

Edible Oil Imports in India

Context: Over the past decade, India has witnessed an increase of nearly 1.5 times in its edible oil imports, with the rupee value more than doubling.

➤ Import Trends:

- Edible oil imports surged from 11.6 mt (Rs 60,750 crore) in 2013-14 to 16.5 mt (Rs 138,424 crore) in 2022-23.
- Notable increase in the last three years.
- Significant rise over the decade from 2004-05 to 2013-14.

➤ Global Price Impact:

- Despite the increase in quantity, import values fell in both dollar and rupee terms.
- Global price crash influenced the reduction in import values.

➤ Self-Sufficiency Decline:

- In 2022-23, domestic edible oil production reached around 10.3 mt.
- Total availability, including imports, was 26.8 mt, with domestic production contributing only 38.6%.
- Contrasts sharply with 2004-05 when domestic output exceeded imports, resulting in a close to 60% self-sufficiency ratio.

➤ Profile of Domestic Oils:

- Mustard and soybean emerge as the top contributors to India's edible oil production.
- Cottonseed and rice bran follow at third and fourth positions.
- Changes in cotton output and yields impact cottonseed oil production.

➤ Import Composition:

- Major imports include palm (9.8 mt), soybean (3.7 mt), and sunflower (3 mt) oils.
- Crude oils constitute the bulk of imports.

➤ Vulnerability to Global Prices:

- High import dependence exposes producers and consumers to international price fluctuations.
- Edible oil inflation in India correlates with global inflation but exhibits greater volatility.

➤ Government Intervention and Technology Adoption:

- To enhance self-sufficiency, there's a need for increased domestic oilseed production.
- Adoption of technologies like GM hybrids in mustard and soybean could contribute.
- Government support, potentially through price guarantees, is crucial for encouraging oilseed cultivation.

➤ Future Projections:

- Anticipated consumption requirements of 30-32 mt by 2029-30.
- Without efforts to boost production, annual imports could exceed 20 mt, further reducing the self-sufficiency ratio.

Oil Year (Nov-Oct)	Quantity (million tonnes)	Value in (₹cr)	Value in US\$ billion
2013-14	11.62	60,750	9.95
2014-15	14.42	62,862	9.65
2015-16	14.57	69,780	10.4
2016-17	15.08	75,125	11.55
2017-18	14.51	66,942	9.3
2018-19	14.91	62,933	9
2019-20	13.18	71,625	9.95
2020-21	13.13	117,225	15.6
2021-22	14.03	156,800	19.6
2022-23	16.47	138,424	16.65

Anti-Microbial Resistance

Context: World Anti-Microbial Resistance Awareness Week is being observed from 18th to 24th November 2023.

➤ Definition of AMR:

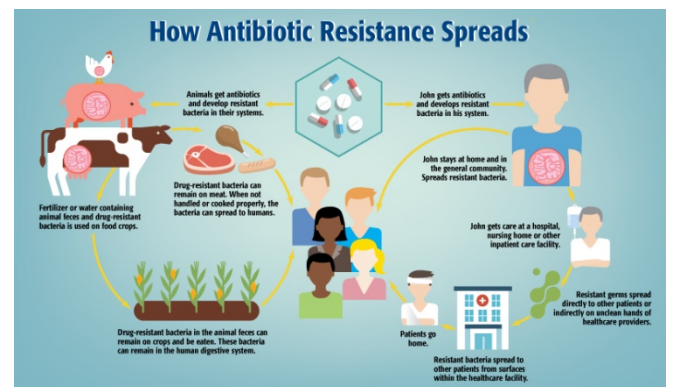
- AMR refers to the ability of a microbe to resist the effects of previously effective medications.
- Resistant microbes pose challenges in treatment, necessitating alternative medications or higher doses.

➤ Types of Resistant Microbes: Microbes resistant to multiple antimicrobials are termed Multi Drug Resistant (MDR) or Superbugs.

➤ Causes of AMR:

- Increased usage of antibiotics in human and veterinary practices.
- Irrational consumption, including overuse of broad-spectrum antibiotics.
- Lack of effective regulation, as current standards may not monitor antibiotic residues in pharmaceutical industry effluents.
- Uncontrolled discharge of untreated urban waste, contributing to AMR in many low and middle-income countries.

➤ ICMR Study Findings (2022): The resistance level to broad-spectrum antimicrobials increases by 5-10% annually.



