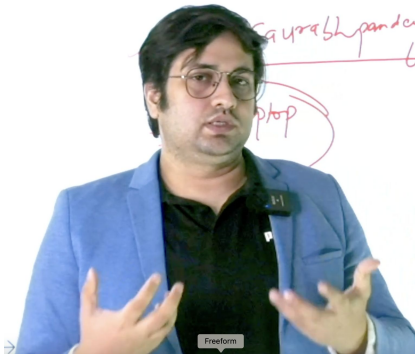
Topics - MINDS MAPS included (Daily current affairs)-- 17th October 2024

- Five Eyes Intelligence
- Battle of Walong:
- Sec 6A Citizenship Act, 1955.
- Climate Change and Its Impact on Poor Households
- Understanding DNA and Protein Synthesis
- Jiangmen Underground Neutrino Observatory (JUNO)
- Global Hunger and Economic Challenges in India 2024
- Robot Artist Ai-Da
- Mains



By saurabh Pandey

THE HINDU

Target Mains -2025/26 -

Q ‘’India’s Growth and prosperity depends on food, nutrition, gender, and climate change”. Discuss

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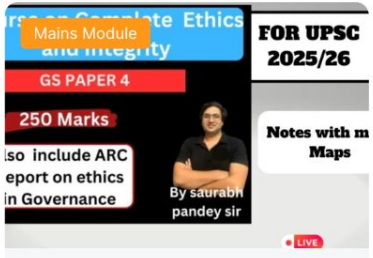

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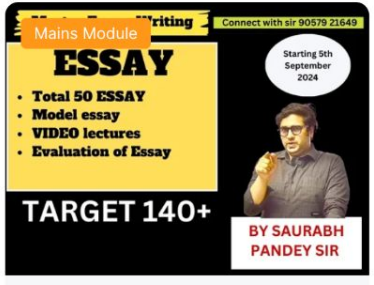

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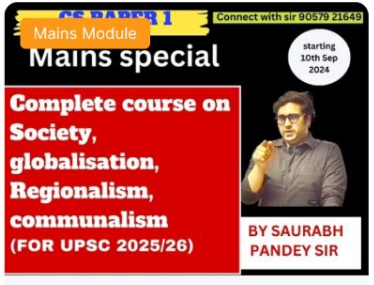

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‘Five Eye’ nations back Canada in row with India

The Hindu Bureau
NEW DELHI

After New Zealand, the U.S., and Australia, the U.K. on Wednesday became the fourth member of the ‘Five Eye’ countries to back Canada’s position on the diplomatic crisis that has broken out between India and Canada over the alleged involvement of Indian diplomats in the killing of pro-Khalistan figure Hardeep Singh Nijjar.

FULL REPORT
» PAGE 4

Topic →Five Eyes Intelligence

Overview

Definition: The Five Eyes (FVEY) is an intelligence alliance comprising five countries:

- 🇦🇺 Australia
- 🇨🇦 Canada
- 🇬🇧 United Kingdom
- 🇺🇸 United States
- 🇳🇿 New Zealand

Purpose: Shared intelligence and security cooperation to combat global threats.

Key Points:

History: Established post-World War II, formalized in 1946.
Function: Collects and shares intelligence, particularly signals intelligence (SIGINT).
Legal Framework: Operates under various national laws and agreements.

Current Trends:

Cybersecurity: Collaboration on cybersecurity threats and infrastructure protection.
AI Security: Joint efforts to secure AI technologies and mitigate risks.
Geopolitical Concerns: Responding to threats from nations like China and Russia.

Army to commemorate 62 years of the Battle of Walong with China

Dinakar Peri
NEW DELHI

To mark the 62nd anniversary of the iconic Battle of Walong during the 1962 war with China, the Army is planning a month-long series of commemorative events beginning on Thursday. They will continue till November 14. In addition to a series of activities, the newly renovated Walong War Memorial, Shaurya Sthal at Lama Spur, and some key infrastructure projects in the border areas are also set to be inaugurated.

In 1962, the Indian Army halted the advancing People's Liberation Army soldiers for 27 days which forced them to commit their reserve Division from Tawang Sector to Walong as fierce battles unfolded in the unforgiving terrain of Kibithu, Namti Tri Junction (famously known as Tiger's Mouth), Walong, and adjoining features.

Last stand: The Walong War Memorial commemorating the iconic battle of 1962 in Arunachal Pradesh. DINAKAR PERI

In October 1962, as Chinese forces advanced into the eastern most parts of Arunachal Pradesh, the task of defending it fell on the 11 Infantry Brigade under the Second Infantry Division. The Brigade had 6 Kumaon regiment, 4 Sikh regiment, third battalion of 3 Gorkha Rifles, in addition to second battalion of 8 Gorkha Rifles and 4 Dogra.

The Chinese offensive with more than 4,000 soldiers could not breach the forward defences held with 800 men for over 27 days and the Chinese Army was subsequently forced to employ additional division size force of approximately 15,000 soldiers. Vastly outnumbered and with little ammunition and no resources, the Indian soldiers fought till the last man, last round. Capturing this, the *Time* magazine wrote in January 1963, "At Walong, Indian troops lacked everything. The only thing they did not lack was guts."

This year's commemoration promises a vibrant mix of activities aimed at engaging the local communities and honouring the memory of the fallen heroes, one Army official said. "The events include white water rafting, motorcycle rallies, bicycle rallies, battlefield treks, adventure treks and a half marathon, all designed to reflect the adventurous spirit of the Indian Army in the rugged terrain of Arunachal Pradesh."

Topic→Battle of Walong: Commemoration and Significance

Overview

The Battle of Walong was a significant battle during the *1962 Sino-Indian War*. It is commemorated annually to honor the bravery of Indian soldiers involved.

Key Themes

Commemoration Activities: Month-long events to honor the heroes.
Historical Significance: Understanding the context and impact of the battle.
Military Tribute: Acknowledging the valor of soldiers.

Date: Significant events from October 17 to November 14.
Honor: Tribute to the heroes of the battle.
Engagement: Involvement of military and community

SC to deliver verdict on Section 6A of the Citizenship Act, 1955

The Hindu Bureau
NEW DELHI

A Constitution Bench headed by Chief Justice of India D.Y. Chandrachud is scheduled to pronounce judgment on October 17 on the constitutionality of Section 6A of the Citizenship Act, 1955.

Section 6A was a special provision inserted into the 1955 Act in furtherance of a Memorandum of Settlement called the 'Assam Accord' signed on August 15, 1985 by the then Rajiv Gandhi government.

Under Section 6A, foreigners who had entered Assam before January 1, 1966, and been "ordinarily resident" in the State, would have all the rights and obligations of Indian citizens. Those who had entered the State between January 1, 1966 and March 25, 1971 would have the same rights and obligations except that they would not be able to vote for 10 years.

Why Assam alone?

The petitioners had questioned why Assam alone, among the border States, had been singled out to implement Section 6A.

They had blamed "rise in infiltration a consequence or an effect of Section 6A".

The court had, in turn, asked the petitioners to show material that benefits given to cross-border migrants, who arrived in India between 1966 and 1971 just before the Bangladesh Liberation War, led to radical demographic change which impacted the Assamese cultural identity.

Topic→ Sec 6A Citizenship Act, 1955.

🏛️ **Judgment Date:** A Constitution Bench led by Chief Justice D.Y. Chandrachud will deliver a judgment on October 17 regarding Section 6A of the Citizenship Act, 1955.

📜 **Section 6A Overview:** This section was added to the Citizenship Act as part of the Assam Accord, signed on August 15, 1985, by the Rajiv Gandhi government.

🗓️ **Eligibility Criteria:** Section 6A grants rights to foreigners who entered Assam before January 1, 1966, as "ordinarily resident," while those entering between January 1, 1966, and March 25, 1971, can only vote after 10 years.

❓ **Questioning Assam's Exclusivity:** Petitioners have raised concerns about why only Assam is subject to Section 6A among border states, suggesting it has led to increased infiltration

Climate change impact harsher on poorer farmers in India: FAO report

A.M. Jigeesh
NEW DELHI

The vulnerability of poor households to climate stressors is likely to be rooted in structural inequalities, the report said. FILE PHOTO

Poor households globally lose 5% of their total income in an average year from heat stress and 4.4% from floods compared with households that are relatively better off, the Food and Agriculture Organization of the United Nations said in a report on Wednesday, warning about the negative impacts of climate change on the farming population in India.

