

05 Jun 2023: UPSC Exam Comprehensive News Analysis



TABLE OF CONTENTS
A. GS 1 Related
B. GS 2 Related
C. GS 3 Related SECURITY 1. Refugee influx into Mizoram
D. GS 4 Related
E. Editorials ECONOMY 1. Understanding the Kavach system
INTERNATIONAL RELATIONS 1. Why does North Korea want spy satellites?
F. Prelims Facts 1. Hydroelectric power deals in Arunachal Pradesh 2. Evapotranspiration
G. Tidbits 1. Shanan Power Project 2. Coupling Failure in Railways
H. UPSC Prelims Practice Questions
I. UPSC Mains Practice Questions

A. GS 1 Related

Nothing here for today!!!

B. GS 2 Related

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C. GS 3 Related

Category: SECURITY

1. Refugee influx into Mizoram

Syllabus: Role of External State & Non-State Actors in Creating Challenges to Internal Security

Mains: Various parameters of refugee crisis in India

Context: This article discusses the implications of increasing refugee influx into Mizoram.

Introduction:

- Over the past few years, Mizoram has experienced an increase in the number of refugees from Myanmar, and more recently from Bangladesh and Manipur, which has impacted the region's internal security situation.
- Discrepancies exist between the figures provided by the State government and security forces regarding the number of refugees from Myanmar.
- However, there are approximately 8,000 individuals from Manipur and over 900 people from Bangladesh, and these numbers are expected to rise further.
- The State government has allowed entry to individuals arriving from Myanmar, with the requirement that they be properly registered, as directed by the Central government.
- Currently, camps have been established, but a majority of the refugees have chosen to stay with relatives or seek employment elsewhere.

Implications of refugee influx:

- The existing population in Mizoram may experience challenges in terms of accommodating and integrating a large number of refugees from different cultural backgrounds. This can lead to cultural clashes, strained social relations, and potential conflicts.
- The scarcity of local resources in south Mizoram, primarily due to the challenging terrain, has been compounded by the influx of refugees. This shortage has the potential to incite unrest among the local population.

- The arrival of a large number of refugees can have both positive and negative economic implications for Mizoram.
 - On one hand, it can lead to increased economic activity and demand for goods and services, potentially benefiting local businesses.
 - On the other hand, it can also create competition for limited resources and job opportunities, leading to potential unemployment and economic disparities among the local population.
- The increased population density resulting from a growing refugee influx can have environmental implications.
 - Deforestation, land degradation, and increased pressure on natural resources can occur as more land is utilised for housing and infrastructure to accommodate the growing population.

Narcotics smuggling:

- Officials on the ground express particular concern about the influx from Bangladesh, as it may create opportunities for smuggling narcotics and weapons, posing a new challenge for security forces.
- A significant issue on the India-Myanmar Border (IMB) is the escalating smuggling of narcotics, with seizures steadily increasing each year.
- Concerns have been raised about the presence of guides leading refugees through the dense jungles of south Mizoram, which could be exploited for smuggling arms and narcotics.
 - In Mizoram alone, the total value of confiscated narcotics in the current year reached ₹603.43 crore, compared to ₹355 crore in 2022.
- The Assam Rifles, deployed along the IMB, are actively monitoring the situation and addressing security concerns.
- The imposition of martial law by Myanmar's military junta in several states and regions, coupled with recent air strikes near the IMB, has heightened tensions in border-adjacent areas. Nevertheless, the security situation along the IMB in Mizoram remains stable.

Nut Graf: *In recent years, Mizoram has witnessed an increase in refugees from neighbouring countries, impacting the region's internal security. Officials express concerns about narcotics smuggling and weapon trafficking, while security forces actively monitor the situation along the India-Myanmar Border.*

D. GS 4 Related

Nothing here for today!!!

E. Editorials

Category: ECONOMY

1. Understanding the Kavach system

Syllabus: Infrastructure- Railways.

Mains: Kavach system of Railways.

Prelims: Kavach system.

Context: Railway accident in Odisha.

Details:

- A ghastly train accident took place on 2nd June 2023 and killed approximately 288 passengers.

