



TATHASTU
Institute of Civil Services

DAILY CURRENT AFFAIRS



19 OCTOBER, 2023

53/1, Upper Ground Floor, Bada Bazar Road, Old Rajinder Nagar, New Delhi -110060

www.tathastuics.com

9560300770, 9560300554

enquiry@tathastuics.com



S.NO.	TOPIC
1.	GLOBAL MARITIME INDIA SUMMIT 2023
2.	MINIMUM SUPPORT PRICES (MSP)
3.	MQ-9B UNMANNED AERIAL VEHICLES(UAVS)

GLOBAL MARITIME INDIA SUMMIT 2023

SOURCE: [PIB](#)

WHY IN NEWS?

- Prime Minister Narendra Modi inaugurated the third edition of the Global Maritime India Summit 2023 via video conferencing.
- He also unveiled 'Amrit Kaal Vision 2047', a comprehensive blueprint for India's maritime blue economy.

KEY POINTS ON 'AMRIT KAAL VISION 2047' AND GLOBAL MARITIME INDIA SUMMIT 2023:

'AMRIT KAAL VISION 2047':

- The Prime Minister unveiled 'Amrit Kaal Vision 2047,' presenting a comprehensive plan for India's maritime blue economy.
- The blueprint comprises strategic initiatives geared towards improving port facilities, advocating sustainable practices, and promoting international collaboration.



FOUNDATION STONE AND PROJECTS:

- The Prime Minister laid the foundation stone for projects worth over Rs 23,000 crores, aligning with 'Amrit Kaal Vision 2047.'

TUNA TEKRA DEEP DRAFT TERMINAL:

- The foundation stone was laid for the Tuna Tekra all-weather deep draft terminal, situated at Deendayal Port Authority in Gujarat.
- This modern terminal is poised to become an international trade hub, equipped to handle next-generation vessels with a capacity exceeding 18,000 twenty-foot equivalent units (TEUs), and it will serve as a pivotal gateway for Indian trade via the India-Middle East-Europe Economic Corridor (IMEEC).

ABOUT THE SUMMIT:

- The Global Maritime India Summit 2023 provides a noteworthy platform for attracting investments into India's maritime sector.
- The summit was first held in 2016 in Mumbai, with the second edition conducted virtually in 2021.
- The 2023 summit will feature participation from ministers representing various nations from Europe, Africa, South America, Asia (comprising central Asia, Middle East, and BIMSTEC region), along with global CEOs, business leaders, investors, and officials.

MARITIME INDIA VISION, 2030:

- **10-Year Blueprint:** The Maritime India Vision, 2030 is a comprehensive 10-year plan aimed at revitalizing the Indian maritime sector. It was officially launched during the Maritime India Summit held in November 2020.
- **Part of Sagarmala Programme:** This visionary initiative is a component of the broader Sagarmala Programme, which encompasses a range of policy actions and developmental projects with the maritime sector's growth and modernization at its core.



- During the three-day event, key maritime sector issues such as future ports, decarbonization, coastal shipping and inland water transportation, shipbuilding, repair and recycling, finance, insurance & arbitration, maritime clusters, innovation & technology, maritime safety and security, and maritime tourism will be discussed and deliberated.

INDIA'S MARITIME SECTOR:

- ❖ India occupies a strategic position along the world's shipping routes, boasting a coastline of approximately 7,517 km.
- ❖ The Indian Maritime Sector significantly contributes to India's trade, accounting for 95% by volume and 70% by value.
- ❖ **India ranks as the 16th largest maritime country globally** and stands as the 3rd largest nation in terms of ship recycling by tonnage.
- ❖ As of 2021, India held over 30% of the global market share in the ship-breaking industry and houses the world's largest ship-breaking facility.

