



6th India-OPEC Energy Dialogue

For Prelims: [Organization of the Petroleum Exporting Countries](#), [OPEC+](#), [Renewable energy](#)

For Mains: Challenges Related to India's Energy Sector, Initiatives Shaping India's Energy Transition

Source: [PIB](#)

Why in News?

The 6th High-Level Meeting of the [India-Organization of the Petroleum Exporting Countries \(OPEC\) Energy Dialogue](#), held on 9th November 2023, brought together key representatives at the **OPEC Secretariat in Vienna, Austria**.

- The meeting delved into critical aspects of [oil and energy markets](#).

What are the Key Highlights of India-OPEC Energy Dialogue?

- The Meeting focused on key issues related to oil and energy markets with a specific emphasis on **ensuring availability, affordability and sustainability**, which are necessary to ensure the stability of energy markets.
- The meeting concluded with both parties underscoring the importance of fostering enhanced **cooperation between OPEC and India** moving forward.
- **World Oil Outlook 2023**, which forecasted that **India would be the fastest-growing major developing economy**, averaging long-term growth of **6.1% between 2022-2045** and accounting for **over 28% of incremental global energy demand** during the same period.
 - Both sides have recognized the importance of **India as the third-largest energy consumer, crude oil importer and the fourth-largest global refiner**, in global economic growth and energy demand.
- The meeting also acknowledged the achievements and initiatives of India in the fields of [renewable energy](#), energy efficiency, [hydrogen economy](#), and [climate change mitigation](#).
- It was agreed to hold the next High-Level Meeting of the India-OPEC Energy Dialogue in 2024 in India.

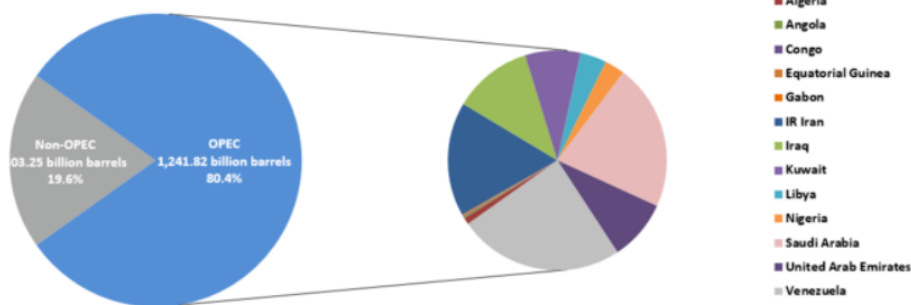
What is the Organization of the Petroleum Exporting Countries (OPEC)?

- **About:**
 - The OPEC is a permanent, intergovernmental Organization, created at the Baghdad Conference in 1960, by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela.
 - It is **headquartered in Vienna, Austria**.
- **Objective:**
 - OPEC's objective is to **coordinate and unify petroleum policies among Member Countries**, to secure fair and stable prices for petroleum producers; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the industry.
- **Members:**

- Algeria, Angola, Congo, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates and Venezuela.
- **OPEC nations produce about 30% of the world's crude oil.**
 - **Saudi Arabia is the biggest single oil supplier within the group**, producing more than 10 million barrels a day.

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OPEC share of world Crude Oil Reserves, 2021



OPEC proven crude oil reserves , at end 2021 (billion barrels, OPEC share)

Venezuela	303.47	24.4%	United Arab Emirates	111.00	8.9%	Algeria	12.20	1.0%	Equatorial Guinea	1.10	0.1%
Saudi Arabia	267.19	21.5%	Kuwait	101.50	8.2%	Angola	2.52	0.2%			
IR Iran	208.60	16.8%	Libya	48.36	3.9%	Gabon	2.00	0.2%			
Iraq	145.02	11.7%	Nigeria	37.05	3.0%	Congo	1.81	0.1%			

