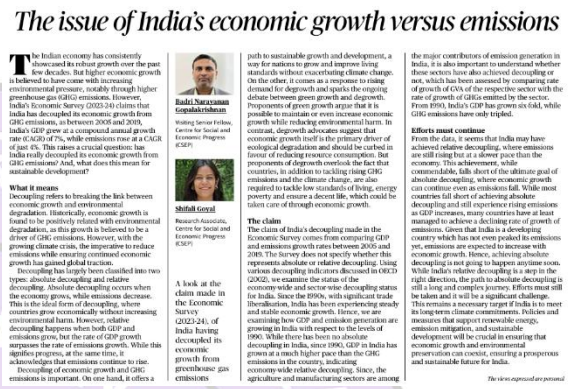
9th Dec, 2024

1. The issue of India's economic growth versus emissions
GS 3 (Economy)

- **Why in News:** The Indian Economic Survey (2023-24) claims that India has decoupled its economic growth from greenhouse gas (GHG) emissions. Between 2005 and 2019, India's GDP grew at a compound annual growth rate (CAGR) of 7%, while emissions grew at a slower CAGR of 4%. This claim raises questions about the possibility and implications of decoupling in India's context, especially concerning sustainable development and environmental goals.


The issue of India's economic growth versus emissions

The Indian economy has consistently showcased its robust growth over the past few decades. But higher economic growth is believed to have come with increasing environmental pressure, notably through higher greenhouse gas (GHG) emissions. However, India's Economic Survey (2023-24) claims that India has decoupled its economic growth from GHG emissions, as between 2005 and 2019, India's GDP grew at a compound annual growth rate (CAGR) of 7%, while emissions rose at a CAGR of just 4%. This raises a crucial question: has India really decoupled its economic growth from GHG emissions? And, what does this mean for sustainable development?

What it means

Decoupling refers to breaking the link between economic growth and environmental degradation. Historically, economic growth is found to be positively related with environmental degradation, as this growth is believed to be a driver of GHG emissions. However, with the growing climate crisis, the imperative to reduce emissions while ensuring continued economic growth has gained global traction.

Decoupling has largely been classified into two types: absolute decoupling and relative decoupling. Absolute decoupling occurs when the economy grows, while emissions decrease. This is the ideal form of decoupling, where countries grow economically without increasing environmental harm. However, relative decoupling happens when both GDP and emissions grow, but the rate of GDP growth surpasses the rate of emissions growth. While this signifies progress, at the same time, it acknowledges that emissions continue to rise.

Decoupling of economic growth and GHG emissions is important. On one hand, it offers a path to sustainable growth and development, a way for nations to grow and improve living standards without exacerbating climate change. On the other, it comes as a response to rising demand for degrowth and sparks the ongoing debate between green growth and degrowth. Proponents of green growth argue that it is possible to maintain or even increase economic growth while reducing environmental harm. In contrast, degrowth advocates suggest that economic growth itself is the primary driver of ecological degradation and should be curbed in favour of reducing resource consumption. But proponents of degrowth overlook the fact that countries, in addition to tackling rising GHG emissions and the climate change, are also required to tackle low standards of living, energy poverty and ensure a decent life, which could be taken care of through economic growth.

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A look at the claim made in the Economic Survey (2023-24), of India having decoupled its economic growth from greenhouse gas emissions

The claim

The claim of India's decoupling made in the Economic Survey comes from comparing GDP and emissions growth rates between 2005 and 2019. The Survey does not specify whether this represents absolute or relative decoupling. Using various decoupling indicators discussed in OECD (2002), we examine the status of the economy-wide and sector-wise decoupling status for India. Since the 1990s, with significant trade liberalisation, India has been experiencing steady and stable economic growth. Hence, we are examining how GDP and emission generation are growing in India with respect to the levels of 1990. While there has been no absolute decoupling in India, since 1990, GDP in India has grown at a much higher pace than the GHG emissions in the country, indicating economy-wide relative decoupling. Since, the agriculture and manufacturing sectors are among the major contributors of emission generation in India, it is also important to understand whether these sectors have also achieved decoupling or not, which has been assessed by comparing rate of growth of GVA of the respective sector with the rate of growth of GHGs emitted by the sector. From 1990, India's GDP has grown six-fold, while GHG emissions have only tripled.

Efforts must continue

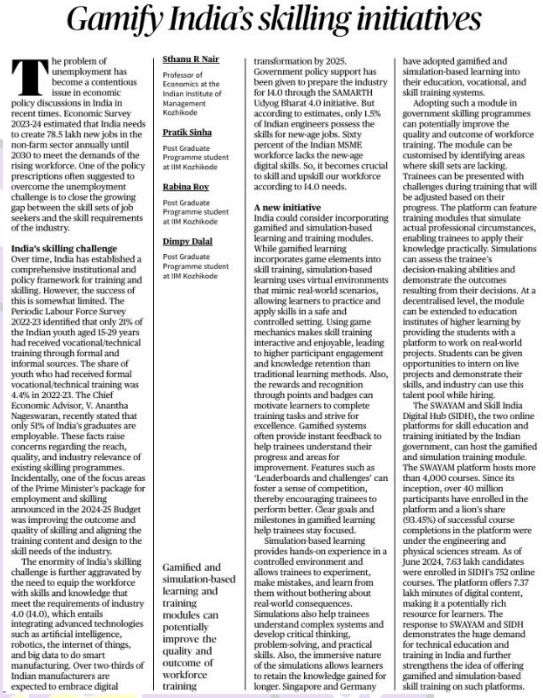
From the data, it seems that India may have achieved relative decoupling, where emissions are still rising but at a slower pace than the economy. This achievement, while commendable, falls short of the ultimate goal of absolute decoupling, where economic growth can continue even as emissions fall. While most countries fall short of achieving absolute decoupling and still experience rising emissions as GDP increases, many countries have at least managed to achieve a declining rate of growth of emissions. Given that India is a developing country which has not even peaked its emissions yet, emissions are expected to increase with economic growth. Hence, achieving absolute decoupling is not going to happen anytime soon. While India's relative decoupling is a step in the right direction, the path to absolute decoupling is still a long and complex journey. Efforts must still be taken and it will be a significant challenge. This remains a necessary target if India is to meet its long-term climate commitments. Policies and measures that support renewable energy, emission mitigation, and sustainable development will be crucial in ensuring that economic growth and environmental preservation can coexist, ensuring a prosperous and sustainable future for India.

The views expressed are personal

- **Understanding Decoupling**
  - **Types of Decoupling**: Decoupling refers to breaking the link between economic growth and environmental degradation. It is classified into two types: absolute decoupling, where economic growth occurs without increasing emissions, and relative decoupling, where GDP grows faster than emissions, but emissions still rise.
  - **Global Imperative for Decoupling**: As the climate crisis escalates, decoupling becomes crucial for nations aiming to sustain economic growth while reducing their environmental footprint. This aligns with the global push for green growth, where economic development is pursued with reduced environmental harm.
  - **Debate on Growth Models**: While proponents of green growth advocate for economic expansion alongside environmental preservation, degrowth advocates argue that economic growth itself exacerbates ecological degradation and should be restrained. However, the degrowth approach overlooks the need to address poverty and improve living standards through economic growth.
- **India's Decoupling Claim**
  - **Relative Decoupling Achieved**: India's Economic Survey compares the GDP and emissions growth rates from 2005 to 2019, indicating that GDP growth outpaced emissions growth, suggesting relative decoupling. However, it is unclear whether this represents absolute decoupling.
  - **Sectoral Contribution to Emissions**: The agriculture and manufacturing sectors, key contributors to India's GHG emissions, have shown varying rates of decoupling. Since 1990, while India's GDP has grown six-fold, emissions have only tripled, indicating relative decoupling across the economy.
  - **Limitations of Relative Decoupling**: Although relative decoupling is a step in the right direction, India has not yet achieved absolute decoupling, where emissions would decline even as GDP grows. Given that India is still in its developmental phase, achieving absolute decoupling will be a long-term and challenging goal.
- **Challenges and the Path Ahead**
  - **Emissions Growth Despite Economic Progress**: India's emissions are expected to continue rising as economic growth accelerates, especially since it has not yet reached the peak of its emissions. Therefore, absolute decoupling remains an ambitious goal in the near future.
  - **The Role of Policy and Innovation**: Achieving absolute decoupling will require significant efforts, including policies promoting renewable energy, emission mitigation, and sustainable development practices. Continued investment in clean technologies will be crucial for balancing economic growth and environmental sustainability.
  - **Future Climate Commitments**: India's long-term climate targets necessitate that it works toward achieving both relative and eventually absolute decoupling. This journey will require concerted efforts from the government, businesses, and citizens to ensure that environmental preservation accompanies growth.