CRUCIAL ROLE OF PORTS AND SHIPPING:

- ❖ Ports play a pivotal role in a country's overall economic development, and around 95% of India's merchandise trade is conducted through sea ports.
- ❖ The country features **12 Major Ports** (under central Government administration) and 200 non-major ports (under state Government administration) along with an extensive network of navigable waterways.
- ❖ The US, UAE, Saudi Arabia, Hong Kong, China, Germany, and the Republic of Korea are among India's top maritime export destinations.
- ❖ Key commodities handled at Indian ports include petroleum products, coal, automobiles, iron ore, engineering goods, chemicals, and electronics.
- ❖ India maintains a merchant fleet of 1,491 seagoing ships with a total capacity of 13 million Gross Tonnage (GT).



CHALLENGES FACED BY INDIA'S SHIPPING INDUSTRY:

- ❖ **Infrastructural Challenges:** Urgent expansion of port capacities is required in both major and minor ports. Cycle times for Indian cargoes are affected by transshipment points in other countries, rendering them less competitive globally. Furthermore, road network development and overall infrastructure improvement are essential.
- ❖ **Institutional Challenges:** The absence of a streamlined single window clearance system presents challenges to shipping companies in India.
- ❖ **Financial Challenges:** Tax burdens, including Customs Duty on Bunkers, Landing Fees, and Income Tax, without substantial exemptions, make it difficult for shipping companies to flourish.
- ❖ **Slow Processes:** Cumbersome shipment procedures compared to other transportation modes result in wasted shipping and labour time in the logistic process.
- ❖ **Vessel Size:** Increasing demand for shipping services has led to larger vessel sizes. Many Indian ports struggle to accommodate these larger vessels, impacting efficiency.
- ❖ **Container Shortage:** The lack of containers has driven up sea freight rates by 300% to 350%, according to the Economic Survey.



GOVERNMENT INITIATIVES:

Initiative	Description
Foreign Direct Investment (FDI)	FDI of up to 100% allowed under the automatic route for port and harbour construction and maintenance projects.
Tax Holiday	Enterprises involved in the development, maintenance, and operation of ports, inland waterways, and inland ports are eligible for a 10-year tax holiday.
Multi Modal Logistics Park (MMLP)	Tripartite agreement signed by the Ministry of Road Transport and Highways, Ministry of Ports, Shipping & Waterways, and Ministry of State for Road Transport & Highways for the development of modern MMLPs under Bharatmala Pariyojna.
Draft Indian Ports Bill 2022	Aims to centralize the administration of minor ports, currently managed by state governments.
Marine Aids to Navigation Bill 2021	Passed by the Parliament to incorporate global best practices, technological developments, and India's international obligations in the field of marine aids to navigation.
Maritime India Vision 2030	Launched in 2021, it serves as a blueprint for accelerated and coordinated development of India's maritime sector, encompassing over 150 initiatives.
Sagar Mala Program	Initiated in 2017, the program focuses on port-led development and growth of logistics-intensive industries, with a \$123 billion investment across 415 projects in various components.

WAY FORWARD:

- 1. Increasing Funds:** Improve fund utilization to expedite Sagarmala Programme projects.
- 2. Port Modernization:**
 - Enhance Indian ports' minimum draft through dredging for larger vessel handling.
 - Implement modern cargo handling techniques, especially for dry cargo, to boost capacity.
- 3. Connectivity to Ports:**
 - Ensure timely completion of rail/road projects.
 - Conduct environmental impact assessments before funding connectivity projects to prevent delays.
 - Identify and address logistical bottlenecks in major and minor ports.
 - Establish links between private and major/minor ports for efficient goods movement.
- 4. Public Private Partnership (PPP) Projects:**
 - Rationalize taxes to attract foreign shipping companies.
 - Provide financing for modernizing non-major ports in the private sector.
 - Create a specialized maritime fund for inland waterway operations and vessel financing through PPP.
 - Establish a single window approval system for PPP projects.
- 5. Ship Repair Industry:**
 - Support indigenous shipbuilding part manufacturers as part of the Make in India campaign.
 - Grant deemed export status to the ship repair industry.
 - Develop programs to generate revenue and employment in ship repair.
- 6. Promotion of Coastal Shipping:**
 - Develop dedicated coastal berths, fuel supply, and storage facilities for coastal shipping promotion.
 - Improve last-mile connectivity to ports for facilitating coastal shipping.
- 7. Maritime Training:**
 - Conduct a training needs analysis for employees, with a focus on port equipment operation.
 - Assess annual workforce requirements and develop strategies to achieve desired levels.
 - Establish Centers for Coastal and Inland Maritime Technology in collaboration with institutions like IITs, NITs, and IIMs to promote applied research and development in maritime training.