Senior FAO economist Nicholas Sitko presented the report "The unjust climate. Measuring the impacts of climate change on rural poor, women, and youth" in New Delhi.

The report said on-farm income sources of the rural poor in India were affected in different ways depending on the type of climate stress. In case of droughts or such events, poor households dedicated more time and resources to agricultural production to sustain themselves, as off-farm employment opportunities reduced.

The total incomes of poor households reduce compared with those of families that have not been exposed to a significant climate stressor, it said. "The vulnerability of poor households to climate stressors is likely to be rooted in structural inequalities," the report said and asked the government to take policy measures such as expanding the social security net.

Anticipatory social protection programmes can be scaled up and scaled out to more beneficiaries in anticipation of an extreme weather event, the report suggested. "Providing effective livelihood support ahead of extreme weather events can help reduce reliance on adverse coping strategies and limit the number of people pushed into poverty because of these events," it said. The report recommended improving workforce diversification and enhancing off-farm employment opportunities. It urged policymakers to address "gendered barriers" in non-farm employment.

Responding to the report, NITI Aayog member Ramesh Chand said India was doing its best to deal with the issue of climate change. "We have implemented National Innovations on Climate Resilient Agriculture (NICRA) much earlier to address the problem of climate change. We were first in the world to do so for all crops. We also have a contingency plan for all agriculture districts. We were the first country to implement an employment guarantee scheme as a social safety net," he said.

Topic → Climate Change and Its Impact on Poor Households in India

Key Findings from the FAO Report

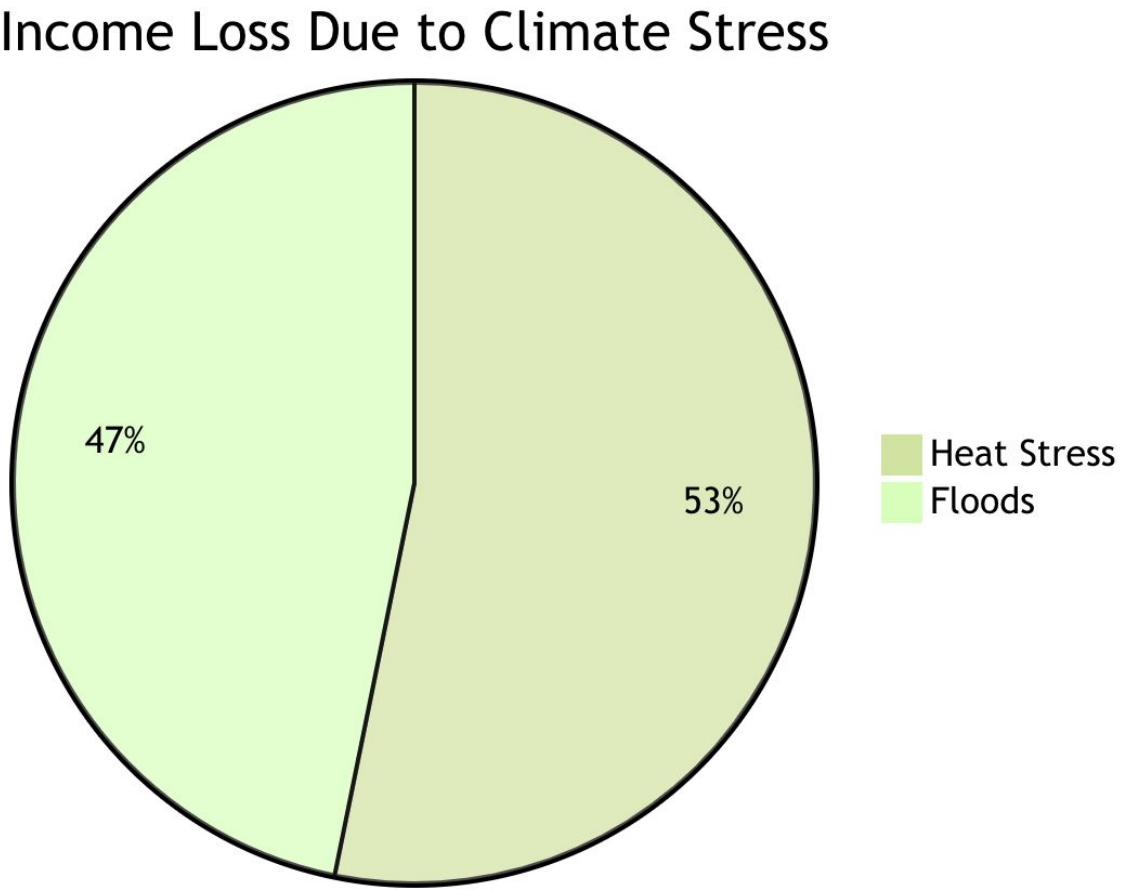
🌍 Global Impact: Poor households worldwide lose 5% of their total income annually due to heat stress and 4.4% from floods.

📉 India's Vulnerability: The report highlights the adverse effects of climate change on India's farming population, especially impacting rural poor, women, and youth.

🌾 Income Reduction: Poor households in India experience decreased on-farm income during climate stress events, prompting increased investment in agriculture.

⚖️ Structural Inequalities: The vulnerability of poor households is linked to structural inequalities, necessitating expanded social security measures

Impact of Climate Stress on Income:



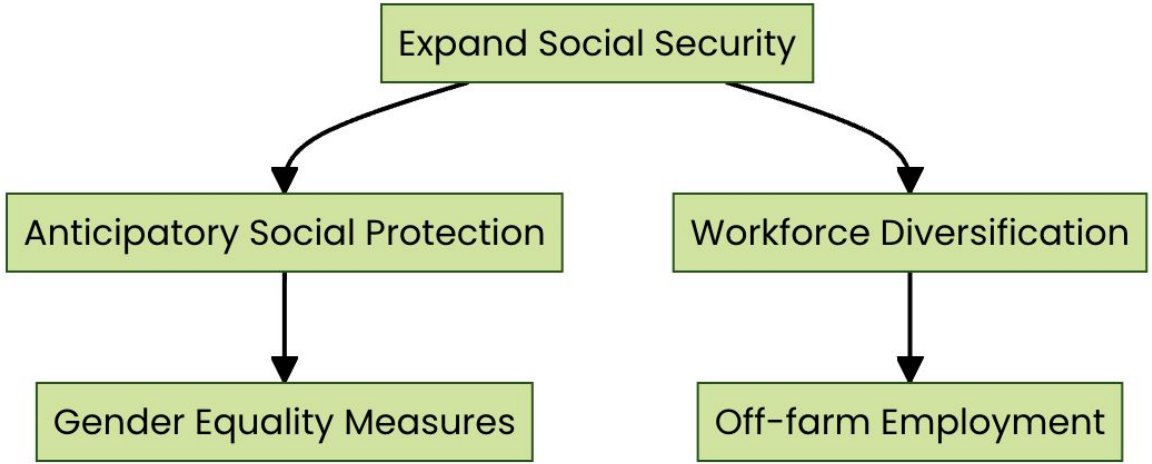
Recommendations and Initiatives

🔄 Social Protection Programs: Scale up anticipatory social protection programs and improve workforce diversification to enhance off-farm employment opportunities.

👩‍🌾 Gender Barriers: Address gendered barriers in non-farm employment to better support rural communities.

🇮🇳 Indian Initiatives: NITI Aayog member Ramesh Chand mentioned initiatives like the National Innovations on Climate Resilient Agriculture (NICRA) and an employment guarantee scheme.

Policy Recommendations:



Summary: The FAO report reveals significant income losses for poor households due to climate stress, urging policy measures to enhance social security and employment opportunities in India.

