



NEWS ANALYSIS

8 JULY 2024

Prelims Practice Question For Today

Consider the following statements:

1. Gharials are the salt-water crocodiles, found only in India.
2. The IUCN classifies Gharials as Critically Endangered, as they are in immense danger of extinction.
3. Kukrail Gharial breeding centre is located in Bhopal.

Which of the statements given above is/are incorrect?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

EXPLANATION

Correct Answer: Option(c)

About Gharial:

- It is a fresh-water crocodile which lives in deep fast-flowing rivers.
- Unlike alligators and crocodiles with broad snouts, Gharials possess a remarkably long and slender snout.
- Hence, Statement 1 is Incorrect

- Globally Gharial is found only in India and Nepal.
- Hence, Statement 2 is Incorrect

- If the reintroduction proposal is approved, the reptiles are likely to be brought from the Kukrail gharial breeding centre near Lucknow.
- Hence, Statement 3 is Correct.

Prelims Practice Question For Today

1. Consider the following states sharing the boundaries with Line of Actual Control (LAC) are arranged from Right to Left in the order?

(a) Arunachal Pradesh – Sikkim – Uttarakhand – Himachal Pradesh – Jammu and Kashmir

(b) Sikkim – Arunachal Pradesh – Uttarakhand – Himachal Pradesh – Jammu and Kashmir

(c) Sikkim – Arunachal Pradesh – Uttar Pradesh – Himachal Pradesh – Jammu and Kashmir

(d) Sikkim – Arunachal Pradesh – Himachal Pradesh – Uttar Pradesh – Jammu and Kashmir

We need a data-driven strategy to plug our skill gaps

Steps To Perform A Skills Gap Analysis

- 1 Define the skills needed for a particular job description
- 2 Track market trends to identify key "future skills"
- 3 Review the current skills of your employees
- 4 Use data to plan for and close the skills gap
- 5 Make the IT skills gap analysis an ongoing activity

Context

- India's demographic dividend presents both opportunities and challenges for economic growth. The country needs to equip its workforce with skills aligned to the global economy's changing demands to capitalize on its youth population.

Workforce Trends and Skill Gaps:

- **Declining Labour Mobilization:** Labour mobilization rates in India have fallen from over **70% in 1990 to 56% in recent years**, according to World Bank data.
- **Shrinking High-Skill Workforce:** **Periodic Labour Force Survey (PLFS)** data shows a declining growth rate of highly skilled individuals (skill levels 3 and 4) in 22 of India's 36 states and Union territories between 2017 and 2022.
- **Rise in Semi-Skilled Workers:** The semi-skilled workforce (skill level 2) has grown significantly, with a national compounded annual growth rate of 59.5% between 2017-18 and 2022-23.

How to Bridge the Skill Gap?

Training

- 1 initial training
- 2 reskilling
- 3 upskilling



Hiring

- 1 skill gap analysis
- 2 future work trends
- 3 workforce's skills



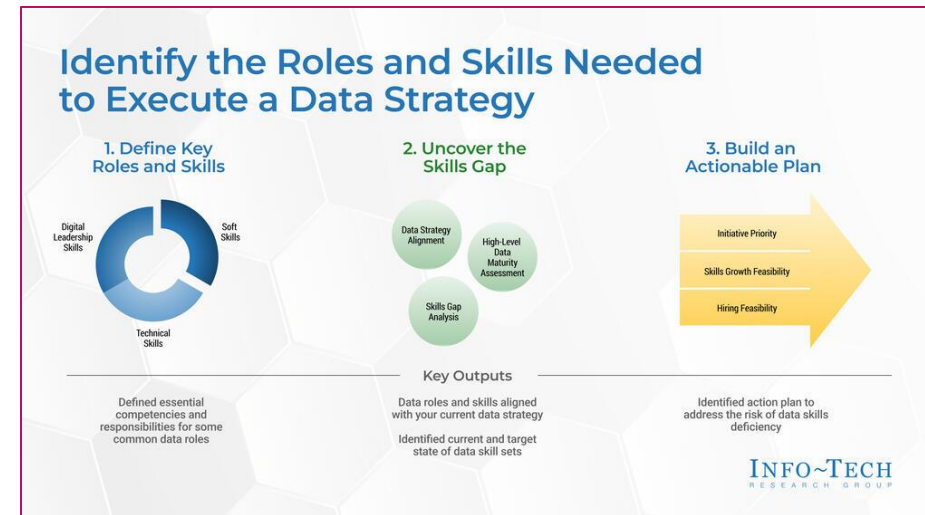
Skill Development Initiatives and Challenges:

- **PMKVY Impact:** The Pradhan Mantri Kaushal Vikas Yojana (PMKVY) has contributed to the growth of the semi-skilled workforce through skill training and certification.
- **Formal Training Gap:** Despite progress, 72.6% of the workforce aged 15 to 59 still lacks formal vocational or technical training as of 2022-23, down from 91.9% in 2017-18.
- **Urban-Rural Skill Disparity:** There is a noticeable **skill intensity disparity** between rural and urban areas, with metropolitan districts hosting skill-intensive trade clusters.



