

2nd July, 2024

1. Agenda of the 16th Finance Commission GS 3 (Economy)

- **Why in the News:** The 16th Finance Commission (FC), under the chairmanship of Dr. Arvind Panagariya, focuses on devolution to local bodies, highlighting challenges in urban fiscal devolution in India.

● Background:

- **Article 270** of the Constitution provides for the scheme of distribution of net tax proceeds collected by the Union government between the Centre and the States.

- The taxes that are shared between the Centre and the States include corporation tax, personal income tax, Central GST, the Centre's share of the Integrated Goods and Services Tax (IGST) etc.
- This division is based on the recommendation of the **Finance Commission (FC)** that is constituted every five years as per the terms of **Article 280**.
- Apart from the share of taxes, States are also provided grants-in-aid as per the recommendation of the FC.
- The divisible pool, however, does not include cess and surcharge that are levied by the Centre.

● About Finance Commission:

- The FC is constituted every five years and is a body that is exclusively constituted by the Union Government.
- It consists of a chairman and four other members who are appointed by the President.
- The **Finance Commission (Miscellaneous Provisions) Act, 1951**, has specified the qualifications for chairman and other members of the commission.
- The Union government has notified the constitution of the **16th Finance Commission under the chairmanship of Dr. Arvind Panagariya** for making its recommendations for the period of **2026-31**.

● Composition of the Finance Commission:

- **Chairman:** The Commission is headed by a Chairman who is selected from among individuals with experience in public affairs.
- **Members:** There are four other members who are appointed by the President of India. The qualifications for these members include:
 - ◆ A person who is or has been a judge of a High Court or qualified to be appointed as one.
 - ◆ A person with knowledge of finance and accounts of the government.
 - ◆ A person with experience in financial matters and administration.
 - ◆ A person with special knowledge of economics.

● Functions of the Finance Commission:

- **Distribution of Net Proceeds:** Recommend how the net proceeds of taxes should be distributed between the Centre and the states, and the allocation of the same among the states.
- **Grants-in-Aid:** Determine the principles governing the grants-in-aid to the states by the Centre from the Consolidated Fund of India.
- **Improving Fiscal Management:** Suggest measures needed to augment the Consolidated Fund of a state to supplement the resources of the Panchayats and Municipalities in the state.
- **Any Other Matter:** Address any other matter referred to it by the President in the interests of sound finance.

● Are Recommendations Made by the Commission Binding?

- The recommendations made by the Finance Commission are of an advisory nature only and therefore, **not binding upon the government**.
- It is up to the Government to implement its recommendations on granting money to the states.

● Agenda of the 16th Finance Commission:

- The 16th Finance Commission (FC) has begun its work, primarily focusing on the devolution of the consolidated fund.

What is on the agenda for the 16th Finance Commission?

How do other countries devolve funds to their local government? Why is the Census significant?

Tikender Singh Panwar

The story so far: The 16th Finance Commission (FC) has begun its work, primarily focusing on the devolution of the consolidated fund. Since the 15th Finance Commission, local bodies have gained significant recognition within the federal system. These amendments introduced sub-section 280 (3) (b) and (c), which mandate the FC to recommend measures to augment local consolidated funds for supporting panchayats and municipalities.

What about cities? The National Commission on Urbanisation in the mid-80s described cities as "engines of growth". Although this view is somewhat narrow, the reality is that cities contribute around 60% of India's GDP and about 90% of local government revenues. Cities, thus, are an

important spatial zone for the overall development of the country. However, our economic scale is insufficient to meet rising needs. The World Bank estimates that \$400 billion is needed for basic urban infrastructure in the next decade.

Despite the efforts of all stakeholders since the 15th Finance Commission, financial devolution to cities remains inadequate. The fiscal health of municipalities is poor, affecting both city productivity and quality of life. Rapid urbanisation without appropriate fiscal action has adverse effects on development. Inter-governmental transfers (57%) to Urban Local Bodies (ULBs) in India are about 1.5% of GDP, much lower than the 2.5% typical of other developing nations. For instance, South Africa allocated 2.5%, Mexico 1.6%, the Philippines 2.5%, and Brazil 4.5% of their GDP to their cities. Although 50% more up about 40% of ULB's total revenue, leaves pending regarding their predictability, commanding for vulnerable groups, and financial equity. ULBs are

crucial for ULBs, given their financial state and the need for stable support until their own revenues improve.

