



# CURRENT AFFAIRS PROGRAM

## PRE-CUM-MAINS 2024

### OCT 2023: BOOKLET-2

#### TABLE OF CONTENTS

1. <i>General Studies-2</i> .....	2
1) Social Justice: Caste Census .....	2
2. <i>General Studies-3</i> .....	5
1) Disaster Management: GLacial Lake Outburst FLood (GLOF).....	5
2) Economy: Agriculture – Millets .....	9
3. <i>Prelims Facts</i> .....	13
1) Biodiversity: Dragonflies .....	13
A) National Dragonfly Festival .....	13
B) Recently Discovered Species.....	13
2) S&T: Defence: Astra Missile.....	14
3) Operational AJAY .....	15

## 1. GENERAL STUDIES-2

### 1) SOCIAL JUSTICE: CASTE CENSUS

- **Why in news?**
  - » The Bihar government has released the results of its "Comprehensive Caste Survey" in the state (Oct 2023)
- **Background and Survey:**
  - » The Bihar legislature unanimously passed a resolution agreeing to a caste census, twice: first on Feb 18, 2019 and then on Feb 27, 2020. The Government of Bihar, in June 2022, issued a notification for conducting a caste survey in the state on its own and subsequently allocated Rs 500 crore from its contingency fund for the exercise.
  - » More than 3 Lakh people, mainly teachers, went from door to door with a 17 question form on caste, religion, and economic status. An app was used to collect the data for tabulation and processing.
- **Key findings of the survey Bihar Caste Census:**
  - » **Total Population:** 13.07 crores (10.41 crores in 2011 census)
  - » **Population Distribution** on the basis of Religion:

Group	% of Population
Hindus	81.99%
Muslims	17.72%
Buddhists, Christians, Sikhs, Jains, and other groups	Minuscule

- **Population Distribution** on the basis of Caste:

Group	Percentage Population
Backward Classes (EBCs (36.01%) + OBCs (27.12%))	63%
Scheduled Castes	19.65%
Scheduled Tribes	1.68%
Unreserved Category ("Forward Castes")	15.5%

- **Significance of Caste Census in Bihar:**

- » **Political Significance:** The results may present political parties like JD(U)-RJD with an opportunity for renewed backward class mobilization.
- » It is first such large scale exercise where results have been made public.
  - The states of TN and Karnataka, as well as Union Government itself (in an ill-fated SECC 2011), have collected comprehensive caste data in the past, but for reasons that remain unclear, never revealed it.
- » The survey results will amplify the clamor for increasing OBC quota beyond 27%, and for a quota within quota for the EBCs.
  - The Justice Rohini Commission, which had been examining the question of "sub-categorization" since 2017, submitted its report in last July - its recommendations are not public yet.
  - **Reopen debate on 50% ceiling on reservation:**

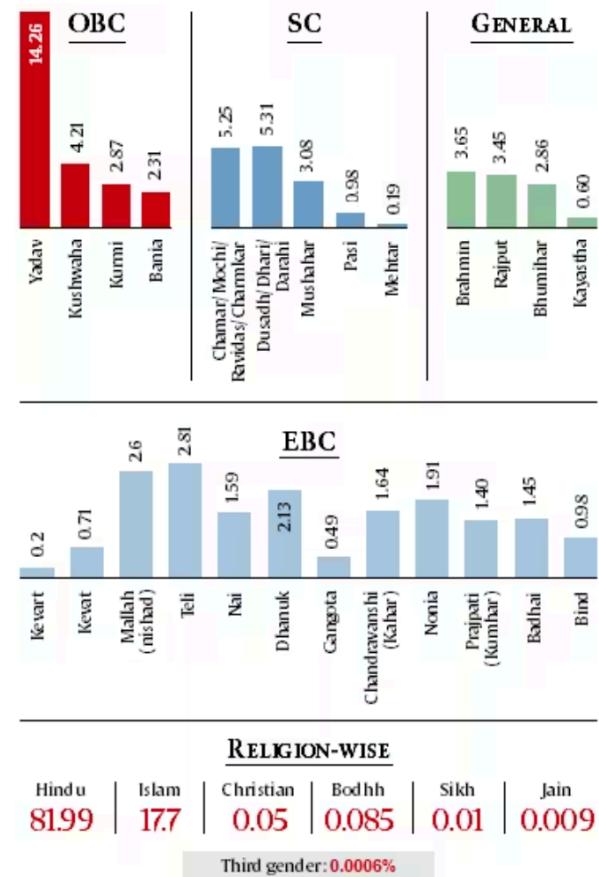
- **Need of a caste census/ Advantages of Caste Census:**