MINIMUM SUPPORT PRICES (MSP)

SOURCE: [THE HINDU](#)

WHY IN NEWS?

- The Cabinet Committee on Economic Affairs (CCEA) has approved an increase in Minimum Support Prices (MSP) for Rabi crops for the financial year 2024-25.
- The primary Rabi crop, wheat, sees a ₹150 per quintal increase, reaching a new price of ₹2,275.

WHAT IS MSP?

- The Minimum Support Price (MSP) is the rate at which the government procures crops from farmers to safeguard them from significant drops in agricultural prices.
- It is based on a calculation of at least one-and-a-half times the cost of production incurred by the farmers.
- It is determined by the government following recommendations from the Commission for Agricultural Costs and Prices (CACP) and is typically declared at the start of the planting season.

MSP ACROSS THE COUNTRY

➤ Currently, India offers MSP for 24 types of crops depending on the states

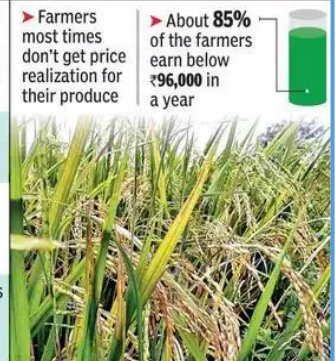
➤ In Telangana, cotton and paddy get MSP

➤ Wheat is the major crop in northern India to get MSP

➤ Turmeric farmers in Telangana have been demanding MSP

➤ Farmers most times don't get price realization for their produce

➤ About 85% of the farmers earn below ₹96,000 in a year



CROPS UNDER MSP

- The Commission for Agricultural Costs & Prices (CACP) recommends MSPs for 22 mandated crops and
- Fair and remunerative price (FRP) for sugarcane is determined by the Department of Food & Public Distribution.
- The MSP for Toria is determined based on the MSP of Rapeseed/Mustard seed, and the MSP for De-Husked coconut is based on the MSP of Copra.
- CACP is an attached office of the Ministry of Agriculture and Farmers Welfare.

Category	Crops
<i>Kharif Crops (14)</i>	Paddy, Bajra, Jowar, Maize, Arhar (Pigeon Pea), Ragi, Moong (Green Gram), Groundnut-in-shell, Urad (Black Gram), Soyabean, Niger seed, Sunflower, Sesamum, Cotton
<i>Rabi Crops (6)</i>	Barley, Wheat, Gram, Rapeseed/Mustard seed, Masur (Lentil), Jute
<i>Other Commercial Crops (2)</i>	Copra, Safflower

- **Recent Varied MSP Increases for Different Crops:**
 - ✓ The highest MSP increase, in comparison to the previous year, is observed for lentils (masur) at ₹425 per quintal, resulting in a new price of ₹6,425 per quintal.
 - ✓ This is followed by rapeseed and mustard with a ₹200 per quintal increase, establishing a new MSP at ₹5,650 per quintal.

HISTORICAL PERSPECTIVE:

- MSP was first introduced in India in the early 1960s as part of the Green Revolution strategy.

53/1, Upper Ground Floor, BadaBazar Road, Old Rajinder Nagar, New Delhi -110060



- It aimed to incentivize farmers to adopt modern agricultural practices and ensure food security for the nation.
- MSP initially covered only a few staple crops, primarily wheat and rice.
- Over the years, the list of crops under MSP expanded to include a variety of kharif and rabi crops.
- The pricing mechanism has evolved to encompass more crops and factor in various cost components.

