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## Havana Syndrome

Context: The Central government has told the Karnataka High Court that it will look into the matter of the 'Havana Syndrome' in India

Havana syndrome is an illness first detected at the U.S. Embassy in Havana, Cuba, in 2016.

From 2016 to 2018, diplomats and staff suddenly developed symptoms like hearing loss, dizziness, and other neurological issues.

U.S. officials accused the Cuban government of carrying out sonic attacks on American citizens, which Cuba denied.

## Havana Syndrome

Other instances of Havana syndrome occurred between 2016 and 2021 in areas of the world like Colombia, Uzbekistan, and China

Most people with Havana syndrome heard a loud noise and felt an intense pressure or vibration in their head and pain in their ear or head.

A study by scientists in the US and medical examination of the victims began to suggest that they may have been subjected to high-powered microwaves that either damaged or interfered with the nervous system.

## Economic Community of West African States (ECOWAS)

Context: The military regimes in Burkina Faso, Mali and Niger announced on Sunday their immediate withdrawal from the **West African bloc ECOWAS**.

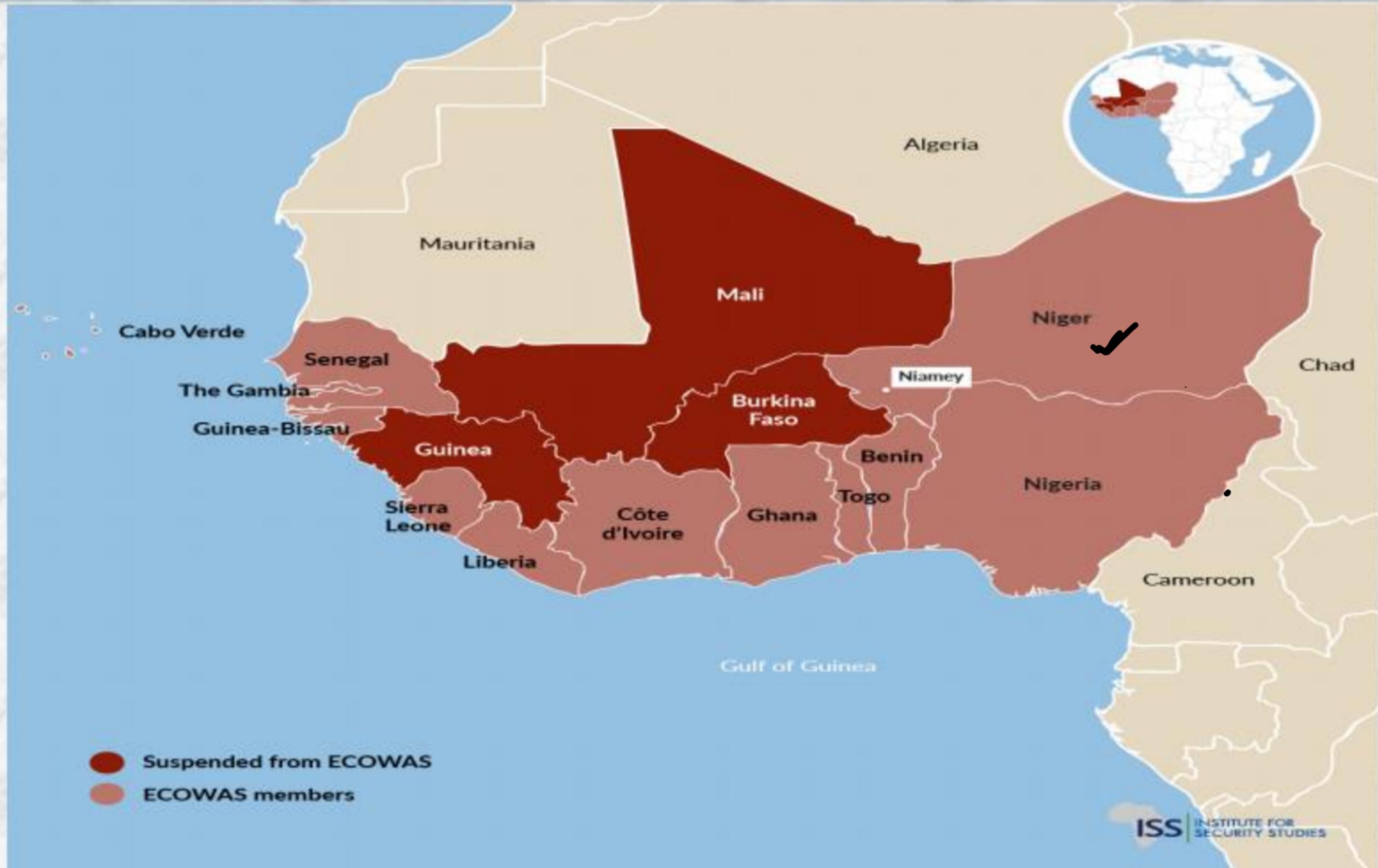
**It is a regional group of fifteen countries, founded in 1975.**