What about the taxation system? The introduction of the Goods and Services Tax (GST) in 2017 has reduced ULB's tax revenue including property tax from about 25% to 20% of total revenue. In 2017-18, 87% from States to ULBs are very low, with State Finance Commissions recommending only about 7% of State's own revenue in 2018-19. Increasing the quantum of 87% as a percentage of GDP is necessary. Despite the 74th constitutional amendment aims to financially strengthen ULBs, progress over three decades has fallen short.

The 15th Finance Commission observed that "parallel agencies and bodies are replicating local government functions and are operating separately." Local governments require support from Union and State governments through funds, legislations, and technical aid. However,

the growth of parallel agencies has distorted local government's roles. Programs like the Member of Parliament Local Area Development Scheme and the Member of Legislative Assembly Local Area Development Scheme exacerbate this issue, blurring the federal structure.

How important is the Census? In the absence of the 2021 Census, reliance on 2011 data is inadequate for evidence-based fiscal devolution. India has approximately 4,000 statutory towns and an equal number of Census towns, with an estimated 22,000 villages, all of which are effectively urban. These figures must be captured by the 80th FC, thus, the significance of migration to Town and Cities.

Thus, the 80th FC's role guiding principles requires a vision. Not all of them but reference to enhancement in property tax collection to tandem to the State's GST, maintenance of accounts, resource allocation for mitigating pollution, focus on primary health care, solid waste management, drinking water, etc., deserve attention. The 80th FC must consider India's urbanisation dynamics and ensure 50% of urban area are at least classified as McKinsey Global Institute report warns that if fiscal institutions investing in urban infrastructure will fall short, leading to water supply issues and untreated sewage.

Author is former Deputy Mayor, Shiksha, and Member, Goods & Services Commission.

THE GIST

Despite the efforts of the Finance Commission, financial devolution to cities remains inadequate. The fiscal health of municipalities is poor, affecting both city productivity and quality of life.

The 15th Finance Commission observed that "parallel agencies and bodies are replicating local government functions and are operating separately."

The 80th FC must consider India's urbanisation dynamics and ensure 50% of urban area are at least classified.

- Since the 73rd and 74th constitutional amendments, local bodies have gained significant recognition within the federal system.
- These amendments introduced sub-clauses 280(3)(bb) and (c), which mandate the FC to recommend measures to augment State consolidated funds for supporting panchayats and municipalities.
- **About Urban Areas:**
 - Cities, contributing around 66% of India's GDP and 90% of government revenues, are crucial for national development.
 - Despite their importance, financial support for urban areas remains insufficient.
 - The World Bank estimates \$840 billion is needed for urban infrastructure over the next decade.
 - **Intergovernmental transfers (IGTs) to Urban Local Bodies (ULBs) in India are only about 0.5% of GDP,** significantly lower than in other developing countries.
 - This inadequate financial devolution hampers city productivity and quality of life. IGTs, although vital, need to be more predictable and equitable to support ULBs effectively.
- **Need for Increase in IGTs:**
 - The introduction of the Goods and Service Tax (GST) has reduced ULBs' tax revenue (excluding property tax) from about 23% in 2012-13 to around 9% in 2017-18.
 - IGTs from States to ULBs are very low, with State Finance Commissions recommending only about 7% of States' own revenue in 2018-19. Increasing the quantum of IGTs as a percentage of GDP is necessary.
- **Need for the Updated Census Data:**
 - Without the 2021 Census, relying on 2011 data for fiscal planning is inadequate.
 - India has about 4,000 statutory towns, an equal number of Census towns, and around 23,000 villages that are essentially urban.
 - The 16th Finance Commission must consider this and the migration to Tier-2 and 3 cities.
 - The 15th FC's principles need revisiting, particularly regarding property tax, GST alignment, pollution mitigation, primary healthcare, and essential services.
 - The 16th FC should aim to double IGTs to urban areas.