FEATURES OF MSP:

➤ Calculation Factors:

- ✓ MSP is determined by factoring in elements such as production costs, market dynamics, input prices, and desired profit margins, following recommendations from the Commission for Agricultural Costs & Prices (CACP).

➤ Stockpile Development:

- ✓ To ensure food security and manage price stability, the government frequently procures crops at MSP to create stockpiles with various applications.

➤ Farmer Protection:

- ✓ MSP operates as a protective shield for farmers, particularly during adverse weather conditions, periods of low market prices, or market imperfections, offering them reliability and price security.

➤ Price Security:

- ✓ MSP offers farmers the security of a minimum price for their crops, allowing them to plan their agricultural activities without concerns about price volatility.

➤ Government Commitment:

- ✓ The government, along with designated agencies, commits to purchasing specific crops from farmers at the stated MSP, reducing price risks and uncertainty for farmers.

➤ Crop Inclusivity:

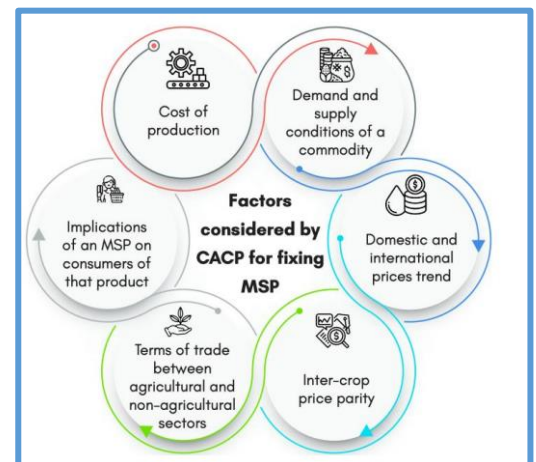
- ✓ MSP covers a diverse range of crops, including cereals, pulses, oilseeds, and commercial crops, ensuring that a wide spectrum of farmers benefit from the policy.

➤ Pre-Season Announcement:

- ✓ MSP is typically declared before the planting season, empowering farmers to make informed choices about crop selection based on expected returns.

Commission for Agricultural Costs & Prices (CACP)

- ☞ CACP is part of the Ministry of Agriculture and Farmers Welfare in India.
- ☞ It was established in January 1965 and consists of a Chairman, Member Secretary, one Official Member, and two Non-Official Members with farming backgrounds.
- ☞ CACP recommends minimum support prices (MSPs) to encourage modern farming techniques and boost grain production to meet changing demand.
- ☞ Stable and profitable pricing is crucial for enhancing agricultural productivity due to the inherent market instability, which can result in losses for farmers, even with advanced technology.





ISSUES WITH MSP

➤ Excessive Procurement and Stockpiling:

- ✓ The system of 'Open-ended procurement' means the government is obligated to purchase any quantity of grains offered by farmers, leading to the accumulation of substantial food stocks.
- ✓ These stocks significantly surpass the requirements for buffer stock, public distribution systems (PDS), and various government schemes like the Midday Meal Scheme.

➤ Changing Consumption Patterns and Unmatched Production:

- ✓ Recent trends revealed by the NSSO indicate a shift in food consumption patterns from cereals to protein-rich foods.
- ✓ However, this shift is not adequately reflected in sowing and production patterns.
- ✓ For instance, while India is the world's largest producer and consumer of pulses, it still imports 25% of the pulses consumed.
- ✓ This is partly due to the limitations of the APMC system, which can hinder farmers from diversifying their crops based on market signals.

➤ Inflationary Impact:

- ✓ Initial MSP and procurement prices were set lower in comparison to market prices, but they have now become market price determinants.
- ✓ Market prices are often elevated due to higher MSP, creating a direct relationship between MSP hikes and food inflation, as indicated by surveys and analysts.
- ✓ The APMC system's role in marketing can contribute to this price dynamic.