Data-Driven Strategy for Skill Development:

- **Skill Census Proposal:** The concept of a '**skill census**', as proposed by the Chandrababu Naidu-led government in Andhra Pradesh, can help assess current skill levels across regions and sectors.
- **Targeted Skill Mapping:** Mapping the current skill landscape can help policymakers identify specific areas with skill shortages and devise targeted actions.
- **State-Specific Programs:** State governments can create specialized skill-building programmes to address the demands of their unique workforces and industries.



A law around low carbon climate resilient

A law around low-carbon climate resilient development

In a landmark judgment, the Supreme Court of India recently recognised a right to be “free from the adverse impacts of climate change” in *M.K. Ranjitsinh and Others vs Union of India* – sourcing it from the right to life and the right to equality. In a previous article on this page in this daily, “Court on climate right and how India can enforce it” (July 1, 2024), we argued that while this is indeed an important step in establishing climate jurisprudence in India, it raises the very important question of just how this right will be protected.

Earlier, we had suggested that a patchwork of judicial interventions would fall short of the encompassing and systemic approach climate change requires. There is, therefore, a strong case for climate legislation, but only if it is tailored to the Indian context. Taking this issue forward provides an opportunity, but also a challenge, for the new government.

Law to inform development choices

Preparing India to reduce the risks of climate change and address its impacts requires nothing less than re-orienting development toward low-carbon and climate resilient futures. Any law that attempts to take this on must ensure these objectives are internalised in routine decision-making at all levels of development. Because climate change relentlessly targets the vulnerable, and because an energy transition must be just, it must be grounded in the imperative of advancing social justice.

While the concept of climate law is often associated with a top-down approach of setting and achieving targets, in a developing country, this approach is limited because addressing climate change is about more than limiting emissions.

Instead, it requires careful, ongoing, consideration of each developmental choice and its long-run synergies and tradeoffs with low-carbon and climate resilient futures. To achieve this, the substantive right of protection against adverse effects of climate change must be realised, in part, through well-defined procedures in law that are applicable across levels of government. Climate action is more credible when a well-designed institutional structure is strategising, prioritising, troubleshooting and evaluating policies behind the scenes.

Several countries (67 according to one estimate) have experimented with ‘framework climate laws’ that build governance capacity to address climate change. Umbrella laws that define government-wide goals and substantiate them with a set of processes and accountability measures are a known and increasingly popular way of bringing climate action to the heart of government.

However, these laws vary, and India’s approach must be tailored to our context. Starting from a low base of per capita emissions – less than half the global average – India’s

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The ‘M.K. Ranjitsinh’ judgment must be used to pass a climate law that is well suited to the Indian context

emissions are still growing, and our objective should be to squeeze out as much development as possible from each ton of carbon and avoid locking-in to high carbon futures. Moreover, India is highly vulnerable to climate impacts, and climate resilience must be an essential element of the new law. In meeting both objectives, considerations of social equity must be central. Consequently, India’s law must ensure development, but in a low-carbon direction while building resilience to ever more pervasive climate impacts.

What we arrive at, then, is a law that helps navigate developmental choices. It must create the basis for thoughtful decision-making toward achieving a low-carbon, resilient society. For example, since Indian cities are still growing and changing rapidly, what could low-carbon, climate resilient cities of the future look like? And what levers exist to shape those cities? How can city planning minimise the risk of floods and vulnerability to heatwaves? How should transport needs be met through technology shifts such as electric vehicle adoption and greater attention to public transport and lifestyle shifts?

Have a low carbon development body

A framework climate law should lay out an institutional structure capable of crafting viable answers to these questions. Our ongoing work at the Sustainable Futures Collaborative provides some suggestions. An immediate priority is to create a knowledge body in government capable of rigorously parsing policy options and the futures they might generate. We recommend an independent ‘low-carbon development commission’, staffed with experts and technical staff, which could offer both national and State governments practical ways of achieving low-carbon growth and resilience.

This body could also serve as a platform for deliberative decision-making. Vulnerable communities and those that may lose from technological change need to be systematically consulted. Hearing their concerns and incorporating some of their ideas could lead to longer-lasting policy outcomes. An example is South Africa’s Presidential Climate Commission, which is tasked with charting a course toward just transition based on inputs and representations from stakeholders.