2. Gamify India's skilling initiatives
GS 3 (Economy)

- **Why in News:** The issue of unemployment has become a significant concern for India's economic policy. The Economic Survey 2023-24 estimates the need for 78.5 lakh new jobs in the non-farm sector annually until 2030. A key policy prescription to tackle this challenge is to bridge the growing gap between the skills of job seekers and the needs of the industry.



Gamify India's skilling initiatives

The problem of unemployment has become a contentious issue in economic policy discussions in India in recent times. Economic Survey 2023-24 estimated that India needs to create 78.5 lakh new jobs in the non-farm sector annually until 2030 to meet the demands of the rising workforce. One of the policy prescriptions often suggested to overcome the unemployment challenge is to close the growing gap between the skill sets of job seekers and the skill requirements of the industry.

India's skilling challenge

Over time, India has established a comprehensive institutional and policy framework for training and skilling. However, the success of this is somewhat limited. The Periodic Labour Force Survey 2022-23 identified that only 21% of the Indian youth aged 15-29 years had received vocational/technical training through formal and informal sources. The share of youth who had received formal vocational/technical training was 4.4% in 2022-23. The Chief Economic Advisor, V. Anantha Nageswaran, recently stated that only 51% of India's graduates are employable. These facts raise concerns regarding the reach, quality, and industry relevance of existing skilling programmes. Incidentally, one of the focus areas of the Prime Minister's package for employment and skilling announced in the 2024-25 Budget was improving the outcome and quality of skilling and aligning the training content and design to the skill needs of the industry.

The enormity of India's skilling challenge is further aggravated by the need to equip the workforce with skills and knowledge that meet the requirements of industry 4.0 (I4.0), which entails integrating advanced technologies such as artificial intelligence, robotics, the internet of things, and big data to do smart manufacturing. Over two-thirds of Indian manufacturers are expected to embrace digital transformation by 2025. Government policy support has been given to prepare the industry for I4.0 through the SAMARTH Udyog Bharat 4.0 initiative. But according to estimates, only 1.5% of Indian engineers possess the skills for new-age jobs. Sixty percent of the Indian MSME workforce lacks the new-age digital skills. So, it becomes crucial to skill and upskill our workforce according to I4.0 needs.

A new initiative

India could consider incorporating gamified and simulation-based learning and training modules. While gamified learning incorporates game elements into skill training, simulation-based learning uses virtual environments that mimic real-world scenarios, allowing learners to practice and apply skills in a safe and controlled setting. Using game mechanics makes skill training interactive and enjoyable, leading to higher participant engagement and knowledge retention than traditional learning methods. Also, the rewards and recognition through points and badges can motivate learners to complete training tasks and strive for excellence. Gamified systems often provide instant feedback to help trainees understand their progress and areas for improvement. Features such as 'Leaderboards and challenges' can foster a sense of competition, thereby encouraging trainees to perform better. Clear goals and milestones in gamified learning help trainees stay focused.

Simulation-based learning provides hands-on experience in a controlled environment and allows trainees to experiment, make mistakes, and learn from them without bothering about real-world consequences. Simulations also help trainees understand complex systems and develop critical thinking, problem-solving, and practical skills. Also, the immersive nature of the simulations allows learners to retain the knowledge gained for longer. Singapore and Germany have adopted gamified and simulation-based learning into their education, vocational, and skill training systems.

Adopting such a module in government skilling programmes can potentially improve the quality and outcome of workforce training. The module can be customised by identifying areas where skill sets are lacking. Trainees can be presented with challenges during training that will be adjusted based on their progress. The platform can feature training modules that simulate actual professional circumstances, enabling trainees to apply their knowledge practically. Simulations can assess the trainee's decision-making abilities and demonstrate the outcomes resulting from their decisions. At a decentralised level, the module can be extended to education institutes of higher learning by providing the students with a platform to work on real-world projects. Students can be given opportunities to intern on live projects and demonstrate their skills, and industry can use this talent pool while hiring.

The SWAYAM and Skill India Digital Hub (SIDH), the two online platforms for skill education and training initiated by the Indian government, can host the gamified and simulation training module. The SWAYAM platform hosts more than 4,000 courses. Since its inception, over 40 million participants have enrolled in the platform and a lion's share (93.45%) of successful course completions in the platform were under the engineering and physical sciences stream. As of June 2024, 763 lakh candidates were enrolled in SIDH's 752 online courses. The platform offers 7.37 lakh minutes of digital content, making it a potentially rich resource for learners. The response to SWAYAM and SIDH demonstrates the huge demand for technical education and training in India and further strengthens the idea of offering gamified and simulation-based skill training on such platforms.

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Gamified and simulation-based learning and training modules can potentially improve the quality and outcome of workforce training

- **India's Skilling Challenge**
  - **Limited Reach of Skilling Programs:** Despite India's comprehensive institutional and policy framework for skilling, the outcomes remain limited. The 2022-23 Periodic Labour Force Survey found that only 21% of youth aged 15-29 had received vocational/technical training, and just 4.4% received formal training.
  - **Employability of Graduates**: India faces a significant challenge in employability, with only 51% of graduates considered employable, according to the Chief Economic Advisor. This highlights concerns regarding the quality and industry relevance of existing skill training programs.
  - **Government Focus on Quality Skilling**: In the 2024-25 Budget, the Prime Minister's package for employment and skilling emphasized improving the outcomes and quality of skilling, aligning training content with the needs of industry to better equip youth for the job market.
- **Skilling for Industry 4.0**
  - **Industry 4.0 Demands**: India faces a challenge in upskilling its workforce for Industry 4.0, which incorporates advanced technologies such as AI, robotics, IoT, and big data. Over two-thirds of Indian manufacturers are expected to embrace digital transformation by 2025.
  - **Shortage of New-Age Skills:** Estimates show that only 1.5% of Indian engineers possess the skills required for new-age jobs, and 60% of the MSME workforce lacks digital skills, exacerbating the need for targeted skilling in these areas.
  - **Government Initiatives:** The SAMARTH Udyog Bharat 4.0 initiative by the government aims to support the digital transformation of the industry. However, it is crucial to scale up efforts to meet the increasing demand for digital skills across sectors.
- **Innovative Skilling Solutions: Gamification and Simulation**
  - **Gamified Learning for Engagement:** Gamified learning, which incorporates game elements, offers an interactive and engaging way to enhance skill training. It improves knowledge retention, motivates learners through rewards, and provides instant feedback on progress.
  - **Simulation-Based Learning for Practical Skills:** Simulation-based learning, which mimics real-world scenarios, helps trainees apply their skills in a controlled environment. It allows for hands-on experience, encouraging critical thinking, problem-solving, and decision-making.
  - **Adoption in Government Programs:** India can integrate gamified and simulation-based learning into existing platforms like SWAYAM and Skill India Digital Hub (SIDH). These platforms have already garnered significant participation, with millions of enrollments, and could be used to offer high-quality training, catering to the industry's evolving needs.

