



VAJIRAM & RAVI
Institute for IAS Examination

The Analyst

CURRENT AFFAIRS Handout

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Private Sector in India's Space Economy



CONTEXT: The Minister for Science, Space and Atomic Energy Jitendra Singh said at a press conference that India's private sector is still in a developing stage and will need some time to acquire the "acumen" to make space vehicles.

Need of Promoting Private Sector in Space Sector :

- **Increase India's share in global commercial space economy:**
 - 2% to 8% (2033)
- **Increasing Demand for Space-Based Services:**
 - ISRO's annual budget (2024) - **\$1.6 billion**
 - NASA's - **\$25 billion.**
 - **multiplier effect of \$2.54**
- **Freeing up the ISRO from ancillary activities**
- **Reducing import dependency:**
 - **2021-22** - import costs **12 times higher** than export earnings
 - **Major imported items** - electronic and electrical engineering components, high-strength carbon fibres, space-qualified solar cells.
- **International trends and experience:**
 - SpaceX, Blue Origin, Arianespace
 - cost-per-launch - reusable rockets
- **Shift from supply driven model to demand driven model:**
 - Swamitva scheme - transparent land records.

Private sector participation in Space:

- Over **200 space startups**
- **2022 (Hyderabad-based Skyroot Aerospace)** - Vikram-S rocket was launched under '**Mission Prarambh**'.
- **Agnikul Cosmos** - world's first rocket with a **single-piece 3D printed engine**.
- **OneWeb India** - first company to receive approval from IN-SPACe for providing **satellite broadband services**.

Challenges in Promoting Private participation :

- **Regulation Issues:**
 - DoS, ISRO, Antrix corporation etc.
- **Risky Nature of Industry**
- **Funding Constraints**
- **Security and strategic concern**
- **Kessler syndrome**
- **Talent shortage:**
 - Only one Indian Institute of Space Technology exists, Thiruvananthapuram, 2007.

Steps Taken :

Key organisations:

- **Indian National Space Promotion and Authorisation Centre (IN-SPACE)**
- **NewSpace India Limited** - encouraged technology transfer from ISRO
- **Antrix Corporation** - Commercially markets the products & services emanating from Indian Space Program.

Key Initiatives:

- **Foreign Direct Investment limits:**
 - **74% FDI** for satellite manufacturing and operation
 - **49% FDI** for launch vehicles
- **Tax benefits:** Satellite launches are **exempted from GST**.
- **Mentoring:** IN-SPACe Digital Platform
- **Atal Innovation Mission:**
 - **ATL Space Challenge:** collaboration between ISRO and CBSE
 - **Atal Incubation Centre Scheme:** supported more than **15 startups**



Private Sector in India's Space Economy



CONTEXT: The Minister for Science, Space and Atomic Energy Jitendra Singh said at a press conference that India's private sector is still in a developing stage and will need some time to acquire the "acumen" to make space vehicles.

Way Forward:

- **Boosting R&D:**
 - PLI Scheme for space-grade components
- **Building a skilled workforce:**
 - more Indian Institute of Space Technology & and space-focused courses in IITs
- **Boost infrastructure:**
 - space industrial corridor like Space Coast, Florida
- **Global Collaboration**
- **Mapping of current value chain**

Mains Practise Question :

"Examine the need for increased private sector participation in India's space sector. Discuss the recent steps taken by the government to promote it and highlight the key challenges that remain."

(15 Marks, 250 words)



Food Processing Industry: From farm to shelf

CONTEXT: Article talks about the significance of Food processing industries and how it is turning local strengths into global opportunities.