Effective climate governance also requires the ability to set directions, make strategic choices, and encourage the consideration of low carbon choices and climate change impacts within line ministries. Accordingly, the law could create a high-level strategic body, which we label a ‘climate cabinet’, a core group of Ministers plus representation from Chief Ministers of States, tasked with driving strategy through government. Across the world, climate policy is often defeated by siloed decision-making. This is one way of fixing it.

A whole-of-government approach will also

require dedicated coordination mechanisms for implementation. The Ministry of Environment, Forest and Climate Change should continue to play a central role, but it needs to be complemented by higher-level coordination. Here, the pre-existing Executive Committee on Climate Change (made up of senior bureaucrats from multiple Ministries), provides a useful template but only if it is reinvigorated with clearly specified legal powers and duties.

Engagement with the federal structure

Not least, the law must pay attention to India’s federal structure. Many areas crucial to reducing emissions and improving resilience – electricity, agriculture, water, health and soil – are wholly or partially the preserve of State and local governments. When a climate impact is felt, it is felt first, and most viscerally, at local levels.

Any institutional structure or regulatory instrument created to protect the Court’s newly established climate right must meaningfully engage with subnational governments. First, the law must establish a channel for subnational governments to access national scientific capacity, potentially through the low-carbon development commission as an intermediary, as a step toward solving the pervasive problem of insufficient local climate scientific capacity.

Second, it could articulate ways of financing local action, for example by requiring centrally-sponsored schemes to be more aligned with climate goals or by requiring national departments to climate tag expenditure towards local climate resilience.

Third, the law could establish coordination mechanisms that allow the Centre and States to consult on major climate decisions. It could also require the Centre and States to put out periodically updated medium-term climate plans built around unified goals. To enable development of State-specific solutions, States could also build complementary institutions to those at the Centre, providing knowledge, strategy-setting, deliberation and coordination functions.

The framework law proposed here – one that enables and catalyses action across national Ministries and the federal structure – cannot be the only legal tool in the country’s regulatory arsenal. Complementary sectoral laws and amendments may be required, but they would be informed by the approach laid out by the framework law.

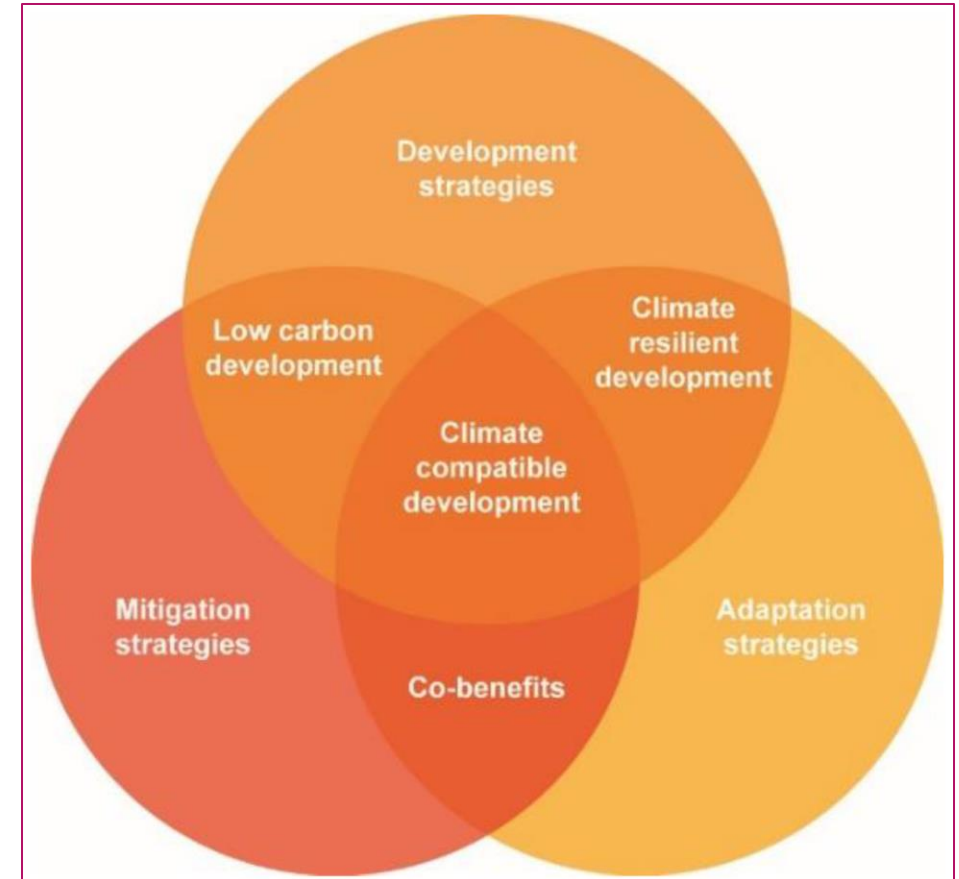
The Court’s historical pronouncement in *M.K. Ranjitsinh* opens the door to legal and governance changes that make possible an actionable right against the adverse effects of climate change. But to realise this promise, this open door has to actually be used to pass a climate law that is well suited to the Indian context, that steers Indian development choices toward a low-carbon and climate resilient future, and that also advances justice.