2. Manufacturing Purchasing Managers' Index or PMI

GS 3 (Economy)

- **Why in News:**
 - Despite having elevated inflationary pressures, India's manufacturing activity in June witnessed a rebound, thanks to strong demand leading to the fastest rate of hiring in more than 19 years. The seasonally adjusted **HSBC India Manufacturing Purchasing Managers' Index or PMI** increased from 57.5 in May to 58.3 in June, indicating a **sharper improvement in business conditions**. In PMI parlance,
 - ◆ print above 50 means expansion
 - ◆ while, a score below 50 denotes contraction

PMI signals manufacturing rebound

HSBC India's June survey of purchasing managers shows fresh hires by manufacturers rose to a 19-year high; consumer goods record strongest performance, while export order growth eases from May; optimism declines to a three-month low

The Hindu Bureau
NEW DELHI

Manufacturing activity rebounded in June, with an uptick in new orders, output and input purchases, even as producers raised goods' prices by the greatest extent in more than two years, and scaled up hiring to the highest level in at least 19 years, as per a survey-based index.

The HSBC India Manufacturing Purchasing Managers' Index (PMI) increased to 58.3 in June, from May's 57.5, indicating a sharper improvement in

Expansion mode

HSBC India's Manufacturing PMI signals activity rebounded in June, with an uptick in new orders, output, input purchases

- The PMI increased to 58.3 in June, from May's reading of 57.5
- Producers' optimism about prospects in the coming year slid to a three-month low, with about 29% expecting growth over



business conditions. Producers' optimism about prospects in the coming year slid to a three-month low, with about 29% expecting growth over the year ahead. The performance of the consumer goods industry was strong, with substantial increases were also noted in the intermediate

and investment goods categories, HSBC said in a statement on the index. Intermediate goods makers registered the quickest increase in input costs, while consumer goods producers led the upturn in output charges. Although input costs receded from May levels, they were still among the highest in two years. Feedback from about 400 firms surveyed for the index suggested that staff expenses intensified in June, along with rising costs of transportation and materials used as inputs such as aluminium, plastic and steel. New export orders also increased substantially in June. "Despite [orders] easing from May, the rate of expansion was well above its long-run average," HSBC said. "Manufacturers were able to pass on higher costs to customers, as demand remained robust, resulting in improved margins," said Maitreyi Das, global economist at HSBC. "While the overall outlook for the manufacturing sector remains positive, the future output index receded to a three-month low, albeit it remains above the historical average," she added.

- **What is manufacturing PMI?**
 - Manufacturing PMI, or Purchasing Managers' Index, is an economic gauge derived from monthly surveys of companies.
 - It assesses business conditions in manufacturing and services sectors.
 - **Types of PMI**
 - ◆ Manufacturing PMI
 - ◆ Services PMI
 - PMI helps determine if conditions are expanding, contracting, or stable, offering insights into current and future economic health.
 - **Variables:** For manufacturing PMI, surveys are sent to manufacturing firms with factual questions about key areas: new orders (30%), output (25%), employment (20%), suppliers' delivery times (15%), and stock levels (10%).

- ◆ A PMI number above 50 indicates growth, below 50 signals contraction.
- ◆ Started in 1948 by the Institute for Supply Management, PMI is produced globally.
- ◆ It's a leading indicator, often released before GDP data, providing early signals about economic trends. Investors and businesses use PMI to gauge economic conditions and make informed decisions.

3. Kuno's Chital Population

GS 3 (Environment)

- **Why in News:** The **Cheetah Project** has made headlines due to plans to relocate surplus cheetahs from **Kuno National Park** to **Gandhi Sagar Wildlife Sanctuary**. This decision follows concerns over a **decline in the chital population**, the primary prey for cheetahs, and challenges posed by leopard predation.
- **Key Findings:**
 - Kuno National Park currently hosts 26 cheetahs, including 13 cubs.
 - Concerns arose as **Kuno's chital population**, the main prey for cheetahs, decreased by over 25% since 2022.
 - Leopard predation on chital is a significant issue, despite efforts to control it.
 - **Introducing Larger Cats:** To address the issue of leopard predation and balance the predator-prey dynamics, the project is considering introducing larger cats like tigers into Kuno. Tigers are viewed as natural competitors to leopards and could potentially reduce their impact on the chital population.
 - **Project Challenges and Efforts:** Efforts are ongoing to bolster the chital numbers in Kuno, including plans to bring in 1,500 more from other areas. Meanwhile, Gandhi Sagar Wildlife Sanctuary faces hurdles in removing leopards from prey enclosures to facilitate the introduction of cheetahs.
- **About Cheetal (Axis axis)**
 - Chital or cheetal (Axis axis), also known as the spotted deer, chital deer, and axis deer, is a deer species native to the Indian subcontinent.
 - **Distribution:** India, Sri Lanka, Bangladesh, Bhutan and a small group in Pakistan
 - Only males have antlers, and their bodies are larger than females.
 - **IUCN:** Least Concern
- **Kuno National Park (Madhya Pradesh):**
 - Kuno National Park has spread over an area of 748.76 sq. km.
 - **Kuno River**, one of the major tributaries of **Chambal River** flows through the entire length bisecting the National Park division.
 - It is known for the leopard, Jackal, Chinkara.
- **Gandhi Sagar Wildlife Sanctuary (Madhya Pradesh)**
 - Gandhi Sagar is a wildlife sanctuary located at eastern Madhya Pradesh.
 - This region is known a **Nimar region** which touches its border with Rajasthan.
 - The forest of this sanctuary is part of **Khathiar-Gir dry deciduous forest**.
 - It is part of World famous **Chaturbhuj Nala rock shelters**.