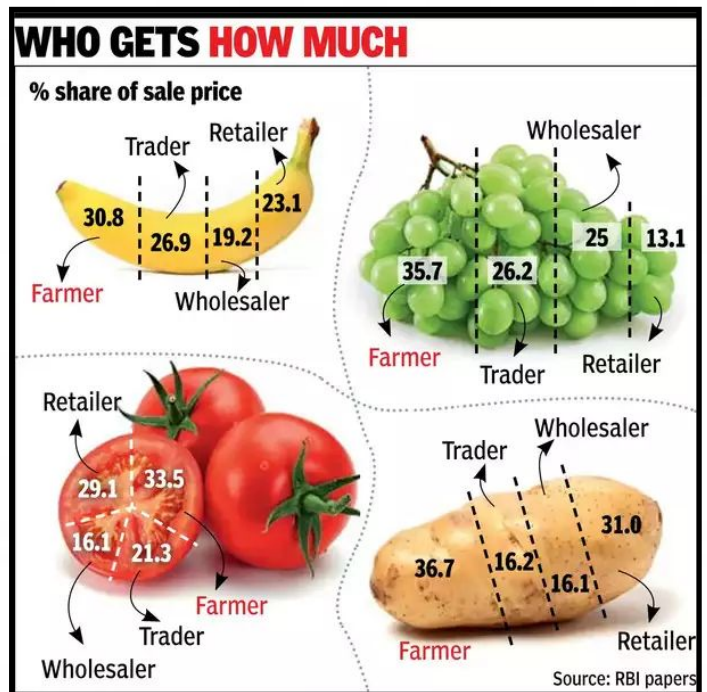
What is Food Processing?

- **Transforms raw agricultural products into consumable food items** through various **physical, chemical, and mechanical processes**.
- crucial role in enhancing the **shelf life, safety, and quality of food**, thus meeting the demands of a growing global population.
- **Types of Processing:**
 - **Primary:** Cleaning, grading & milling of raw food items .e.g. **Fruit juice**
 - **Secondary:** Combining raw ingredients to create ready-to-cook items.e.g. **Bread, sauces & snacks.**
 - **Tertiary:** further refining of secondary processed foods .e.g. **Frozen peas**

Significance :

- **Doubling of farmers income**
- **Reducing food wastage:** NITI Aayog - Rs. 90,000 crore
- **Curbing Food Inflation:** Frozen Safal peas

- **Enhances consumer choices**
- **Incentivises crop diversification**
- **Employment generation:** Economic survey 2024-25
 - Accounting for 12.41 percent of total employment in the organised sector.



THE INDIAN FOOD PROCESSING SECTOR AT A GLANCE



Food Processing Industry: From farm to shelf

CONTEXT: Article talks about the significance of Food processing industries and how it is turning local strengths into global opportunities.

Food Processing Industry: An overview

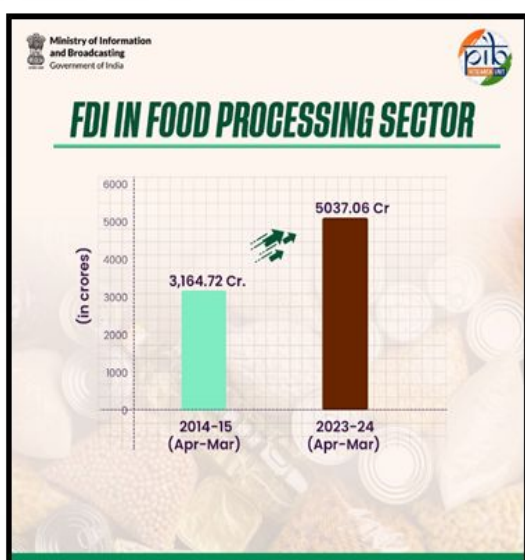
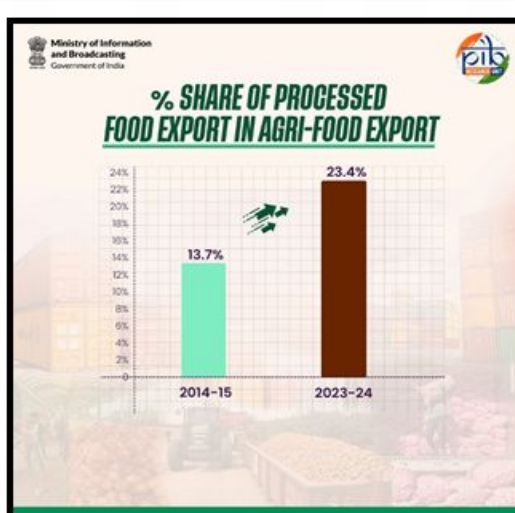
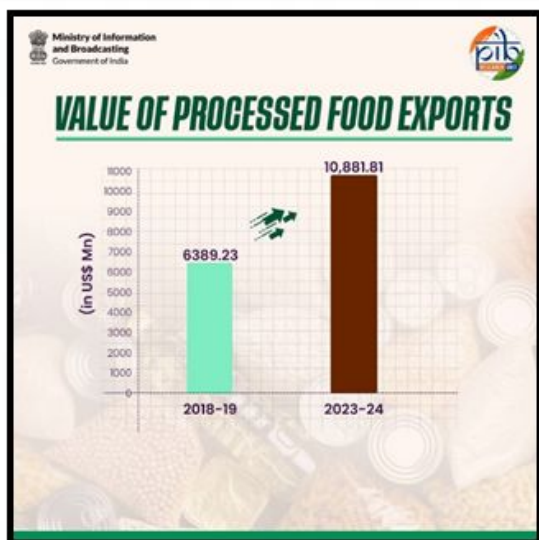
Gross Value Added (GVA)
has increased from 1.61
lakh crore in 2015-16 to
1.92 lakh crore in 2022-23