Kavach System:

- The Research Design and Standards Organisation (RDSO) along with the Indian industry indigenously developed Automatic Train Protection (ATP) system called Kavach.
- It is a state-of-the-art electronic system with Safety Integrity Level-4 (SIL-4) standards.
- It provides protection by preventing trains to pass Red (danger) signals and avoid collision.
- Kavach automatically activates the train's braking system, if the driver fails to control the speed.
- It also averts collision between two locomotives equipped with functional Kavach systems. It further relays SoS messages during emergency situations.
- Additionally, it has the centralized live monitoring of train movements through the Network Monitor System.
- It is a cheaper SIL-4-certified technology with the probability of an error being 1 in 10,000 years.
- The Traffic Collision Avoidance System (TCAS) helps in two-way communication between the station master and loco-pilot.
 - The equipment on the locomotive and transmission towers at stations connected with [Radio Frequency Identification \(RFID\)](#) tags helps in conveying messages.
 - It helps the loco-pilot in knowing the signal in advance (without visual sighting) and maintains the permissible speeds.
- Notably, both the trains in the Odisha accident (Shalimar-Chennai Coromandel Express and the Yeshwanthpur-Howrah Express) were not fitted with Kavach-TACS.
- Implementation of Kavach:
 - One of the pioneers of the implementation of Kavach-TACS is South Central Railway (SCR) Zone.
 - The Secunderabad-based Indian Railways Institute of Signal Engineering & Telecommunications (IRISET) hosts the 'Centre of Excellence' for Kavach.
 - It trains the in-service railway staff on Kavach.

Kavach Deployment Strategy:

- The railway board is implementing Kavach in a focused and phased manner beginning with high-density routes like New Delhi-Mumbai and New Delhi-Howrah Sections.
- The next priority is Highly Used Networks followed by Passenger High-Density Routes and all other routes.

Nut Graf: *The indigenously developed Automatic Train Protection (ATP) system called Kavach is equipped with state-of-the-art technology. It has the potential to control train accidents and reduce its frequency to a great extent safeguarding the lives of passengers.*

Category: INTERNATIONAL RELATIONS

1. Why does North Korea want spy satellites?

Syllabus: *Effect of policies and politics of developed and developing countries.*

Mains: *North Korea's spy satellite launch and its implication.*

Context: North Korean satellite Malligyong-1 was launched on 31st May 2023.

Introduction:

- North Korea launched a military reconnaissance satellite Malligyong-1 through a new type of rocket called Chollima-1.
- The satellite crashed into the Yellow Sea after 10 minutes due to instability in the engine and fuel system of the rocket.
- The launch raised alarms in South Korea and Japan. Both the countries along with the U.S. has strongly condemned the action.

North Korea's Space Programme:

- North Korea had an active space programme in the previous decade.
- It should be noted that satellite launch vehicles use core technology similar to long-range missiles that deliver warheads capable of destroying intercontinental targets
- Beginning in 1998, North Korea successfully orbited its first satellite in 2012 after three failed attempts.
- North Korea in April 2023 announced that it had completed the construction of its first spy satellite.
 - It will play a crucial role in advanced surveillance technology. This would further help in improving the ability to strike targets during conflicts.
- It is highlighted that North Korea's space programme is a response to other strategic developments in the region. For instance:

- The U.S. announced that it would activate the U.S. Space Forces in Korea. This would aid South Korea with advanced capabilities of missile warning and satellite communications.
- On 25th May 2023, South Korea successfully launched the Nuri rocket that aims to develop a space-based surveillance system.

Impact on East Asia:

- The launch of the North Korean satellite has caused security anxiety in East Asia.
- North Korea has become unafraid of its technological intentions. It aims to strengthen its security apparatus in the region.
- Despite being a breach of the UN Security Council resolutions, it will not attract additional economic sanctions. Moreover, it displays the weak effectiveness of sanctions on North Korea.
- A successful set of four to five military satellites in the orbit would improve the surveillance capacity of North Korea.

Nut Graf: *Despite the unsuccessful launch of the North Korean satellite Malligyong-1, there are increased concerns in the region. Moreover, North Korea has now become vocal about its missile programme and aims at advanced surveillance of the region.*

F. Prelims Facts

1. Hydroelectric power deals in Arunachal Pradesh

Syllabus: GS03-Infrastructure-Energy

Prelims: National Hydroelectric Power Corporation; Tehri Hydro Development Corporation Ltd.