Source: OPEC Annual Statistical Bulletin 2022

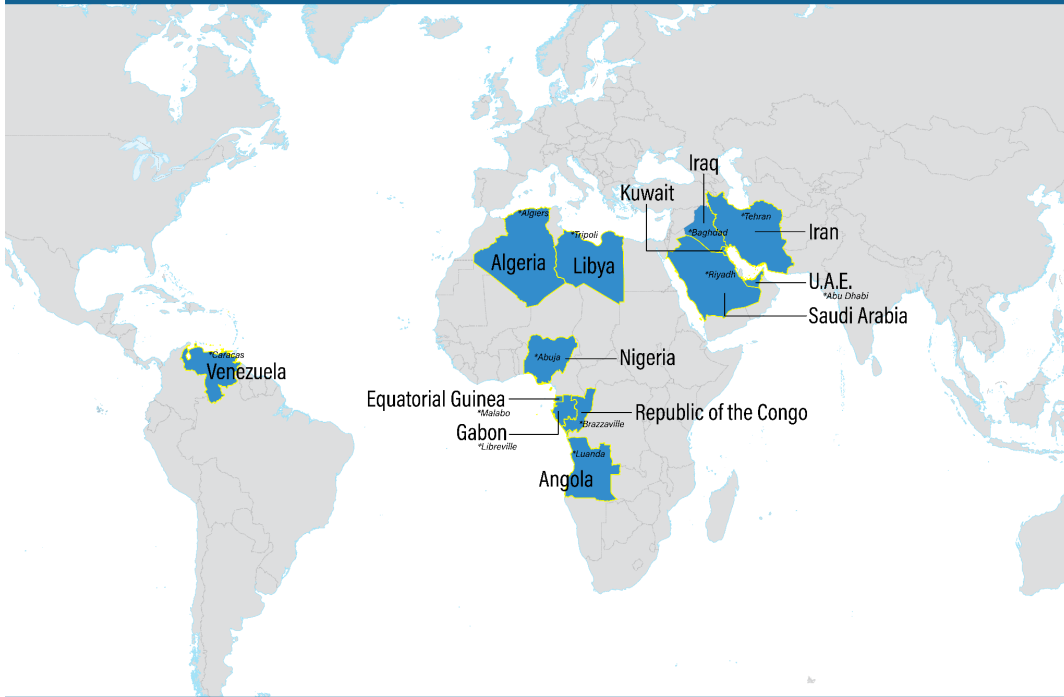
▪ Reports and Outlooks:

- Monthly Oil Market Report, Annual Statistical Bulletin and the World Oil Outlook.

▪ OPEC+:

- In 2016, largely in response to falling oil prices driven by significant increases in U.S. shale oil output, **OPEC signed an agreement with 10 other oil-producing countries** to create what is now known as **OPEC+**.
 - OPEC+ now includes the 13 OPEC member countries along with Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan, and Sudan.
- **OPEC+ countries produce about 40% of all the world's crude oil.**

Organization of the Petroleum Exporting Countries (OPEC)



- Intergovernmental organisation, created at the Baghdad Conference (1960)
- Headquarter – Vienna, Austria
- Current Members – 13
- Members who Quit – Ecuador (2020), Qatar (2019), Indonesia (2016)
- Membership – Open to any country that is a substantial exporter of oil
- OPEC Fund for International Development – Only globally mandated development institution that provides financing from member to non-member countries exclusively.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Mains

Q. “Access to affordable, reliable, sustainable and modern energy is the sine qua non to achieve Sustainable Development Goals (SDGs)”. Comment on the progress made in India in this regard. **(2018)**

Ben Gurion Canal Project

Source: IE

Why in News?

Recently, there has been renewed interest in the **Ben Gurion Canal Project**, a proposed 160-mile-long sea-level canal that would connect the **Mediterranean Sea with the Gulf of Aqaba**, bypassing the **Suez Canal**.



What is the Ben Gurion Canal Project?

▪ Historical Roots:

- Originating in the 1960s, the Ben Gurion Canal Project was conceptualized as a transformative infrastructure initiative.
- Named after **Israel's founding father, David Ben-Gurion (1886-1973)**, reflecting its historical significance.

▪ Strategic Objective:

- Aims to create an alternative maritime route connecting the Red Sea with the Mediterranean, bypassing the Suez Canal.
- Envisions reshaping global maritime dynamics by **challenging Egypt's monopoly** on the shortest Europe-Asia route.

▪ Gulf of Aqaba to Mediterranean Coast:

- Proposes cutting a canal through the Negev Desert (Israel), starting from the Gulf of Aqaba (eastern arm of the Red Sea).
 - Extends to the Eastern Mediterranean coast, providing an alternative trade route.
 - The Gulf of Aqaba has a coastline shared by four countries: Egypt, Israel, Jordan, and Saudi Arabia.

▪ Economic Implications:

- Speculations suggest that **Israel's desire to control Gaza and eliminate Hamas** is linked to unlocking economic opportunities tied to the canal.
- If completed, the Ben Gurion Canal Project would have a significant impact on global trade and geopolitics. It would create a new shipping route between **Europe and Asia**, bypassing the Suez Canal and reducing Egypt's control over global shipping.

▪ Challenges and Viability:

- Gigantic **logistical, political, and funding challenges** pose substantial obstacles.
 - High complexity and prohibitive costs estimated to be as much as USD 100 billion.
- The imperative of **political stability and the constant military threat** as significant security concerns.
 - Another challenge is the **security situation in the region**. The Gaza Strip is a potential security threat, and any canal would need to be protected from attack.