Nobel for microRNA underscores the primacy of RNA in biology

When Victor Ambros and Gary Ruvkun won the Nobel Prize last week, 581 clinical trials involving miRNA had been registered in the U.S. alone. Of these, 215 had been completed and 20 had been terminated over safety concerns, showing the importance of its role in finding cures

Arun Panchapakesan

In 1993, two post-doctoral researchers named Victor Ambros and Gary Ruvkun independently published back-to-back papers in the December 3 issue of the journal *Cell*. In their papers, they described how the roundworm *Caenorhabditis elegans* uses a small RNA molecule to control the production of a protein.

While the work was certainly novel, it did not receive much attention at the time because other scientists thought the phenomenon was unique to worms and of no practical relevance to understanding its role in other life-forms, including humans.

It was not until seven years later that Ruvkun found a similar mechanism existed in nearly all of the animal kingdom. The paper created waves in the scientific community since it represented a whole new paradigm in molecular biology, with potentially far-reaching implications on human health and disease.

Last week, Ambros and Ruvkun were awarded the Nobel Prize in Physiology or Medicine for their discovery of microRNA and the latter's role in gene regulation, a process universal to all cells.

What, when, where, why

Every cell in an organism contains a copy of its DNA, the blueprint for how to build and maintain that organism. The building and maintenance activities are achieved by molecules called proteins; the DNA contains instructions on how cells can make these proteins.

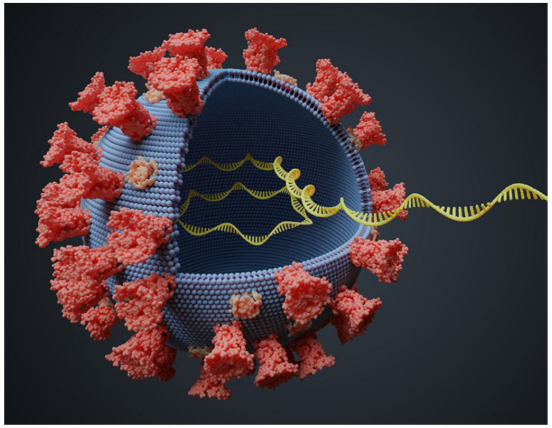
Every protein has a specific function. For instance, haemoglobin is responsible for carrying oxygen from the air we breathe to the cells in the body. Each set of instructions to make a given protein from the organism's total DNA is called a gene.

The DNA of humans has between 19,000 and 20,000 genes. While all cells in the body contain all these genes, and thus the information on how to make all the proteins, no cell makes all 20,000 proteins. Gene expression – the process of reading the information in a gene to make a protein – is specific to cell types. A given cell will only make those proteins it needs for its function. Thus the red blood cells make haemoglobin but not the cells that make up the stomach.

When a cell wants to make a protein, it first makes a transient copy of the gene called the messenger RNA (mRNA). The information in the mRNA is then used to make the protein. This process of making an mRNA copy of the information in the gene is called transcription. A gene is transcribed to mRNA to make a protein only in those cells where that protein is required.

Once the mRNA is made, the cell will continue to make proteins until it is stopped. The protein production process must be stopped when enough proteins have been made because if it isn't controlled, excess protein, apart from being a waste of resources, can be harmful to the cell.

For a long time, this halting of protein production, called post-transcriptional gene regulation, was thought to occur when the mRNA degrades – either on its own (due to its low stability) or aided by special enzymes that the cell makes.



Every cell in an organism contains a copy of its DNA, the blueprint for how to build and maintain that organism. The building and maintenance activities are achieved by molecules called proteins. GETTY IMAGES/ISTOCKPHOTO

Ambros and Ruvkun essentially identified a new way in which cells regulate protein production. They discovered the existence of tiny RNA molecules called microRNA (miRNA) that bind to mRNAs and prevent protein synthesis.

A vital cellular process

Chemically, miRNA is made of the same material that makes up mRNA. The difference lies in their sizes: RNA is composed of a combination of four chemical bases arranged on a sugar-phosphate backbone, rather like a long bead of strings made of four coloured beads arranged at random. Their length is therefore measured in how many beads, or bases, they contain. Thus, mRNAs range from hundreds to lakhs of bases, while the average miRNA is just 22 bases long.

The composition of these 22 bases – or the order of arrangement of the beads on the string – depends on which mRNA a given miRNA is going to target. Usually, the sequence of bases of an miRNA is complementary to a stretch of bases on the target mRNA, making it specific to that mRNA. Once the miRNA binds to its target, the target mRNA is either marked for destruction or is unable to serve as a template to produce protein, thus switching protein production off. This way, if needed, miRNAs can inhibit the synthesis of a given protein even before it begins.Since Ruvkun's report of the first human miRNA in 2000, researchers have discovered thousands of new miRNAs, playing roles in regulating almost 60% of all human genes.

Switching off protein production at the right time is a vital cellular process. Therefore, it was no surprise when researchers found miRNAs to play pivotal roles in animal development, the differentiation of cells into their correct types, cell division, cell death, and – importantly – response to stress and disease, especially in various cancers.

Ambros and Ruvkun essentially identified a new way in which cells regulate protein production. They discovered the existence of tiny RNA molecules, called microRNA that bind to mRNAs and prevent protein synthesis

The high specificity of miRNAs made them ideal candidates for targeted therapies for conditions like cancer, which involve abnormal protein production. But despite their potential, the story of the research on the clinical utility of miRNAs does not have a very happy beginning.

RNA is important

The rapid academic progress on miRNAs prompted scientists to test the therapeutic potential of miRNAs. Early experiments in mice gave encouraging results, where researchers were able to inhibit the formation of lung tumours using miRNAs.

The first clinical trial of a human miRNA, called miRNA-34a, soon followed in 2013. But the technology to deliver the mRNA to the target cells was not as well developed then as it is now; as a result, scientists had to administer extremely high doses of the molecule to ensure a small amount would reach the target site. This had the unfortunate consequence of triggering an immune response. When four patients died, the investigators immediately stopped the trial.

Scientists later made significant advances in packaging and delivering miRNA, allowing others to test multiple other miRNAs against various diseases – including hepatitis C, multiple cancers, and cardiovascular diseases.

When Ambros and Ruvkun won the Nobel Prize last week, 581 clinical trials involving miRNAs had been registered in the U.S. Of these, 215 had been completed and 20 had been terminated over safety concerns.

Since other alternatives are available for most of these conditions, miRNA's time in medicine has yet to come. Hopefully the Nobel Prize will change this field's fortunes: despite the challenges it faces in therapy, miRNAs' relevance to physiology and medicine is unquestionable. This is why Ambros and Ruvkun were awarded the Nobel Prize despite the absence of therapeutic applications.

This is also the fifth instance of a Nobel Prize being awarded for RNA research: mRNA vaccines won in 2023; RNA interference in 2006; RNA's role as enzymes in 1989; the discovery of mRNA in 1965. Indeed, scientists are slowly understanding that RNA, not DNA, is at the core of the delicate balance cells must maintain.

(Arun Panchapakesan is an assistant professor at the Y.R. Gaithonde Centre for AIDS Research and Education, Chennai. arun.panchapakesan@gmail.com)

Topic→Understanding DNA and Protein Synthesis

Key Concepts in DNA and Protein Synthesis

🧬 DNA Blueprint: Each cell contains a copy of DNA, serving as the blueprint for building and maintaining the organism.

🧪 Protein Function: Proteins are produced based on DNA instructions and have specific functions, such as haemoglobin carrying oxygen.

📊 Gene Count: Humans have between 19,000 and 20,000 genes. Each cell contains the information to produce all proteins but only expresses those necessary for its function.

📝 Transcription Process: The creation of a messenger RNA (mRNA) copy of a gene is called transcription, occurring only in cells that require the specific protein.

For a long time, this halting of protein production, called post-transcriptional gene regulation, was thought to occur when the mRNA degrades — either on its own (due to its low stability) or aided by special enzymes that the cell makes.