- » **Sociologist Satish Deshpande** says that the realities of caste inequalities in the present must be acknowledged and addressed before we can arrive at a cast-free future. To censor caste division is not to overcome them.
  - **Caste must be counted because it counts** - it is arguably the most important regulatory of life chances today. This means that the caste differences are real differences. To call for "unity" without addressing these differences is to practice dishonest politics.
- » A caste-based census can help in recognizing and quantifying the extent of historical injustices and disparities that exist in society. Recognizing these disparities is a critical step towards addressing them.
- » **Granular socio-economic profile of each caste** should help settle intractable question: Has caste ceased to be a key vector in inequality? Should reservation be based only on caste or on economic status or both? Have a few castes captured the quota? Should there be sub-quotas within the quotas? What should be the cutoff for creamy layer?
- » **Better Targeting of Social Justice initiatives:** It may enhance the demand for quota within quota to ensure benefits reach to extremely backward classes (and not only the dominant OBC

## TELLING NUMBERS

### How major groups stack up in Bihar

(figures in %)



Third gender: 0.0006%

groups). It will also force political parties to announce and initiate more welfare schemes for the poor and marginalized sections of society.

- » **Caste census will not just be headcount**, it will be a storehouse of **multi-dimensional and multi-layered information** which will be very useful for policy makers and designer of social welfare schemes.
- » **Regular caste-based census data can help track the progress of different caste group over time**, helping better evaluation of policies for social justice.
- » **Constitutional Mandate:** Article 340 of the Constitution of India provides for the appointment of a commission to investigate the conditions for the improvement of socially and educationally backward classes.

- **Limitations/Criticism of Caste Census:**

- » **Deepening of Faultline and Increasing Polarization** - It will lead to delay or prevent the movement towards casteless society.
  - **Criticism of this argument by Yogendra Yadav:** Everyone in a village or Basti knows everyone's caste and that every politician walks with an unofficial caste count of each polling booth.

- **Way forward:**

- » **Preventing the deepening of faultlines:**
  - Articulate the demand for caste census as an element in a larger multi-dimensional ideology of social justice that includes gender, class and location.
  - **Develop a cross party consensus**
  - **Concede it quietly**, rather than create a national row about it. Anyways, the limited side effects cannot outweigh all the benefits outlined above.

- **Conclusion1:**

- » **Caste must be counted in order to strengthen efforts to transcend it.** In a changing India, in which education and technology are important equalizing forces, caste-based affirmative action, fine-tuned with the help of caste numbers, can spur larger conversations on aspiration and ambition, freedom and opportunity, and the need for an eco-system in which citizens are neither unfairly privileged nor straitjacketed by their identities.

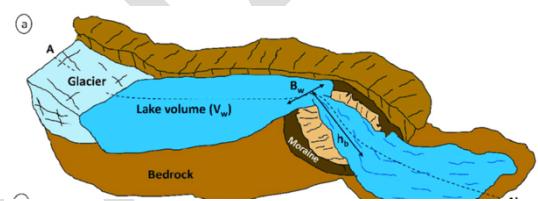
- **Conclusion2:**

- » 'The counting of caste is not a magical wand that will wave away the evils of caste inequality and oppression. Instead, it is a messy, contentious, complex exercise that is sure to have its flaws and inadequacies. But it is also inescapable first step towards an honest political engagement with the real differences and disparities of caste. And for that reason, it is imperative that India no longer evade this.' : **SATISH DESHPANDEY**

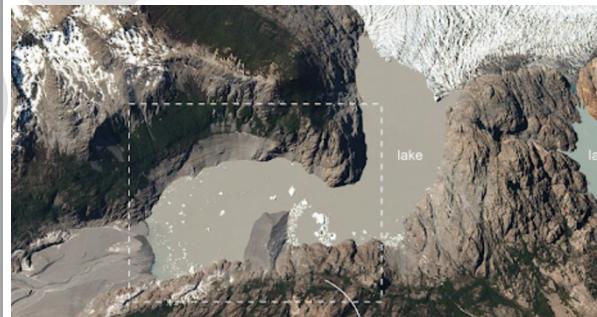
## 1) DISASTER MANAGEMENT: GLACIAL LAKE OUTBURST FLOOD (GLOF)

- Example Questions
  - » Discuss the key factors which is making Himalayan region more vulnerable to Glacial Lake Outburst floods (GLOF). In light of the recent NDMA guidelines, suggest measures to reduce risks of GLOF disasters (15 marks, 250 words)
- Introduction
  - » GLOFs are sudden fast flowing release of glacial lake water that move downslopes as a result of dam failure. They are recognized in the National Disaster Management Plan (NDMP) 2019 of India as a **potential climatological disaster**.
- Glacial lakes are either moraine dammed or ice margin dammed.