Average Annual
Growth Rate
(AAGR) of around
5.35% since 8 years
until 2022-23

Employment increased from
17.73 lakh in 2014-15 to
20.68 lakh in 2021-22

(as per First Revised Estimates
of Ministry of Statistics and Programme Implementation)

As per latest Annual Survey
of Industries (ASI) report



Production Linked Incentive Scheme for Food Processing Industry:

Salient features of the Pradhan Mantri Formalisation of Micro Food Processing Enterprises Scheme



Food Processing Industry: From farm to shelf



CONTEXT: Article talks about the significance of Food processing industries and how it is turning local strengths into global opportunities.

SCHEME OBJECTIVES



Steps Taken :

World Food India:

- Launched in **2017, third edition** of World Food India 2024.
- Dual aim:** showcasing India's rich culinary traditions and encouraging investments
- Channelizing investments across sub-segments:** from backward linkages and research and development to cold chain solutions and start-ups, positioning India as a global food hub.

Salient features of the Pradhan Mantri Formalisation of Micro Food Processing Enterprises Scheme



Challenges :

- Limited Quality and Safety Control:**
 - Hong Kong and Singapore** banning **MDH and Everest** after detecting **ethylene oxide**.
- Logistical challenges:** more than 30% of agricultural produce lost due to inadequate cold chain infrastructure
- Fragmented Supply Chain-The Broken Link**
- Regulatory maze & high compliance cost**
- Market Volatility**
- Skills Gap**

Way Forward :

- Creating integrated food processing zones
- Digitalization and Smart Supply Chain Management
- Quality Standardization
- Establish single-window clearance system
- Sustainable Processing-Green from Farm to Fork
- Export Ecosystem



The sorry state of South Asian Economic Integration



SYLLABUS : GS 2 Paper : Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

Newspaper: The Hindu **Page Number:** 6

About SAARC:

- Established - **1985**
- Afghanistan** joined as the **8th** member in **2007**.
- Secretariat** - Kathmandu, Nepal (1987)
- Significance of SAARC: (2021)**
 - 3%** - world's land area
 - 21%** - world's population
 - 5.21%** (USD 4.47 trillion) of the global economy.
- SAFTA** - established in **2004** and effective from **2006**.
- SAARC Agreement on Trade in Services** - came into force in **2012**.



In the year so far there were two major incidents that shook India's economic and national security landscape: the reciprocal tariffs imposed by the Trump administration and the terror attack in Pahalgam. While these events may seem unrelated, their underlying causes and consequences are deeply interlinked, highlighting the urgent need for a comprehensive regional approach to security and economic stability. Economic and national security are often discussed separately, but they are deeply intertwined.

Border disputes among South Asian nations significantly hamper trade and economic cooperation, preventing the region from achieving its full potential. Economic instability fuels unrest, while security threats disrupt trade and investment. No country can achieve lasting security without economic prosperity, and vice versa.