Context

- The Supreme Court of India's landmark judgment in **M.K. Ranjitsinh and Others vs Union of India** recognizes the right to be "free from the adverse impacts of climate change". This necessitates a comprehensive climate legislation tailored to India's developmental context.

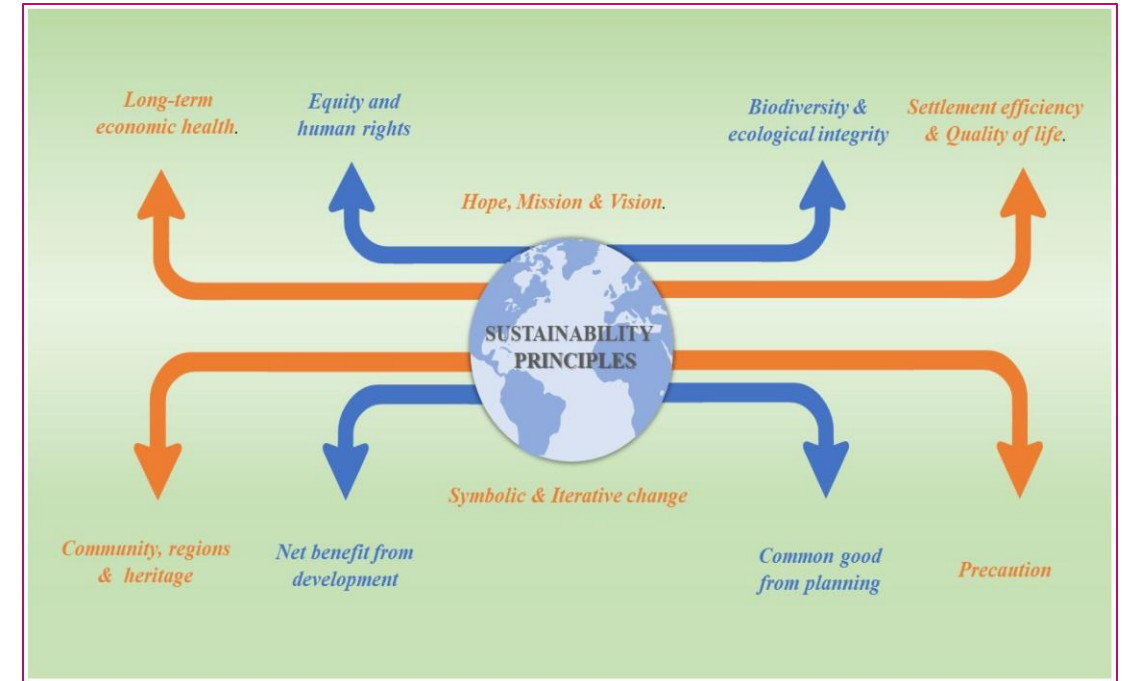
Need for a Climate Framework Law:

- **Right to Climate Protection:** The Supreme Court's recognition of the **right to be free from climate change impacts** requires legislative backing for effective implementation.
- **Development Reorientation:** India needs to redirect its development towards **low-carbon and climate-resilient futures**, necessitating a systematic approach.
- **Social Justice Imperative:** The law must address **climate vulnerabilities and ensure a just energy transition**, grounded in advancing social justice.