Chital stock dwindling in Kuno, plan to move out excess cheetahs

Leopards behind loss of prey base, so tigers as check an option

JAY MAZOOMDAAR
NEW DELHI, JULY 1

THE PROJECT Cheetah authorities have reached an in-principle decision to shift surplus cheetahs from Kuno national park to Gandhi Sagar wildlife sanctuary after the monsoon. At present, Kuno has 26 cheetahs, including 13 cubs and sub-adults. This follows a reassessment of Kuno's cheetah carrying capacity — pegged at 21 in the Project Action Plan — necessitated by a staggering loss of over 25 per cent since 2022 of Kuno's



An estimated 2,250 chital were lost in a year at Kuno

prime cheetah prey base: the chital population.

The loss of an estimated 2,250 chital within a year has confounded the project team as the

seven cheetahs that managed to hunt in the wild outside the enclosures during that period took down only around 50 chital.

Since authorities have ruled out largescale poaching of chital for bushmeat due to the presence of too many boots and cameras on the ground, in the dock is Kuno's 90-strong leopard population.

Ironically, leopards are also frustrating the efforts to stock and breed a cheetah prey base in Gandhi Sagar wildlife sanctuary by sneaking into a 60 sq km enclosure to feed on chital brought

CONTINUED ON PAGE 2

4. NHRC issues notice over 'discrimination' by Foxconn

GS 3 (Economy)

- **Why in News:** The **National Human Rights Commission (NHRC)** has taken note of reports alleging **discrimination against married women at Foxconn's iPhone assembly plant** in Sriperumbudur, Tamil Nadu. It issued notices to the **Union Labour Ministry** and the Tamil Nadu government, citing potential violations of **gender equality norms under Indian and international law**.
- **Ethical Issues**
 - The case revolves around ethical principles of **equality and non-discrimination in employment**, particularly concerning marital status. It raises questions about corporate ethics, gender inclusivity, and compliance with labor laws.

- ◆ **Gender Equality:** Discrimination based on marital status violates principles of equality and fairness. All individuals should have equal access to employment opportunities irrespective of their marital status.
- ◆ **Corporate Responsibility:** Companies have an ethical obligation to ensure non-discriminatory practices and create inclusive work environments. Excluding married women from employment opportunities contradicts these principles.
- ◆ **Transparency and Accountability:** Job seekers should have clear and transparent information about eligibility criteria. Misinformation or lack of clarity in hiring processes can lead to unfair practices and distrust.
- ◆ **Compliance with Laws and Regulations:** Companies must adhere to national and international laws that prohibit discrimination based on gender or marital status. Failure to comply reflects ethical lapses in governance and corporate culture.
- ◆ **Impact on Individuals and Society:** Discriminatory practices not only harm individual job seekers but also perpetuate gender inequalities in society. Upholding ethical standards in employment contributes to social justice and equal opportunities for all.
- ◆ **Role of Regulatory Bodies:** Regulatory bodies play a crucial role in safeguarding rights and enforcing ethical standards. Prompt action and investigation are essential to address grievances and uphold ethical norms in corporate practices

NHRC seeks reports from Centre, TN over Foxconn's 'jobs bar on married women'

EXPRESS NEWS SERVICE
NEW DELHI, JULY 1

TAKING INTO account media reports that Foxconn India, a major manufacturer of Apple products, is excluding married women from jobs at its iPhone assembly plant in Sriperumbudur, Tamil Nadu, the National Human Rights Commission (NHRC) on Monday issued notices to the Centre and the state government.