Its mission is to promote economic integration in "all fields of economic activity, particularly industry, transport, telecommunications, energy, agriculture, natural resources, commerce, monetary and financial questions, social and cultural matters.

ECOWAS' larger aims are **to have a single common currency and create a single, large trading bloc in areas of industry, transport, telecommunications, energy, financial issues, and social and cultural matters.**

It aims to create a "borderless region" that is well-integrated and **governed in accordance with the principles of democracy, rule of law and good governance.**

# UPSC



## **Economic Community of West African States (ECOWAS)**

**India has an observer status in ECOWAS since 2004.**

**ECOWAS has supported India's claim to UNSC**

**India has been extending Line of Credit (LOCs) to supplement its Focus Africa program along with aiding regional integration for ECOWAS.**

**The Institutions of the Economic Community Of West African States (ECOWAS) are as follows:**

- The Commission ✓
- The Community Parliament ✓
- The Community Court OF Justice ✓
- ECOWAS Bank for Investment and Development (EBID) ✓

## FUJIWHARA EFFECT ✓

As per the National Weather Service (NWS), when two hurricanes (or cyclones, depending on where you live), spinning in the same direction, are brought close together, they begin 'an intense dance around their common center' - this interaction between two cyclones is called the Fujiwhara effect.

If one hurricane's intensity overpowers the other, then the smaller one will orbit it and eventually crash into its vortex to be absorbed.

On the other hand, if two storms of similar strengths pass by each other, they may gravitate towards each other until they reach a common center and merge, or merely spin each other around for a while before shooting off on their own paths.

In rare instances, the two 'dancing' cyclones, if they are intense enough, may merge with one another, leading to the formation of a mega cyclone capable of wreaking havoc along coastlines.

## FUJIWHARA EFFECT

### Five Possibilities under Fujiwhara Effect

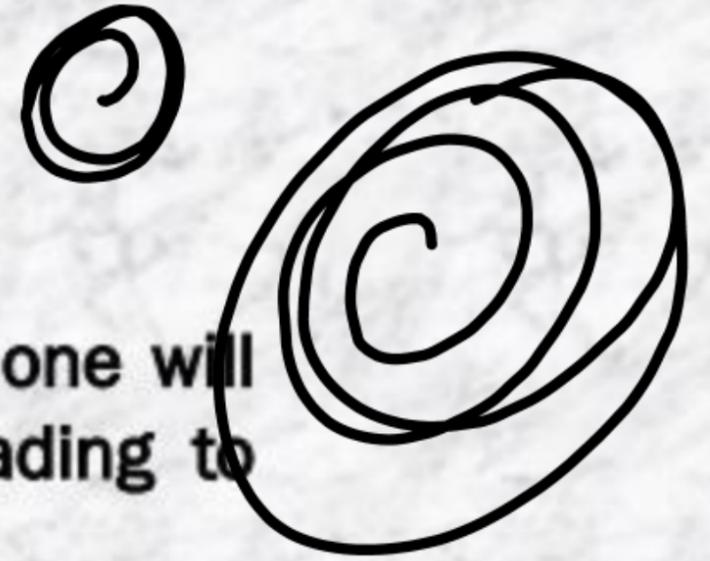
**First possibility:** If one hurricane is stronger than the other, the smaller one will orbit around the larger one and eventually collide with its centre, leading to absorption.

