓ Torkham Crossing is a crucial border crossing that links Pakistan and Afghanistan. Its strategic location makes it a vital entry point for trade and connectivity between the two nations.
- ✓ The Border road is a key lifeline for a landlocked Afghanistan, linking the northwestern Pakistani city of Peshawar to Jalalabad, the main city in Nangarhar, and the route onwards to the capital Kabul.



Durand Line

- ✓ It is an **important international boundary line** between Pakistan and Afghanistan.
- ✓ The Durand Line was drawn up by **Sir Henry Mortimer Durand**, a British diplomat, to safeguard the interests of the British Empire from Tsarist Russia.
- ✓ The single-page Durand Line Agreement was signed by the **King of Afghanistan, Amir Abdur Rahman, in November 1893.**
- ✓ The line was drawn up to ensure that strategic regions such as the **Khyber Pass** remained on the side of the British Empire.

3. Skill India Digital app:

In Context: Recently, the centre launched the Skill India Digital app.

Background:-

- ✓ The Skill India Digital app, brings together listings for upskilling courses and job listings.
- ✓ The app was soft launched in April 2023, and was announced by Union Finance Minister Nirmala Sitharaman during the Budget session of Parliament.

About Skill India Digital app:-

- ✓ Launched in 2023.
- ✓ Developed by: National Skill Development Corporation.
- ✓ Ministry: Ministry of Skill Development and Entrepreneurship.
- ✓ Skill India Digital app, brings together listings for upskilling courses and job listings.
- ✓ The app will be linked with DigiLocker and Aadhaar to issue verifiable certificates of course completion.
- ✓ It will generate digitally signed CVs for job applicants and people taking courses.
- ✓ The app would help in distributing courses on skills.
- ✓ It will use digital matchmaking to bring potential employers and employees together.

Skill India Digital:-

- ✓ Launched: September, 2023.
- ✓ Ministry: Ministry of Skill Development and Entrepreneurship. (Schemes related to skill development)
- ✓ Skill India Digital is a state-of-the-art platform to bring all skilling initiatives together.
- ✓ It is the Digital Public Infrastructure for skilling, employment, and education.
- ✓ It engages and caters to learners, central and state ministries, employers, content providers, knowledge partners, sector skill councils, assessment bodies, and media.
- ✓ It is also a comprehensive information gateway for all government skilling and entrepreneurship initiatives.
- ✓ It is a go-to hub for citizens in pursuit of career advancement and lifelong learning.

4. DiCRA platform:

In context: Recently, the United Nations Development Programme (UNDP) and the National Bank for Agriculture and Rural Development (NABARD) have signed a Memorandum of Understanding (MoU) to co-create data-driven digital public good, which includes DiCRA.

About DiCRA:

- ✓ Data in Climate Resilient Agriculture (DiCRA) is a collaborative digital public good which provides open access to key geospatial datasets pertinent to climate resilient agriculture.
- ✓ It is curated by UNDP and partner organisations to inform public investments in agriculture and already provides intelligence on climate resilience for 50 million hectares of farmland across India.
- ✓ It is guided by the digital public good principles of open access, open software, open code, and open APIs.
- ✓ It uses cutting-edge data science and machine learning to identify farms that are resilient to climate change and those that are highly vulnerable.

Advantages

- ✓ By partnering to enhance and scale its use, NABARD will host and maintain the DiCRA platform and use its key geospatial datasets for policymaking, research, and development activities, with UNDP's technical support.
- ✓ This five-year technical cooperation is envisaged to foster collective climate action and create innovative platforms and new product offerings to enhance economic empowerment in rural India.
- ✓ Such open data innovations can highlight best practices, optimise agriculture investments and shelter populations from risk..

ANSWER WRITTING

Q. Many voices had strengthened and enriched the nationalist movement during the Gandhian phase. Elaborate (Answer in 250 words) 15

Introduction: The period from 1920 to 1947 has been described as the Gandhian Era in Indian politics. During this period, Gandhiji had the final say behalf of the Indian National Congress in negotiating with the British Government for constitutional reforms, and for chalking out a programme for the national movement. Mahatma Gandhi led the national freedom struggle against the British rule and it also gave space and voice to many other voices which further strengthened the movement. Voices that strengthened and enriched nationalist movement are as follow:

Socialist Voice

- ✓ The emergence of socialism in Congress during 1920s and 1930s imparted a new orientation to anti-British struggle because the socialist vision of national movement was quite different from that of Gandhiji and other nationalists.
- ✓ Anti-British struggle got radicalised greatly because socialists wanted that the idea of non-violence should be followed by congress in a pragmatic manner for the mistakes of one or few individuals, entire movement must not be made to suffer.
- ✓ The emergence of socialism gradually transformed national movement into an all out war against British rule. The socialists believed in the idea of sustained struggle. Quit India Movement was based on this philosophy.

Revolutionary Extremists Voice

- ✓ Indian revolutionaries provided an alternative to all those nationalists who participated in anti-British struggle and were not satisfied with the moderate approach of congress.
- ✓ The supreme self-sacrifice performed by Indian revolutionaries inspired lakhs of Indians to join anti-British struggle, as a result of which, the mass base of national movement continued to increase with the passage of time.
- ✓ Indian revolutionaries popularized the cause of Indian struggle against British rule all over the world. This helped in strengthening public opinion against British rule.