**Moraine Dam Glacial Lakes** are formed due to the retreating of glaciers, which leave behind soil and rocks and lead to an increase in capacity of lake, making it prone to bursting.



**ICE Dam Lakes** are created when ice from upper parts of glaciers fall and block passing rivers, giving rise to glacial lakes.



- Different types of lakes may have different hazard potential:
  - For e.g. Moraine-dammed lakes have high probability of breach and hazard potential, whereas the rock dammed lake have little chance of breach and low hazard potential.
- Current Situation:
  - A study, 'Glacial lake outburst floods threaten million globally' published in the journal **Nature** in Feb 2023 highlights that:
    - Around 15 million people globally face the risk of GLOF.
    - Around 20% of them (3 million) live in India.
    - India, Pakistan, Peru and China have more than 50% of the vulnerable people.
- Causes of increasing GLOF
  - **Global Warming -> Climate Change**
    - Increasing number of Glacial Lakes due to acceleration of glacier melt in recent decades.
    - Increased water pressure due to more water being available due to Global Warming.
  - Ice or rock avalanches, Erosions or other natural disruptions

- **Earthquakes** - Himalayan region is especially prone to earthquakes
- **Human Activities** -> increased tourism, expansion of roads and hydropower projects, deforestation etc have also increased the vulnerability of burst in these lakes.

- **Recent Examples:**

- » **Flash Floods in Sikkim in Oct 2023** which killed 90+ people, destroyed infrastructure like bridges and roads, and damaged state's largest hydropower project, the 1.2 GW Teesta-III.

- The flash floods were caused by access rainfall and **Glacial Lake Outburst Floods (GLOF)**.
- **South Lhonak lake**, the site of GLOF in Sikkim, was already recognized as potentially hazardous and scientists at the National Remote Sensing Centre had warned of a 42% chance of GLOF in as early as 2013.
- **How it happened in Oct 2023:**



- The GLOF overflowed into **Teesta river**, creating flash floods that destroyed the **Chungthang dam** which is the key component of the state's largest hydro-electric project, and washed away highways, villages and towns. The worst affected districts are Mangan, Gangtok, Pakyong and Namchi.
  - The economic loss will be thousands of crores. Chungthang dam itself cost about Rs 14,000 crores.
- **Note:** Scientists have said that **Sikkim's Glacial Lake is still at risk of GLOF, floods** as there is a slight reduction in the ice area but almost half of the glacier hasn't deglaciated yet. Thus, the lake will further increase in size due to glacier melting and inflow from the North Lhonak glacier.
  - Therefore, it should be monitored to prevent another GLOF.

- » The **Chamoli Flash floods of 2021** may have caused economic damages worth Rs 4,000 crore. It swept away the Rishiganga Hydel Power Project and inflicted substantial damage on the Tapovan Power Project.
- » **2013 Kedarnath** flash floods was also result of GLOF.

- **Adverse Impact**

- » These floods pose **severe geomorphological hazards and risks**
  - It can wreck havoc on all man made structures located along the path and thus endanger people, infrastructure, fields and livestock.
- » **Long term Climate Impact** may be caused by large glacial lake as they would increase the amount of water in ocean and reduce it in Himalayas.

- **Steps taken so far:**

- » **CWC** has done some work towards identification of such lakes;
  - Some other aspects are still work in progress including a robust early warning system, and a broad framework for infrastructure development, construction and excavation in vulnerable zones.
- » **Geological Survey of India (GSI)** carries out assessment of the GLOF threats and provide input to the National Disaster Management Authority (NDMA) for developing risk mitigation strategies.
- » **National Disaster Management Authority (NDMA)** have prepared Guidelines on the Management of Glacial Lake Outburst Floods (GLOFs) which are aimed at improving the administrative responses, drawing on international best practices; and bringing together the relevant scientific capabilities of the nation to eliminate potential losses from glacial hazards.