**Second possibility:** If two storms of almost equal strength pass near each other, they might be drawn towards a shared centre, potentially merging or simply swirling around each other temporarily before following separate paths.

**Third possibility:** In rare cases, if the two cyclones are sufficiently powerful, they can combine, resulting in the formation of a supercyclone capable of causing significant destruction along coastlines.

**Fourth possibility:** Partial straining out happens, in which a part of the smaller storm is lost to the atmosphere.

**Fifth possibility:** Complete straining out takes place, in which the smaller storm is completely lost to the atmosphere. The straining out does not happen for storms of equal strength.



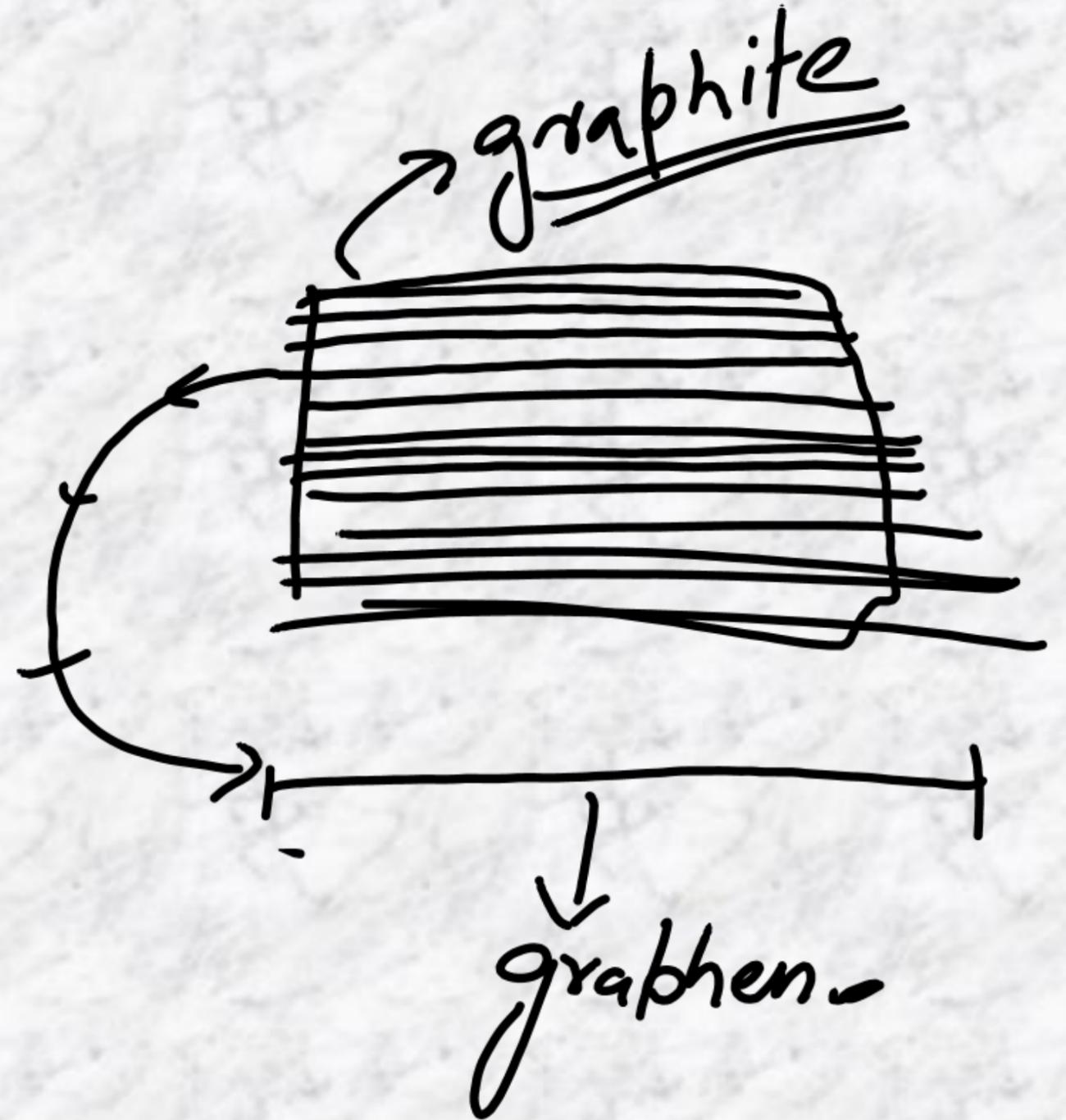
## Graphene-Aurora program

The Graphene-Aurora Program is a program that aims to create a robust graphene technology and innovation ecosystem.