➤ Middlemen Dependency and APMC Influence:

- ✓ The MSP-based procurement system relies heavily on middlemen, commission agents, and bureaucratic processes within Agriculture Produce Marketing Committees (APMCs).
- ✓ This reliance makes it challenging for the average farmer to access these markets, forcing many to depend on regular markets for selling their produce.
- ✓ The APMC system can perpetuate this middlemen-centric approach.

➤ Market Distortion:

MSP – FARM LOAN WAIVERS: WILL THESE SOLVE REAL PROBLEMS FACED BY FARMERS?



➤ Hiking the Minimum Support Price (MSP) and waiving off loans will just provide temporary relief to farmers as they do not address the core problems that agriculture sector faces.

➤ The farmer problems cannot be solved unless the inherent problems in the agriculture system are addressed. What MSP seeks to address is the market volatility and fluctuating prices. Farm loan waiver will provide relief when the farmer is unable to repay loans because of crop loss or low yield.

THE ACTUAL PROBLEMS THAT NEED TO BE ADDRESSED:

👍 Low yield

The average yields of almost all the crops in India are among the lowest in the world. One way to address this using right manures and fertilizers.

👍 Access to quality seeds

Quality seeds are a critical for attaining higher crop yields. Unfortunately, good quality seeds are out of reach of the majority of farmers.

👍 Irrigation

India is the second largest irrigated country in the world after China, but only one-third of the cropped area is under irrigation.

👍 Low profit margins

Farmers have been unable to arrest the rising cost of production which depends on several factors such cost of fertilizers, irrigation costs, transportation costs, cost of raw materials etc.

👍 Lack of mechanisation

Lack of mechanisation effects the yield. Mechanisation needs massive investment and a farmer with small land holding may not be able to afford it.

👍 Lack of awareness

The government should take initiative to make farmers aware of modern agricultural techniques.



- ✓ India's **subsidized MSP can distort international agricultural markets** by creating surpluses of certain crops, which are then **potentially dumped into global markets at prices below the cost of production.**
- ✓ This can lead to **unfair competition and market disruptions** for other countries.
- **Export Subsidies:**
 - ✓ Under the WTO rules, India is allowed to provide **subsidies on agricultural products up to a certain limit.**
 - ✓ However, the subsidized MSP, if it results in excess production, may trigger concerns regarding export subsidies, **potentially violating WTO rules.**
 - ✓ India's practices have been a **subject of discussion and dispute within the WTO.**

COMMITTEES FOR MSP

<i>Committee</i>	<i>Purpose and Focus</i>	<i>Key Recommendations</i>
<i>Agricultural Prices Commission (APC)</i>	Recommending MSPs for agricultural commodities	Suggested MSPs for various crops including wheat, rice, pulses, oilseeds, and cotton.
<i>National Commission on Farmers (NCF)</i>	Addressing farmer issues and welfare policy recommendations	Proposed a minimum of 50% profit over the cost of production as MSP.
<i>Shanta Kumar Committee</i>	Reviewing the Food Corporation of India (FCI) and suggesting reforms	Recommended shifting from price-based to income-based support for farmers.

WAY FORWARD

- **Diversification of Supported Crops:** To encourage farmers to **cultivate a broader spectrum of crops**, including those with **high demand and export potential.**
- **Government is also continuously increasing the minimum support price (MSP) of millets (bajra, jowar, and ragi)** substantially so as to incentivise farmers to grow millets especially in drought prone areas.
- **Linking MSP to Market Prices:** To ensure they **reflect the actual supply-demand dynamics**, reducing the risk of market distortions.
- **Income Support Over Price Support:** Transition from **price-based support to**

WHY RURAL ECONOMY MATTERS?