Context: Arunachal scraps 44 hydel deals with private companies.

Introduction:

- The government of Arunachal Pradesh has cancelled 44 hydroelectric power contracts with private developers due to the lack of commitment from them despite multiple notices.
- The withdrawn projects, with a total capacity of 32,415 megawatts, will now be transferred to Central Public Sector Undertakings (PSUs) through new agreements.
- The Central PSUs, including National Hydroelectric Power Corporation and Tehri Hydro Development Corporation Ltd., have analysed and evaluated an indicative list of 29 projects provided by the union government.

National Hydroelectric Power Corporation(NHPC):

- NHPC was established in 1975 with the objective of harnessing the country's hydroelectric potential to meet the increasing demand for electricity and promote sustainable development.

- As a public sector undertaking, NHPC operates under the administrative control of the Ministry of Power, Government of India.
- It has developed and commissioned several major hydroelectric projects across different states, including the prestigious 2,000 MW Subansiri Lower Hydroelectric Project in Arunachal Pradesh.
- NHPC's projects not only generate clean and renewable energy but also contribute to the economic growth and development of the regions where they are located.
- The company emphasises the sustainable utilisation of water resources and environmental conservation in its project planning and execution.
- The company has a strong focus on corporate social responsibility (CSR) initiatives, including community development, healthcare, education, and environmental conservation in the areas surrounding its projects.
- NHPC also collaborates with various stakeholders, including state governments, local communities, and technical institutions, to ensure the successful implementation of its projects.

Tehri Hydro Development Corporation Ltd (THDC):

- THDC is a public sector undertaking under the administrative control of the Ministry of Power, Government of India.
- It was incorporated in 1988 with the primary objective of developing and operating the Tehri Hydro Power Complex in Uttarakhand, India.
- The Tehri Hydro Power Complex, located on the Bhagirathi River near Tehri town, is one of the largest hydroelectric projects in India.
- It comprises the Tehri Dam and the Tehri Pumped Storage Plant. The Tehri Dam, with a height of 260.5 metres, is one of the highest dams in the world.
- Apart from the Tehri Hydro Power Complex, THDC has also undertaken several other hydroelectric projects across the country, including the Koteshwar Dam and the Vishnugad Pipalkoti Hydro Electric Project.

2. Evapotranspiration

Syllabus: GS01-Geography

Prelims: Water Cycle; Evaporation and transpiration

Context: This article discusses the process of Evapotranspiration.

Key Details:

- Evapotranspiration is the combined process of evaporation and transpiration that leads to the loss of water from the Earth's surface to the atmosphere.

- Term 'Evapotranspiration' was coined and later defined by climatologist Charles Warren Thornthwaite in 1944.
- Evaporation refers to the conversion of liquid water to water vapour, mainly from open water bodies, whereas transpiration is the release of water vapour by plants through their leaves.
- Several factors influence the rate of evapotranspiration, including temperature, humidity, wind speed, solar radiation, and the availability of water in the soil.
 - Higher temperatures, low humidity, and strong winds increase evapotranspiration, while cloudy conditions and limited soil moisture reduce the process.
- Various methods are used to measure evapotranspiration. These include the use of evaporation pans, lysimeters, and meteorological instruments such as atmometers and eddy covariance systems.
 - These techniques help researchers and policymakers estimate water loss from different landscapes, including agricultural fields, forests, and urban areas.
- Evapotranspiration plays a crucial role in agricultural water management. By understanding the water requirements of crops and estimating evapotranspiration rates, farmers can optimise irrigation scheduling to ensure efficient water use.
 - This knowledge helps prevent over-irrigation, which can lead to water wastage and environmental issues, and under-irrigation, which can reduce crop productivity.
- Evapotranspiration is an essential component of the Earth's water cycle and has significant environmental implications.
 - It affects regional and global climate patterns by regulating the exchange of moisture between the land surface and the atmosphere.
 - Changes in evapotranspiration rates due to land-use changes, deforestation, or climate change can impact local and regional water availability, precipitation patterns, and overall ecosystem health.
- Understanding evapotranspiration is vital for effective water resource management and sustainable development.