Suez Canal

- The Suez Canal is a **man-made waterway that opened in 1869** running north to south across the Isthmus of Suez in Egypt, that connects the **Mediterranean Sea and the Red Sea**, allowing

- a shorter route for shipping between Europe and Asia.
 - The canal separates the African continent from Asia.
- The 150-year-old canal was controlled by British and French interests in its initial years, but was nationalised in 1956 by Egypt.
 - The Suez Canal now is controlled by Egypt, which collects toll revenues from the vessels that use it.
 - In 2021, the canal generated a record of USD 9.4 billion for Egypt, accounting for nearly 2% of its GDP.
- The Suez Canal is a vital trade route that accounts for approximately **12% of global trade** passes through the Suez Canal, representing **30% of all global container traffic**, and over USD 1 trillion worth of goods per annum.
- The canal enables India to access the markets of Europe, Africa, and the Middle East more easily and economically.
 - India imports most of its **oil and gas from the Gulf countries**, and the canal facilitates the smooth flow of energy supplies to India.
 - The canal also helps India export its products, such as textiles, chemicals, and agricultural goods, to the global markets.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q1. The Mediterranean Sea is a border of which of the following countries? (2017)

1. Jordan
2. Iraq
3. Lebanon
4. Syria

Select the correct answer using the code given below:

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

Ans: (c)

Q2. Which one of the following countries of South-West Asia does not open out to the Mediterranean Sea? (2015)

- (a) Syria
(b) Jordan
(c) Lebanon
(d) Israel

Ans: (b)

Eliminating Plastic Pollution by 2040

For Prelims: Eliminating Plastic Pollution by 2040, [Organisation for Economic Co-operation and Development \(OECD\)](#), Towards Eliminating Plastic Pollution by 2040: A Policy Scenario Analysis, [Intergovernmental Negotiating Committee on Plastic Pollution \(INC3\)](#).

For Mains: Eliminating Plastic Pollution by 2040, Environmental pollution and degradation.

[Source: DTE](#)

Why in News

Recently, [Organisation for Economic Co-operation and Development \(OECD\)](#) has released the interim report titled **Towards Eliminating Plastic Pollution by 2040: A Policy Scenario Analysis**, ahead of the **Intergovernmental Negotiating Committee on Plastic Pollution (INC3)**.

- The INC3 will be held in Nairobi, Kenya in November 2023 for an international binding agreement on plastic pollution. Earlier INC 2 was held in Paris, France in June 2023.

Note: An interim report refers to a **preliminary or partial report** that is issued before the completion of a full or final report. It's a document that **presents initial findings, analyses, or progress on a particular subject or project**.

What are the Key Highlights of the Report?

- **Current Situation:**
 - In 2022, **21 million tonnes (MT) of plastics** leaked into the environment globally.
 - Under a **business-as-usual scenario**, where no significant changes are made, plastic usage would increase, resulting in a **50% rise in macroplastic leakage** by 2040.
 - This would mean **approximately 30 MT of plastic leaking into the environment**, with 9 MT entering aquatic environments.
- **Scenario Projections:**
 - Stabilizing primary plastic use at 2020 levels by 2040 would still result in **significant plastic leakage (12 MT) by 2040**.
 - However, a scenario of ambitious global action could drastically reduce waste generation, almost eliminating mismanaged waste and nearly eliminating plastic leakage by 2040.
- **Impact of Burgeoning Plastic Use:**
 - The escalating use and disposal of plastics would have adverse effects on the environment (habitat destruction, soil contamination), climate (contributing to greenhouse gas emissions), and human health, **exacerbating the already significant consequences of plastic pollution**.
 - Plastics generate a **variety of life cycle impacts**, including contributing **3.8% of total global greenhouse gas emissions** (1.9 GtCO₂e in 2022).
- **Cost of Action:**
 - Global ambition with early, stringent and co-ordinated policy action could cut plastic waste generation in **2040 by a quarter below baseline**.
 - It could virtually eliminate mismanaged waste by 2040 (from 119 to 4 MT), as a result, plastic leakage would also be nearly eliminated (1.2 MT in 2040).
 - Stocks of plastics in rivers and oceans, however, **would still rise from 152 MT in 2020 to 226 MT in 2040** (74 MT less than in the baseline).
 - These ambitious global actions to tackle plastic pollution by 2040 **would incur costs**

amounting to 0.5% of global GDP in 2040.

- However, these costs exclude the avoided costs of inaction and must be viewed in the context of vastly improved environmental outcomes.