- **Key Highlight of the NDMA Guidelines**

i. **Inventorization: Hazard and Risk Mapping**

- » Regular monitoring of glacial lakes using satellite observations.
- » Cooperation with neighbouring countries (Nepal, Bhutan and China) to identify transboundary threats and manage it properly.

ii. **Reduction of Hazards**

- **Short term actions** - lowering the lake level through siphoning
  - For instance, high density PVC pipes were installed in **South Lhonak lake in Sikkim**, to reduce the pressure on the lake
- **Long Term Actions**
  - **Artificial drainage channels** to lower lake levels
  - Reinforcement of dam
  - Enhancement of river cross section/ protection from erosion
- **Restricting constructions and development** in GLOF prone areas is a very efficient means to reduce risks at no cost.
- **Develop regulation for Land Use Planning** in GLOF areas.

iii. **Reduction of Exposure**

- Establishment of Early Warning System.
- **Comprehensive alarm system** - including classical alarming infrastructure as well as modern technology using smart phone notifications etc.
- Evacuation based on EWS
- Involve local population closely from the beginning in the design, planning and implementation of risk reduction and management strategies in a transparent collaboration mechanism.

iv. **Awareness and Preparedness** through posters, social media, apps etc.

v. **Capacity Development** -

- Apart from specialized forces such as NDRF, ITBP, and the ARMY, the guidelines emphasize on need for trained local manpower.
- Training of professionals and practitioners;
- Strengthening Academic Education in relevant disciplines from natural and social sciences.
- **Heavy earthmoving and search and rescue equipment**, as well as motor launches, country boats, inflatable rubber boats, life jackets etc.
- Setting up **Quick Reaction Medical Teams, mobile field hospitals, Accident Relief Medical Vans, and heli-ambulances** in areas inaccessible by roads.

vi. **Promote R&D in GLOF Management**

- Promote development of **Modelling tools** to simulate the entire chain of mass movement and outburst process
- **Historical records** should be effectively used to understand flood processes.
- Expand the use of local knowledge, experience of local people. Engaging the local population in **joint-knowledge production** is considered indispensable for effective community based disaster risk management.

vii. **Regulation and Enforcement**

- A well drafted techno-legal regime is necessary to prevent future development of GLOF and protect existing Glaciers.
- The regime should include a Himalaya GLOF mitigation Policy, no habitation and construction zones; and provisions for strict implementation.

- **Other steps which needs to be taken:**

- » **Institutional Improvement:** Need of a **nodal agency** to coordinate all the researches related to glaciers in the region .
- » **Sustainable Development**
  - Restricting Tourism in these areas or promoting only sustainable tourism
  - **Detailed Project Reports and Environmental and Social Impact Assessment** needs to take into account the **Glaciology study** to better understand the impact of these projects on glaciers and glacial lakes.

- **Urgently re-evaluate the Environmental Impact Assessment (EIA) and Environment Clearance Procedure (EAC)** as the existing EIA/EC framework has repeatedly shown inadequacies in handling the high risk projects.
- » **International Cooperation:** GLOF risk is transboundary in nature, thus there is an urgent need for a comprehensive regional risk governance framework including India, Nepal, Bhutan etc.
- » **Fighting Climate Change:** Eventually, a major core reason for GLOF is CC and rising sizes of the lakes. This in long term can only be solved if the global community can work together to achieve Paris Climate Change Targets.

## 2) ECONOMY: AGRICULTURE – MILLETS

- **Why in news?**
  - » Shifting to millets increases groundwater recharge more than drip irrigation in India's northern plains: Study (Oct 2023: Source - DTE)
- **Question:**
  - » Discuss the potential of millets in climate resilient agriculture and the conservation of agro-biodiversity [10 marks, 150 words]
  - » How has the emphasis on certain crops brought about changes in cropping patterns in recent past? Elaborate the emphasis on millets production and consumption. [Mains 2018, 15 marks, 250 words]
- **Introduction (Current Affairs/Context Based)**
  - » **International Year of Millet (IYM):** The United Nations General Assembly has declared the year 2023 'International Year of Millets'. It will help in creating awareness throughout the world about the significant role of millets in sustainable agriculture and its benefits as a smart food and superfood.
  - » IYM 2023 aims to contribute to the UN 2030 Agenda for Sustainable Development, particularly SDG 2 (Zero Hunger), SDG 3 (Good health and well-being), SDG 8 (Decent work and economic growth), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate action) and SDG 15 (Life on Land)



#### - Definitions:

- » Millets include Jowar, Bajra, Ragi, little millets including Kutki, Kodo, Sawa, Kangni and Cheena.