G. Tidbits

1. Shanan Power Project

- Punjab and Himachal Pradesh are on the verge of a conflict over the Shanan hydropower project, as the 99-year lease granted to Punjab by the British-era ruler is set to expire in March 2024.
- Himachal Pradesh is determined not to renew or extend the lease, demanding that the project be handed over to the state after the lease period ends.
- Himachal Pradesh Chief Minister has written a letter to the Punjab Chief Minister, notifying the end date of lease and expressing the state's intention to take over the project.
- Punjab is planning for legal action if necessary, as the project is currently under the continuous ownership and possession of the Punjab government.

Shanan Power House:

- Shanan Power House is situated in Himachal Pradesh.
- In 1932, the powerhouse was commissioned under a 99-year lease agreement between Raja Jogendra Sen, the king of Mandi at the time, and Col BC Batty, the Chief Engineer of the Punjab Government.
 - The lease agreement was signed in 1925.
- Prior to India's independence, this powerhouse served as a crucial energy source for the entire undivided Punjab, including Lahore and Delhi.
- Following the reorganisation of states in 1966, the Shanan powerhouse was transferred to Punjab by the union government, as the original lease agreement from 1925 was still in effect.
- Initially designed with a capacity of 48 MW, the Punjab government later expanded it to 60 MW in 1982, and further increased it to 110 MW by adding 50 MW more.

2. Coupling Failure in Railways

- A recent high-level meeting, chaired by the Chairman of the Railway Board and Chief Executive Officer, highlighted the problem of the detachment of locomotives from rakes due to coupling failure.
- Despite instructions to address the issue, the Railways has neglected this major safety concern for over three years, according to sources.
- The detachment of the coupler connecting the coaches to the locomotive poses a dangerous situation, as the rake becomes disconnected and continues moving on the track.
 - Coupling failure in Indian Railways refers to the malfunction or failure of the coupling system that connects the railway cars or coaches.
 - The coupling system is crucial for maintaining the integrity and stability of the train, as it enables the transfer of traction forces and ensures that the cars remain securely attached to one another during the journey.
- Coupling failures can occur due to various reasons, including wear and tear, lack of maintenance, mechanical defects, or human error.
- The Railway authorities have approached the Research Designs and Standards Organisation (RDSO), the research arm of the Railways, to rectify this defect.
- However, the modification suggested by the RDSO for the Dellner coupler, which should have been completed in 2020, has not progressed sufficiently, leading to incidents of train parting.
- In response to this concern, the General Managers of all Zonal Railways have been instructed to identify unmodified Dellner couplers and prioritise their rectification.
 - The modification involves adding an additional pin to the coupler of each coach to prevent uncoupling during sudden braking and jerks.
- Furthermore, zonal authorities have been directed to erect fences in areas where derailments occur due to cattle run-over issues.

H. UPSC Prelims Practice Questions

Q1. Consider the following Pairs: (Level-Difficult)

National Waterway no.	River System
1. NW 16	BARAK RIVER
2. NW 64	MAHANANDA RIVER
3. NW 98	SUTLEJ RIVER
4. NW 110	YAMUNA RIVER

How many of the above pairs are correctly matched?

- A. Only one
- B. Only two
- C. Only three
- D. All four

Answer: C

Explanation:

- **Pair 01 is correctly matched**, Barak River is the second largest river in the North Eastern Region. It originates from south of Kohima in Nagaland near Nagaland – Manipur Border. After traversing through Nagaland, Manipur and Assam, it splits at Bhanga into two streams called Surma and Kushiya.
 - These two streams rejoin at Markuli in Bangladesh and thereafter the river is called Meghna.
 - The navigable portion of Barak River in India is the 121 km stretch between Lakhipur and Bhanga which has been declared as NW-16 in the year 2016.
- **Pair 02 is incorrectly matched**, The 425 km stretch of Mahanadi from Paradip sea mouth to Sambalpur has been declared as National Waterway-64 by Inland Waterways Authority of India (IWAI).
- **Pair 03 is correctly matched**, Sutlej river stretch passing through Himachal Pradesh and Punjab is declared as National Waterway 98.
- **Pair 04 is correctly matched**, Yamuna river stretch passing through Delhi, Haryana and Uttar Pradesh is declared as National Waterway 98.