3. Implementation of New Criminal Laws
GS 2 (Governance)

- **Why in News:** Chandigarh has become the first city in India to fully implement three new criminal laws introduced five months ago. These laws aim to modernize and strengthen the criminal justice system by integrating key pillars such as the police, forensics, and judiciary.

Chandigarh leads in enforcing criminal laws

Union Territory is first in the country to implement three new laws in their entirety; it has ramped up Internet speed at police stations, provided new tablets to investigators, and set up videoconferencing facilities for speedy trials; the police also use the DigiLocker service to store digital evidence

Vijaita Singh
CHANDIGARH

Five months after three criminal laws came into effect in the country, Chandigarh has become the first among all States and Union Territories to implement the laws in their entirety.

To link key pillars of the criminal justice system – the police, forensics and judiciary – the Chandigarh administration has ramped up Internet speed at police stations, provided new tablets to investigators, and set up videoconferencing facilities for speedy trials.

The police are also using "Chitra Khoji", a facial recognition software developed by the government, to match photos of suspects with a database of photos of 1 crore prisoners.

DigiLocker, the government's cloud-based wallet to store documents such as driving licence and Aadhaar, is being used to upload crime scene videos and related information.

Director-General of Police S.S Yadav said since the laws were rolled out on July 1, the police had registered 1,179 first information reports (FIRs) and 245 chargesheets, and secured conviction in four cases.

The Bharatiya Nyaya Sanhita, Bharatiya Sakshya Adhiniyam, and Bharatiya Nagarik Suraksha Sanhita replaced the Indian Penal Code of 1860, the Indian Evidence Act of 1872, and the Code of Criminal Procedure of 1898, respectively.

As these laws require upgrading infrastructure and forensic capabilities, the States have been given five years to implement all aspects of the laws.

Conviction rate

Home Minister Amit Shah said on December 3 that the new laws had improved conviction rate from 58% to around 85%. Across the country, more than 11 lakh FIRs were filed under the new laws and judgments delivered in 9,500 cases, he added. The new laws have provisions for time-bound investigation and trial and registration of Zero FIRs irrespective of jurisdiction.

Senior Superintendent of Police Kanwardeep Kaur said the Chandigarh Police had registered 14 Zero FIRs since July 1 and all cases pertained to sexual offences against women.

"If a victim files a Zero FIR for a sexual offence at a police station, the police have to complete formalities such as medical examination and send the report online to the police station concerned," Ms. Kaur said.

The officer said a woman who was sexually assaulted in Delhi filed a case after arriving in Chandigarh, two months after the crime was committed, as she was under the influence of the accused.

The Chandigarh Police recently transferred another Zero FIR case to the Andaman and Nicobar Police as the crime occurred there and the victim, being a Chandigarh resident, chose to complain here.

There are 20 police stations in Chandigarh, including specialised units. As the new law mandates mandatory audiovisual recording of crime scenes and search-and-seizure procedures, police stations were provided 170 tablets, Mr. Yadav said.

"The audio-video recording has a time stamp and once uploaded on Digilocker, it cannot be tampered with as a hash value is generated. The courts can also access the recording. Since the video cannot be downloaded, the chain of custody is intact," Ms. Kaur said.

Digitising courts

At least two courts have become fully online and preparation is on to digitise 30 other courts.

"The new laws have provisions to produce an accused through videoconference in a court. It saves resources, fuel and is also safe. In heinous cases, online trial is preferred," the officer said.

Another official said owing to the sensitivity of the cases registered against alleged gangster Lawrence Bishnoi, he joins all cases in court through videoconference.

"In Chandigarh, 80 videoconferencing spots have been identified, which include hospitals, forensic stations and courts where government officials can depose. Five videoconferencing spots are also being set up at the offices of sub-divisional magistrates for private witnesses to depose online," Ms. Kaur said.

Training session: Kanwardeep Kaur, Senior Superintendent of Police, Chandigarh, explains the various facets of the new criminal laws during a programme on Sunday. VIJAITA SINGH

- **About New Criminal Laws:**
  - The three laws introduced are:
    - Bharatiya Nyaya Sanhita (replaces the Indian Penal Code of 1860)
    - Bharatiya Sakshya Adhiniyam (replaces the Indian Evidence Act of 1872)
    - Bharatiya Nagarik Suraksha Sanhita (replaces the Code of Criminal Procedure of 1898)
  - These new laws require upgrading infrastructure and forensic capabilities. States have five years to fully implement them.
  - The new law seeks to replace the colonial-era sedition law which was mainly used against Indian political leaders seeking independence from British rule.
  - Also, the state-of-the-art technologies have been incorporated in these laws.
  - The objective of these laws is not to punish anyone but give justice and in this process punishment will be given where it is required to create a sense of prevention of crime.
- **Need for Reforms in India's Criminal Justice System**
  - The need for reforms in India's criminal justice system arises due to several deep-rooted issues that hinder the delivery of justice:
    - **Colonial Legacy**: The current legal system is based on colonial-era laws inherited from British rule. These laws were designed to control and dominate the population rather than serve the interests of justice. Their relevance and effectiveness in today's democratic India are questionable.
    - **Ineffective Justice System**: The system often fails to protect the innocent or punish the guilty. Instead of delivering justice efficiently, the system frequently leads to harassment, especially for ordinary citizens, due to its outdated procedures and lack of timely action.
    - **Backlog of Cases**: India faces a massive backlog of approximately **35 million pending cases** in its courts, particularly at the local and district levels. This delay in the legal process denies justice to many individuals, particularly those waiting for long periods for their cases to be heard.
    - **High Number of Undertrials**: India has one of the highest proportions of **undertrial prisoners** in the world. Over **two-thirds** of India's prison population consists of individuals who are awaiting trial, further exacerbating the issue of overcrowded prisons and delayed justice.
    - **Police Challenges**: The police are an essential part of the criminal justice system, but they face significant challenges such as corruption, heavy workloads, and lack of accountability. These issues make it difficult for the police to carry out their duties fairly and efficiently, often delaying justice and compromising public trust.

- **Positive Aspects and Concerns**

Positive Aspects:	*Concerns:*
• **Modernization**: The new laws aim to modernize the criminal justice system by addressing contemporary challenges such as terrorism, organized crime, and the need for timely trials. • **Victim Protection**: The BNS prioritizes the protection of victims, especially women, and introduces measures to prevent crimes like mob lynching and deceitful sexual intercourse. • **Faster Justice**: With provisions like **Zero FIRs** and **timely trials**, the law seeks to speed up the judicial process and provide quicker relief to victims.	• **Extended Police Custody**: The increase in police custody duration from 15 days to 90 days could potentially lead to **abuses of power** and **unlawful detentions**. • **Trials in Absentia**: While trials in absentia can be useful for fugitives, it could also **compromise the rights** of the accused if not implemented with caution. • **Pressure on Infrastructure**: Implementing these laws requires substantial upgrades in police infrastructure, forensics, and judicial capacity, which may strain the existing resources.

4. **<u>Indian Star Tortoise (Geochelone elegans)</u>**
   GS 3 (Environment)

- **Why in News:** The increasing demand for Indian star tortoise (***Geochelone elegans***) as pets has led to their involvement in one of the **largest global wildlife trafficking networks**, making them a target for illegal trade.