Face to Face Centres

21 November, 2023

➤ Impacts of AMR

- **Impact on Treating Infections:**
 - Resistance hampers the treatment of infections like pneumonia, tuberculosis, septicaemia, and food-borne diseases.
 - Multidrug resistance severely affects the global epidemic of tuberculosis.
- **Health Cost:** AMR imposes significant health costs on patients, leading to longer hospitalization, health complications, and delayed recovery.
- **Affects Vulnerable Patients:** Increases risks for patients undergoing major surgeries and treatments, such as chemotherapy.
- **Disease Burden:**
 - Adds to the burden of communicable diseases and strains a country's health systems.
 - In 2019, AMR was associated with approximately 4.95 million human deaths.

➤ Efforts by India to Tackle AMR

- **Muscat Manifesto:**
 - Over 30 countries adopted the Muscat Ministerial Manifesto on AMR.
 - Emphasizes political commitments for implementing One Health Action to control AMR.
- **Targets from Muscat Manifesto:**
 - Reduce antimicrobial usage in the agri-food system by 30-50% by 2030.
 - Eliminate use in animals and food production of medically important antimicrobials.
 - Ensure 60% of overall antibiotic consumption in humans is from the WHO "Access" group by 2030.
- **Reporting to GLASS:**
 - India aims to strengthen private sector engagement and enhance data reporting to WHO Global Antimicrobial Resistance and Use Surveillance System (GLASS).
- **National Initiatives:**
 - National Action Plan on Antimicrobial Resistance (2017-21) focuses on hand hygiene, sanitation programs, and public health initiatives.
 - National Health Policy 2017 provides guidelines to limit antibiotic use, scrutinize prescriptions, and regulate usage in livestock.

60 years of India's Space Programme

Context: November 21st, 2023 marks the 60th anniversary of the launch of Nike Apache Rocket from Thumba Launch pad which marked the beginning of India's Space Programme.

➤ Twofold Objectives:

- Space discovery and exploration through space missions.
- Promotion of research and education related to space science in the country, including tele-education in remote areas.

➤ Additional Functions:

- Resource management, such as mineral resources, agriculture, and marine resources.
- Environment conservation.
- Internal security and terrorism, utilizing technologies like IRNSS for regional security.
- Weather forecasting.
- Disaster management.

➤ Indian National Satellite (INSAT) Series:

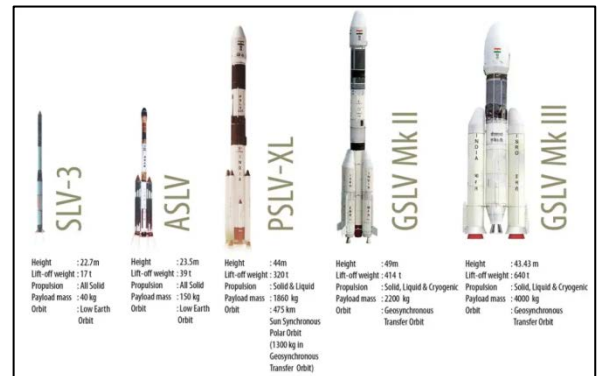
- Nine operational communication satellites in Geo-stationary orbit.
- INSAT System includes 14 operational satellites, serving various applications like educational TV services, telemedicine, disaster management, and geopolitics.

➤ Indian Remote Sensing Satellite (IRS):

- One of the largest constellations of remote sensing satellites.
- Includes satellites like CARTOSAT, OCEANSAT, and RISAT, serving applications such as disaster management, agriculture, cartography, and rural/urban development.

➤ Milestones in the Indian Space Program

- **Phase I: 1960-70 (Incipient Stage):**
 - Dr. Vikram Sarabhai's vision and establishment of ISRO in 1969.
 - Launch of sounding rockets and development of indigenous technology.
- **Phase II: 1970-80:**
 - Development of satellite technology, launch of Aryabhata in 1975.
 - Launch of indigenous satellite Rohini in 1980.



Face to Face Centres



21 November, 2023

- **Phase III: 1980-90:**
 - Testing of Augmented Satellite Launch Vehicle (ASLV) in 1987.
 - Initial failures but eventual success in 1992.
- **Phase IV: 1990-2000:**
 - Successful launch of Polar Satellite Launch Vehicle (PSLV) in 1994.
 - PSLV becomes a workhorse launch vehicle.
- **Developments after 2000:**
 - GSLV development in 2001.
 - Exploration of the moon with Chandrayaan-1 in 2008.
 - Entry into launching foreign payloads and ongoing programs like PSLV, GSLV, and GSLV Mark-III.
- **Gaganyaan Mission and Recent Developments**
 - **Gaganyaan Mission (2023):**
 - Three flights with two unmanned and one human spaceflight.
 - Orbital Module to house three Indian astronauts.
 - **Scramjet Engine (2016):**
 - Successful test of Scramjet engine using hydrogen as fuel and atmospheric oxygen as the oxidizer.
 - **IN-SPACE, NSIL, and ISpA:**
 - IN-SPACE for private sector engagement.
 - NSIL as ISRO's commercial arm.
 - ISpA as the collective voice of the Indian space industry.
 - **Recent Satellite Missions:**
 - Launch of Amazonia-1 for remote sensing.
 - Deployment of UNITYsat for radio relay services.
 - SDSAT for studying radiation levels and space weather.
- **Upcoming Missions:**
 - Shukrayaan Mission to Venus and plans for an own space station by 2030.
 - Aditya L1 mission to study the Sun from the L1 point.
 - XpoSat, a space observatory designed for studying cosmic x-rays.