It accounts for **46.9%** of the economy while the urban economy has a share of **53.1%**

90 million agricultural households (58% of total rural households) get support from the rural economy

THE FARM SECTOR HAS BEEN HIT BY

- Three consecutive monsoon shocks
- Restrained increase in minimum support price
- Depressed global food prices

NON-AGRICULTURE SECTOR HAS BEEN HIT BY

Muted increase in rural wages and nearly flat government rural spending

AGRICULTURAL GROWTH IS SLIPPING

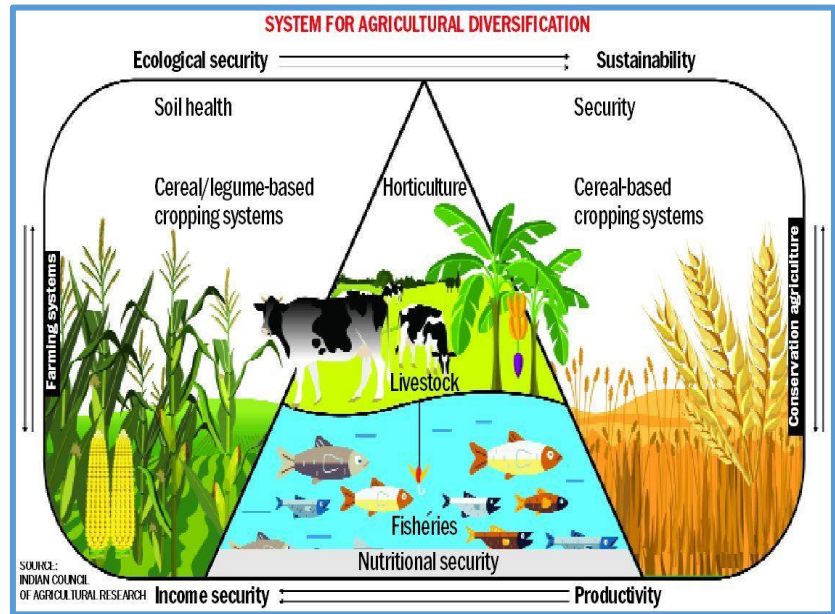
WHAT MEASURES BUDGET SHOULD TAKE TO INCREASE AGRICULTURAL OUTPUT

- Expand irrigation coverage**
Irrigation covers only 46.9% of the total cropped area, exposing the rest to monsoon shocks. Around 84% of pulses, 80% of horticulture, 72% of oilseeds, 64% of cotton and 42% of cereals are cultivated in non-irrigated conditions. Combined spending of Centre and states on irrigation has been 2% per year of their total spending in the last five years
- Big push to crop insurance**
Coverage remains low. The
- Universal National Crop Insurance Scheme covers only 25% of all farmers and 20% of the area
- Govt will have to reorient expenditure from subsidies to public sector investment
- Extend direct benefit transfer scheme to food and fertilizer subsidy**
Extending the DBT scheme to include food subsidy will help curb losses and will give households a choice on how to use the cash — whether to buy food grains or other items of consumption



income-based support, where farmers are assured a **minimum income level rather than a fixed price for their crops.**

- **Direct Income Transfers:** Implement **direct income transfer schemes for farmers**, which provide financial support **without the need for physical procurement of crops.**
- **Technology and Data Integration:** Harness technology and data analytics to create a real-time information system that helps



farmers make informed decisions on crop choices and market conditions.

- **Crop Insurance and Risk Mitigation:** To protect farmers **from price volatility and adverse weather conditions.**
- **Private Sector Participation:** Encourage private sector investment in agriculture by providing **incentives for value addition, storage, and agri-processing infrastructure.**
- **Market Access and Infrastructure:** Like **cold storage, warehouses, and transportation facilities** to reduce post-harvest losses.
- **Promoting Sustainable Agriculture:** Like **crop rotation, organic farming, and water-efficient techniques**, to enhance productivity and soil health.
- **Farmers' Capacity Building:** To enhance their knowledge of modern farming techniques, marketing, and financial management.
- **Public-Private Partnerships:** **Foster collaboration between the government and private sector** to create value chains that benefit both farmers and consumers.
- **International Trade Agreements:** Ensure that **MSP policies align with international trade agreements** to avoid disputes and promote fair trade practices.