The program will help small and medium enterprises (SMEs) and startups commercialize graphene technologies

The program was launched by the Ministry of Electronics & Information Technology.

The program will be implemented by Digital University Kerala with joint funding from the Government of India, the Government of Kerala, and industry partners.



## Graphene-Aurora program

Graphene: Why is Graphene the wonder Material?

It is the world's thinnest, strongest, and most conductive material of both electricity and heat.

It conducts electricity better than copper.

It is 200 times stronger than steel but six times lighter.

It is almost perfectly transparent as it absorbs only 2% of light.

It is impermeable to gases, even those as light as hydrogen and helium.

## Graphene-Aurora program

### Use of Graphene

Graphene composites are used in aerospace, automotive, sports equipment and construction.

It is used for high-performance batteries and supercapacitors, touchscreens, and conductive inks.

Graphene-based sensors are used for environmental monitoring, healthcare and wearable devices.

Graphene oxide membranes are used for water purification and desalination.

Graphene-based masks were made during COVID.

## Graphene-Aurora program

Other applications of Graphene:

Its exceptional strength makes it promising material for armour and ballistic protection.

Graphene has the potential to absorb and dissipate electromagnetic waves, making it valuable for developing stealth coatings and materials that reduce radar signatures and electromagnetic interference.

Graphene is highly sensitive to environmental changes, which makes it an excellent candidate for sensing chemical and biological agents, explosives, radiation, and other hazardous substances.

Besides, graphene-based materials can also protect us against chemical and biological attacks.

Better energy storage and electronics properties make graphene attractive in defence and aerospace as well as in civil and commercial applications.

## **Places in News: Danube River - Sulina Channel**

The Danube, Europe's second longest river, has historically been crucial for the movement of freight.

Near Tulcea, Romania, some 80 km from the sea, the river begins to spread out into its delta which has three major channels – Chilia, Sulina and St George.

Of these, the Sulina Channel, which has been dredged and straightened, is the only one deep and wide enough for freight transport.

This makes it a sort of a riverine 'expressway' – crucial for transport of goods from inland to the Black Sea.

Ships carrying grain from Ukraine leave from Ukrainian ports such as Izmail and Reni on the mainstream (or the Chilia Channel), and head to the port of Sulina, at the mouth of the Sulina Channel.