Swarajists Voice

- ✓ Swarajists provided an alternative to Indian nationalists at a time when a sense of disillusionment had developed among Indians due to sudden withdrawal of noncooperation movement.
- ✓ Through their efforts swarajists exposed the hollowness of reforms introduced by the Act of 1919. They proved that the real power was still in British hands.
- ✓ Appointment of Simon commission in November 1927 changed the atmosphere prevailing in India. The swarajists also abandoned their separate line of action and joined hands with mainstream congress to participate in anti-Simon commission agitation. Indian Working Class as well as Leftist voice
- ✓ During 1920-22, there occurred a resurgence of working class in Indian national movement which got involved in the mainstream of nationalist politics to a significant extent. Most important development was formation of All India Trade Union Congress (AITUC).
- ✓ The workers participated in large numbers during 1930 in the Civil Disobedience Movement but after 1931 there was a dip in the working class movement because of a split in 1931, in which the corporatist trend led by N.M. Joshi broke away from the AITUC to set up the All India Trade Union Federation.

Women's voice strengthening and enriching nationalist movement:

- ✓ Women participated in large numbers in the civil disobedience and Quit India Movement. They organised boycotts against liquor and foreign goods and were instrumental in Dandi March.

- ✓ Sarojini Naidu, also fondly known as the Nightingale of India, was a prolific writer and poet. She was the president of the Indian National Congress and was an outstanding leader campaigning and leading from the front in the Civil Disobedience Movement and Salt Satyagraha.
- ✓ Annie Besant was elected the president of the Indian National Congress and launched the Home Rule Movement.
- ✓ Madam Cama or Bhikaji Cama exiled in Europe was a social worker and a strong nationalist. She unfurled the flag of Indian Independence in Stuttgart Germany along with a powerful speech advocating the right to freedom.

Conclusion: There was a greater truth— that of a glorious struggle, hard-fought and hard-won, in which many voices had strengthened and enriched the nationalist movement and made countless sacrifices, dreaming of the day India would be free.

MCQs

1. Consider the following statements regarding the National Judicial Data Grid portal:
 1. It is a national repository of cases instituted, pending and disposed of by the courts.
 2. It is developed by the National Informatics Centre.
 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
2. Consider the following statements regarding the Data in Climate Resilient Agriculture (DiCRA) platform:
 1. It provides open access to key geospatial datasets related to climate-resilient agriculture.
 2. It is implemented by the United Nations Development Programme.
 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
3. Consider the following statements with reference to Red Imported Fire Ant.
 1. It is a species of ant native to South America.
 2. They show Necrophobic Behaviour.
 3. They remain outside at night.
 4. Worker ants communicate by a series of semiochemicals and pheromones.
 Which of the statements given above are incorrect?
 - a) 1 and 2 only
 - b) 2 and 3 only
 - c) 1, 2 and 4
 - d) **None of the above**
4. Recently the term "OIML certificates" has been frequently seen in the news. What is the significance of OIML certificates?
 - a) They are only recognized within the country of issuance.
 - b) **They indicate compliance with international measurement standards.**
 - c) They are primarily for consumer protection.
 - d) They have no legal significance.
5. Considered the following statement regarding Skill India App.
 1. Lunched by Ministry of Skill Development and Entrepreneurship.
 2. Skill India Digital app, brings together listings for upskilling courses and job listings.
 3. The app will be linked with DigiLocker and Aadhaar to issue verifiable certificates of course completion.
How many of the above statement is/are correct?
 - a) Only 1
 - b) Only 2
 - c) **Only 3**
 - d) None
6. Recently, Torkham border is in news. Which of the following area it is located?
 - a) India –Afghanistan border.
 - b) **Afghanistan – Pakistan border.**
 - c) India –china border.
 - d) None of the above
7. Considered the following statement:
 1. International Day for the Preservation of the Ozone Layer is celebrated on September 16 by the United Nations General Assembly.
 2. The theme is Montreal Protocol: fixing the ozone layer and reducing climate change
 Which of the statements given above is/are incorrect?
 - a) 1 only
 - b) 2 only
 - c) Both 1 and 2
 - d) **Neither 1 nor 2**
8. Considered the following statement:
 1. Assam Governor lunched 'Sarpanch Samvaad' a mobile application app
 2. The app has been developed by the Quality Council of India (QCI).
 Which of the statements given above is/are incorrect?
 - a) 1 only
 - b) 2 only
 - c) Both 1 and 2
 - d) **Neither 1 nor 2**
9. Which Railway Station has been awarded the 'Green Railway Station' certification with the highest rating of Platinum by the Indian Green Building Council (IGBC) recently?
 - a) Dehradun Railway Station
 - b) Lucknow Charbagh Railway Station
 - c) Indore Junction Railway Station
 - d) **Vijayawada Railway Station**
10. Which state government has launched social welfare scheme "Kalaignar Magalir Urimai Thogai Thittam"?
 - a) Kerala
 - b) **Tamil Nadu**
 - c) Odisha
 - d) Andhra Pradesh