Prelims Specific

Subsidies under WTO:

Subsidy Type	Description	Examples
Amber Box	Subsidies that can distort international trade , considered trade-distorting.	Subsidies for inputs, Minimum Support Price (MSP) .
Blue Box	Support with conditions designed to reduce distortion , often imposing quotas.	Production quotas, land set-asides .
Green Box	Domestic support measures with minimal to no trade distortion.	Environmental protection , regional development programs.

UPSC PYQs

Consider the following statements: (2020)

1. In the case of all cereals, pulses and oil-seeds, the procurement at Minimum Support Price (MSP) is unlimited in any State/UT of India.
2. In the case of cereals and pulses, the MSP is fixed in any State/UT at a level to which the market price will never rise.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (d)

Q. In India, which of the following can be considered as public investment in agriculture? (2020)

1. Fixing Minimum Support Price for agricultural produce of all crops
2. Computerization of Primary Agricultural Credit Societies
3. Social Capital development
4. Free electricity supply to farmers
5. Waiver of agricultural loans by the banking system
6. Setting up of cold storage facilities by the governments

Select the correct answer using the code given below:

- (a) 1, 2 and 5 only
- (b) 1, 3, 4 and 5 only
- (c) 2, 3 and 6 only
- (d) 1, 2, 3, 4, 5 and 6

Ans: (c)

Mains PYQ

Q. What do you mean by the Minimum Support Price (MSP)? How will MSP rescue the farmers from the low-income trap? (2018 GS3)



MQ-9B UNMANNED AERIAL VEHICLES(UAVS)

SOURCE: THE HINDU

WHY IN NEWS?

- India is moving forward with a deal to purchase 31 MQ-9B Unmanned Aerial Vehicles (UAVs) from the **United States**.
- The contract for the UAVs is **expected to be concluded by February 2024, with deliveries starting in February 2027**.

MQ-9B DRONE OVERVIEW:

- **About:**
 - ✓ The MQ-9B drone is a variant of the MQ-9 "Reaper," designed for **unmanned aerial operations** with remote control or autonomous flight capabilities.
 - ✓ It's a **high-altitude long-endurance drone** equipped with precision **strike missiles** for **accurate enemy target engagement**.
- **Manufacturer and Primary Use:**
 - ✓ Developed by **General Atomics Aeronautical Systems (GA-ASI)**, it was initially intended for the **United States Air Force (USAF)**.
- **MQ-9B Variants:**
 - ✓ The MQ-9B comes in two variants: **SkyGuardian** and **SeaGuardian**.
 - ✓ The Indian Navy has been **operating the MQ-9B Sea Guardian since 2020**.



KEY FEATURES OF MQ-9B SEAGUARDIAN:

- **Payload Capacity:**
 - ✓ It can **carry up to 5,670 kg** and has a **fuel capacity of 2,721 kg**.
- **High Altitude Operation:**
 - ✓ The drone can operate at **altitudes exceeding 40,000 feet**.
- **Extended Endurance:**
 - ✓ It boasts a **maximum endurance of 40 hours**, making it suitable for extended surveillance missions.
- **Versatile Roles:**
 - ✓ The MQ-9B is **capable of performing various roles**, including **land and maritime surveillance, anti-submarine warfare, anti-surface warfare, strike operations**, electronic warfare, and expeditionary missions.

MQ-9B
Predator Drones

Max Gross Takeoff Weight: **5,670 kg**
 Fuel Capacity: **2,721 kg**
 Payload Capacity: **2,177 kg across 9 hardpoints (8 wing, 1 centerline)**

<p>Crew: Two pilots in ground control stations</p> <p>Missions</p> <ul style="list-style-type: none"> • Humanitarian Assistance/Disaster Relief • Search and Rescue • Law Enforcement • Border Enforcement • Defensive Counter Air • Airborne Early Warning 	<p>Weapons</p> <ul style="list-style-type: none"> • Laser guided missiles • Anti-tank missiles • Anti-ship missiles <p>Missions</p> <ul style="list-style-type: none"> • Electronic Warfare • Anti-Surface Warfare • Anti-Submarine Warfare • Airborne Mine Counter Measures • Long-Range Strategic ISR • Over-the-Horizon Targeting
---	---



- **Automated Take-Off and Landing:**
 - ✓ It features automatic take-off and landing capabilities.
- **Civil Airspace Integration:**
 - ✓ The **MQ-9B can safely integrate into civil airspace**, providing real-time situational awareness to both **military and civil authorities**, day or night.