One of the least integrated

The South Asian region is one of the least economically integrated regions in the world. Intraregional trade of South Asia (South Asian Free Trade Area or SAFTA) accounts for barely 5% to 7% of its total international trade, which is the lowest when compared to other trading blocs. In contrast, intraregional trade accounts for approximately 45% of total international trade within the European Union (EU), 22% within the Association of Southeast Asian Nations (ASEAN), and around 25% within North American Free Trade Agreement (NAFTA).

Current trade among South Asian Association for Regional Cooperation (SAARC) countries is just around \$23 billion, far below the estimated \$67 billion. According to a United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) study, South Asia's potential trade could have reached \$172 billion by 2020, which means over 86% of its capacity remains unexploited. Even if we consider this

assessment to be optimistic, the immense potential for significantly increasing intra-SAARC trade can never be denied. South Asia, the most populous region of the world (25% of the world's population), represents a combined market of only \$5 trillion in GDP. On the other side, the EU, with 5.8% of the world's population, accounts for \$18 trillion in GDP, and NAFTA has a GDP of \$24.8 trillion. This clearly shows the underexploited capacity of the South Asian region.

(88%), Pakistan (86%), Afghanistan (83%), and Nepal (76%). Because of terror insurgencies and border disputes, trade between India and Pakistan has seen a significant decline over the years. Bilateral trade between India and Pakistan fell from \$2.41 billion in 2018 to \$1.2 billion in 2024. Further, Pakistani exports to India fell from \$547.5 million in 2019 to just \$480,000 in 2024.

South Asia's trade-to-GDP ratio decreased from 47.30% in 2022 to 42.94% in 2024. Additionally,



The sorry state of South Asian Economic Integration



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Newspaper: The Hindu **Page Number:** 6

Despite SAFTA, trading with neighbours is not 'free'. The inefficient trade governing mechanism and an unpromising political environment increase the cost of intraregional trade, which is one of the major reasons for significantly smaller intra-regional trade. Costs of trading within South

Asia remain high at 114% of the value of the goods being exported, making trading with neighbouring nations more expensive or less competitive, compared to trading with distant partners.

For instance, South Asia's bilateral trade cost with the U.S. is only 109% despite the vastly greater distance. It is about 20% more costly for a company in India to trade with Pakistan than with Brazil, which is 22 times farther away. This discourages the formation of regional value chains despite the geographic contiguity. In contrast, intraregional trade costs for ASEAN are some 40% lower than intra-SAARC trade costs, at 76%, creating high incentives for interdependence in that bloc.

The low level of intraregional trade in South Asia demonstrates the absence of strategic policies. SAFTA and other regional agreements have the potential to create greater economic linkages. Besides, over two-thirds of the potential of intraregional trade in goods, the potential of trade in services, and investments in South Asia remain untapped. To this end, greater regional cooperation could facilitate the development of complementary and mutually beneficial export sectors by focusing on lowering trade barriers.

SAARC had the aim of ending distrust and tension, but trust deficits and regional conflicts hinder the full implementation of agreements such as SAFTA. Political diversity, regional disputes, minority issues and terrorism are major obstacles to regional cooperation. Most SAARC countries are in conflict with each other, preventing effective regional integration. Lesser trade opportunity means lesser capacity for innovation, production and investment in the people of the country. Therefore, to exploit the full potential of the South Asian region, members must work actively to enhance intra-regional trade, keeping aside their bilateral conflicts.



SYLLABUS: GS 2 Paper: India and its neighborhood- relations
Newspaper: Indian Express **Page Number:** 17

EVEN AS INDIA and the United States work towards finalising a bilateral trade agreement — ahead of a looming July 9 deadline for the reimposition of President Donald Trump's so-called reciprocal tariffs — at least two major domestic agricultural-based industries are worried about the possible concessions that a deal might entail.

The sugar industry, for one, is against allowing imports of ethanol for use in blending with petrol. The mills are also not very keen on import of genetically modified (GM) maize/corn as a feedstock for fuel ethanol. The US is the world's top producer as well as exporter of both maize and fuel ethanol.