▪ **Financial Needs:**

- Fast-growing countries **with less advanced waste management systems** will require significant investments (over USD 1 trillion between 2020 and 2040) for waste collection, sorting, and treatment.
- International cooperation is deemed crucial due to uneven distribution of costs

▪ **Recommendations:**

- There is a need for **various policy scenarios, emphasizing the necessity of a comprehensive approach** to address plastic pollution throughout its lifecycle.
- Overcoming technical and economic barriers is essential to eliminate plastic leakage by 2040.
- Recycling **breakthroughs and scaling up well-functioning international markets** for scrap and secondary plastics are crucial strategies.

What is the Intergovernmental Negotiation Committee (INC)?

▪ **About:**

- The INC was established in February 2022, at the **5th session** of the [United Nations Environment Assembly \(UNEA-5.2\)](#).
 - UNEA is the governing body of the [UN Environment Programme](#).
- A historic resolution (5/14) was adopted to develop an international legally binding instrument on plastic pollution, including in the marine environment with the ambition to complete the negotiations by the end of 2024.
 - The first session of the INC-1 was held in **Uruguay in 2022**.

▪ **Need:**

- The **rapidly increasing levels of plastic pollution** represent a serious global environmental issue that negatively impacts the environmental, social, economic and health dimensions of sustainable development.
- In the absence of necessary interventions, the amount of plastic waste entering aquatic ecosystems could nearly triple from some 9–14 million tonnes per year in 2016 to a projected 23–37 million tons per year by 2040.

▪ **Objective:**

- Under the **legally binding agreement**, countries will be expected to develop, implement and update national action plans reflecting country-driven approaches to contribute to the objectives of the instrument.
- They will be expected to promote national action plans to work towards the prevention, reduction and elimination of plastic pollution and to support regional and international cooperation.

What are the Initiatives to Tackle Plastic Pollution?

▪ **Indian:**

- [Plastic Waste Management \(Amendment\) Rules, 2022](#)
- [Extended Producer Responsibility \(EPR\)](#)
- [National Dashboard on Elimination of Single Use Plastic and Plastic Waste Management](#)
- [India Plastics Pact](#)
- [Project REPLAN](#)

▪ **Global:**

- [European Union' Directive on Single-Use Plastics](#)
- [Closing the loop.](#)
- [The Global Tourism Plastics initiative](#)

UPSC Civil Services Exam, Previous Year Questions (PYQ)

Q. Why is there a great concern about the 'microbeads' that are released into environment? (2019)

- (a) They are considered harmful to marine ecosystems.
- (b) They are considered to cause skin cancer in children.
- (c) They are small enough to be absorbed by crop plants in irrigated fields.
- (d) They are often found to be used as food adulterants.

Ans: (a)

Exp:

- Microbeads are small, solid, manufactured plastic particles that are less than 5mm and do not degrade or dissolve in water.
 - Mainly made of polyethylene, microbeads can also be prepared from petrochemical plastics such as polystyrene and polypropylene. They may be added to a range of products, including rinse-off cosmetics, personal care and cleaning products.
- Microbeads, because of their small size pass unfiltered through the sewage treatment system and reach the water bodies. The untreated microbeads in the water bodies are taken up by the marine animals, thus producing toxicity and causing harm to the marine ecosystem.
 - In 2014, Netherland became the first country to ban cosmetics microbeads.
- Therefore, option (a) is the correct answer.

Wholesale Prices in Deflation Zone

Source: TH

Why in News?

In October 2023, India's [Wholesale Price Index \(WPI\)](#) recorded an **annual inflation rate of -0.52%**, down from **-0.26% in September 2023**.

- The **negative inflation is due to price declines** in sectors such as chemicals, electricity, textiles, basic metals, food products, and paper compared to October 2022.
- This deflationary trend is influenced by a **high base effect from October 2022** when wholesale price inflation was 8.4%.

Note: In terms of food prices, the **Wholesale Food Index** increased by 1.07% compared to the 2022. Within the food basket, there were divergent trends, notably a substantial 21% decrease in vegetable prices, while inflation in paddy and cereals experienced an acceleration.

What is the Wholesale Price Index?

- WPI represents the **price of goods at a wholesale stage i.e. goods that are sold in bulk and traded between organizations** instead of consumers.
 - Whereas, [Consumer Price Index \(CPI\)](#) captures changes in prices levels at the consumer level.
 - WPI does not capture changes in the prices of services, which CPI does.