RECENT INDIA- US DEALS

<i>Area of Cooperation</i>	<i>Deal Summary</i>
<i>Semiconductor Supply Chains</i>	<ul style="list-style-type: none"> ✓ Micron Technology to invest in a new semiconductor assembly and test facility in India. ✓ Applied Materials to establish a Semiconductor Centre for Commercialization and Innovation in India. ✓ Lam Research to train 60,000 Indian engineers through "Semiverse Solution" for semiconductor education.
<i>Advanced Telecommunications</i>	<ul style="list-style-type: none"> ✓ Establishment of public-private Joint Task Forces for Open RAN systems and advanced telecom research. ✓ Joint leadership by Bharat 6G and the US Next G Alliance in telecom research.
<i>NASA-ISRO Collaboration in Space</i>	<ul style="list-style-type: none"> ✓ India signing the Artemis Accords. ✓ NASA providing advanced training to ISRO astronauts for potential joint efforts on the International Space Station. ✓ Development of a strategic framework for human spaceflight cooperation.
<i>Quantum, Advanced Computing, and AI</i>	<ul style="list-style-type: none"> ✓ Establishment of the Joint Indo-US Quantum Coordination Mechanism for quantum tech, AI, and wireless tech research. ✓ Collaboration on trustworthy AI and AI education.
<i>Fibre Optics Investments</i>	<ul style="list-style-type: none"> ✓ Sterlite Technologies investing USD 100 million in an optical fibre cable manufacturing unit in South Carolina.
<i>Cutting-edge Research</i>	<ul style="list-style-type: none"> ✓ Research collaborations between the US National Science Foundation and India's Department of Science and Technology.
<i>Innovation Handshake</i>	<ul style="list-style-type: none"> ✓ Launching the "Innovation Handshake" to connect startup ecosystems.
<i>Critical Minerals Partnership</i>	<ul style="list-style-type: none"> ✓ India's partnership in the US-led Minerals Security Partnership.
<i>Defense Partnership</i>	<ul style="list-style-type: none"> ✓ Proposals for co-production of GE's F414 combat aircraft engines in India. ✓ India's intent to procure armed MQ-9B SeaGuardian UAVs. ✓ Agreements for service and repair of US Navy ships at Indian shipyards. ✓ Inauguration of the India-US Defence Acceleration Ecosystem (INDUS-X). ✓ Adoption of a Defense Industrial Cooperation Roadmap.



Green Energy

- ✓ Epsilon Carbon Limited investing in a greenfield electric vehicle battery component factory in the US.

Prelims Specific

India and US have four foundational defence agreements:

- ☞ Basic Exchange and Cooperation Agreement for Geospatial Intelligence (BECA).
- ☞ General Security of Military Information Agreement (GSOMIA).
- ☞ Logistics Exchange Memorandum of Agreement (LEMOA).
- ☞ Communication Compatibility and Security Agreement (COMCASA).

Countering America's Adversaries Through Sanctions Act (CAATSA)

- ☞ The US House of Representatives passed an **amendment to exempt India from CAATSA sanctions for purchasing the S-400 missile defense system from Russia in 2018.**
- ☞ CAATSA is a **US law that aims to punish countries with significant ties to Russia, North Korea, and Iran** using economic sanctions.
- ☞ The law's **application is not limited to the S-400** and may **include future joint ventures** for weapon development or **other major deals with Russia.**
- ☞ **Turkey has already faced CAATSA sanctions** for buying S-400 missile systems from Russia.
- ☞ The **S-400 is a highly capable mobile long-range surface-to-air missile system** that can defend against various **aerial threats, including drones, missiles, rockets, and fighter jets.**