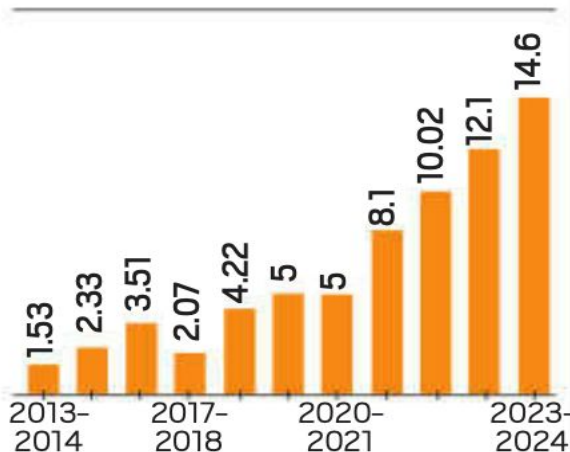
Then there is the soybean processing industry: the Indore-based Soybean Processors Association of India (SOPA) has vehemently opposed imports of soybean. The US is the second biggest producer and exporter of this leguminous oilseed after Brazil. Both countries mostly grow GM soybean.

Given the United States' high stakes in these commodities, and the geopolitical imperative to find a sizable alternative market to China, there is significant pressure on India to remove restrictions on their imports.

But any such opening up could encounter resistance from the two well-established agro-processing industries.

CHART 1

ETHANOL BLENDING % IN PETROL*



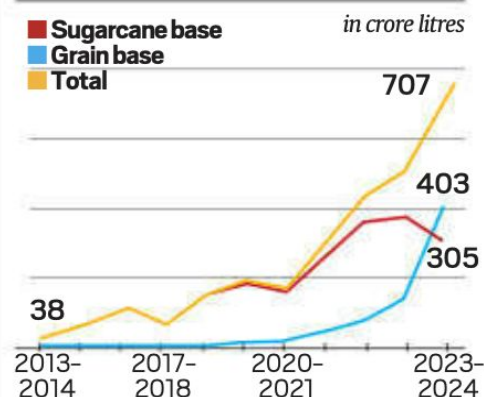
*All-India average blending percentage for petrol sold across states

The ethanol-blended petrol programme has been a success story of the Narendra Modi-led government.

CHART 1 shows that the average blending of ethanol in petrol sold by oil marketing companies (OMC) has risen from just 1.5% in 2013-14 to 14.6% in 2023-24. In the current supply year, from November 2024 till May 2025, the cumulative all-India average blending ratio was 18.8%, close to the target of 20% by 2025-26.

CHART 2

ETHANOL SUPPLIED TO OIL MARKETING COMPANIES



Note: Data is for ethanol supply years: Dec-Nov till 2021-22, Dec-Oct in 2022-23 and Nov-Oct from 2023-24

2023-24, the ethanol supplies from grain-based feedstock, particularly maize, has overtaken that from sugarcane molasses and whole juice (CHART 2).

“As it is, sugarcane is being marginalised as a feedstock. It would be worse with imports of maize or even ethanol itself,” says a miller from Uttar Pradesh.

...and sugarcane juice (152.8 crore litres).

“As it is, sugarcane is being marginalised as a feedstock. It would be worse with imports of maize or even ethanol itself,” says a miller from Uttar Pradesh.

According to him, the industry needs to...

Agri-industry and India-US deal



SYLLABUS: GS 2 Paper: India and its neighborhood- relations
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Ethanol from sugarcane, the miller claims, will not create any major “fuel versus food and feed” dilemma. “Sugar consumption won’t increase much in India, unlike milk, egg and chicken that need maize as the key feed ingredient. The diversion of maize for biofuel will cause demand-supply imbalances and shortage of grain for livestock and poultry,” he adds.

The US exported a record 1,914 million gallons (724.5 crore litres) of ethanol, valued at \$4.3 billion, in 2024. India was its third largest

market (after Canada and the UK), at 187 million gallons (70.8 crore litres) worth \$441.3 million. India permits import of ethanol only under licence for industrial (non-fuel) purposes and restricted to “actual users”: imports can be for manufacture of alcohol-based chemicals, but not for blending in petrol or diesel.

A recent NITI Aayog working paper has suggested that India import GM maize as a feedstock for ethanol production. The protein-rich byproduct from it — DDGS or distiller’s dried grains with solubles — may entirely be exported without getting consumed as a GM feed ingredient within the country.