NEWS IN BETWEEN THE LINES

Intergovernmental Negotiating Committee



Recently, during INC-3's penultimate day, contact groups finished the first review of revised sections in the 'zero draft' to advance the goal of a plastic-free planet.

About Intergovernmental Negotiating Committee:

- The Intergovernmental Negotiating Committee (INC) was established to create a legally binding international instrument on plastic pollution.
- It is the world's highest-level decision-making body on the environment.
- It was established in February 2022.
- It's work began in the second half of 2022 and is expected to be completed by the end of 2024.

INC's Sessions:

- **INC1:** It was held in Punta del Este, Uruguay from November 28 to December 2, 2022.
- **INC2:** It was held in Paris, France from May 29 to June 2, 2023.
- **INC3:** It was held in Nairobi, Kenya from November 13–19, 2023.

Sea Buckthorn



Recently, Ladakh's Sea Buckthorn fruit has been awarded with Geographical Indication (GI) tag.

About Sea Buckthorn:

- Sea Buckthorn marks the fourth GI tag in Ladakh, following Ladakh Pashmina, Apricot (Raktse Carpo species) and Ladakhi wood sculptures.
- It is also known as Leh Berry, produces small, tangy orange or yellow berries high in vitamin-C and various other nutrients.
- It naturally spreads across approximately 11,500 hectares in the challenging conditions of Ladakh, showcasing resilience to extreme cold (from minus 43 to 40 degrees Celsius) and drought.
- Sea Buckthorn has been traditionally utilized as fuel, medicine and a nutritional supplement due to its inherent properties.
- Sea Buckthorn is referred to by various names, including "Wonder Plant," "Ladakh Gold," "Golden Bush" or the "Gold Mine" of cold deserts.

Face to Face Centres





Silkyara Bend- Barkot Tunnel



The Rescue operation is in progress at the under-construction Silkyara-Barkot tunnel on the Yamunotri National Highway in Uttarakhand's Uttarkashi district collapsed at dawn on November 12.

About:

- The construction project is planned for the 4.531 km 2-Lane Bi-Directional Silkyara Bend - Barkot Tunnel in Uttarakhand along NH-134 (old NH-94).
- The project falls under the NH (O) Scheme of Ministry of RT&H as part of the ambitious Chardham Plan.
- The project will be executed under the Engineering, Procurement, and Construction (EPC) Mode.
- The project aims to be completed within 4 years.
- It intends to provide year-round connectivity to Yamunotri, promoting trade, tourism and socio-economic development in the region.
- The project anticipates reducing the travel distance from Dharasu to Yamunotri by about 20 km and travel time by approximately an hour.
- It aims to preserve trees by avoiding their removal during the road improvement of 25.600 km as per the original alignment.

E30 Electric Tractor



Tractors and Farm Equipment Ltd. (TAFE) has recently introduced the E30 electric tractor and a hydrogen-powered concept tractor at the Agritechnica trade fair in Hannover, Germany.

E30 Electric Tractor:

- The E30 is a 27 hp compact tractor equipped with a lithium-ion battery and a two-speed transmission.
- This design enables a seamless transition from 0 to 10 km/h or 0 to 24 km/h.

Hydrogen-Powered Concept Tractor

- The 55 hp hydrogen-powered concept tractor boasts a Simpson combustion engine.
- Despite its advanced features, the infrastructure for refueling this tractor is not yet established, according to the company's statement.
- Purpose and Applications
- The E30 electric tractor finds suitability not only in agriculture but also in municipal, logistics, and material handling businesses.

New Compact Range: TAFE introduced a range of sub-24 hp tractors, including the 6028M (24 hp), 6028H (24 hp) and 6020M (18 hp).

Applications: These compact tractors are designed for various applications including agriculture, front loader operations, and snow plowing.