Tulcea

Sulina

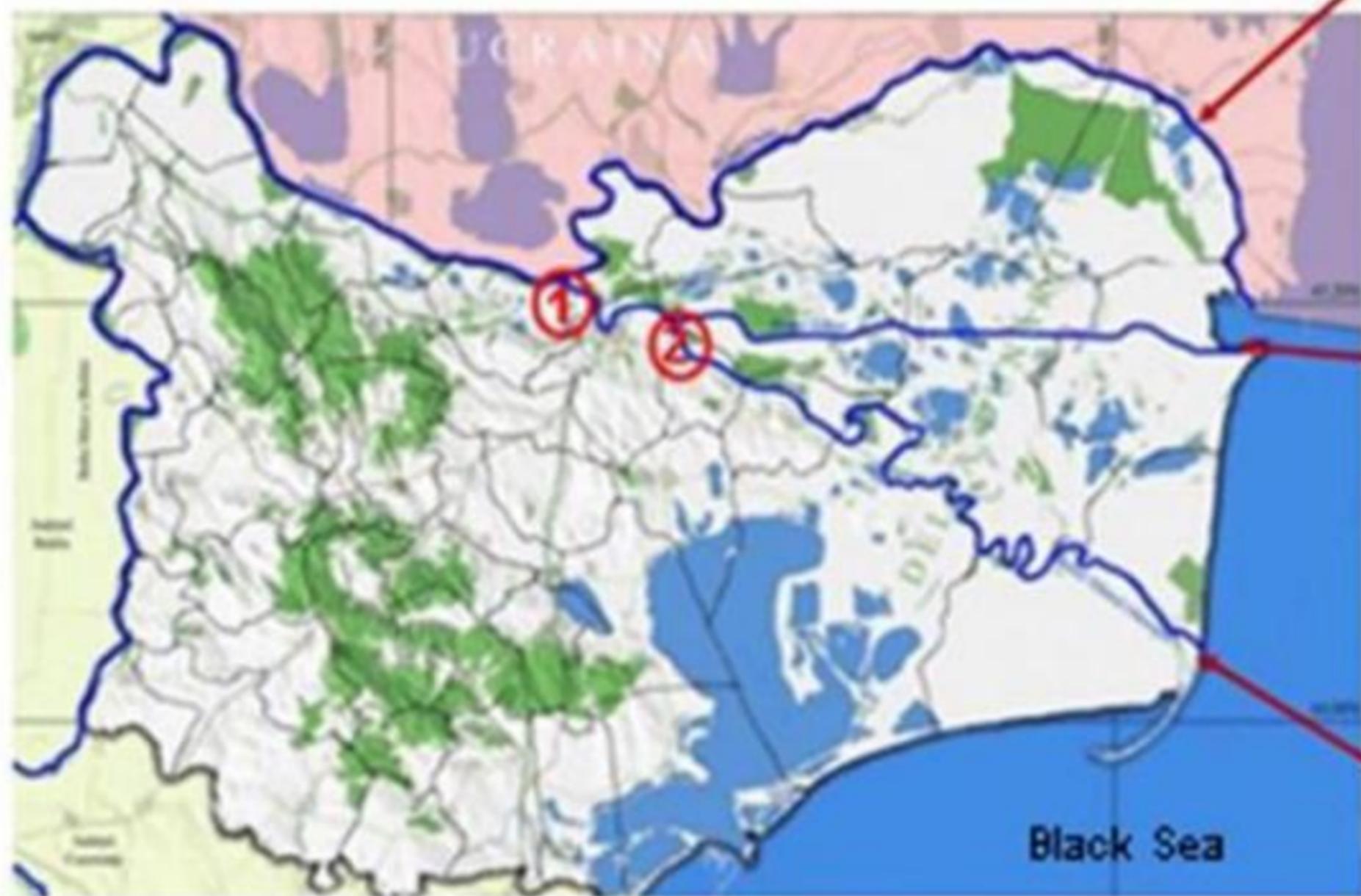
~~Tulcea~~

→ St George

Sulina

Chilia

# UPSC



## CHILIA BRANCH OF DANUBE

Length of 104 km  
Flowrate of 58% from the Danube

## SULINA BRANCH OF DANUBE

Length of 71 km  
Flowrate of 19% from the Danube

## SAINT GEORGE BRANCH OF DANUBE

Length of 112 km  
Flowrate of 23% from the Danube

## Goldilocks Scenario

A Goldilocks scenario for an economy refers to a point where it is running just perfectly – neither too hot (implying high inflation) nor too cold (referring to faltering GDP growth).

The term describes an ideal state for an economic system. In this perfect state, there is full employment, economic stability, and stable growth.

The economy is not expanding or contracting by a large margin.

A Goldilocks economy is thus warm enough with steady economic growth to prevent a recession; however, growth is not so hot as to push it into an inflationary status.

A Goldilocks state is also ideal for investing because as companies grow and generate positive earnings growth, stocks perform well.

A perfect  
economy

## **Global Initiative Digital Health (GIDH) launched**

The World Health Organization (WHO) and the G20 India presidency announced a new Global Initiative on Digital Health (GIDH) It will operate as a WHO-managed network and platform to support the implementation of the Global Strategy on Digital Health 2020–2025.