“US corn is cheaper and can be used to meet India’s biofuel targets without disrupting local food and feed markets,” the paper, authored by NITI Aayog member Ramesh Chand and senior adviser Raka Saxena, has stated.

Soybean industry’s misgivings

The NITI Aayog paper has also called for exploring the option of importing soybean, with the oil extracted from it being sold in the domestic market and the residual de-oiled cake or meal (which contains GM protein matter) exported to other countries.

DN Pathak, SOPA’s executive director, disagrees with this proposal.

“Most of our solvent extraction plants are in the interiors (especially Madhya Pradesh and Maharashtra) where the crop is grown. It’s not feasible for them to bring imported soybean from the ports, process it and then take back the meal for exports. The freight cost economics will simply not work. And what will happen to the 7 million-odd farmers cultivating soybean here?” he asks.

SOPA has also voiced concern at the Centre’s decision on May 30 to slash the effective import tariff on crude soybean, palm and sunflower oil from 27.5% to 16.5%. That will further squeeze the margins of domestic processors, “as they will have to compete with lower-priced imported oils, forcing them to operate below break-even capacity or shut down altogether”.

Soybean is now trading in the mandis of MP and Maharashtra at Rs 4,300-4,350 per quintal, as against its official minimum support price of Rs 5,328. A surge in imports, whether of oil or seed, can lead to farmers switching acreage to other crops.

These worries may come to the fore, as the ongoing trade talks between India and US edge closer to fruition.



SYLLABUS : PRELIMS : General issues on Environmental ecology
Newspaper: Indian Express **Page Number:** 12

- It is a **specialized agency** of the **United Nations (UN)**.
- **History**
 - It originated from the **International Meteorological Organization (IMO)**, which was founded in 1873.
 - Established in 1950, WMO became the specialized agency of the UN for meteorology (weather and climate), operational hydrology and related geophysical sciences.
- It is the UN system's authoritative voice on the state and behavior of the Earth's atmosphere, its interaction with the oceans, the climate it produces, and the resulting distribution of water resources.
- Its main goal is to **facilitate international cooperation** in the **development of meteorology** and the exchange of information and technology related to weather, climate, hydrology and related environmental fields.
- **Governance Structure:**
 - **World Meteorological Congress:** It is WMO's supreme body which consists of representatives of all members. It meets at **least every four years** to set general policy and adopt regulations.
 - **Executive Council:** It consists of 36-members which meets annually and implements policy.
 - **Secretariat:** It is headed by a **secretary-general** appointed by the congress for a four-year term, serves as the administrative centre of the organization.
- **Members:** It has **193 Members**, including 187 Member States and 6 Territories, maintaining their own meteorological services.
- **Headquarter:** Geneva, Switzerland.

CLIMATE ALARM BELLS

■ In 2024, Asia's average temperature was 1.04 °C above the 1991–2020 average, ranking as the warmest or second warmest year on record, depending on the dataset.

■ Prolonged heatwaves affected much of Asia, and marine heatwave coverage hit a record high.

■ Reduced winter snowfall and extreme summer heat accelerated glacier mass loss in the central Himalayas and Tian Shan.

■ Sea-surface temperatures were the highest on record, and Asia's sea-surface decadal warming rate is nearly double the global average.

These weather events also caused substantial loss to local communities and economies at large, said the **State of Climate in Asia 2024 report**, prepared by WMO in collaboration with regional and international meteorological organisations.

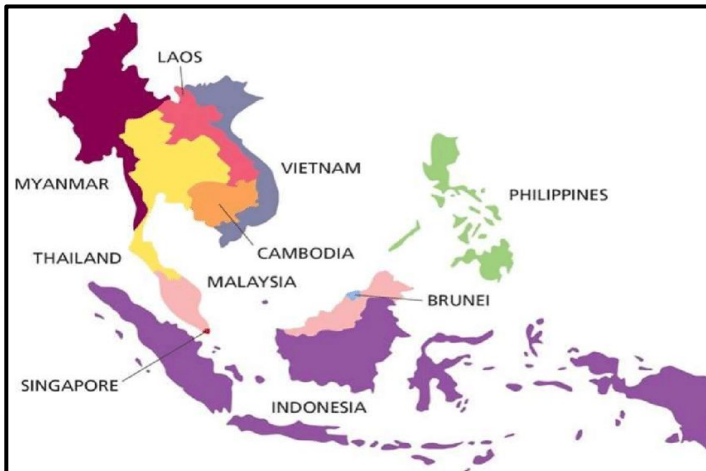


SYLLABUS : GS 2 Paper : Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

Newspaper: The Hindu **Page Number:** 13

About ASEAN :