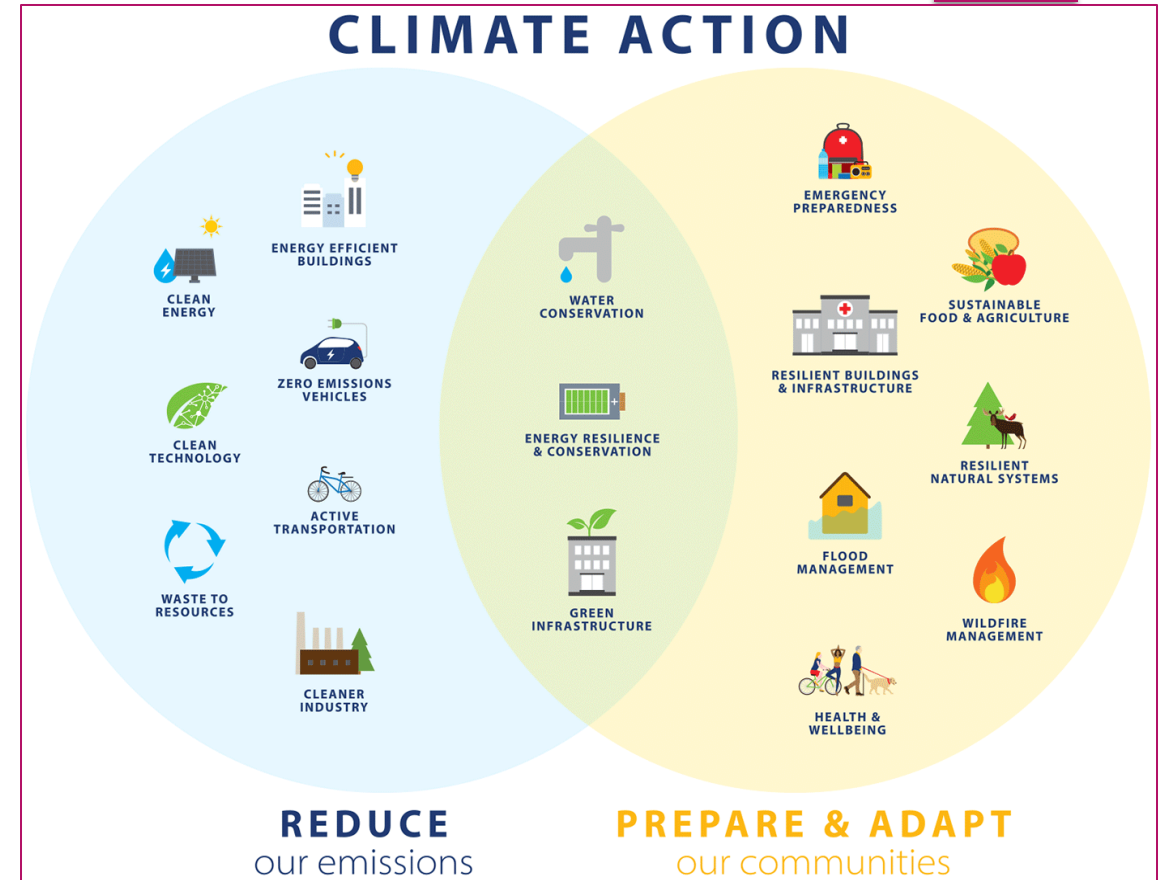
Key Features of the Proposed Climate Law:

- **Procedural Framework:** The law should establish well-defined procedures applicable across government levels to realize the right to protection against climate change effects.
- **Institutional Structure:** It should create a governance structure for strategizing, prioritizing, and evaluating climate policies.
- **Development-Centric Approach:** The law must focus on squeezing maximum development from each ton of carbon while avoiding high-carbon lock-ins, given India's low per capita emissions.






Institutional Mechanisms:

- **Low-Carbon Development Commission:** An independent body of experts to offer practical solutions for low-carbon growth and resilience to national and state governments.
- **Climate Cabinet:** A high-level strategic body comprising ministers and chief ministers to drive climate strategy across government departments.
- **Coordination Mechanism:** Reinvigoration of the Executive Committee on Climate Change with clearly specified legal powers and duties.



Federal Considerations:

- **Subnational Engagement:** The law must meaningfully engage with state and local governments, given their crucial role in areas like electricity, agriculture, and water management.
- **Scientific Capacity Building:** Establish channels for subnational governments to access national scientific capacity.
- **Climate-Aligned Financing:** Require centrally-sponsored schemes to align with climate goals and implement climate tagging of expenditure.



PM-KUSUM: Low Carbon Pathway to Climate Resilient Inclusive Growth Through Clean Energy Transition.

Impact evaluation of accelerated adoption of Solar Water Pump(SWP) under PM-KUSUM program on agriculture, energy and climate in Jharkhand.

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Digital Bharat Nidhi

Digital Bharat Nidhi: Govt's fresh attempt to improve rural telecom connectivity

SOU MYARENDRA BARIK
NEW DELHI, JULY 7

THE DEPARTMENT of Telecommunications (DoT) has released draft rules to operationalise the Digital Bharat Nidhi, which would replace the erstwhile Universal Service Obligation Fund (USOF) and be a fresh attempt by the Central government at increasing telecom connectivity in rural areas.

The USOF is a pool of funds generated by 5 per cent Universal Service Levy that is charged upon all the telecom fund operators on their Adjusted Gross Revenue (AGR). The idea is that this money would be used to fund the expansion of telecom networks in remote and rural areas, where private companies may otherwise resist from offering their services due to it not being a revenue generating market.