- In India, WPI is published by the **Office of Economic Adviser, Department for Promotion of Industry and Internal Trade (DPIIT)**, under the Ministry of Commerce and Industry.
 - It is used as an **important measure of inflation in India.**
- Base year of WPI is **2011-2012.**
- **Weightage of Commodities in WPI:**

All Commodities/Major Groups	Weight (%)
All Commodities	100.0
I. Primary Articles	22.62
II. Fuel & Power	13.15
III. Manufactured Products	64.23
Food Index	24.38

Key Terms

- **Inflation Rate:**
 - In the context of WPI, Inflation rate is the **difference between WPI calculated at the beginning and the end of a year.**
 - The percentage increase in WPI over a year gives the rate of inflation for that year.
- **Deflation:**
 - Deflation is a decrease in the general price level of goods and services. It occurs when the inflation rate falls below 0%, which is known as negative inflation.
- **Base Effect:**
 - Base effect is the **impact of inflation in the previous year on the current year's price levels.**
 - For instance, if the prior year had low inflation, even marginal price hikes in the current period could **yield disproportionately high inflation rates.**

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q. Consider the following statements: (2020)

1. The weightage of food in Consumer Price Index (CPI) is higher than that in Wholesale Price Index (WPI).
2. The WPI does not capture changes in the prices of services, which CPI does.
3. The Reserve Bank of India has now adopted WPI as its key measure of inflation and to decide on changing the key policy rates.

Which of the statements given above is/are correct?

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

(d) 1, 2 and 3

Ans: (a)

Indian Army's Proactive Measures for Mental Health

For Prelims: [National Mental Health Programme \(NMHP\)](#), [World Mental Health Day](#)

For Mains: Challenges faced by Indian Army personnel, Initiatives Related to Mental Health

Source: [TH](#)

Why in News?

The Indian Army, acknowledging the critical **issue of suicides and fratricides** within its ranks, has taken significant steps to address the **mental well-being** of its personnel.

- In a comprehensive study initiated in August 2023, in collaboration with the **Defence Institute of Psychological Research (DIPR)**, the Army is focusing on understanding and mitigating stress factors affecting troops and their families.
- The DIPR is an institution under the **Defence Research and Development Organisation (DRDO)** of India, engaged in research and development in the field of psychology and human behaviour to support the defence and security sector.

Note:

- Fratricide in the military refers to a **soldier or security personnel killing their colleagues**.
- Suicides and fratricides are extreme acts undertaken by an individual due to high levels of stress, that are mainly caused due to domestic problems, family disputes, a sense of isolation and/ or dejection besides professional hazards.
- As per information given in **Parliament**, there were 2 fratricide cases annually from 2019 to 2021, with one case reported in 2021.
 - The suspected suicide cases in the Army numbered 104, 75, and 80 during the years 2016, 2017, and 2018, respectively.

What are the Stressors Faced by the Army Personnel?

- In a study, by the **United Service Institution of India (USI)**, a service think tank, found that there has been a significant increase in **stress levels among Army personnel** in the last two decades, due to **operational and non-operational stressors**.
- **Operational stressors:** Related to the **nature and conditions of the military service**, such as
 - Prolonged exposure to **counter-insurgency** and **counter-terrorism** (CI/CT) environment, which involves high risk, uncertainty, and violence.
 - Frequent transfers and separations from family, which affect the personal and social life of the soldiers.
 - **Lack of adequate facilities** and infrastructure, especially in remote and difficult areas.
- **Non-operational stressors:** Related to the **organizational and personal aspects of the**

military service, such as

- Poor leadership, callous attitude of seniors, and lack of trust and confidence in the chain of command.
- Denial of leave, even in emergencies, and **lack of grievance redressal** mechanisms.
- **Family-related disputes**, financial problems, marital issues, or health concerns.
- **Low job satisfaction, career progression**, and recognition, especially among the officers.

What Initiatives are Implemented for Mental Well-being within the Army?

▪ **Advisory and Guidelines:**

- The Army issued an advisory in August 2023, emphasizing the posting of officers, religious teachers, and selected other ranks in each unit to address stress and psychological issues.
 - The advisory provides guidelines to address factors leading to **increased stress levels, warning signs, and intervention measures**.

▪ **Psychometric Assessments:**

- Pilot projects, including collaboration with a civil agency (Disha Kiran), are being undertaken at three nodal military stations to gauge the mental well-being of military personnel and their families.

▪ **Training Programs:**

- Various training programs are implemented, such as the annual training of 30 officers at the **Defence Institute of Psychological Research (DIPR)** and the conduct of "**Religious Teachers Counsellor Courses**" for four weeks at Command Hospitals, Base Hospitals, and Military Hospitals.

▪ **Unit Psychological Counsellor Course:**

- A 12-week Unit Psychological Counsellor Course is conducted for Junior Commissioned Officers and Non-Commissioned Officers to equip them with **skills for addressing psychological concerns within their units**.
- The Indian Army has employed civilian counsellors in all major military stations to enhance mental well-being support for all ranks.