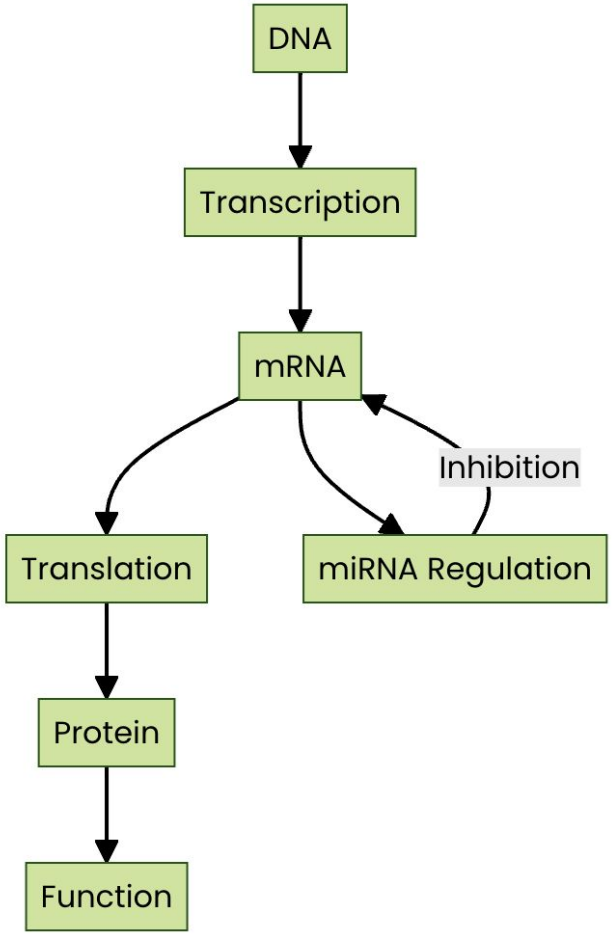
⏳ Protein Production Control: Protein production must be regulated to prevent excess, which can be wasteful and harmful to the cell.

🔍 Post-Transcriptional Regulation: It was traditionally believed that mRNA degradation controlled protein production, but new research has identified microRNA (miRNA) as a regulatory mechanism.

🧩 MicroRNA Discovery: Ambros and Ruvkun discovered that miRNA can bind to mRNA, inhibiting protein synthesis.

Summary: Cells utilize DNA to produce proteins through a regulated process involving transcription and microRNA, ensuring only necessary proteins are synthesized

Protein Synthesis Process:



miRNA: A Key Player in Gene Regulation

Overview of miRNA

🧬 **miRNA Composition:** miRNA is chemically similar to mRNA, both made of four chemical bases on a sugar-phosphate backbone, but miRNA is significantly shorter, averaging 22 bases.

📏 **Size Comparison:** mRNAs can range from hundreds to lakhs of bases, while miRNAs are consistently around 22 bases long.

🎯 **Target Specificity:** The sequence of bases in miRNA is complementary to specific mRNA sequences, allowing for targeted binding and regulation of protein production.

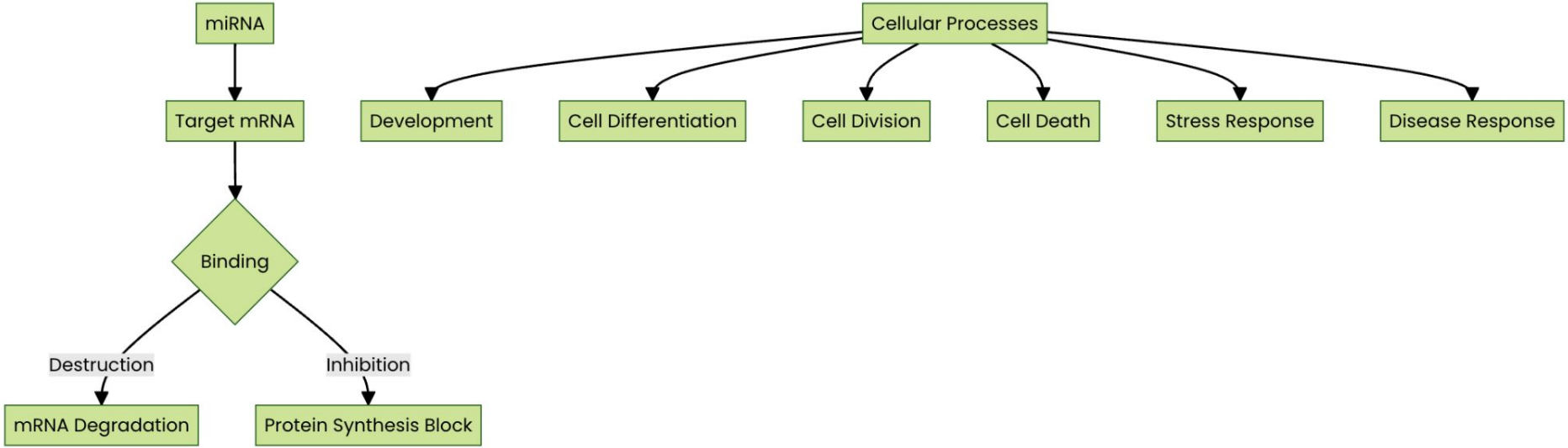
🚫 **Protein Production Regulation:** When miRNA binds to its target mRNA, it can either mark it for destruction or prevent it from being used as a template for protein synthesis, effectively switching off protein production.

🧪 **Research Milestone:** Since the discovery of the first human miRNA in 2000, thousands of miRNAs have been identified, influencing nearly 60% of human genes.

🌱 **Cellular Functions:** miRNAs are crucial in various cellular processes, including development, cell differentiation, division, death, and responses to stress and disease, particularly in cancer.

💡 **Therapeutic Potential:** The specificity of miRNAs makes them promising candidates for targeted therapies in conditions like cancer, although their clinical research has faced challenges.

miRNA Functionality and Impact:



🧬 **Importance of RNA:** RNA plays a crucial role in cellular functions and has significant implications in medicine.

🐭 Early Experiments: Initial studies in mice showed that miRNAs could inhibit lung tumor formation, indicating potential therapeutic benefits.

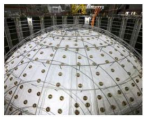
🏥 **First Clinical Trial:** The first human trial of miRNA-34a occurred in 2013, but high doses led to immune responses and patient fatalities, halting the trial.

📦 **Advancements in Delivery:** Significant improvements in miRNA packaging and delivery have allowed for further testing against diseases like hepatitis C and various cancers.

📊 **Clinical Trials Statistics:** As of the recent Nobel Prize announcement, 581 miRNA-related clinical trials were registered in the U.S., with 215 completed and 20 terminated due to safety issues.

🏆 **Nobel Prize Recognition:** The Nobel Prize awarded to Ambros and Ruvkun highlights the importance of miRNAs in physiology and medicine, despite limited therapeutic applications.

📜 **Historical Context:** This Nobel Prize marks the fifth recognition of RNA research, emphasizing the growing understanding of RNA's central role in cellular balance.



The Jiangmen Underground Neutrino Observatory (JUNO) in Kaiping, Guangdong province, China. REUTERS

Chinese lab that seeks to crack physics mystery nears completion

Reuters

A giant sphere 700m underground with thousands of light-detecting tubes will be sealed in a 12-storey cylindrical pool of water in the coming months for an experiment that will shine new light on elusive subatomic particles known as neutrinos.

After years of construction, the $300-million Jiangmen Underground Neutrino Observatory (JUNO) in China's southern Guangdong province will soon start gathering data on neutrinos, a product of nuclear reactions, to help solve one of the biggest mysteries in particle physics.

Every second, trillions of extremely small neutrinos pass through matter, including the human body. Mid-flight, a neutrino, of which there are three known varieties, could transform into other types. Determining which types are the lightest and the heaviest would offer clues to subatomic processes during the early days of the universe and to explaining why matter is the way it is.

To that end, Chinese physicists and collaborating scientists from all over the world will analyse the data on neutrinos emitted by two nearby Guangdong nuclear power plants for up to six years.

JUNO will also be able to observe neutrinos from the Sun, gaining a real-time view of solar processes. It could

Scientists are mulling relaying long-distance messages via neutrinos, which pass through solid matter such as the earth at near light-speed

also study neutrinos given off by the radioactive decay of uranium and thorium in the earth to better understand mantle convection driving tectonic plates.

Due to go operational in the latter half of 2025, JUNO will outpace the far larger Deep Underground Neutrino Experiment (DUNE) under construction in the U.S.