Study brings Indian star tortoise to evidence-based conservation

Researchers have identified two genetically distinct groups of the species. The genetic divergences showed up as differences in physical features that could inform strategies on where and how to release and conserve rescued tortoises. Subhasree Sahoo, a Ph.D. student and first author of the study, says

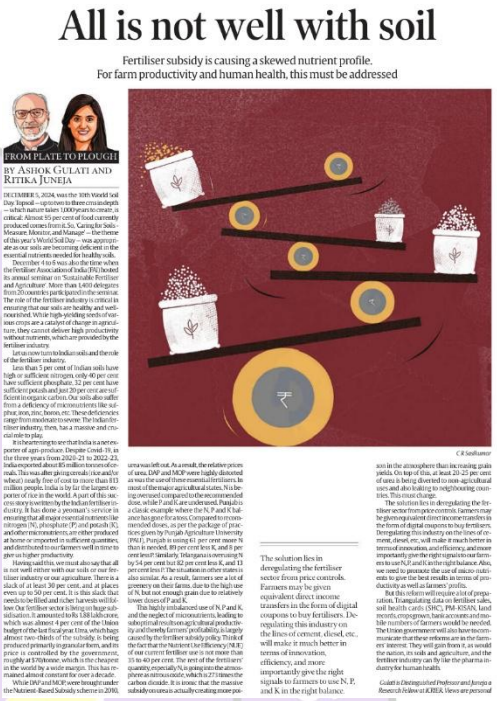
Sanjukta Mondal
BENGALURU

THE GIST

- **About Indian Star Tortoise (*Geochelone elegans*)**
  - The Indian star tortoise (***Geochelone elegans***) is a remarkable species known for its **striking obsidian shell and vibrant Sun-yellow star patterns**.
  - While these tortoises are **hardy herbivores** and have become popular **exotic pets**, their trade and ownership are illegal in India due to their vulnerability in the wild.
  - They are endemic to the subcontinent, found in northwest **India, south India, and Sri Lanka.**
  - **Legal Protection and Smuggling:** The Indian star tortoise is **protected** under the **Wildlife Protection Act of 1972** and is listed in **Appendix I of CITES**, which provides the highest level of protection.

5. All is Not Well with Soil
GS 3 (Environment)

- **Why in News:**
  - **The 10th World Soil Day**, celebrated on December 5, 2024, served as **a poignant reminder of the critical role soil health plays in sustaining life on Earth.**
  - Coinciding with this global event, **the Fertiliser Association of India (FAI) hosted its annual seminar on Sustainable Fertiliser and Agriculture,** to discuss the crucial role of fertilisers in nourishing soils and ensuring food security.
  - **This year's theme, Caring for Soils – Measure, Monitor, and Manage, highlighted the urgency of addressing soil degradation** and nutrient deficiencies that jeopardise agricultural productivity.


All is not well with soil

Fertiliser subsidy is causing a skewed nutrient profile. For farm productivity and human health, this must be addressed

FROM PLATE TO PLOUGH

BY ASHOK GULATI AND RITIKA JUNEJA

DECEMBER 5, 2024, was the 10th World Soil Day. Injustice to three crisis in depth — which nature takes 1,000 years to create, is critical. Almost 95 per cent of food currently produced comes from it. So, 'Caring for Soils – Measure, Monitor, and Manage' — the theme of this year's World Soil Day — was appropriate as our soils are becoming deficient in the essential nutrients needed for healthy soils.

December 4 to 6 was also the time when the Fertiliser Association of India (FAI) hosted its annual seminar on 'Sustainable Fertiliser and Agriculture'. More than 1,400 delegates from 26 countries participated in the seminar. The role of the fertiliser industry is critical in ensuring that our soils are healthy and well-nourished. While high-yielding seeds of various crops are a catalyst of change in agriculture, they cannot deliver high productivity without nutrients, which are provided by the fertiliser industry.

Let us now turn to Indian soils and the role of the fertiliser industry.

Less than 5 per cent of Indian soils have high or sufficient nitrogen, only 40 per cent have sufficient phosphate, 32 per cent have sufficient potash and just 20 per cent are sufficient in organic carbon. Our soils also suffer from a deficiency of micronutrients like sulphur, iron, zinc, boron, etc. These deficiencies range from moderate to severe. The Indian fertiliser industry, then, has a massive and crucial role to play.

It is heartening to see that India is a net exporter of agri-produce. Despite Covid-19, in the three years from 2020-21 to 2022-23, India exported about 85 million tonnes of cereals. This was after giving cereals (rice and/or wheat) nearly free of cost to more than 813 million people. India is by far the largest exporter of rice in the world. A part of this success story is written by the Indian fertiliser industry. It has done a yeoman's service in ensuring that all major essential nutrients like nitrogen (N), phosphate (P) and potash (K), and other micronutrients, are either produced at home or imported in sufficient quantities, and distributed to our farmers well in time to give us higher productivity.

Having said this, we must also say that all is not well either with our soils or our fertiliser industry or our agriculture. There is a slack of at least 30 per cent, and at places even up to 50 per cent. It is this slack that needs to be filled and is the harvest will follow. Our fertiliser sector is living on huge subsidisation. It amounted to Rs 1.88 lakh crore, which was almost 4 per cent of the Union budget of the last fiscal year. Urea, which bags almost two-thirds of the subsidy, is being produced primarily in granular form, and its price is controlled by the government, roughly at $70/tonne, which is the cheapest in the world by a wide margin. This has remained almost constant for over a decade.

While DAP and MOP, now brought under the Nutrient-Based Subsidy scheme in 2010, urea was left out. As a result, the relative prices of urea, DAP and MOP were highly distorted as was the use of these essential fertilisers. In most of the major agricultural states, N is being overused compared to the recommended dose, while P and K are underused. Punjab is a classic example where the N, P and K balance has gone for a toss. Compared to recommended doses, as per the package of practices given by Punjab Agriculture University (PAU), Punjab is using 61 per cent more N than is needed, 89 per cent less K, and 8 per cent less P. Similarly, Telangana is overusing N by 54 per cent but 82 per cent less K, and 13 per cent less P. The situation in other states is also similar. As a result, farmers see a lot of leeway on their farms, due to the high use of N, but not enough grain due to relatively lower doses of P and K.

This highly imbalanced use of N, P and K, and the neglect of micronutrients, leading to suboptimal results on agricultural productivity and thereby farmers' profitability, is largely caused by the fertiliser subsidy policy. Think of the fact that the Nutrient Use Efficiency (NUE) of our current fertiliser use is not more than 35 to 40 per cent. The rest of the fertilisers' quantity, especially N, is going into the atmosphere as nitrous oxide, which is 273 times the carbon dioxide. It is ironic that the massive subsidy on urea is actually creating more pollution in the atmosphere than increasing grain yields. On top of this, at least 20-25 per cent of urea is being diverted to non-agricultural uses, and also leaking to neighbouring countries. This must change.

The solution lies in deregulating the fertiliser sector from price controls. Farmers may be given equivalent direct income transfers in the form of digital coupons to buy fertilisers. Deregulating this industry on the lines of cement, diesel, etc., will make it much better in terms of innovation, efficiency, and more importantly, give the right signals to our farmers to use N, P, and K in the right balance. Also, we need to promote the use of micronutrients to give the best results in terms of productivity as well as farmers' profits.

But this reform will require a lot of preparation. Triangulating data on fertiliser sales, soil health cards (SHC), PM-KISAN, land records, cropgrown, bank accounts and mobile numbers of farmers would be needed. The Union government will also have to communicate that these reforms are in the farmers' interest. They will gain from it, as would the nation, in soils and agriculture, and the fertiliser industry can fly like the pharma industry for human health.