- Established in **1967**, with the signing of the **Bangkok Declaration**.
- **Founding fathers of ASEAN:** Indonesia, Malaysia, Philippines, Singapore and Thailand.
- Presently it has **10 members**.
- **Secretariat:** Jakarta, Indonesia



Under the original agreement, signed in 2009, India opened 71% of its tariff lines to the ASEAN countries whereas countries like Indonesia opened 41%, Vietnam 66.5%, and Thailand 67%, the source explained.

'Imports tripled'

"In the last 15 years, our exports to ASEAN have doubled, but our imports have tripled," they said. "These factors necessitated a review of the deal but we are being stonewalled."

The review by a joint committee began in February 2024.

India had found through its investigations that there are countries in the ASEAN grouping that were receiving highly subsidised raw materials from China, processing them, and then exporting them to India, the source said.

Over the last one year, officials of the government of India have held nine meetings with officials from the Association of Southeast Asian Nations (ASEAN) to review the trade agreement signed with the grouping, but no progress has been made on any item, according to sources.

"After a lot of pressure from the government of India, they agreed for a review of the ASEAN-India Trade in Goods Agreement (AITIGA)," a source said.

Places in News: Al Udeid air base

SYLLABUS : PRELIMS : Places in News

Newspaper: The Hindu **Page Number:** 1

Iran launched missile attacks at the al-Udeid Air Base in Qatar, the largest American base in West Asia, on Monday evening in retaliation for the U.S. strikes at the Is-



Doubling down

Iranian armed forces said that the attack came in response to the 'blatant military aggression by the criminal regime of the United States'

- Qatar's al-Udeid Air Base houses about 10,000 American soldiers, and also serves as the headquarters of the U.S. Central command

- Iran strikes also target Ain al-Assad base housing U.S. troops in western Iraq



Israel hit Revolutionary Guard sites and the notorious Evin prison in Tehran on Monday, calling them its most powerful strikes yet on the Iranian capital on the 11th day of the war.

Iranian media and the Israeli military said Israel also struck Fordo, a key nuclear enrichment facility buried deep in the mountains south of Tehran.

The military said it had struck Fordo on Monday

Katz said "holds political prisoners and regime opponents", as well as command centres of the domestic Basij militia and the powerful Islamic Revolutionary Guard Corps of the Islamic Republic.



Q1. Which of the following is the World's first rocket with a single-piece 3D printed engine?

- a) Agnikul Cosmos
- b) OneWeb India
- c) Blue Origin
- d) Virgin Galactic

Answer: a

Q2. Consider the following statements:

- 1. India is the 2nd largest producer of Rice & Wheat in the world.
- 2. India is the largest producer of Milk & pulses in the world.
- 3. 100% Foreign Direct Investment (FDI) is allowed in the Food Processing Sector.

How many of the statements given above is/ are correct?

- a) Only One
- b) Only Two
- c) All Three
- d) None

Answer: c

Q3. Consider the following statements regarding SAARC:

- 1. It was established in 1985.
- 2. Its Secretariat is located in New Delhi, India.
- 3. Afghanistan, Pakistan & China are member countries of SAARC

Which of the above statements is/are correct?

- a) 1 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1 and 2 only

Answer: a

Q4. Consider the following statements:

- 1. Brazil is the 2nd biggest producer & exporter of leguminous oilseed after the USA.
- 2. Both countries mostly grow genetically modified soybeans.

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

Answer: b

Q5. Regarding the World Meteorological Organisation(WMO), consider the following statements:

- 1. It is a specialised agency of the United Nations.
- 2. It currently has 193 member states.
- 3. Its headquarters are located in Geneva, Switzerland.

Which of the statements given above are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Answer: d





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