Institutions collaborating on JUNO hail from locations including France, Germany, Italy, Russia, the U.S., and even self-governed Taiwan, which China claims as part of its territory.

Neutrino observatories are also being constructed in other places. "The one in the U.S. will be six years behind us. And the ones in France and Japan... will be two or three years later than us. So we believe we can get the result of mass hierarchy (of neutrinos) ahead of everybody," Wang Yifang, chief scientist and project manager of JUNO, said.

So far, real-life neutrino applications remain a distant prospect. Some scientists have mulled the possibility of relaying long-distance messages via neutrinos, which pass through solid matter such as the earth at near light-speed.

Researchers are keeping their distance from politics to focus on the science, although they remain at the mercy of governments providing the funding.

The passage of neutrinos from the two power stations will be logged by JUNO's 600-tonne spherical detector, which will immediately transmit the data to Beijing

Topic→Jiangmen Underground Neutrino Observatory (JUNO)

🌍 Location and Structure

Location: Situated 700m underground in Guangdong, China.
Structure: Features a 12-storey cylindrical pool of water

💰 Cost and Timeline

Construction Cost: $300 million.
Operational Timeline: Set to begin operations in the latter half of 2025.

🔬 Neutrino Research

Objective: Study neutrinos to understand their mass hierarchy and fundamental processes of the universe.

Data Sources: Neutrinos from nearby nuclear power plants, the Sun, and Earth's radioactive decay.

🌐 International Collaboration

Countries Involved: France, Germany, Italy, Russia, the U.S., and Taiwan.

Collaboration: Scientists from these countries are working together on the JUNO project.

📡 Data Transmission and Analysis

Detector: 600-tonne spherical detector logs neutrino data.

Data Transmission: Data sent electronically to Beijing and collaborating institutions in Russia, France, and Italy.

Analysis: At least two independent teams analyze data for accuracy before publication.

Summary: The JUNO project in China is a $300 million initiative set to start in 2025, focusing on neutrino research with international collaboration and advanced data analysis techniques

Abject failure

India's 2024 Global Hunger Index ranking is a matter of concern

The 2024 Global Hunger Index (GHI) suggests that India's undernourished population this year would effectively rank as the seventh most populous country in the world – with roughly the population of Brazil, a staggering 200 million people. In stark terms, this is about 14% of India's existing population. The 2024 GHI, which is the report's 19th edition, considers comprehensive sets of data in its findings. In India's case, it considers the Sample Registration System statistical reports, that the Ministry of Statistics and Programme Implementation publishes annually, which provide data such as on births, deaths, infant and maternal mortality, based on reports by the Ministry of Women and Child Development and NITI Aayog.

In 2024, the scorecard for the 127 nations analysed ranges from "low" to "extremely alarming". While India is ranked "serious" (rank 105 and score 27.3), it might as well be considered "extremely alarming" if one considers various other relevant factors. It also establishes the abject and systemic failure by the Indian state to address the most basic of human needs – of adequate food and nutrition that are essential to reap the benefits of the much touted 'demographic dividend'. India was the world's fastest growing economy, at 6.8% in FY24, with an estimated GDP of almost $4 trillion, ranking fifth globally. However, its per capita income, of $2,485 in FY24, was less than a fourth of the global average of $13,920 in FY22, indicating the wide income inequality that would result in vastly varied disposable incomes. This is pertinent as food inflation more than doubled between FY22 and FY24, from 3.8% to 7.5%, affecting the poor. Even as the Economic Survey for 2023-24 blames this on 'extreme weather events, low reservoir levels and damaged crops, affecting farm output', India recorded one of its highest levels of food production – 332 million tonnes in 2023-24. This was largely due to bumper crops in rice and wheat, though pulses and vegetables were affected by extreme weather events. But these numbers when read with India's infant mortality – 26 per 1,000 live births in 2022, while the global average was 28 – and child stunting and wasting rates, of 35.5% and 18.7%, respectively, are revealing. They point to a failure of India's health-care and safety net systems and the denial to address what is apparent, namely, climate change that has already begun to cast a long shadow on India's food security.

Undernourished Population

🌍 India's undernourished population in 2024 is approximately 200 million, ranking it as the seventh most populous country globally.

Global Hunger Index Ranking

📊 India is ranked 105th in the 2024 Global Hunger Index with a score of 27.3, categorized as "serious," but could be considered "extremely alarming" based on other factors.

Economic Disparity

📉 Despite being the fastest-growing economy at 6.8% in FY24, India's per capita income is $2,485, significantly lower than the global average of $13,920, highlighting income inequality.

Food Inflation

📈 Food inflation in India more than doubled from 3.8% in FY22 to 7.5% in FY24, primarily affecting the poor, attributed to extreme weather events and low reservoir levels.

Food Production

🌾 India achieved a record food production of 332 million tonnes in 2023-24, mainly due to bumper crops in rice and wheat, despite adverse effects on pulses and vegetables.

Child Health Indicators

👶 India’s infant mortality rate is 26 per 1,000 live births, with child stunting and wasting rates at 35.5% and 18.7%, respectively, indicating systemic failures in healthcare and nutrition.

Impact of Climate Change

🌦️ Climate change is significantly impacting India’s food security, exacerbating existing issues in health care and safety net systems.

Global Hunger Index 2024: India's Challenges and Initiatives

Overview of India's Hunger and Nutrition Status

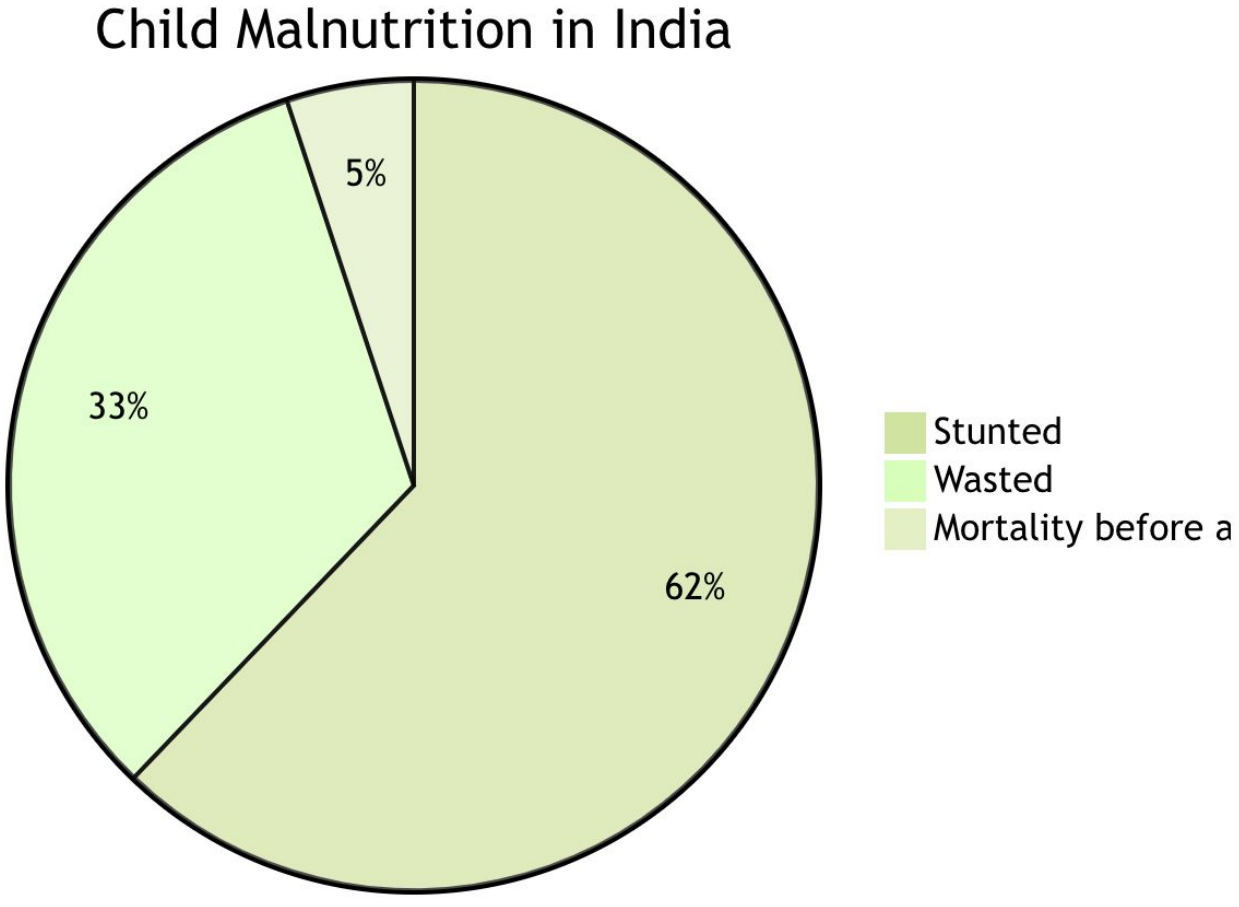
📊 **Global Hunger Index Ranking:** India ranks 105th out of 127 countries with a score of 27.3, indicating a 'serious' level of hunger.