Myristica Swamps

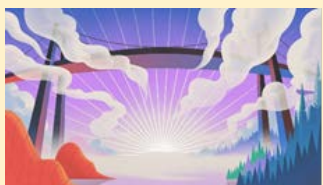


Recently, it has been found that the Myristica swamps, which are endemic to many species, are critically in need of conservation.

About Myristica Swamps:

- Myristica swamps are considered live fossils due to their status as a biodiversity hotspot dominated by evergreen trees of the Myristicaceae family, among the oldest flowering plants globally.
- These swamps are freshwater ecosystems characterized by evergreen trees with large, exposed roots growing in waterlogged soil, which remains submerged year-round.
- Evolving over millions of years, these swamps consist of old-growth trees that have persisted through time.
- In India, Myristica swamps are primarily found in the Western Ghats, with a smaller distribution in the Andaman and Nicobar Islands.
- Myristica swamps harbor diverse vertebrate and invertebrate species due to stable ecological conditions, including high humidity, moderate temperatures and ample macrohabitat availability.

Langlands Program





About Langlands Program:

- Robert Langlands, a mathematician, proposed the Langlands Program in 1967 by writing a letter to André Weil.
- The program aimed to connect representation theory with number theory, two distinct branches of mathematics.
- The Langlands Program involves complex theoretical abstractions that connect diverse mathematical areas.
- Its primary goal is to establish connections between number theory (dealing with arithmetic relationships between numbers) and harmonic analysis (focused on periodic phenomena).
- This program has facilitated significant mathematical proofs, including aiding the resolution of Fermat's Last Theorem by Andrew Wiles and Richard Taylor in 1994.
- It enables the creation of new automorphic functions, essential for solving conjectures like those by Ramanujan.

Face to Face Centres





<p style="text-align: center;">South China Sea</p>	<p>Recently, Philippines has taken steps to engage neighboring countries like Malaysia and Vietnam in discussions about establishing an independent code of conduct concerning the South China Sea.</p> <p>About South China Sea:</p> <ul style="list-style-type: none"> ➤ South China sea is situated as an extension of the western Pacific Ocean, running parallel to the Southeast Asian mainland. ➤ It shares boundaries with multiple countries including China, Taiwan, the Philippines, Malaysia, Indonesia, Brunei and Vietnam. ➤ It functions as a critical maritime route, ranking as the world's second busiest sea lane for trade. ➤ It houses major commercial ports such as Hong Kong, Singapore, and Kaohsiung (in Taiwan), serving as pivotal centers for trade and commerce. ➤ Significantly facilitates the transportation of crude oil from regions like the Persian Gulf and Africa to various Asian destinations. ➤ It comprises major island groups like the Paracel Islands (under China's control) and the Spratly Islands. ➤ It engaged in territorial disputes involving China, Vietnam, the Philippines, Taiwan, Malaysia and Brunei. ➤ China's extensive territorial claims, notably the controversial "nine-dash line," have led to tensions and conflicts with neighboring nations. 
<p style="text-align: center;">Place in News</p> <p style="text-align: center;">Dominica</p>	<p>Recently, the Caribbean island of Dominica had announced that it will create the world's first sperm whale reserve.</p> <p>Dominica: Location: Dominica is an island country situated in the Caribbean Sea. It's part of the Windward Islands in the Lesser Antilles archipelago.</p> <p>Maritime Boundaries: Dominica shares its maritime boundaries with the French Republic to the north, represented by Guadeloupe and to the south, represented by Martinique.</p> <p>Physical Features:</p> <ul style="list-style-type: none"> ➤ Dominica is rich in rivers, counting 365, and features lush rainforests. ➤ The presence of geothermal-volcanic activity is evidenced by unique geological formations, including the world's second-largest hot spring called Boiling Lake. ➤ Morne Diablotins, the highest peak, stands at 1,447 meters (4,747 feet) and is a dormant volcano. ➤ Morne Trois Pitons, the second-highest peak, reaches 1,387 meters (4,550 feet). 

POINTS TO PONDER

- Exercise MITRA SHAKTI-2023 is organised between India and which country? – **Sri Lanka**
- As of 2023, which country is the world's biggest polluter? – **China**
- Which institution released the report titled 'Sand and Dust Storms: A Guide to Mitigation, Adaptation, Policy, and Risk Management Measures in Agriculture'? – **Food and Agriculture Organisation**
- The World Health Organization (WHO) has, recently, officially recognized which condition as a grave global health threat? – **Loneliness**
- Zorawar light tank project is a collaborative initiative of which organisations? – **DRDO and Larsen & Toubro**

Face to Face Centres