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- **The State of Indian Soils**
  - Indian soils are alarmingly deficient in essential nutrients. **Less than 5% of soils have sufficient nitrogen**, **40% are sufficient in phosphate, 32% in potash, and only 20% in organic carbon**.
  - Furthermore, **micronutrient deficiencies—such as sulphur, iron, zinc, and boron—range from moderate to severe.**
  - Despite these challenges, **India remains a global agricultural powerhouse**, **exporting 85 million tonnes of cereals from 2020-21 to 2022-23** while providing near-free grain to over 813 million people during the pandemic.
  - This **success is partially attributed to the efforts of the fertiliser industry, which ensures timely availability of nutrients like nitrogen (N), phosphate (P), and potash (K),** either through domestic production or imports.
- **An Analysis of Challenges in Indian Fertiliser Sector**
  - **Imbalance in Nutrient Use**
    - One of the most pressing challenges is the **disproportionate use of nitrogen (N) compared to other essential nutrients** like phosphorus (P) and potassium (K).
    - This **imbalance is primarily a consequence of India's fertiliser subsidy policy**, which heavily subsidises urea **making it significantly cheaper than other fertilisers like DAP** (di-ammonium phosphate) and MOP (muriate of potash).
    - As a result, **farmers tend to overuse urea, prioritising immediate cost savings** over long-term soil health.
    - The **misuse of fertilisers has led to skewed nutrient application** ratios in various states.
    - For example, **Punjab applies 61% more nitrogen than the recommended dose but underuses potash by 89% and phosphate by 8%.**
    - Similarly, **Telangana overuses nitrogen by 54% while applying 82% less potash and 13% less phosphate.**
  - **Low Nutrient Use Efficiency (NUE)**
    - India's current fertiliser practices result in low nutrient use efficiency, estimated to be just 35-40%.
    - This means that **more than half of the fertilisers applied to fields are not absorbed by plants**. Instead, they are **lost to the environment in various forms.**
    - **Nitrogen, for instance, escapes into the atmosphere as nitrous oxide**, a potent greenhouse gas with a warming potential 273 times greater than carbon dioxide.
    - **This not only exacerbates climate change but also represents a significant economic loss**, as the unutilised fertiliser fails to contribute to crop yields.

- **Subsidy-Driven Distortions**
  - **The fertiliser subsidy system**, while intended to support farmers, **creates several distortions.**
  - **Urea, which receives the lion's share of the subsidy** (about two-thirds), is priced at approximately **$70 per tonne, the lowest globally.**
  - This **artificially low price incentivises excessive use of urea**, often at the expense of other nutrients.
  - Moreover, **unlike DAP and MOP,** which were brought under the Nutrient-Based Subsidy (NBS) scheme in 2010, **urea remains outside its ambit.**
  - This exclusion has further widened the price gap between urea and other fertilisers, perpetuating imbalanced nutrient use.
- **Diversion and Smuggling of Fertilisers**
  - A **significant portion of subsidised urea**, estimated at 20-25%, is **diverted for non-agricultural purposes or smuggled to neighbouring countries.**
  - **Urea's low cost makes it an attractive input for industries** like plastics and textiles, while its illegal export fetches higher prices in international markets.
  - This **diversion deprives Indian farmers of critical resources and increases the financial burden on the government,** which must compensate for the subsidized urea lost to misuse.
- **Inadequate Focus on Micronutrients**
  - **While macronutrients like N, P, and K dominate the discourse**, micronutrients such as **zinc, boron, sulphur, and iron receive insufficient attention.**
  - **These elements**, though required in smaller quantities, **are crucial for plant health and productivity.**
  - The **lack of focus on micronutrients has led to widespread deficiencies in Indian soils**, further exacerbating the challenges of declining yields and soil degradation.

- **Broader Implications of these Challenges**
  - The cumulative impact of these issues is far-reaching. **Farmers face declining profitability as imbalanced fertiliser use results in suboptimal crop yields.**
  - **Soil health deteriorates over time**, reducing the long-term viability of agricultural land.
  - On a national scale, **the environmental damage caused by inefficient fertiliser use imposes additional economic and ecological costs.**
  - Furthermore, **the inefficiencies in the subsidy system strain government finances, with fertiliser subsidies consuming nearly 4% of the Union budget** in the last fiscal year.
- **The Need and Key Elements of Policy Reform to Better the Soil Health**
  - **Rationalizing Subsidies**
    - The current subsidy policy heavily favours urea, making it significantly cheaper than other fertilisers such as di-ammonium phosphate (DAP) and muriate of potash (MOP).
    - **This has distorted the price signals farmers receive**, leading to overuse of nitrogen and underuse of phosphorus and potassium.
    - **The resulting nutrient imbalance diminishes soil fertility**, reduces crop yields, and harms long-term agricultural sustainability.
    - **Reform is essential to rationalise these subsidies** and encourage balanced fertiliser use.
  - **Economic Sustainability**
    - Fertiliser subsidies constitute a massive financial burden on the government.
    - In the last fiscal year, **these subsidies amounted to ₹1.88 lakh crore, or nearly 4% of the Union budget.**
    - **Such high expenditure diverts resources from other critical sectors** like health and education.
    - **Reforming the subsidy mechanism could alleviate this fiscal strain** while still ensuring affordability for farmers.
  - **Environmental Protection**
    - **Current practices result in low nutrient use efficiency (NUE),** with only 35-40% of fertilisers absorbed by crops.

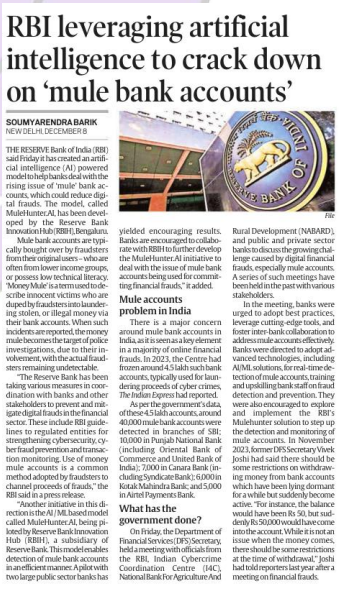
- The **remaining portion contributes to environmental pollution**, releasing greenhouse gases like nitrous oxide and contaminating water bodies through nitrogen runoff.
- **Policy changes could incentivise the adoption of environmentally friendly practices** and reduce these harmful effects.

- **Deregulation of Fertiliser Pricing**
  - A **critical step is to deregulate fertiliser prices**, allowing market forces to determine pricing.
  - **Farmers can be compensated through direct income support**, such as digital coupons or cash transfers, enabling them to purchase fertilisers based on need rather than distorted price signals.
  - **This approach would incentivise the efficient use of nutrients** while promoting innovation and competition within the fertiliser industry.
- **Expansion of the Nutrient-Based Subsidy (NBS) Scheme**
  - While DAP and MOP are already part of the NBS scheme, urea remains excluded.
  - **Bringing urea under the NBS scheme would help correct the price imbalances** between nitrogen, phosphorus, and potassium.
  - **This move could encourage more balanced nutrient use** and reduce the over-reliance on nitrogen.

- **Conclusion**
  - **Reforming India's fertiliser sector offers multifaceted benefits. It can enhance agricultural productivity, improve farmers' profitability**, and reduce environmental damage.
  - **A balanced and efficient use of NPK and micronutrients will rejuvenate Indian soils**, paving the way for sustainable agriculture.
  - Furthermore, **deregulation could elevate the fertiliser industry to global prominence, much like India's pharmaceutical sector in human health.**

6. RBI is leveraging AI to crack down on mule bank accounts
GS 3 (Economy)

- **Why in News:**
  - The Reserve Bank of India (RBI) announced the creation of an AI-powered model named **MuleHunter.AI** to tackle the growing issue of digital fraud involving "mule" bank accounts.
  - Developed by the **Reserve Bank Innovation Hub (RBIH)** in Bengaluru, the model aims to assist banks in identifying and managing fraudulent accounts effectively.