👶 **Child Malnutrition Statistics:**
35.5% of children are stunted
18.7% are wasted
2.9% die before their fifth birthday

India has the highest child wasting rate globally.

🍽️ Undernourishment Rate: 13.7% of the Indian population is undernourished, reflecting significant nutritional challenges.

Child Malnutrition Statistics:



Government Efforts and Challenges

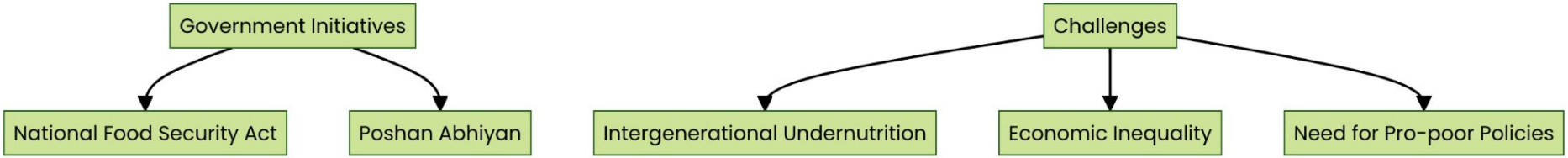
📜 Government Initiatives:
- National Food Security Act
- Poshan Abhiyan

🔄 Intergenerational Undernutrition: Poor maternal nutrition affects child health, creating a cycle of undernutrition impacting future generations.

📈 GDP and Hunger Relationship: GDP growth does not guarantee improved food security, emphasizing the need for pro-poor policies.

⚖️ Need for Policy Focus: There is a call for policies that address social and economic inequalities to improve food and nutritional security.

Government Initiatives and Challenges:



Summary: The 2024 Global Hunger Index reveals serious hunger issues in India, with alarming child malnutrition rates, despite government efforts and the need for targeted policies to address underlying inequalities.

Comprehensive Strategy for Nutrition and Well-being

Multifaceted Approach

📊 Comprehensive Strategy: Advocates for improving nutrition and well-being through diverse measures.

Access to Safety Nets

💰 Social Programs: Emphasizes enhancing access to programs like the Public Distribution Scheme (PDS) and cash transfers.

Agricultural Investments

🌾 Diverse Food Production: Suggests investing in agriculture and promoting nutritious food production, including nutri-cereals like millets.

Mother and Child Health

👶 Targeted Investments: Calls for investments in maternal and child health, alongside improvements in water, sanitation, and hygiene.

Interconnected Issues

🌍 Holistic Approach: Highlights the need to address links between food, nutrition, gender, and climate change.

Data Collection Debate

📉 Controversy: Discusses the debate over data collection methods, particularly the 'Poshan Tracker' by the Ministry of Women and Child Development.

Comparability of Data

🔍 Standardization: Researchers argue for using standardized data sources to maintain comparability of malnutrition statistics.

'Art'-ificial intelligence

Robot artist Ai-Da will be the first of its kind to have a painting sold at an auction. The work, due to go under the hammer at Sotheby's next month, is a 'haunting' portrait of the English mathematician Alan Turing, considered one of the fathers of modern computing. AFP

Robot Artist Ai-Da

Overview

- Ai-Da is a humanoid robot artist.
- Known for creating art, including portraits.
- Represents a significant step in AI and creativity integration

Topic→ Committee On Simultaneous election

Q 1- ELECTORAL REFORM

The Union Cabinet, chaired by the Prime Minister Shri Narendra Modi, has accepted the recommendations of the High-Level Committee on Simultaneous Elections under the chairmanship of former President Shri Ram Nath Kovind.

Simultaneous elections: recommendations of high-level committee

1. Elections have been held simultaneously between 1951 and 1967.
2. Law Commission (1999): One election to Lok Sabha and all
3. Parliamentary Standing Committee (2015): suggest methods for si
4. High-level committee under Ram Nath Kovind extensively c lers including political parties a

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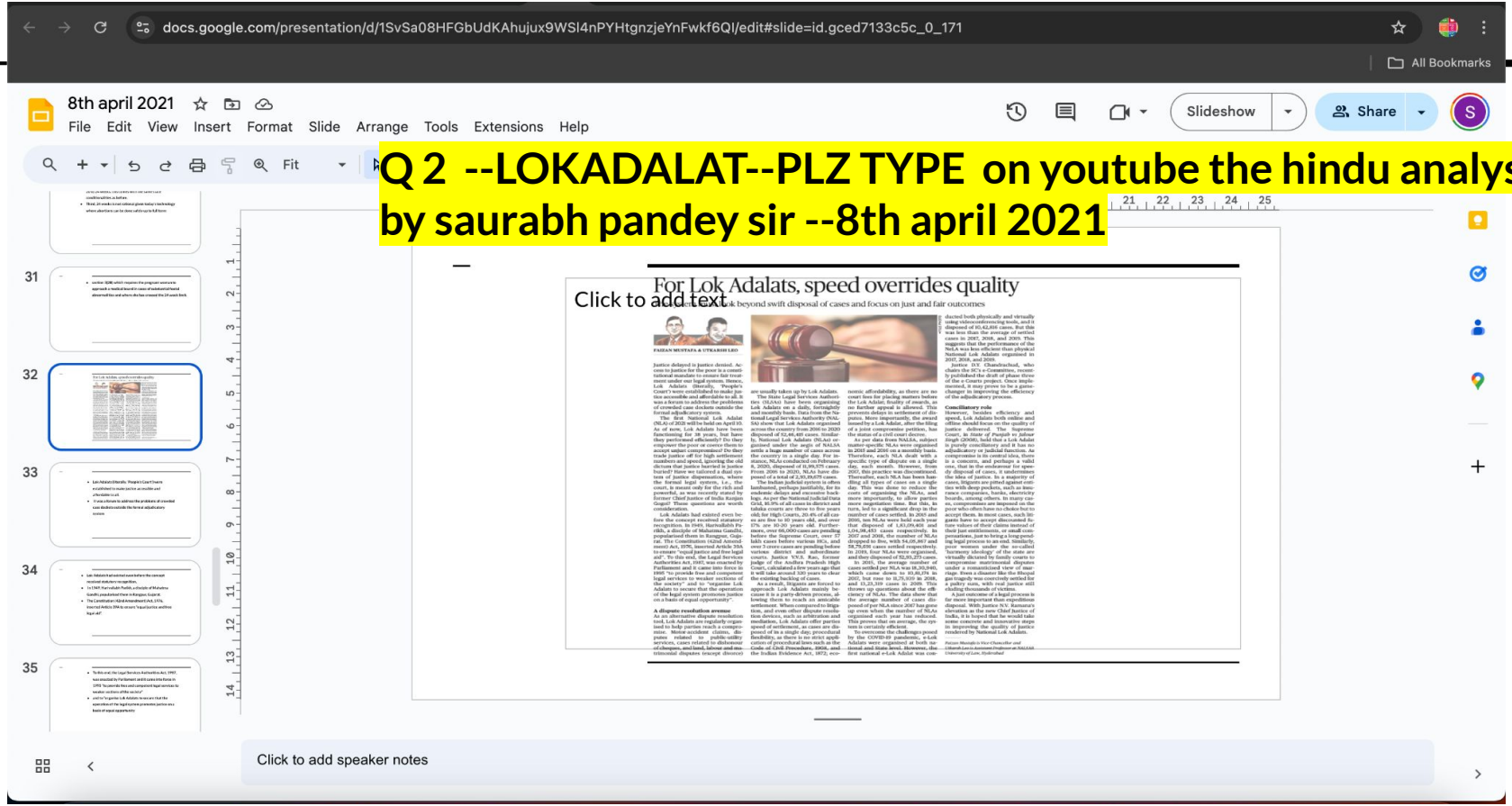
Q 2 --LOKADALAT--PLZ TYPE on youtube the hindu analysis by saurabh pandey sir --8th april 2021