With the Centre notifying parts of the Telecom Act, it has also proposed additional rules for the final maulover of the USOF as the Digital Bharat Nidhi (DBN) — which would have a relatively wider scope than the USOF.

How Digital Bharat Nidhi will work

As per the Telecom Act, contributions made by telecom companies towards the Digital Bharat Nidhi will first be credited to the Consolidated Fund of India, and the Centre will deposit the collection to the Nidhi from time to time.

The funds collected under the DBN will be used to support universal service through promoting access to and delivery of telecommunication services in underserved rural, remote and urban areas; fund research and development of telecommunication services, technologies, and products; support pilot projects, consultancy assistance and advisory support for improving connectivity, and for the introduction of telecommunication services, technologies, and products.

As per the draft rules issued by the DoT on how the DBN will be operationalised, the Centre will appoint an "administrator" who



File

will select "DBN implementers" through "bidding" or invitation of applications from eligible persons.

EXPLAINED

This so-called administrator will determine the modalities of providing funding to DBN implementers on a case-by-case basis, including but not limited to full funding, partial funding, co-funding, market risk mitigation, and risk capital.

The DBN shall fund schemes and projects for providing targeted access to telecommunication services for underserved groups of the society such as women, persons with disabilities and economically and socially weaker sections, as per the draft rules.

The schemes and projects for the purpose of achieving the objectives of the DBN shall meet criteria such as the introduction of next generation telecommunication technologies in underserved rural, remote and urban areas; improving affordability of telecommunication services in such areas; promote innovation, research and development, promotion and commercialisation of indigenous technology development and associated intellectual property, including creation of regulatory sandboxes; developing and establishing relevant standards to meet national requirements and their standardisation in international standardisation bodies; and encouraging start-ups in the telecommunication sector including the manufacturing of telecommunication equipment, among other things. "Any DBN implementer receiving funding from the DBN for establishing, operating, main-

aining, or expanding a telecommunication network shall share and make available such telecommunication network, and telecommunication services being delivered using such telecommunication networks on an open and non-discriminatory basis, and in accordance with the instructions issued from time to time by the administrator," the draft rules said.

Underutilisation of USOF

Since its establishment in 2003, a common criticism of the USOF has been its relative under-utilisation.

According to information shared in Parliament by former Minister of State for Communications Devisush Chaudan in December 2022, between 2017 and 2022, the government had collected Rs 41,740 crore as part of contributions made by telcos towards the USOF of which it had utilised Rs 30,213 crore — a utilisation of about 72 per cent. Most notably, in 2019-20, the collection was Rs 7,962 crore, of which the utilised amount was just Rs 2,926 crore. Between the period specified by the former minister, the government did not achieve complete utilisation even once.

In fact, in FY23, the government revised the expenditure estimates from the USOF fund to Rs 3,010 crore, which is 200 per cent less than the budgetary estimate of Rs 9,000 crore. A key reason for the weak spending from the USOF can be attributed to the under-spending of funds allocated for the BharatNet project for fibre connectivity to villages.

Context

- The Department of Telecommunications (DoT) on July 4 released draft rules to operationalise the Digital Bharat Nidhi, in a fresh attempt by the central government at increasing telecom connectivity in rural areas.

Digital Bharat Nidhi

- The goal is to improve and expand efforts to connect people to the Internet, especially in rural, remote, and poor urban areas.
- This plan changes the current **Universal Service Obligation Fund (USOF)** by moving money to help make phone services more accessible and broad.
Universal Service Obligation Fund (USOF)
- The **USOF was created in 2003** to improve telecom services in parts of the country that don't make a lot of money.
- It is funded by a 5% tax on telecom operators' **adjusted gross revenue (AGR)**.



Transition to Digital Bharat Nidhi (DBN)

- By switching from the USOF to the DBN, the government hopes to fix problems from the past and make assets stretch further. Besides continuing to enhance rural telecom services, the DBN will also add to:
- Research and development in telecommunication technologies.
- Help with pilot projects and consulting services that will improve connectivity.
- Telecommunications services that help underserved groups, like women and people with disabilities, should be financed.
- Making the telecom sector more open to new ideas and technologies made in the country.