RBI leveraging artificial intelligence to crack down on 'mule bank accounts'

SOUMYARENDRA BARIK
NEW DELHI, DECEMBER 8

THE RESERVE Bank of India (RBI) said Friday it has created an artificial intelligence (AI) powered model to help banks deal with the rising issue of 'mule' bank accounts, which could reduce digital frauds. The model, called MuleHunter.AI, has been developed by the Reserve Bank Innovation Hub (RBIH), Bengaluru.

Mule bank accounts are typically bought over by fraudsters from their original users – who are often from lower income groups, or possess low technical literacy. 'Money Mule' is a term used to describe innocent victims who are duped by fraudsters into laundering stolen, or illegal money via their bank accounts. When such incidents are reported, the money mule becomes the target of police investigations, due to their involvement, with the actual fraudsters remaining undetectable.

"The Reserve Bank has been taking various measures in coordination with banks and other stakeholders to prevent and mitigate digital frauds in the financial sector. These include RBI guidelines to regulated entities for strengthening cybersecurity, cyber fraud prevention and transaction monitoring. Use of money mule accounts is a common method adopted by fraudsters to channel proceeds of frauds," the RBI said in a press release.

"Another initiative in this direction is the AI / ML based model called MuleHunter.AI, being piloted by Reserve Bank Innovation Hub (RBIH), a subsidiary of Reserve Bank. This model enables detection of mule bank accounts in an efficient manner. A pilot with two large public sector banks has yielded encouraging results. Banks are encouraged to collaborate with RBIH to further develop the MuleHunter.AI initiative to deal with the issue of mule bank accounts being used for committing financial frauds," it added.

Mule accounts problem in India

There is a major concern around mule bank accounts in India, as it is seen as a key element in a majority of online financial frauds. In 2023, the Centre had frozen around 4.5 lakh such bank accounts, typically used for laundering proceeds of cyber crimes, *The Indian Express* had reported.

As per the government's data, of these 4.5 lakh accounts, around 40,000 mule bank accounts were detected in branches of SBI; 10,000 in Punjab National Bank (including Oriental Bank of Commerce and United Bank of India); 7,000 in Canara Bank (including Syndicate Bank); 6,000 in Kotak Mahindra Bank; and 5,000 in Airtel Payments Bank.

What has the government done?

On Friday, the Department of Financial Services (DFS) Secretary, held a meeting with officials from the RBI, Indian Cybercrime Coordination Centre (I4C), National Bank For Agriculture And Rural Development (NABARD), and public and private sector banks to discuss the growing challenge caused by digital financial frauds, especially mule accounts. A series of such meetings have been held in the past with various stakeholders.

In the meeting, banks were urged to adopt best practices, leverage cutting-edge tools, and foster inter-bank collaboration to address mule accounts effectively. Banks were directed to adopt advanced technologies, including AI/ML solutions, for real-time detection of mule accounts, training and upskilling bank staff on fraud detection and prevention. They were also encouraged to explore and implement the RBI's MuleHunter solution to step up the detection and monitoring of mule accounts. In November 2023, former DFS Secretary Vivek Joshi had said there should be some restrictions on withdrawing money from bank accounts which have been lying dormant for a while but suddenly become active. "For instance, the balance would have been Rs 50, but suddenly Rs 50,000 would have come into the account. While it is not an issue when the money comes, there should be some restrictions at the time of withdrawal," Joshi had told reporters last year after a meeting on financial frauds.

- **Mule Accounts and Money Mules**
  - **About**
    - **Mule accounts**
      - Bank accounts used by criminals for illegal activities, such as laundering illicit funds.
      - These accounts are often purchased from individuals, typically from lower-income groups or those with low technical literacy.
    - **Money Mules**
      - Innocent individuals whose accounts are exploited by criminals to launder stolen or illegal money. They often become targets of police investigations, while the actual criminals remain undetected.
    - **Mule Accounts and Online Financial Frauds in India**
      - Mule accounts are a significant component in online financial frauds in India.
      - The Centre recently froze approximately **4.5 lakh mule bank accounts** used for laundering proceeds of cybercrime.

- Of these 4.5 lakh mule accounts, around 40,000 were detected in various branches of SBI.

- **Steps taken by the government to address the issue**
  - **Meeting on Digital Financial Fraud and Mule Accounts**
    - **Participants**: The Department of Financial Services (DFS) Secretary met with officials from the RBI, Indian Cybercrime Coordination Centre (I4C), NABARD, and public- and private-sector banks.
    - **Purpose**: To discuss the increasing challenge of digital financial fraud, particularly mule accounts.
    - **Key Directions and Strategies**
      - **Adoption of Best Practices**: Banks were urged to use advanced tools and collaborate across institutions.
      - **Technology Integration**: Emphasis was placed on employing AI/ML solutions for real-time mule account detection.
      - **Staff Training**: Banks were directed to train employees on fraud prevention and detection.
      - **MuleHunter Solution**: Banks were encouraged to implement the RBI's new MuleHunter solution for enhanced monitoring.
    - **Additional Measures and Proposals**
      - **Restrictions on Withdrawals**: Experts have suggested limits on withdrawals from dormant accounts that suddenly receive large sums.
      - **RBI Hackathon**: The Reserve Bank is hosting a "Zero Financial Frauds" hackathon, with a focus on mule accounts
        - The aim is to encourage development of innovative solutions to tackle the problem.

- **MuleHunter. AI Initiative**
  - **Background**
    - **Evaluation of Current Systems**: The Reserve Bank Innovation Hub (RBIH) worked with banks to assess existing methods for identifying and reporting mule accounts.
    - **Limitations of Rule-Based Detection**: Traditional systems often face high false-positive rates and slow processing, leading to undetected mule accounts.
  - **About**
    - The RBI has developed MuleHunter. AI, an AI-powered tool to efficiently detect mule bank accounts.
    - A pilot test conducted with two large public sector banks showed promising results.
      - The tool was created after analyzing 19 different mule account behavior patterns with banks.
      - Early testing has shown improved detection efficiency and accuracy.
    - The RBI has urged banks to collaborate with its Innovation Hub to enhance the MuleHunter. AI model and address financial frauds effectively.
  - **How MuleHunter. AI Works**
    - **AI/ML-Powered Solution**: Utilizes machine learning algorithms to process transaction data and account details, predicting mule accounts more precisely and quickly.
    - **Focus on Illicit Fund Flows**: The platform targets the identification of illicit fund movements into mule accounts, aiding banks in detecting fraud effectively.
  - **Significance and Impact**
    - **Addressing Financial Fraud**: Highlights the importance of adopting advanced technologies to tackle the growing complexity and scale of financial fraud.
    - **Transformative Step**: The RBI views MuleHunter. AI as a crucial advancement toward enhancing the safety and resilience of the financial ecosystem.

7. The Oilfields (Regulation and Development) Amendment Bill, 2024
GS 2 (Governance)

- **Why in News:**
  - The Rajya Sabha has passed the Oilfields (Regulation and Development) Amendment Bill, 2024, with the aim of boosting domestic production of petroleum and other mineral oils while encouraging private investment.