#### - Cropping:

- » They are generally cultivated in low-fertile land, mountains, tribal and rain-fed areas.
  - These areas include Andhra, Chhattisgarh, Gujarat, Haryana, MP, Rajasthan, MHA, KAR, UP, TN and Telangana.
- » India is the **largest producer and second largest exporter of millet** and in 2022 India produced around 50.9 million tonnes. This accounts for 80% of Asia's and 20% of global production. India is followed by African countries like Nigeria and Niger in production.

#### - Decreased Production over the years:

- » In pre green revolution era (1965-66), millets were cultivated in 36.90 million hectares of the country. In 2016-17, the area reduced to 14.72 million hectares.

##### ▪ Why?

- **Green Revolution** increased the productivity of wheat and rice.
- Expansion in irrigation.
- MSP Policy
- **Changes in consumption pattern, dietary habits etc**: Socio-economic dynamics resulting from the hardy nature of the crop, relegated them to be the grain of the poor.

- But recent studies have highlighted various significance of millets for healthy life and sustainable economic development:
  - » **Agri-Sustainability:**
    - **Climate Resilience:** Millets are tolerant to droughts, intensive to excess sunlight etc.
    - **Water Efficient:** Millets can survive in less water conditions and can solve the problem of over-extraction of water resources.
      - A new study published in the journal ***Nature Water*** in Oct 2023 highlights that shifting to millets increases groundwater recharge more than drip irrigation in India's northern plains.
  - » **Better Health:**
    - **Food Security:** In arid areas, millets are often the only crops that can be harvested in the dry regions and are a crucial part of household food basket.
    - **Nutrition:** Millets are smart food which are rich in nutrients like protein, vitamin-A, iron, calcium, iodine etc.
      - For e.g., just 100 gm of daily cereals (rice) intake with finger millets (ragi) will increase the daily iron intake by 50% and calcium by 350%.
- **Government Initiatives to promote Nutri-Cereals:**
  - » **Union Budget for FY24** announced an initiative focused on 'Making India a Global Hub for Millets' (Shree Anna).
    - The Indian Institute of Millet Research, Hyderabad, will be supported as the Centre of Excellence for sharing the best practices, research and technologies at the international level.
  - » **MAHARISHI Initiative** i.e., Millets and OtHer Ancient Grains International ReSeArch initiative. This international initiative will focus on research and awareness via agro-biodiversity, food security and nutrition aligning with the International Year of Millets.
  - » **India had declared year 2018 as the Year of Millets:**
    - Spreading awareness about nutritional benefits of nutrients which will help in increasing the demand resulting in remunerative prices for poor and marginal farmers.
  - » Under the **Sub Mission on National Food Security Mission (NFSM) - Nutri Cereals** is creating awareness among farmers for Nutri Cereals (Millets).
    - NFSM - Coarse Cereals are divided into two components.
      - NFSM (Makka and Jau)
      - Sub Mission on Nutri-Cereals covering Jowar, Bajra, Ragi and little millets like Kutki, Kodo, Sawa, Kangni and Cheena
- Although significant strides have been made by many stakeholders in the promotion of millets there are still several aspects that need to be strengthened from both the demand as well as supply side.
  - » **Increasing Demand:**
    - i. **Consumer Awareness:** To increase demand and make them a regular food option, mission mode campaigning is required which not only encourages people to move towards millets but also counters myths and misconceptions as well as demystifies their cooking.
    - ii. **Promote startups** supporting innovative and functional products with millets.

- iii. **Glutten Free** value added products made from millet can be developed for the export market.
- » **Supply Side:** Production as well as Processing needs to be supported and encouraged in different states.
  - i. **Revise traditional methods** of cultivation.
    - For e.g. Systems like Barahnaja (twelve seeds) from Uttarakhand and other mixed cropping practices in different states not only contributed to food security and soil fertility but also to diet and nutrition diversity by including millets, legumes and other nutritious crops in diet.
  - ii. **Provide increased support to farmers** - Increased procurement under MSP
  - iii. **Increased market linkage** can encourage farmers to grow millets.
  - iv. **Increased R&D** for development of High Yielding Varieties.
- **Other Practice Questions:**
  - Critically assess the current status and future prospects of millet cultivation and consumption in India. Discuss the necessary policy interventions and strategies to promote millets as a viable and sustainable food crop.