"The Commission has observed that the contents of the media reports, if true, raise a serious issue of discrimination against married women causing the violation of the right to equality and equal opportunity. Therefore, the Commission has issued notices to the Secretary, Union Ministry of Labour and Employment and the Chief Secretary, Government of Tamil

Nadu calling for a detailed report in the matter within one week," the NHRC said in a press release.

The NHRC said the state must ensure that all companies follow norms, regulations and related labour laws, including the right(s) to health, dignity and equality. It added that besides the Constitution, several international covenants and treaties like the International Covenant Civil and Political Rights (ICCPR), and the International Covenant of Economic, Social and Cultural Rights (ICESCR) provide for non-discrimination on the basis of gender in all forms of employment.

Highlighting the accusations, made by the company's former employees, that Foxconn India had given hiring agencies verbal directions to this effect, the NHRC also took note of the allegation that the company does not hire married women due to cultural issues and societal pres-

sure. The NHRC's action comes after media reports last week disclosed that jobseekers in the company were contacted between January 2023 and May this year, leading to the revelation that only unmarried women were eligible for assembly jobs, despite no mention of any such policy in the company's advertisements.

"A WhatsApp chat between a married candidate and the hiring agency of the company was also quoted in the news report stating that when the candidate asked about the salary and childcare facility offered by the company, the response was 'married not allowed'; the NHRC said in its press release.

The company has denied all allegations of discrimination in employment based on marital status, gender, religion or any other form.

5. Unchecked urbanisation renders Delhi Vulnerable to Flooding GS 3 (Infrastructure)

- **Why in News:** Recent heavy rainfall in Delhi has once again highlighted the chronic issue of urban flooding in the city, exacerbated by unchecked urban expansion and inadequate drainage systems.
- **How urbanisation is responsible?**
 - Delhi is undergoing one of the world's fastest urban expansions. The geographic size of Delhi almost doubled from 1991 to 2011. This urban expansion, however, has paid little heed to **Delhi's natural topography**.
 - ◆ **Unchecked Urban Growth:** Rapid and unplanned urbanization has expanded Delhi without adequate consideration for natural drainage patterns.
 - ◆ **Impact on Drainage:** Historical areas of Delhi were built on higher ground, allowing rainwater to naturally drain. Modern construction in low-lying areas disrupts these natural drainage routes.
 - ◆ **Concrete Jungle:** Extensive concretization reduces the land's ability to absorb rainwater, leading to increased surface runoff during heavy rains.
 - ◆ **Drainage Infrastructure:** Existing drainage systems, including nallahs (drains), are often insufficiently maintained and become clogged easily.
 - ◆ **Role of Civic Authorities:** Inadequate desilting of drains by civic bodies exacerbates flooding during monsoon seasons.
 - ◆ **Infrastructure:** The introduction of infrastructure like railways and roads in flood plains has further compromised natural drainage system

Floods & urbanisation in Delhi

The national capital is undergoing one of the world's fastest urban expansions, with little regard for the land's natural topography. This has left Delhi vulnerable to flooding during spells of intense rainfall

SHINY VARGHESE

NEW DELHI, JULY 1

UNCHECKED AND ill-thought-out urban expansion is the principal reason behind chronic urban flooding in Delhi, and the larger National Capital Region (NCR). Last week, a spell of heavy rain brought parts of Delhi to a standstill, inundating streets, causing hours-long traffic snarls, lengthy power cuts, property damage, and at least 11 deaths. While last week saw record rainfall, flooding and water-logging have now become a part and parcel of Delhi's monsoons. Factors such as inadequate desilting of drains by civic authorities play a part, but at the heart of it lies a deeper problem.

A rapidly growing city
Delhi is undergoing one of the world's fastest urban expansions. According to NCA data, Delhi's geographic size almost doubled from 1991 to 2011. Most of this expansion has occurred on the peripheries of New Delhi, with erstwhile rural areas becoming engulfed in the capital's urban sprawl. Cities outside Delhi, but a part of the NCR — Gurgaon, Ghaziabad, Faridabad, Noida, and Gurgaon — have also witnessed rapid urbanisation.

According to the UN The World's Cities in 2018 data booklet, Delhi will overtake Tokyo as the world's most populous city by 2030, with an estimated population of nearly 39 million, roughly two and a half times its population in 2000.