The new Oilfields Bill, concerns it raises about states' rights

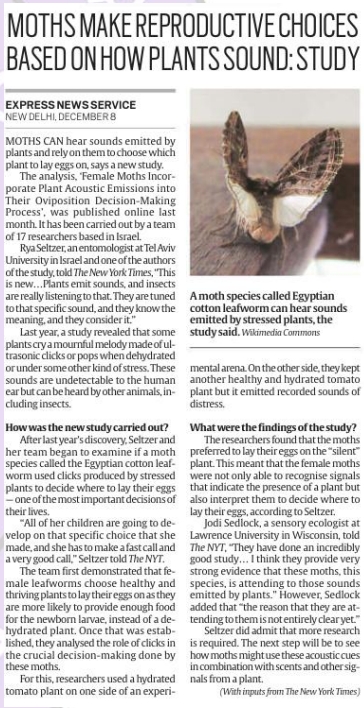
  - This amendment seeks to address gaps in the current law [**the Oilfields (Regulation and Development) Act, 1948**], streamline regulations, and reduce India's dependence on imports.
  - However, **the Bill** (introduced by the Ministry of Petroleum and Natural Gas) **has sparked criticism** over its potential impact on state rights and environmental concerns.
- **Key Features of the Oilfields Bill:**
  - **Clarification of mineral oil definition:**
    - The Bill defines "mineral oils" **to include hydrocarbons in various forms**, such as crude oil, natural gas, and petroleum.
    - **It excludes resources like coal, lignite, and helium** associated with petroleum or coal, as these fall under the Mines and Minerals (Development and Regulation) Act, 1957.
  - **Shift from mining to petroleum leases:**
    - **Replaces references to "mining leases" with "petroleum leases,"** which are newly defined to include activities such as exploration, production, and disposal of mineral oils.
    - The Centre's power to regulate petroleum leases supersedes earlier provisions for mining leases.
  - **Encouragement of private investment:**
    - Introduces measures to **attract private players to boost domestic petroleum production**.
    - Maintains existing lease terms, ensuring no disadvantage to lessees during the lease period.
    - **Removes criminal penalties** for violations of the Act, replacing them with significant fines (up to ₹25 lakh) and additional daily penalties for persistent violations.
  - **Adjudication of penalties:**
    - **The central government will appoint** an officer of the rank of Joint Secretary or above for adjudication of penalties.
    - **Appeals against the decisions** of the Adjudicating Authority will lie before the Appellate Tribunal specified in the Petroleum and Natural Gas Board Regulatory Board Act, 2006.
    - The 2006 Act designates the **Appellate Tribunal for Electricity,** constituted under the Electricity Act, 2003, as the Appellate Tribunal.
- **Objectives and Potential Impacts of the Oilfields Bill:**
  - **Boosting domestic production:**
    - Encourages private investment to reduce reliance on petroleum imports.
    - Modernises regulations to reflect industry needs and technological advancements.
  - **Strengthening environmental oversight:** Expands the Centre's authority to frame rules promoting renewable energy and reducing greenhouse gas emissions at oilfields.
- **Criticisms and Concerns Regarding the Oilfields Bill:**
  - **Impact on state rights:**
    - Opposition parties argue that replacing "mining" with "petroleum" leases diminishes state powers **to tax and regulate activities.**
    - **The Supreme Court** recently upheld states' rights to tax mining activities under the **State List** (of the Seventh Schedule of the Constitution)**,** but the Bill's focus on petroleum leases may shift regulatory power to the **Union List**.

- **Privatisation and environmental risks:**
  - Critics caution against granting significant discretion to private players. They advocate **prioritising public-sector companies like ONGC**.
  - Concerns over the potential environmental impact of privatised operations and reduced criminal liability have been raised.
- **Demand for further review:** Opposition parties suggest sending the Bill to a select committee for a more detailed evaluation.

- **Conclusion:**
  - The Oilfields (Regulation and Development) Amendment Bill, 2024, aims to modernise India's regulatory framework for petroleum production and attract private investment.
  - While it offers several benefits, concerns about its implications for state rights, environmental safeguards, and public sector priorities call for **a balanced approach and further scrutiny.**

8. Moths
GS 3 (Environment)

- **Why in News:** Moths can hear sounds emitted by plants and rely on them to choose on which plant to lay their eggs, according to a new study.
- **About Moths:**
  - Moths are **insects** that belong to the **order Lepidoptera,** which **they share with butterflies.**
  - There are around 160,000 known **species** of moths, **far outnumbering butterfly species.**
  - **Highly adapted, they live in all but polar habitats.**
  - Moths vary greatly in size, ranging in wingspan from about 4 mm (0.16 inch) to nearly 30 cm (about 1 foot).
  - They **often have duller colors** compared to butterflies, which helps with camouflage. Some, like the luna moth or atlas moth, are vividly colored.
  - **Moth antennae are often feathery,** unlike the thin and clubbed antennae of butterflies.
  - Most moths are **active at night, but some are diurnal.**
  - The **larvae and adults of most moth species are plant eaters.** Larvae in particular do considerable damage to ornamental trees and shrubs and to many other plants of economic importance.



MOTHS MAKE REPRODUCTIVE CHOICES BASED ON HOW PLANTS SOUND: STUDY

EXPRESS NEWS SERVICE
NEW DELHI, DECEMBER 8

MOTHS CAN hear sounds emitted by plants and rely on them to choose which plant to lay eggs on, says a new study.

The analysis, 'Female Moths Incorporate Plant Acoustic Emissions into Their Oviposition Decision-Making Process', was published online last month. It has been carried out by a team of 17 researchers based in Israel.

Rya Seltzer, an entomologist at Tel Aviv University in Israel and one of the authors of the study, told *The New York Times*, "This is new…Plants emit sounds, and insects are really listening to that. They are tuned to that specific sound, and they know the meaning, and they consider it."

Last year, a study revealed that some plants cry a mournful melody made of ultrasonic clicks or pops when dehydrated or under some other kind of stress. These sounds are undetectable to the human ear but can be heard by other animals, including insects.

How was the new study carried out?

After last year's discovery, Seltzer and her team began to examine if a moth species called the Egyptian cotton leafworm used clicks produced by stressed plants to decide where to lay their eggs — one of the most important decisions of their lives.

"All of her children are going to develop on that specific choice that she made, and she has to make a fast call and a very good call," Seltzer told *The NYT*.

The team first demonstrated that female leafworms choose healthy and thriving plants to lay their eggs on as they are more likely to provide enough food for the newborn larvae, instead of a dehydrated plant. Once that was established, they analysed the role of clicks in the crucial decision-making done by these moths.

For this, researchers used a hydrated tomato plant on one side of an experimental arena. On the other side, they kept another healthy and hydrated tomato plant but it emitted recorded sounds of distress.

What were the findings of the study?

The researchers found that the moths preferred to lay their eggs on the "silent" plant. This meant that the female moths were not only able to recognise signals that indicate the presence of a plant but also interpret them to decide where to lay their eggs, according to Seltzer.

Jodi Sedlock, a sensory ecologist at Lawrence University in Wisconsin, told *The NYT*, "They have done an incredibly good study… I think they provide very strong evidence that these moths, this species, is attending to those sounds emitted by plants." However, Sedlock added that "the reason that they are attending to them is not entirely clear yet."

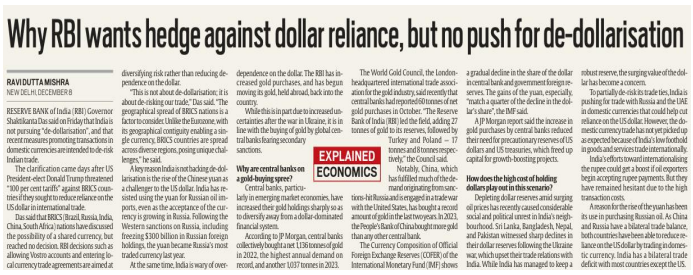
Seltzer did admit that more research is required. The next step will be to see how moths might use these acoustic cues in combination with scents and other signals from a plant.

(With inputs from The New York Times)

A moth species called Egyptian cotton leafworm can hear sounds emitted by stressed plants, the study said. *Wikimedia Commons*

9. RBI's Approach to De-Dollarization and Diversifying Risks
GS 3 (Economy)

- **Why in News:**
  - RBI has clarified its stance on de-dollarization, stating that its recent policies are aimed at diversifying risks rather than completely moving away from the dollar.
  - **De-dollarization refers to reducing dependence on the US dollar in international trade and reserves**.
  - It is often driven by geopolitical tensions and the desire for economic independence
  - This approach balances global economic realities while safeguarding India's financial stability.