The GIDH initiative aims to bring countries and partners together to achieve measurable outcomes by:

- developing clear priority-driven investment plans for digital health transformation;
- improving reporting and transparency of digital health resources;
- facilitating knowledge exchange and collaboration across regions and countries to accelerate progress;
- supporting whole-of-government approaches for digital health governance in countries, and
- increasing technical and financial support to the implementation of the Global Strategy on Digital Health 2020–2025 and its next phase.

## **Global Initiative Digital Health (GIDH) launched**

**GIDH will ultimately aim to:**

**ALIGN efforts to support the Global Strategy on Digital Health 2020–2025;**

**SUPPORT quality assured technical assistance to develop and strengthen standards-based and interoperable systems aligned to global best practices, norms and standards;**

**FACILITATE the deliberate use of quality assured digital transformation tools that enable governments to manage their digital health transformation journey.**

## Bharatiya Nyaya Sanhita, 2023

Context: The Bharatiya Nyaya Sanhita, 2023 (BNS) seeks to repeal and replace the Indian Penal Code, 1870.

### Community Service: ✓

A key change that has been brought in this act is the addition of community service as a form of punishment.

This change offers three significant benefits: reducing prison overcrowding, allowing the community to benefit from tasks performed by those charged, and facilitating the rehabilitation of perpetrators by holding them accountable for their actions within the community.

## **Bharatiya Nyaya Sanhita, 2023**

**Death caused by Negligence:**

Death caused by negligence was earlier punishable by imprisonment upto 2 years and fine, the same has been enhanced to be upto 5 years and upto 10 years, in case the person having caused such death escapes the scene and/ or fails to report to the police officer or magistrate within reasonable time.

Moreover, section 106 of the BNS also provides for separate punishment for death cause by negligence by a registered medical practitioner while performing medical procedure as imprisonment upto 2 years and fine, which its predecessor failed to account for.

## Bharatiya Nyaya Sanhita, 2023

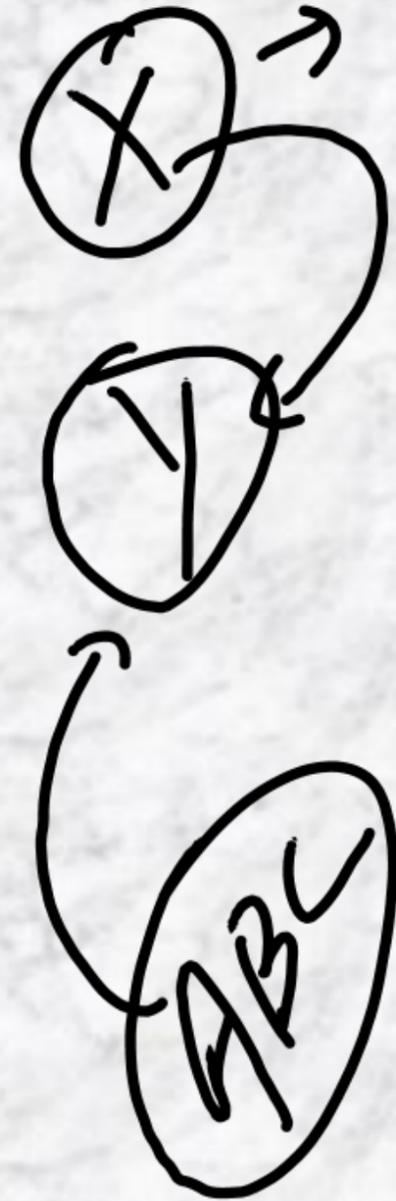
### Organised crime:

Section 111 of the BNS comprehensively defines Organized Crime as kidnapping, robbery, vehicle theft, extortion, land grabbing, contract killing, economic offences, cybercrimes, trafficking, drugs etc. when committed by a group of individuals, whether as members of a crime syndicate or for such a syndicate.

For this, the act proposes punishment of death, life, minimum three years and fine depending on offence so committed. Section 112 of the BNS further goes on to define petty organised crimes.

### Terrorism:

Terrorism has been recognised as an offence under section 113 of this act, having been done in India or in any other foreign country, with the intention to threaten the unity, integrity and security of India, to intimidate the general public or to disrupt the public order by the commission of such an act.