▪ **Helplines:**

- Helplines offering immediate counseling services have been established across all Command Headquarters.

▪ **Psychiatry Centres:**

- These have been set up at major military stations under the Directorate General of Medical Service.

▪ **Holistic Approaches:**

- Measures include **yoga, meditation, sports, and recreation activities, liberalized leave policies**, improvement of amenities in military stations, mutual buddy system for soldiers, and a prompt grievance handling mechanism.
- Regular seminars on mental well-being, financial management, and domestic issues are conducted.

▪ **Continuous Evaluation and Improvement:**

- The ongoing study, training programs, and collaborative projects reflect the Army's commitment to continuous evaluation and improvement in addressing mental health challenges.

Government Initiatives Related to Mental Health

- [National Mental Health Programme \(NMHP\)](#)
- [Ayushman Bharat - Health and Wellness Centres \(AB-HWC\)](#)
- [National Tele Mental Health Programme](#)
- [Kiran Helpline](#)
- [Rashtriya Kishor Swasthya Karyakram](#)
- [World Mental Health Day](#)

UPSC Civil Services Examination, Previous Year Question

Mains

Q. Why suicide among young women is increasing in Indian society? (2023)

Q. What does the following quotation mean to you?

“We can never obtain peace in the outer world until and unless we obtain peace within ourselves.” – Dalai Lama. (2021)

Soy Production in Brazil and Child Cancer Deaths

[Source: DTE](#)

Why in News?

A recent study has identified a connection between the significant increase in soy/soyabean production in **Brazil's Amazon and Cerrado regions** over the past two decades and a rise in pediatric cancer-related deaths. The expansion of soy farming in these areas has been accompanied by a substantial increase in pesticide usage.

What are the Key Highlights of the Study?

- **Correlation Between Soy Production and Pediatric Cancer Deaths:**
 - The study conducted revealed a statistically significant correlation between the increase in soy production and deaths from **Acute Lymphoblastic Leukaemia (ALL) in children** from 2008 to 2019.
- **Pesticide Exposure through Water Supply:**
 - The study suggested that pesticide exposure likely occurred through water supply penetration. In essence, a 10% increase in the municipal area dedicated to soy farming raised the likelihood of a child under five dying from ALL by 1.3% and by 1.6% for children under ten.
- **Policy Recommendations:**
 - The research highlighted a strong and persistent relationship between the expansion of **high-intensity agriculture in the region and adverse human health outcomes.**
 - However, access to high-quality healthcare systems could mitigate these links, especially for treatable conditions like ALL.



What is ALL?

- ALL, also known as **acute lymphocytic leukemia**, is a type of cancer that affects the blood and bone marrow. It is characterized by the rapid and uncontrolled growth of immature white blood cells called **lymphoblasts**. These **abnormal cells crowd out normal white blood cells, red blood cells, and platelets, leading to various health problems.**
- This type of leukemia is most commonly diagnosed in children, but it can affect adults as well.
- ALL is a highly treatable cancer conditional on timely and high-quality care.

Soyabean Crop

- Soyabean is a Kharif crop in India.
- Soybean (*Glycine max*) is the world's most important seed legumes which contributes **25% to the global edible oil**, about two third of the world protein concentrate for livestock feeding and is a **valuable ingredient in formulated feeds for poultry and fish.**
- It is predominantly grown as rainfed crop in Vertisols and associated soils with an average crop season rainfall of 900 mm.
- **Major Producing States in India:** Madhya Pradesh, Maharashtra, Rajasthan, Chhattisgarh, Andhra Pradesh and Karnataka.

SHREYAS Scheme for OBC & Others

For Prelims: [SHREYAS Scheme](#), [Central Sector Schemes](#) for [OBC \(Other Backward Classes\)](#), Extremely Backward Classes, National Fellowship for OBC, [National Overseas Scheme for SCs](#).

For Mains: SHREYAS Scheme, Role of financial assistance and scholarships in bridging educational disparities in India.

Source: [PIB](#)

Why in News?

The scheme **Scholarships for Higher Education for Young Achievers Scheme (SHREYAS)**, has been proposed to be implemented during the 2021-22 to 2025-26 by **placing two ongoing Central Sector Schemes** for **OBC (Other Backward Classes)** and EBC.

- These schemes are, **National Fellowship for OBC** and Dr. Ambedkar Central Sector Scheme of Interest Subsidy on Educational Loans for Overseas Studies for OBCs and Economically Backward Classes (EBCs).

What is SHREYAS Scheme?