Why RBI wants hedge against dollar reliance, but no push for de-dollarisation

RAVI DUTTA MISHRA
NEW DELHI, DECEMBER 8

RESERVE BANK of India (RBI) Governor Shaktikanta Das said on Friday that India is not pursuing "de-dollarisation", and that recent measures promoting transactions in domestic currencies are intended to de-risk Indian trade.

The clarification came days after US President-elect Donald Trump threatened "100 per cent tariffs" against BRICS countries if they sought to reduce reliance on the US dollar in international trade.

Das said that BRICS (Brazil, Russia, India, China, South Africa) nations have discussed the possibility of a shared currency, but reached no decision. RBI decisions such as allowing Vostro accounts and entering local currency trade agreements are aimed at diversifying risk rather than reducing dependence on the dollar.

"This is not about de-dollarisation; it is about de-risking our trade," Das said. "The geographical spread of BRICS nations is a factor to consider. Unlike the Eurozone, with its geographical contiguity enabling a single currency, BRICS countries are spread across diverse regions, posing unique challenges," he said.

Key reason India is not backing de-dollarisation is the rise of the Chinese yuan as a challenger to the US dollar. India has resisted using the yuan for Russian oil imports, even as the acceptance of the currency is growing in Russia. Following the Western sanctions on Russia, including freezing $300 billion in Russian foreign holdings, the yuan became Russia's most traded currency last year.

At the same time, India is wary of overdependence on the dollar. The RBI has increased gold purchases, and has begun moving its gold, held abroad, back into the country.

While this is in part due to increased uncertainties after the war in Ukraine, it is in line with the buying of gold by global central banks fearing secondary sanctions.

EXPLAINED ECONOMICS

Why are central banks on a gold-buying spree?

Central banks, particularly in emerging market economies, have increased their gold holdings sharply so as to diversify away from a dollar-dominated financial system.

According to JP Morgan, central banks collectively bought a net 1,136 tonnes of gold in 2022, the highest annual demand on record, and another 1,037 tonnes in 2023.

The World Gold Council, the London-headquartered international trade association for the gold industry, said recently that central banks had reported 60 tonnes of net gold purchases in October. "The Reserve Bank of India (RBI) led the field, adding 27 tonnes of gold to its reserves, followed by Turkey and Poland — 17 tonnes and 8 tonnes respectively," the Council said.

Notably, China, which has fulfilled much of the demand originating from sanctions-hit Russia and is engaged in a trade war with the United States, has bought a record amount of gold in the last two years. In 2023, the People's Bank of China bought more gold than any other central bank.

The Currency Composition of Official Foreign Exchange Reserves (COFER) of the International Monetary Fund (IMF) shows a gradual decline in the share of the dollar in central bank and government foreign reserves. The gains of the yuan, especially, "match a quarter of the decline in the dollar's share", the IMF said.

AJP Morgan report said the increase in gold purchases by central banks reduced their need for precautionary reserves of US dollars and US treasuries, which freed up capital for growth-boosting projects.

How does the high cost of holding dollars play out in this scenario?

Depleting dollar reserves amid surging oil prices has recently caused considerable social and political unrest in India's neighbourhood. Sri Lanka, Bangladesh, Nepal, and Pakistan witnessed sharp declines in their dollar reserves following the Ukraine war, which upset their trade relations with India. While India has managed to keep a robust reserve, the surging value of the dollar has become a concern.

To partially de-risk its trade ties, India is pushing for trade with Russia and the UAE in domestic currencies that could help cut reliance on the US dollar. However, the domestic currency trade has not yet picked up as expected because of India's low foothold in goods and services trade internationally.

India's efforts toward internationalising the rupee could get a boost if oil exporters begin accepting rupee payments. But they have remained hesitant due to the high transaction costs.

A reason for the rise of the yuan has been its use in purchasing Russian oil. As China and Russia have a bilateral trade balance, both countries have been able to reduce reliance on the US dollar by trading in domestic currency. India has a bilateral trade deficit with most countries except the US.

- The clarification came days after US President-elect Donald Trump threatened "100 per cent tariffs" against BRICS countries if they sought to reduce reliance on the US dollar in international trade.

- **Key Highlights:**
  - **Diversification over De-Dollarisation:**
    - RBI Governor Shaktikanta Das emphasized that measures like local currency trade agreements and Vostro accounts aim to reduce dependency on the US dollar but do not intend to eliminate its role entirely.
    - **Vostro accounts are bank accounts held in India by a foreign bank in Indian rupees**.
    - They facilitate trade in local currencies and reduces reliance on third-party currencies like the dollar.
    - The aim is to mitigate risks stemming from over-reliance on a single currency for trade and reserves.
  - **Central Banks' Gold Buying Spree:**
    - Central banks globally, including the RBI, are purchasing gold to diversify reserves. In 2022, global central banks acquired a record 1,136 tonnes of gold, followed by 1,037 tonnes in 2023.
    - RBI added 27 tonnes of gold in October 2024 alone, the largest among central banks during that period.
    - The shift to gold is driven by uncertainties, such as the **Ukraine war** and the fear of secondary sanctions, especially in countries like **Russia** and **China**.
  - **Impact of Dollar Dominance:**
    - The dollar's share in global foreign reserves has seen a gradual decline, partially offset by the **rise of the Chinese yuan**.
    - Emerging markets like India are seeking alternatives to dollar reliance due to the geopolitical and economic risks associated with the currency's dominance.
  - **Domestic Currency Trade:**
    - India is encouraging trade in domestic currencies with partners like Russia and the UAE to partially de-risk its trade ties.
    - However, international trade in rupees has been limited due to India's trade deficits with most countries except the US.
- **Geopolitical Context:**
  - **BRICS and Currency Discussions:**
    - BRICS nations have deliberated on creating a shared currency but face challenges due to their geographical and economic diversity.
    - India has resisted using the Chinese yuan for Russian oil imports despite its growing acceptance globally, citing economic sovereignty concerns.
  - **Challenges in India's Neighbourhood:**
    - Surging oil prices and declining dollar reserves have caused social and political unrest in South Asian countries like Sri Lanka, Pakistan, and Bangladesh.
    - While India has maintained robust reserves, it remains vigilant about the dollar's volatility.
- **Conclusion:**
  - India's cautious approach to managing dollar reliance reflects a strategic balance between mitigating risks and maintaining global trade stability.
  - Through increased gold reserves and efforts to promote the rupee in international trade, the RBI is navigating a complex economic landscape while safeguarding national interests.
  - However, challenges like trade deficits and high transaction costs in domestic currency trade remain barriers to reducing dollar dependence entirely.

MCQ Current Affairs
9th Dec, 2024

1. Pilibhit Tiger Reserve lies in which one of the following states?

a) Assam
b) Karnataka
c) Uttar Pradesh
d) Odisha

2. Consider the following statements regarding Moths:

A. They primarily live in polar regions.
B. Most moths are active at night and often have duller colors.

Which of the statements given above is/are correct?

a) A only
b) B only
c) A and B
d) Neither of two

3. Lonar Lake, recently seen in the news, lies in which state?

a) Maharashtra
b) West Bengal
c) Rajasthan
d) Uttarakhand

4. MuleHunter.AI, recently in news, is an initiative of:

a) Reserve Bank Innovation Hub
b) UNESCO
c) Arctic Council
d) World Bank

5. With reference to Indian star tortoise, consider the following statements:

A. It has star-like patterns that feature on its high-domed shell.
B. It is mainly found in semi-arid lowland forests and thorn scrub forests.
C. It is endemic to the Western Ghats of India.

How many of the above statements are correct?

a) One only
b) Two only
c) All Three
d) None

Answers Current Affairs
9th Dec, 2024

1. c
2. b
3. a
4. a
5. b