## Bharatiya Nyaya Sanhita, 2023

Sexual Intercourse with Deceit or False promise to marry:

Section 69 of the BNS provides for punishing a person who by deceitful means or making by promise to marry to a woman without any intention of fulfilling the same, and has sexual intercourse with her, such sexual intercourse not amounting to the offence of rape. The act proposes punishment for 10 years for the same.

Mob lynching:

Section 103(2) of BNS Act has included a specific provision for mob lynching.

The provision nowhere expressly states the term mob lynching, rather, it states that when a group of five or more persons acting in concert commits murder on the ground of race, caste or community, sex, place of birth, language, personal belief or any other ground each member of such group shall be punished with death or with imprisonment for life or imprisonment for a term which shall not be less than seven years, and shall also be liable to fine.

## Bharatiya Nyaya Sanhita, 2023

### Sedition:

Another important change introduced is the repeal of sedition as an offence.

Sedition was constituted as an offence to curb protests against the colonial government and later against the government of post independent India.

On the other hand, acts that endanger the integrity, unity and sovereignty of India have been added to the list of offences under Section 150 of the BNS.

## **Bharatiya Nyaya Sanhita, 2023**

### **Removal of provision for 'Unnatural offences':**

The provision for 'Unnatural Offences' provided under section 377 of the Indian Penal Code, 1860 has been deleted while formulating the BNS in view of the Hon'ble Supreme Court's judgement in the case of Navtej Singh Johar v. Union of India which decriminalised consensual sex among adults, including homosexual sex.

### **Removal of provision for 'Adultery':**

The decriminalisation of 'Adultery' by the Hon'ble Apex Court through its ruling in the case of Joseph Shine vs. Union of India, has resulted in the complete omission of the said provision in the BNS.

## The Bharatiya Nagarik Suraksha Sanhita, 2023

The CrPC governs the procedural aspects of criminal justice in India. The key features of the Act include:

Separation of offences: The CrPC classifies offences into two categories: cognisable and non-cognisable.

Cognisable offences are those in which the police can arrest and initiate an investigation without a warrant.

Non-cognisable offences require a warrant, and in some cases, a complaint by the victim or a third party.

## The Bharatiya Nagarik Suraksha Sanhita, 2023

### Nature of offences:

The CrPC deals with various types of criminal offences, ranging from traffic violations to murder.

It distinguishes between bailable and non-bailable offences, specifying the offences for which an accused has the right to bail from police custody.

### Detention of undertrials:

As per the CrPC, if an accused has spent half of the maximum period of imprisonment in detention, he must be released on personal bond.

This does not apply to offences punishable by death.

The Bill adds that this provision will also not apply to:

- (i) offences punishable by life imprisonment, and
- (ii) persons against whom proceedings are pending in more than one offence.

7 years

3.5

## The Bharatiya Nagarik Suraksha Sanhita, 2023

### Medical examination:

The CrPC allows medical examination of the accused in certain cases, including rape cases.

Such examination is done by a registered medical practitioner on the request of at least a sub-inspector level police officer.

The Bill provides that any police officer can request such an examination.

### Forensic investigation:

The Bill mandates forensic investigation for offences punishable with at least seven years of imprisonment.

In such cases, forensic experts will visit crime scenes to collect forensic evidence and record the process on mobile phone or any other electronic device.

If a state does not have forensics facility, it shall utilise such facility in another state.

## The Bharatiya Nagarik Suraksha Sanhita, 2023

Signatures and finger impressions:

The CrPC empowers a Magistrate to order any person to provide specimen signatures or handwriting.

The Bill expands this to include finger impressions and voice samples.

It allows these samples to be collected from a person who has not been arrested.

Parole

Payrol

## **Steel Slag road technology**

**Concrete aggregate:** Steel slag is used in the same way as natural aggregate because it contains no clay or organic impurities.

**Construction aggregates:** Steel slag is used in construction aggregates, rail ballast, and the manufacture of Ordinary Portland Cement.

**Agricultural soil amendment:** Steel slag is used as an agricultural soil amendment.

**Environmental remediation material:** Steel slag is used as an environmental remediation material.



# KHAN GLOBAL STUDIES

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