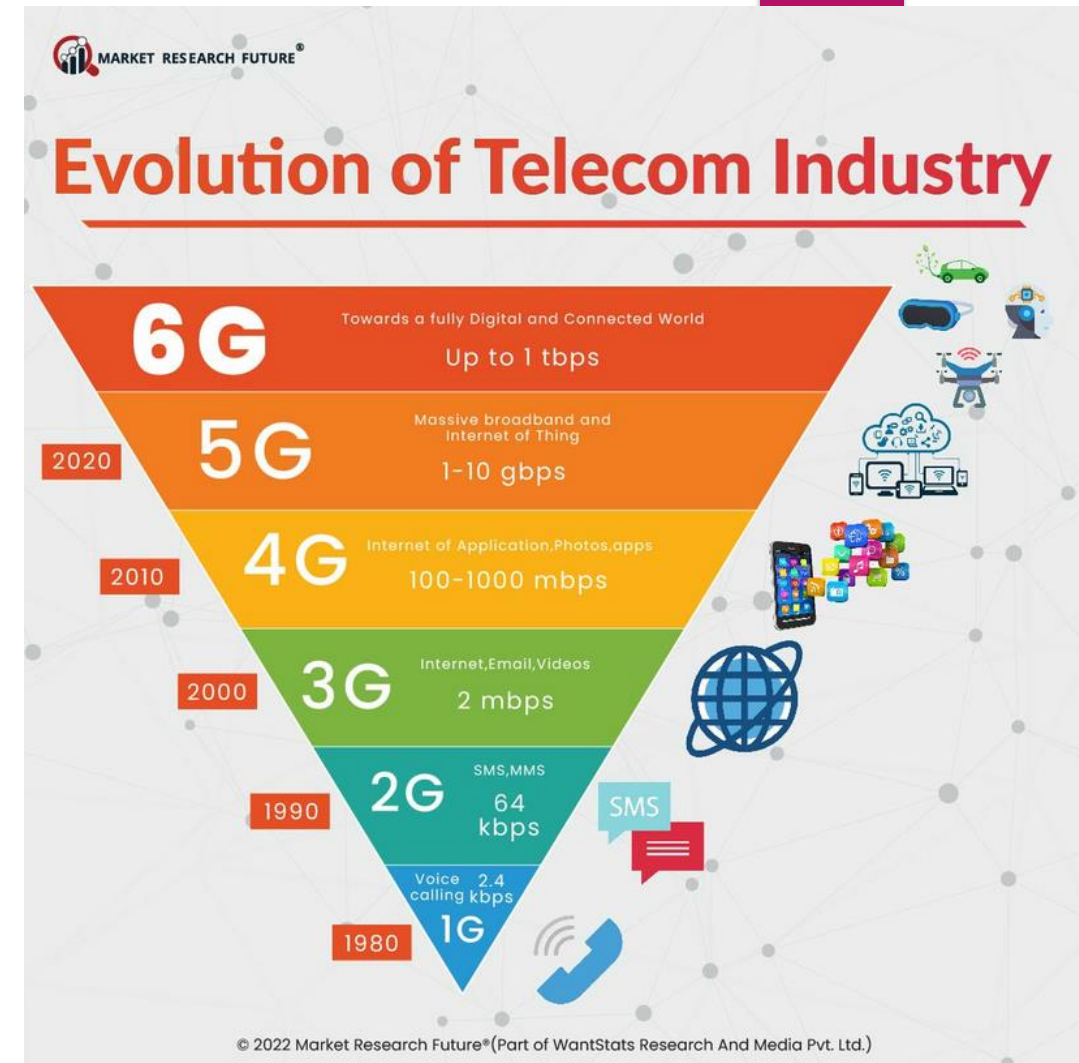
Operational Framework

- According to the new proposed rules, telecom companies will first put their payments into the **Consolidated Fund of India**.
- The DBN will then get money from this fund. The operational model calls for choosing an administrator to manage the fund and hiring DBN implementers through bidding or direct applications.
- These implementers will carry out different projects according to DBN rules, with a focus on providing services openly and fairly for everyone.



Goals and Impact

- The DBN is meant to do more than just expand telecom services. It's also meant to make the telecom industry a better place for technology innovation and new businesses to start up.
- It wants to break new ground by using cutting-edge technologies and setting up regulatory sandboxes where new ideas can be tested in a safe setting.
- India's telco sector will also be more competitive on the world stage thanks to its focus on standardization and international compliance.



Are scientists finally beating antimicrobial resistance?

WHAT'S AMR?

Resistance of a micro-organism to an antibiotic that was originally effective in treating infections caused by it

Why India needs to curb antibiotic overuse

- India's bacterial disease burden is highest in the world
- Large population suffers from diseases like diabetes, heart ailments and cancer, making them prone to infections
- 40% children are malnourished and at risk of infections
- More and more drug-resistant bacteria are being identified



CONTEXT

- Researchers used AI to predict **800,000 potential antibiotic agents**. Observers said the fight against antimicrobial resistance is gaining momentum.
- Antimicrobial resistant infections kill millions every year. They have the potential to take us back to the dark ages, when common infections like urinary tract infections (UTIs) or pneumonia were lethal and untreatable.