- **About:**
 - The main objective of the schemes is Educational Empowerment of OBC & EBC students by **way of awarding fellowship (financial assistance) in obtaining quality higher education** and interest subsidy on educational loan for overseas studies.
- **Nodal Ministry:**
 - Ministry of Social Justice and Empowerment.
- **Key Components:**
 - **National Fellowship for OBC Students:**
 - **About:** It aims to provide financial assistance to OBC students pursuing higher education, **specifically M.Phil and Ph.D. degrees** in various recognized universities, research, and scientific institutions.
 - The scheme offers **1000 Junior Research Fellowships** annually for advanced studies and research. These fellowships are awarded to students who have qualified through specific tests like the UGC-NET or UGC-CSIR NET-JRF Joint Test.
 - **Key Features:** Financial assistance is provided through the National Backward Classes Finance and Development Corporation (a Government of India Undertaking, under the administrative control of Ministry of Social Justice & Empowerment).
 - Fellowship rates are set at Rs. 31,000 per month for JRF and Rs. 35,000 per month for SRF, in addition to contingencies.
 - Reservation of seats for students with disabilities and additional slots beyond reserved government quotas.
 - The **UGC is the nodal agency** for implementing the scheme.
 - **Dr. Ambedkar Scheme of Interest Subsidy on Educational Loans for Overseas Studies for OBCs & EBCs:**
 - It aims to provide interest subsidies on educational loans for OBCs and EBCs pursuing **approved courses abroad at the Masters, M.Phil, and Ph.D. levels.**
 - The scheme is implemented through Canara Bank and is applicable for higher studies abroad, linked with existing Educational Loan Schemes.
 - Eligibility criteria include income restrictions based on Creamy Layer criteria for OBC candidates and an income cap of Rs. 5.00 lakh per annum for EBC candidates.
 - 50% of the financial assistance is reserved for women candidates.
 - The government bears 100% interest payable during the moratorium period, after which the student assumes responsibility for the loan repayments.

What are the Other Schemes Related to Education in India?

- [National Programme on Technology Enhanced Learning.](#)
- [Beti Bachao Beti Padhao](#)
- [PM SHRI Schools](#)
- [National Means cum Merit Scholarship \(NMMS\)](#)
- [Swachh Vidyalaya Abhiyan](#)
- [Eklavya Model Residential Schools](#)

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q. Which of the following provisions of the Constitution does India have a bearing on Education? (2012)

1. Directive Principles of State Policy
2. Rural and Urban Local Bodies
3. Fifth Schedule
4. Sixth Schedule
5. Seventh Schedule

Select the correct answer using the codes given below:

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

Ans- (d)

Mains

Q.1 Discuss the main objectives of Population Education and point out the measures to achieve them in India in detail. (2021)

Rapid Fire Current Affairs

Madiga Sub-Categorization

The Prime Minister of India made a recent announcement in Hyderabad (Telangana), expressing the commitment to form a committee for the **sub-categorization of the Madiga community** within the **Scheduled Castes (SC)**.

- The Madiga community constitutes approximately **50% of the total SC population in Telangana**, as per the 2011 census.
 - Since 1994, the Madiga community has been advocating for the sub-categorization of the SC category, emphasizing the need for **equitable distribution of reservation benefits**.
- Madigas argue that the benefits of SC category reservations have primarily favoured the **Mala community (Dalit community in the states of Andhra Pradesh and Telangana)**, leaving the Madigas with a sense of exclusion.
 - Sub-categorization aims for the equitable distribution of reservation benefits among all the SC sub-castes.
- Madigas are historically associated with the work of tannery, leatherwork and small handicrafts. Most today are agricultural labourers.

Read more: [Criterion for SC Status](#)

Enhancing Antifungal Treatment

Recently, a study published in Nature revealed the successful modification of an antifungal agent Amphotericin B (AmB), resulting in reduced toxicity in mice and human kidney cells.

- AmB, a vital safeguard against serious fungal **severe fungal infections for decades**.
 - It operates by forming aggregates that bind to **ergosterol**, a molecule found in bacterial and fungal cells.
 - Despite its efficacy, AmB is known for its high toxicity in humans, particularly in **renal cells (cells in the kidney)**.
- Researchers aimed to enhance AmB's biological activity by **modifying** specific parts of its molecule responsible for binding sterols and designed a **variant AM-2-19**.
 - AM-2-19, demonstrated reduced toxicity by selectively binding to and extracting fungal ergosterol, but not mammalian cholesterol, in human renal cells and mice while maintaining high efficacy as an antifungal treatment. It is also comparatively resilient to **antimicrobial resistance**.