14th jan 2023

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Q 3 --Parliamentary supremacy--PLZ TYPE on youtube the hindu analysis by saurabh pandey sir --14th jan 2023

Bound supremacy

Parliamentary sovereignty isn't undone by the basic structure doctrine

It is fairly well-known that parliamentary legislation is subject to two limitations under the Constitution of India. One is by judicial review, or the power of constitutional courts to review legislation for possible violation of any fundamental right. Another is that no amendment to the Constitution should have the effect of destroying any of its basic features. While the first limitation is set out in Article 13, under which laws inconsistent with or in derogation of fundamental rights are void, the second limitation is based on the 'basic structure' doctrine evolved by the Supreme Court. Vice-President Jagdeep Dhankhar's remarks questioning the basic structure doctrine propounded in the landmark *Kesavananda Bharati* case (1973) does not reflect the correct position of law. In his view, the basic structure doctrine has usurped parliamentary sovereignty and goes against the democratic imperative that the elected legislature should reign supreme. His particular concern seems justified that the Supreme Court prevented the National Judicial Appointments Commission, a body to appoint judges to the superior courts in the country, from coming into existence by striking down the relevant amendment to the Constitution and a parliamentary law to give effect to it. But it is difficult not to see his attack on the basic structure doctrine as part of the current dispensation's tirade against the judiciary and its grievance that it does not have enough say in the appointment of judges.

The idea that the basic structure doctrine undermines parliamentary sovereignty is simply wrong. Parliament is sovereign in its domain, but it is still bound by the limitations imposed by the Constitution. Mr. Dhankhar seems to have a problem with any sort of limitation on Parliament's jurisdiction to amend the Constitution. Surely, he could not have forgotten that the basic structure doctrine had helped save the Constitution from being undermined through the misuse of parliamentary majority. The main purpose of the doctrine is to ensure that some fundamental features of the Constitution are not legislated out of existence. It has been invoked to strike down amendments only in a few cases, but many others have survived basic structure challenges. Parliamentary majority is transient, but essential features of the Constitution such as the rule of law, parliamentary form of government, separation of powers, the idea of equality, and free and fair elections ought to be perennially protected from legislative excess. It may be open to a new Constituent Assembly to come up with another constitution that changes these fundamental concepts, but a legislature formed under the current Constitution cannot be allowed to change its core identity.

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Q 4 --CAG --PLZ TYPE on youtube the hindu analysis by saurabh pandey sir --28th dec 2022

The story so far:

- A recent Comptroller and Auditor General of India (CAG) report on the update exercise of the National Register of Citizens (NRC) in Assam has flagged serious irregularities, including "haphazard development" of software for the exercise, making it prone to data tampering, and flagged undue profits worth crores amassed by the system integrator (SI) by violating the Minimum Wages Act.

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11th october 2022

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Q 5 --local bodies and urban bodies --PLZ TYPE on youtube the hindu analysis by saurabh pandey sir --11th october 2022

- The Constitution mandates that panchayats and municipalities shall be elected every five years and enjoins States to devolve functions and responsibilities to them through law.
- This is regarded as a design weakness, but on closer look, is not one.
- Given diverse habitation patterns, political and social history, it makes sense to mandate States to assign functions to local governments.

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Democratise and empower city governments

The general approach towards urban empowerment, including financial capabilities, has remained piecemeal in India

TIKENDER SINGH PANWAR

The Reserve Bank of India (RBI) in a report, "State Finances, Study of Budgets of 2021-22", released in November 2021 (https://bit.ly/3rskeFv), wrote: "With the third-tier governments in India playing a frontline role in combating the pandemic by implementing containment strategies, healthcare,... their finances have come under severe strain, forcing them to cut down expenditures and mobilise funding from various sources."

The RBI further commented that the functional autonomy of civic bodies must increase and their governance structure strengthened. This could happen by 'empowering them financially through higher resource availability'.

It is interesting that the RBI did echo the recommendations of the 15th Finance Commission report on local bodies that emphasised city governance structures and financial empowerment. The addition in the RBI report is from the praxis and the objective reality from during the novel coronavirus pandemic – which continues even now.

However, there is only partial truth in the report. The emphasis is on resource availability, but how this will happen is not highlighted. At the most, it speaks only about generating more resources at the local level.

The essence

While correctly identifying the role of the city governments in meeting the challenges the pandemic has thrown up, the report also points to the draining of resources. An RBI survey of 223 municipal corporations (2020-21) revealed that more than 70% saw a decline in revenues; in contrast, their expenditure rose by almost 71.2%.

The RBI report also highlights the limited coverage of property tax and its failure in shoring up municipal corporation revenues. Organisation for Economic Co-operation and Development (OECD) data show that India has the lowest property tax collection rate in the world – i.e., property tax to GDP ratio. But this explains only one part of the story.

An old problem continues

During the pandemic, while leaders from the Prime Minister to Chief Ministers to District Magistrate were seen taking a call on disaster mitigation strategies, city mayors were found missing. Why? Because under the disaster management plan of actions, cities are at the forefront to fight the pandemic; however, the elected leadership finds no place in them. It is not just in disaster mitigation. The old approach of treating cities as adjuncts of State governments continues to dominate the policy paradigm.

The general approach towards urban empowerment has remained piecemeal in India. Urban development is a state subject, which is more linked to political and democratic movements in States. The first intervention to understand 'the urban' (though there are references in the Five Year plans) and plan with a pan-Indian vision took place in the 1980s when the National Commission On Urbanisation was formed with Charles Correa as its chairperson.

Another important intervention was in the first half of the 1990s with the Constitution 73rd and 74th Amendments. The latter refers to urban reforms – empowering urban local bodies to perform 18 functions listed in the 12th Schedule. But this was also the period of neo-liberal reforms, so the generation of own resources and a slow withdrawal of the state could be witnessed.

Though the democratic transfer of 18 subjects was an important element, and necessary, there was, however, no mention of financial empowerment. It was linked more to the idea of "competitive cities" to attract investments in the urban centres by making their structures and land laws flexible. We now know that not much investment has happened, and cities have not really been able to enhance their financial capabilities.

The only exception to the rule has been the people's plan model of Kerala where 40% of the State's plan budget was for local bodies (directly) with a number of important subjects such as planning, etc. This paved the way for a new dimension to urban governance.

Functional autonomy

The RBI report has been right in highlighting that functional autonomy of city governments must be allowed. But this should happen with three F's: the transfer of 'functions, finances and functionaries' to city governments. Without these, functional autonomy would be empty rhetoric. There are nearly 5,000 statutory towns and an equal number of census towns in India. Nearly 35% of the population lives in urban centres. And, nearly two-thirds of the country's GDP stems from cities and almost 90% of government revenue flows from urban centres.

Before value added tax and other centralised taxation systems, one of the major earnings of cities used to be from octroi. In fact, Pimpri-Chinchwad and Pune are examples of two very high revenue-earning municipalities dependent on octroi, as both cities have strong bases of industrial production. But this source of revenue collection was taken away by the State and the central governments. Instead, finance commissions recommended grants to urban local bodies based on a formula of demographic profile. Previously, while almost 55% of the total revenue expenditure of urban centres was met by octroi (e.g., Shimla), now, the grant covers only 15% of expenditure. In such a situation, it is difficult for the towns to sustain their ability to perform their bare minimum functions, especially with the latest Pay Commission recommendations.