- **Anti microbial resistance** occurs when the germs that cause infections — bacteria, viruses, or fungi — develop ways to evade the drugs used to treat them.
- **Over-use of antibiotics** in places like chicken farms and healthcare clinics has become a leading driver of AMR.

Using AI to discover new antibiotics

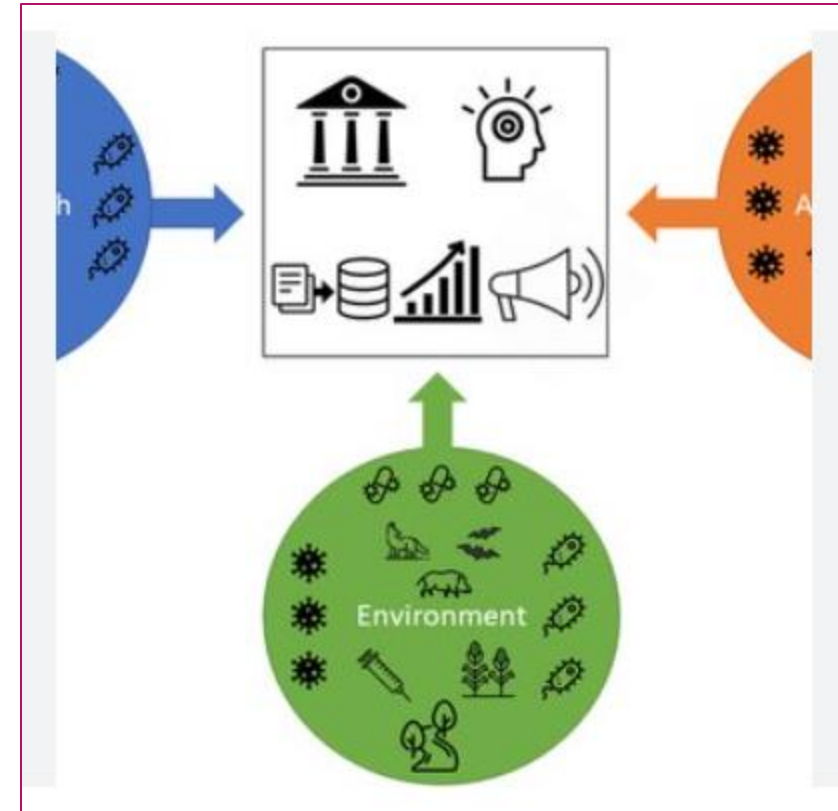
- Bacteria fight against each other constantly in environments like **soil, ocean, human and animal gut** using **warfare tools called peptides** which are shot against other bacteria to kill them. The researchers mined this space for antibiotic peptides and found some hidden gems,”
- Total, 863,498 new antimicrobial peptides were predicted, more than 90% of which had never been described before.



- All the peptides had the same general mechanism of action for killing bacteria — by disrupting the cell membranes which protect bacteria from the environment.

Peptide antibiotics effective against bacterial infections

- These peptides could be useful as antibiotics, the researchers synthesized 100 peptides and tested them against 11 disease-causing bacterial strains in laboratory dishes.
- They found that 79 peptides disrupted bacterial membranes and 63 peptides specifically targeted antibiotic-resistant bacteria, such as *Escherichia coli* (E.coli) and *Staphylococcus aureus*



- It allows other scientists to review the 863,498 peptides and develop antibiotic drugs
- Scientist could also use the dataset to create antibiotics against which bacteria do not develop resistances, greatly helping in the long-term fight against AMR.
- The next major challenge is creating new antibiotic agents which are commercially viable.
- We only use new antibiotics when the old ones don't work anymore. This is good as it prevents bacteria from developing resistances to them but means they're not financially viable,”



Anti-Microbial Resistance

CAUSES OF ANTIBIOTIC RESISTANCE

Over-prescribing of antibiotics

Patients not taking antibiotics as prescribed

Unnecessary antibiotics used in agriculture

Poor infection control in hospitals and clinics

Poor hygiene and sanitation practices

Lack of rapid laboratory tests

Consequences of AMR

Greater number of AMR deaths (currently 5mn per year)

Routine treatment becomes riskier to perform

Economic loss

Steps taken

- | India | Global |
|---|--|
| <ul style="list-style-type: none">• Chennai declaration (2012): It promotes antibiotic stewardship• Red-line campaign• National action plan on AMR (2017-21) | <ul style="list-style-type: none">• EU: ban on preventive mass medication in animals using antibiotics or other drugs.• UN: One Health Approach• WHO: AWaRe Classification of antibiotics |

CAUSES OF ANTIBIOTIC RESISTANCE

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Poor infection control in hospitals and clinics

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Lack of rapid laboratory tests

#AntibioticResistance
www.who.int/antibiotic-resistance



Thank you

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