Topography and drainage
This urban expansion has paid little heed to Delhi's natural topography. "Topography determines drainage patterns," Mani R. Ramesh, principal director, Natural Heritage Division, NVCH, said. The Indian Express: "From the old Delhi's historic cities — from Tughlakabad, Mehrauli, and Shahjahanabad to Connaught Place, New Delhi, and the Cantonment area — all were carefully selected, and built on higher ground. In Delhi's villages, the centre of the village would always be five to six metres higher than the village periphery," he said.

This allowed rainwater to drain out. But as the city has expanded, the land's drainage capacities have not been kept in mind. With high-intensity rains there is significant rainwater runoff from the surface, when there is more water on the land's surface than it can absorb, and existing drainage systems have been inadequate, Ramesh explained.

Concrete everywhere
"The lay of the land slopes from the Ridge to the river... it is about a 100-metre drop," K. K. Ravindran, architect and urban designer, said.

But due to urbanisation, water cannot flow down this gradient. "Today, most of the water gets channelised into concentrated nallahs (drains), which have been turned into sewage dumps," Ravindran said.

Construction in low-lying areas makes things worse. For instance, many nullahs from across South Delhi converge at Sarai Kale Khan, a low-lying area next to the Yamuna. This is why the bustling urban village sees intense flooding every year.

Construction in Delhi's flood plains began as early as the 1950s, when the British decided to build a railway line along the riverbed. Much later, the Ring Road came up, again on the Yamuna flood plain.

Low-lying areas around the Yamuna are flood prone



Areas on both sides of the Yamuna River are prone to flooding during the monsoon season.



Water-logging under the Minto Bridge in New Delhi on June 28. Photo: Khushi

MANY CITIES, SAME PROBLEM

BENGALURU
13 cm of rainfall in Bengaluru's Rainbow Drive led to flooding in 2022, one of the worst floods in 15 years. "We must not overlook the critical role of the storm water drain network in replenishing these (Bengaluru's) lakes/water bodies. It is a network which is crucial to the health of the city and its lakes," NARESH V NARASIMHAN, ARCHITECT, URBAN PLANNER

MUMBAI
94.4 cm rain on July 26, 2005, wettest 24 hours ever; city stopped running; more than 1,000 dead. "We need to make an assessment of our storm water drains and see if they are capable of handling excessive rain. We need to then improve early warning systems... An evacuation strategy is important," SUBHAIL GHOSH, HEAD OF CLIMATE STUDIES, IT BOMBAY

KOCHI & OTHER KERALA CITIES
Worst ever floods in mid-Aug 2018; 48 km of Kerala submerged; Kochi inundated for days. "We need strong legal systems in place to ensure future structures follow the lay of the land, allow water to percolate, and don't narrow down streams," MANOJ K M, KERALA TOURISM INFRASTRUCTURE LTD.

SHIMLA & OTHER HILL TOWNS
Catastrophic rainfall in July-Aug 2023 resulted in loss in Mandi, Kullu, Manali, Shimla. "There should be new paradigms of the architecture of governance. Communities should be made custodians and stop kind of insurance model should be developed," TIKENDER PAHWAR, URBAN SPECIALIST

Delhi
This is why, for example, the Pragati Maidan Tunnel, inaugurated by the Prime Minister in 2022, is flooded each monsoon. Water bodies which can help manage flooding have also been destroyed. "According to official records, Delhi has some 1,000 water bodies. But on the ground there are not more than 400. These 600 'missing' water bodies have been converted into valuable real estate," Bhattacharya said.

No 'water masterplan'
Ravindran said that urban planners need to come up with a "water masterplan." "Today, land is seen as real estate. There has been a consistent neglect of water as a planning resource... In fact, water should be the primary driving factor behind any masterplanning," he said. No comprehensive planning accounting for the city's water flow has been carried out in the last 70 years.

At Saket Park in "Delhi's wettest spot building in low-lying areas, de-concrete our lawns and pavements, and stop blocking the drains with solid waste," the floods won't stop. Understanding gradients and working with the lay of the land is crucial."

Ravindran suggested setting up proper filtration pits to carry the water to aquifers in low-lying areas. "We can't afford to pump out all of the water every time. We have to rely on gravitational flow," he said.