Read more: [First-Ever List of Fungal Infections](#)

P. salinarum: Unveiling Adaptation in Extreme Environments

Recent research has delved into the mysteries of **P. salinarum**, a tiny **green algae** surviving harsh saline-alkaline conditions.

- Studying the organism's molecular mechanisms, the research revealed its unique adaptations, **boosting photosynthesis and ATP (adenosine triphosphate) synthesis**, unlike most photosynthetic life in **hyperosmotic conditions**.
 - Hyperosmotic conditions refer to a situation where the surrounding environment has a higher concentration of solutes compared to the internal environment of a cell or organism
- Beyond its resilience, this **microalga showcases potential for carbon capture** and biomass production, paving the way for sustainable **biotechnological advancements**.

Widening Trade Deficit

India's trade in October 2023 depicted a **widening trade deficit**, reaching a record USD 31.46 billion.

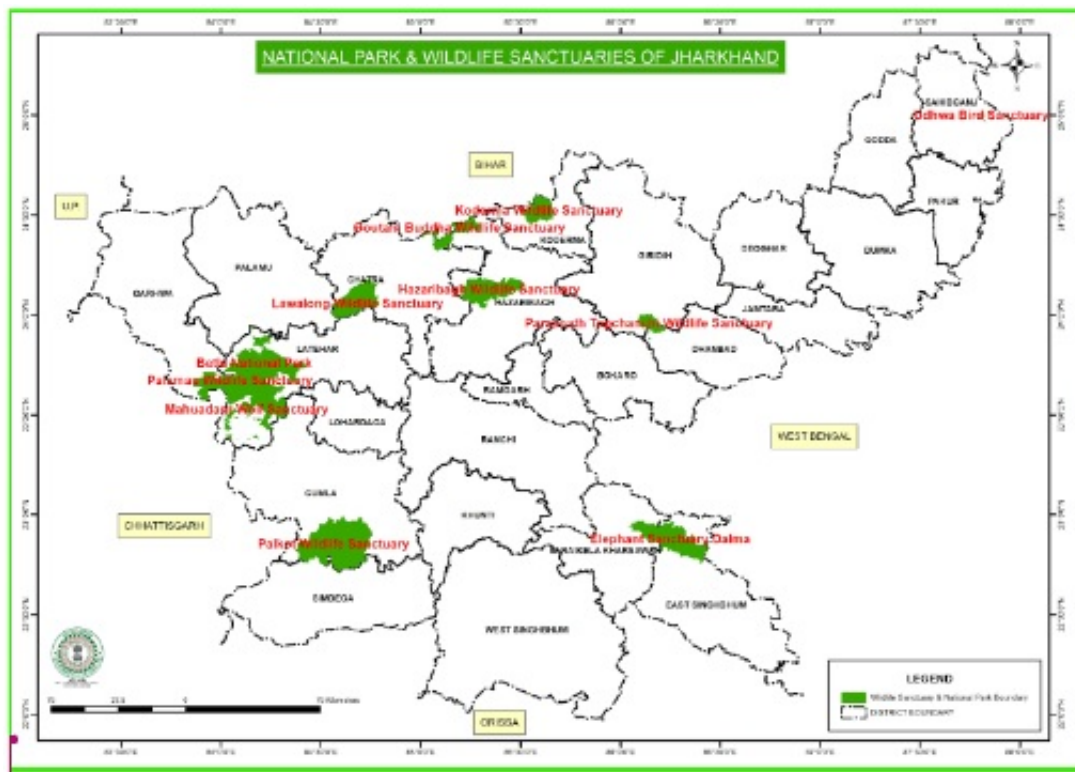
- Trade deficit represents a situation where the **value of a nation's imports exceeds** the value of its exports during a certain period
- The surge in imports, rising by 12.3% to USD 65.03 billion, was particularly **notable in gold and oil**, doubling gold imports to USD 7.23 billion and escalating oil imports to USD 17.66 billion.
 - Such deficits significantly influence **the current account and subsequently impact currency values**.

Read more: [Current Account Deficit](#)

Jharkhand Foundation Day

Jharkhand became the **28th state of India on 15th November 2000** after the **Chota Nagpur area** was segregated from the southern half of Bihar to become a new Indian state, a division enabled by the **Bihar Reorganization Act, 2000**.

- **Notably**, the day also coincides with the birth anniversary of tribal leader [Birsa Munda](#).
- Jharkhand is famous for its rich mineral resources like Uranium, Mica, Bauxite, Granite, Gold, Silver, Graphite, Magnetite, Dolomite, Fireclay, Quartz, Feldspar, Coal (32% of India), Iron, Copper (25% of India) etc.



Read more: [Birsa Munda](#)

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