Q2. Consider the following statements: (Level-Medium)

1. Lavenders flourish best in dry, well-drained, sandy or gravelly soils in full sun
2. Commercially, the plant is grown mainly for the production of lavender essential oil.
3. Aroma Mission was launched by the Union Ministry of Agriculture & Farmers Welfare through the Council of Scientific & Industrial Research (CSIR), which has led to the well-known “Purple Revolution” in India.

How many of the above statements are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Answer: B

Explanation:

- The Purple or Lavender Revolution was launched in 2016 by the Union Ministry of Science & Technology through the Council of Scientific & Industrial Research (CSIR) [Aroma Mission](#).

Q3. With respect to Commission of Enquiry Act, 1952, which of the following statements is/are correct? (Level-Difficult)

1. This Act is made for the appointment of commissions to inquire into matters which are related or concerned or affects the public at large.
2. Both central and state governments can set up such Commissions of Inquiry and they can appoint such commissions to investigate any subject matter mentioned in the 7th schedule.
3. If the State government set up the commission first, then Central Govt cannot set up a parallel commission on the same subject matter

Options:

- A. 1 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

Answer: A

Explanation:

- **Statement 01 is correct**, Parliament enacted the Commissions of Inquiry Act, 1952, which authorises the union and state governments to appoint inquiry commissions to make inquiries in the definite matters of public importance. This is a central legislation enacted under the constitution, Schedule VII, List I and III.
- **Statement 02 is correct**, Both central and state governments can set up such Commissions of Inquiry, states are restricted by subject matters that they are empowered to legislate upon.
- **Statement 03 is correct**, If the central government set up the commission first, then states cannot set up a parallel commission on the same subject matter without the approval of the Centre.
 - But if a state has appointed a Commission, then the Centre can appoint another on the same subject if it is of the opinion that the scope of the inquiry should be extended to two or more states.

Q4. Which of the following statements is correct about Superbugs? (Level-Medium)

- A. Microbes that have become resistant to antibiotic drugs.
- B. A computer virus designed to damage hardware that's being controlled by computers.
- C. Microbes used in the bioremediation process.
- D. Microbes used in Oral Poliovirus vaccine (OPV).

Answer: A

Explanation: Superbugs are strains of bacteria, viruses, parasites and fungi that are resistant to most of the antibiotics and other medications commonly used to treat the infections they cause.

- A few examples of superbugs include resistant bacteria that can cause pneumonia, urinary tract infections and skin infections.

Q5. Aspartame is an artificial sweetener sold in the market. It consists of amino acids and provides calories like other amino acids. Yet, it is used as a low-calorie sweetening agent in food items. What is the basis of this use?(Level-Difficult) (PYQ-CSE-2011)

- A. Aspartame is as sweet as table sugar, but unlike table sugar, it is not readily oxidised in human body due to lack of requisite enzymes
- B. When aspartame is used in food processing, the sweet taste remains, but it becomes resistant to oxidation
- C. Aspartame is as sweet as sugar, but after ingestion into the body, it is converted into metabolites that yield no calories
- D. Aspartame is several times sweeter than table sugar, hence food items made with small quantities of aspartame yield fewer calories on oxidation

Answer: D

Explanation: Aspartame is several times sweeter than table sugar, hence food items made with small quantities of aspartame yield fewer calories on oxidation.

- Aspartame is metabolised by the body into two constituent amino acids and methanol. These hydrolysis products are handled by the body in the same way as aspartic acid, L-Phenylalanine and methanol from other consumed foods. It contains calories, but consumers will likely use less than they would of table sugar because it is about 200 times sweeter.
- Aspartame is not heat stable and loses its sweetness when heated, so it typically isn't used in baked goods.

I. UPSC Mains Practice Questions

1. [What is the Kavach system? Discuss the salient features of this system?](#) (250 words, 15 marks) (GS-3; Science and Technology)
2. [“North Korea’s space programme has the potentiality to destabilise East Asia”. Discuss.](#) (150 words, 10 marks) (GS-3; Science and Technology)