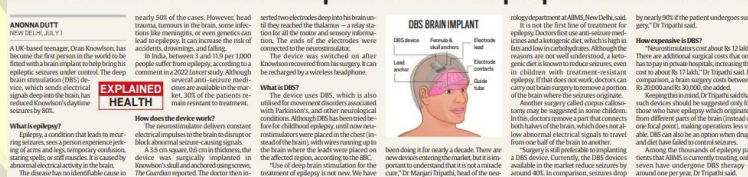
- In short, Delhi is grappling with urban flooding caused by a combination of factors: unprecedented and extreme rainfall patterns, silt buildup, and encroachment on floodplains
- **How Sustainable urban planning can help?**
 - Cities must prioritise **sustainable urban planning, comprehensive infrastructure development**, and the preservation and restoration of natural water bodies to effectively address urban flooding.
 - Measures such as **green roofs, rainwater harvesting systems, and permeable pavements** can reduce surface runoff and alleviate pressure on drainage systems. These solutions are crucial in building flood-resilient communities.
- **Government Measures for Urban Flooding**
 - **Atal Mission for Rejuvenation and Urban Transformation (AMRUT) 2.0 Scheme:** It provides for rainwater harvesting through storm water drains into water body (which is not receiving sewage/effluent) & creation/strengthening of storm water drains around water body.
 - **Other measures:** Jal Shakti Abhiyan (JSA), Amrit Sarovar Mission, Atal Bhujal Yojana, Model Building Bye Laws (MBBL), 2016.

6. World's first Brain Implant to control Epileptic Seizures

GS 3 (Science and Tech)

- **Why in News:** Oran Knowlson, a teenager from the UK, recently made headlines for becoming the **first person worldwide to receive a brain implant** aimed at reducing epileptic seizures. This deep brain stimulation (DBS) device, surgically implanted into his skull and connected to electrodes targeting the brain's thalamus, has successfully reduced his daytime seizures by an impressive 80%.
- **About DBS device**
 - The DBS device delivers constant **electrical impulses** to disrupt seizure-causing brain signals.
 - It offers a promising alternative for patients resistant to traditional anti-seizure medications or those for whom surgery is not viable.
 - It is surgically placed in the skull, electrodes inserted into the **thalamus (brain's relay station)**.
 - **Effectiveness:** Reduced Knowlson's seizures by 80%.
 - **Comparison with Existing Treatments:**
 - ◆ **Medication:** Many patients are resistant (30%) to available anti-seizure drugs.
 - ◆ **Surgery:** Effective but invasive; removes seizure-originating brain areas.
 - ◆ **Ketogenic Diet:** High-fat, low-carb diet also used to control seizures.
- **Epilepsy**
 - Epilepsy is a condition characterized by recurring seizures due to abnormal brain activity.
 - Causes include **head trauma, brain tumors, infections, or genetics**.
 - It affects daily life and increases the risk of accidents.
 - **Epilepsy Prevalence in India:** 3 to 11.9 per 1,000 people (Lancet, 2022).
 - **Effectiveness Comparison:**
 - ◆ **DBS:** Reduces seizures by about 40%.
 - ◆ **Surgery:** Decreases seizures by nearly 90%.

How the world's first brain implant to control epileptic seizures works



7. Project Nexus

GS 3 (Economy)

- **Why in News:** The Reserve Bank of India (RBI) has joined Project Nexus, a multilateral international initiative to enable instant cross-border retail payments by interlinking domestic Fast Payments Systems (FPSs). India's Unified Payments Interface (UPI) and FPSs of Malaysia, the Philippines, Singapore and Thailand will be interlinked through Nexus. Going ahead, the platform can be extended to more countries.
- **What is Project Nexus?**
 - Project Nexus is a multilateral international initiative among central banks and financial authorities to enable instant cross-border retail payments.
 - **Initiated by:** Innovation Hub of the Bank for International Settlements (BIS)

- It is the **first BIS Innovation Hub project** in the payments area to move towards live implementation
- It focuses on linking domestic instant payment systems (IPS) globally, enabling near-instantaneous transactions between countries.
- **Founding members of Project:** Central banks of India, Malaysia, Philippines, Singapore, and Thailand.
- The platform standardizes the connection process, making it easier for countries to join and allowing for rapid expansion of cross-border payment capabilities.
- **Key Objectives**
 - ◆ **Standardization of IPS Connections:** Instead of creating custom connections for each country, Nexus provides a unified platform where a single connection enables access to all member countries.
 - ◆ **Facilitation of Instant Cross-Border Payments:** By interlinking FPSs, Project Nexus aims to reduce the time and cost associated with cross-border transactions, aiming for transaction times within 60 seconds in most cases.
- The platform is expected to go live by 2026.
- **Benefits of Project Nexus**
 - **Enhanced Efficiency:** Standardized connections streamline the process of linking domestic FPSs, reducing the complexities involved in establishing cross-border payment networks.
 - **Reduced Costs:** Near-zero costs to both senders and recipients are expected due to the efficiency gains and elimination of intermediary fees associated with traditional cross-border transactions.
 - **Improved Accessibility:** Enables broader access to instant cross-border payments, promoting financial inclusion and facilitating smoother international transactions for individuals and businesses alike.