This has resulted in a vicious circle of burdening people more with taxes and further privatisation/outsourcing of the services of the municipalities. This is a pan-India phenomenon and the grading of cities and urban policies are linked to this.

Now with Goods and Services Tax, the ability to tax has been 'completely robbed'; cities find themselves in a worse state than States.

The often-cited example is how cities in the Scandinavian countries manage their functions well – from city planning to mobility to waste management. But the truth is that a chunk of the income-tax from citizens is given to city governments. Imagine cities such as Mumbai or urban agglomerates in India getting a percentage of income tax for managing the affairs of urban places. It would be phenomenal!

A committee formed under the United Progressive Alliance (under the Ministry of Housing and Urban Development to review the 74th constitutional amendment), recommended that 10% of income-tax collected from the cities was to be given back to them as a direct revenue grant from the central government. Alas, it was never taken into consideration.

What needs to be done? Cities must be treated as important centres of governance, where democratic decentralisation can bring in amazing results (as seen in Kerala). There will be transparency and adequate participation of the people.

Second, cities should not be considered as entrepreneurship spaces where the sole driving force is to make them competitive to attract investments. We have seen how fallacious this argument is. They must be considered as spaces for planned development by giving adequate attention to resources.

Our cities are hardly prepared for the impact of climate change; nor do they have adaptive strategies. The resources required for quantitative and qualitative data must be immediately provided to the cities to ensure a disaster risk reduction plan keeping vulnerable communities in mind.

Nothing 'smart'

Fourth, a piecemeal approach such as the concept of 'smart cities' must be shunned altogether. This approach further widens the gap between different sets of people. Rather, the grants from the Centre must be enhanced and cities asked to draw up their plans themselves based on priority seeking from city residents. Cities are people, as they say, and people must be a part of the decision-making process.

Fifth, leadership in the cities must be elected for a term of five years. In some cities, the term of the mayor is for a year! Likewise, the third F, i.e., functionaries, must be transferred to the cities with a permanent cadre.

Thus, in this exercise by the RBI, the good part is that there has least been a mention of cities, with local bodies as important centres of governance.

Tikender Singh Panwar is a former directly elected Deputy Mayor of Shimla and an urban practitioner. He is also a senior Fellow with the Impact and Policy Research Institute (IMPRI), Delhi

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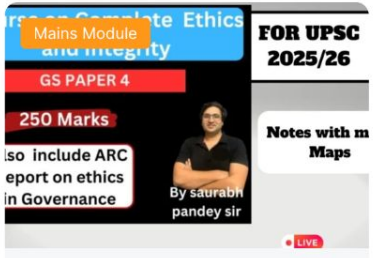

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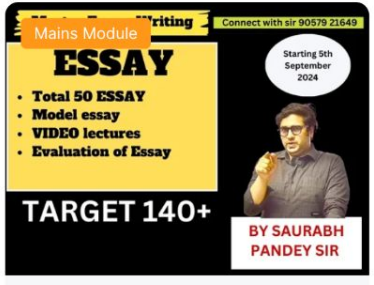

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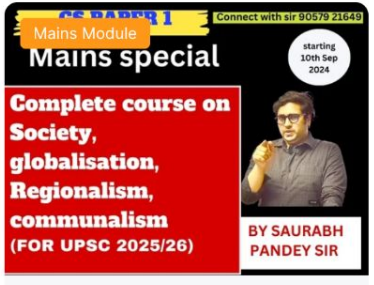

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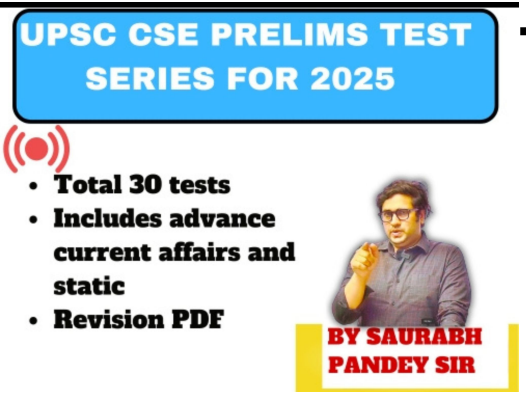

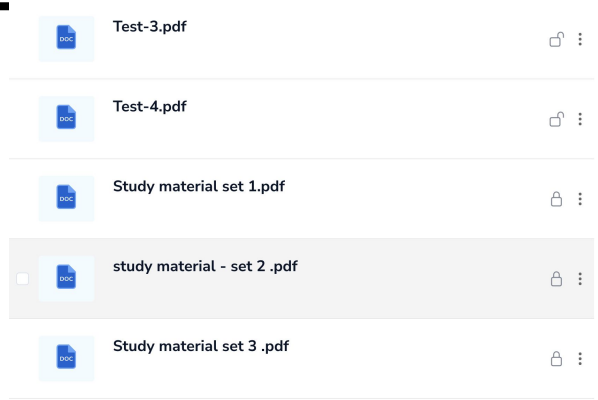

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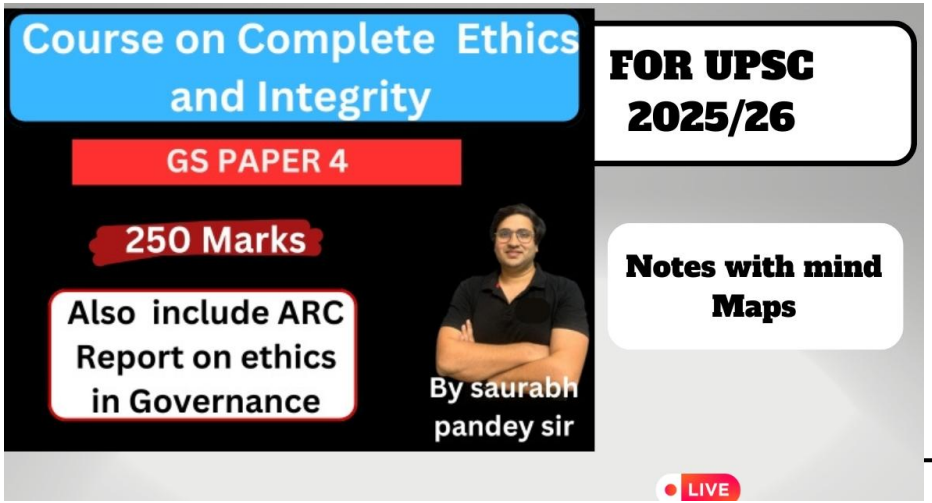

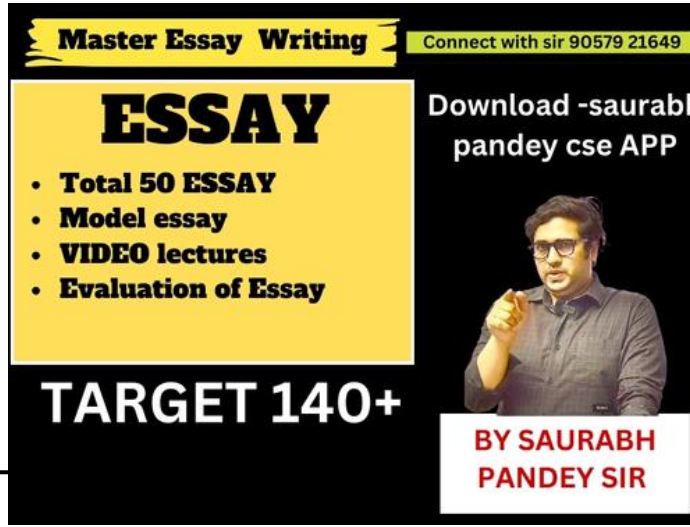

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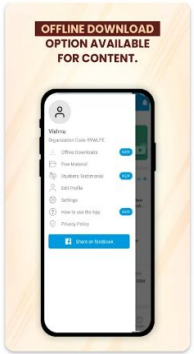

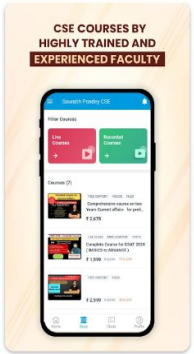

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