### 3. PRELIMS FACTS

#### 1) BIODIVERSITY: DRAGONFLIES

Dragonflies belong to the order Odonata, characterized by large multifaceted eyes, two pairs of strong transparent wings and an elongated body.

They are mostly found in Wetlands – in areas like lakes, ponds, streams – because their **larva called nymphs** are aquatic.

They spend a larger part of their life under water and as an aquatic predator feed on fish, tadpoles, and other aquatic insects.

They were among the very first winged insects to have evolved over 300 million years ago.

Grasshoppers also act as **bio-indicators** and studying their life-cycle gives us an idea about our wetlands and ecology as a whole.

They also act as important bio-control agent as adult Odantes feed on mosquitoes, blackflies and other blood sucking flies. They eat a large number of mosquitoes in their larval stage.



#### A) NATIONAL DRAGONFLY FESTIVAL

The National Dragonfly Festival, being conducted across 11 states in India by the WWF-India in collaboration with several other organizations like BNHS, aims to create awareness for the conservation of these insects. This festival was first observed in 2018. It is citizen science movement that has been running for the past five years. This festival will continue till December (Oct 2023)

#### B) RECENTLY DISCOVERED SPECIES

**Red rumped hawklet** (*Epithemis wayanadensis*): It is a new species of dragonfly that was discovered by naturalist Davind Raju at Wayanad in Kerala. A paper related to this was published in 2023.



## 2) S&T: DEFENCE: ASTRA MISSILE

- More about ASTRA
  - » It is India's first indigenously developed active radar homing beyond-visual-range air-to-air missile (BVRAAM) with a range of over 100 km.
  - » It is designed and developed by the Defence Research and Development Laboratory (DRDL), Research Centre Imarat (RCI) and other DRDO laboratories.
  - » It is intended to engage and destroy aerial targets with high maneuverability and supersonic speeds. The missile's advanced air combat capabilities allow it to engage multiple high-performance targets.
- Fighter planes which are planned to carry this missile.
  - » Su-30 MKI, Mirage 2000 multi-role combat fighters, and Mig-29 and MiG-21 Bison fighter jet platforms, as well as Indian Navy's Sea Harrier jet fighter.
  - » In Aug 2023, it was successfully test-fired from the LCA Tejas off the coast of Goa during which the missile was released from the aircraft at an altitude of about 20,000 feet.
- IAF is expected to induct ASTRA missile by end-2023 (Oct 2023)
  - » In May 2022, the Defence Ministry signed a contract with BDL for the supply of ASTRA Mk-1 missiles and associated equipment for the IAF and the NAVY at a cost of Rs 2,971 crores.
  - » Bharat Dynamics Limited (BDL) has already received Bulk Production Clearance from the manufacturers of the Astra-Mk1 missiles from the Centre for Military Airworthiness and Certification (CEMILAC) and IAF will complete proof firing and induction this financial year.
  - » The IAF plans to arm its frontline fighters with the Astra-MK1 and officials have said that the Astra-2 would become the mainstay of the IAF's BVR missile arsenal, reducing import dependency.
- Key Advanced Features
  - » Smokeless propulsion system of ASTRA lets it kill its target without giving any clue about the location of launching aircraft.
  - » It is very versatile as it is an all aspect, all weather weapon. This enables the missile to be launched irrespective of relative position of the target with respect to the missile.
  - » ASTRA has highly effective multi-target scenario.
- Significance
  - » Reaffirmation of R&D competence of our defence scientists. Only a handful of other countries, US, Russia, Europe and China have mastered the technologies that go into air-to-air missiles.
  - » Strengthens aircrafts and from the most potent weapon systems for such aircraft in modern aerial warfare and are needed in large numbers by any Air force.
- Understanding some key terms:
  - i. **Active Radar homing (ARH)** is a missile guidance method in which missile contains a radar transceiver (in contrast to semi-active radar homing, which uses only a receiver) and the electronics necessary for it to find and track its target autonomously.
  - ii. **Beyond Visible Range (BVR)** is an air-to-air missile that is capable of engaging in ranges of 20 nmi (37 kms) or beyond.

### 3) OPERATIONAL AJAY

- It is a major operation to evacuate Indian citizens who wish to return from conflict-hit Israel.
- As of 14th Oct 2023, four flights have come from Israel bringing back a total of more than 900+ Indian citizens.
- **Note:** there are about 18000 Indian nationals living and working in Israel, including caregivers, students, several IT professionals, and diamond traders.