What is Project Nexus that RBI has signed up for?

HITESH VYAS
MUMBAI, JULY 1

THE RESERVE Bank of India (RBI) has joined Project Nexus, a multi-lateral international initiative to enable instant cross-border retail payments by interlinking domestic Fast Payments Systems (FPSs). India's Unified Payments Interface (UPI) and FPSs of Malaysia, the Philippines, Singapore and Thailand will be interlinked through Nexus. Going ahead, the platform can be extended to more countries.

What is Project Nexus?

Project Nexus is conceptualised by the Innovation Hub of the Bank for International Settlements (BIS). It seeks to enhance cross-border payments by connecting multiple domestic instant payment systems (IPS) globally. It is the first BIS Innovation Hub project in the payments area to move towards live implementation.

The Reserve Bank of India has been collaborating bilaterally with various countries to link India's Fast Payments System (FPS) – UPI, with their respective FPSs for cross-border Person to Person (P2P) and Person to Merchant (P2M) payments. While India and its partner countries can continue to benefit through such bilateral connectivity of FPS, a multilateral approach



will provide further impetus to the RBI's efforts in expanding the international reach of Indian payment systems.

In over 70 countries today domestic payments reach their destination in seconds at near-zero cost to the sender or recipient. This is thanks to the growing availability of instant payment systems. Connecting these FPSs to each other can enable cross-border payments from sender to recipient within 60 seconds (in most cases), according to the BIS.

What are the benefits of the platform?

Project Nexus is designed to standardise the way FPS connect to each other. Rather than a payment system operator building custom connections for every new country that it connects to, the operator can make one connection to the Nexus platform. This single connection allows a

fast payments system to reach all other countries on the network. Nexus could significantly accelerate the growth of instant cross-border payments.

Which countries have joined the platform?

Project Nexus aims to connect the FPSs of four Association of Southeast Asian Nations (ASEAN) – Malaysia, Philippines, Singapore, and Thailand; and India, who would be the founding members and first mover countries of this platform.

An agreement on this was signed by the BIS and the central banks of the founding countries i.e., Bank Negara Malaysia (BNM), Bank of Thailand (BOT), Bangko Sentral ng Pilipinas (BSP), Monetary Authority of Singapore (MAS), and Reserve Bank of India on June 30, 2024, in Basel, Switzerland. Indonesia will also join the platform in future.

FULL REPORT ON
www.indianexpress.com

MCQ Current Affairs
2nd July , 2024

1. SEBEX 2, recently seen in the news is a/an:

- a) multilateral naval exercise
- b) cutting-edge artificial intelligence system
- c) advanced surveillance satellite
- d) newly developed non-nuclear explosive

2. Consider the following statements with reference to the Low-Frequency Array (LOFAR):

- A. It is a pan-European distributed radio interferometer.
 - B. It can observe in several directions simultaneously, which allows for a multi-user operation.
- Which of the statements given above is/are correct?

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

3. Consider the following statements with reference to the Project Nexus:

- A. It is an international initiative to enable instant cross-border retail payments by interlinking domestic Fast Payments Systems (FPSs).
 - B. It was conceptualized by the World Bank (WB).
- Which of the statements given above is/are correct?

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

4. Consider the following statements with reference to the Supercapacitor:

- A. It is energy storage device which include an electrode, electrolyte, separator and current collector.
 - B. It has high-power density, long durability and ultrafast charging characteristics.
- Which of the statements given above is/are correct?

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

5. Consider the following statements with reference to Epilepsy:

- A. It is a condition which is caused by abnormal electrical activity in the brain.
 - B. It can be controlled by using deep brain stimulation (DBS) devices.
- Which of the statements given above is/are correct?

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

Answers Current Affairs
2nd July , 2024

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

