

Current Affairs - 01 September 2024

EFFORTS TO BOOST ETHANOL PRODUCTION IN INDIA

Why in News?

The Department of Biotechnology is considering establishing enzyme-manufacturing facilities to support ethanol production. This comes after the Center's announcement of its BioE3 (Biotechnology for Economy, Environment and Employment) policy aimed at promoting biotechnology-centric manufacturing in India.

Ethanol Requirements in India:

- According to the NITI Ayog estimates, India will need about **13.5 billion litres of ethanol annually** by 2025–26. Of this, about 10.16 billion litres will go towards meeting the fuel-blending mandate of **E20**.
 - **The Ethanol Blended Petrol (EBP) Programme** was launched by the Ministry of Petroleum and Natural Gas in
 - Under this, Oil Marketing Companies (OMCs) would sell petrol blended with ethanol up to **10% (E10)**.
 - The all-India average blending of ethanol with petrol has risen from 1.6% in 2013-14 to **11.8% in 2022-23**.
 - India's goal is to grow this ratio to 20% (E20) by 2025.

Efforts to Boost Ethanol Production in India:

- **2G ethanol plant in Panipat, Haryana:**
 - **'2G' or second-generation** bioethanol is ethanol that is produced from rice-straw as opposed to the conventional method of sourcing it from molasses (sugarcane).
 - In 2022, the Indian Oil Corporation Ltd. set up a first-of-its-kind 2G ethanol plant in Panipat that uses rice stubble as a feedstock.
 - The facility has the potential to produce 1,00,000 litres of ethanol per day. **However, the burning of rice stubble spikes pollution in north India.**

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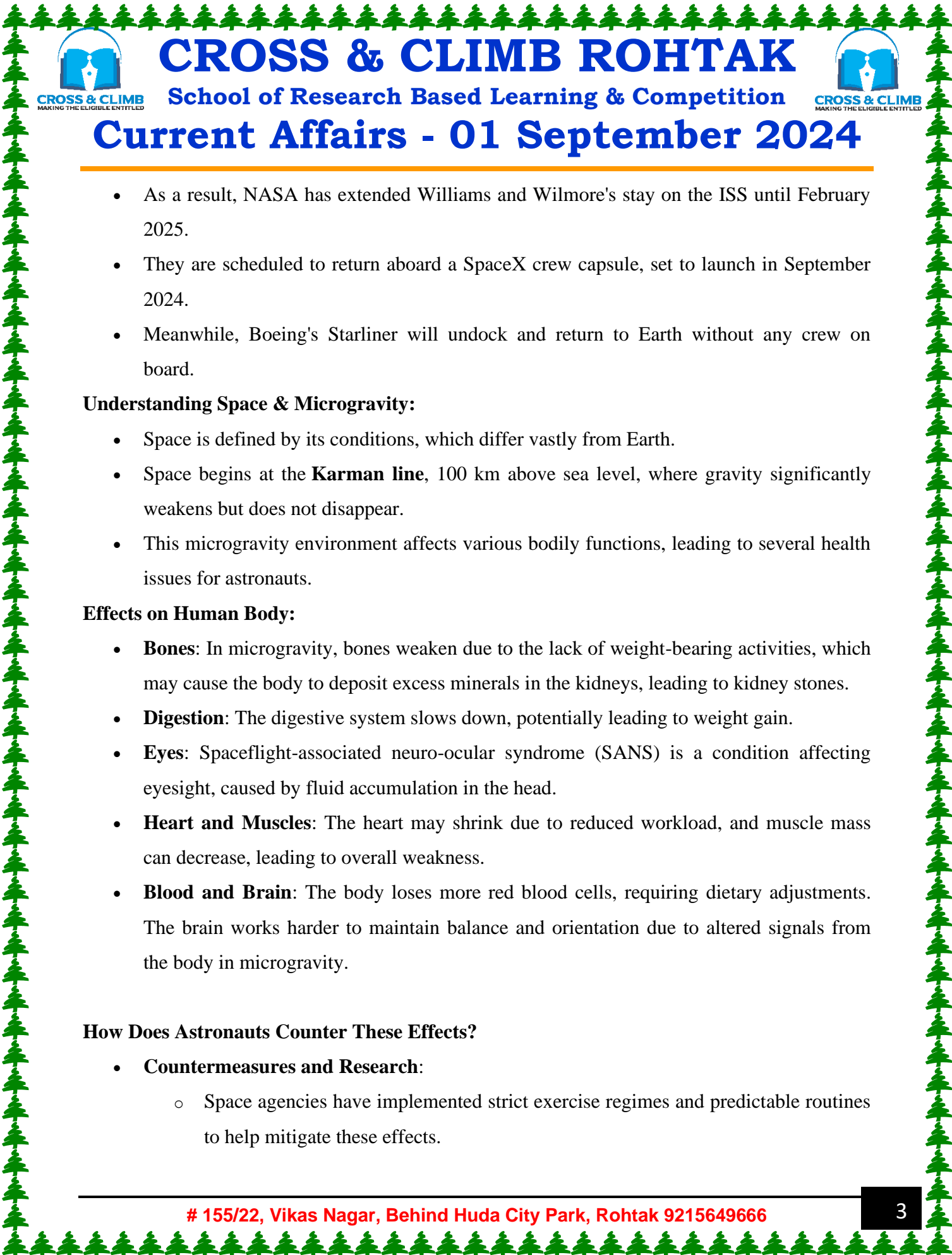
- **The BioE3 policy:** Among other things, it aims to set up ‘bio-foundries’ that will produce biotechnology-developed feedstock and catalysts.
- **Establishing enzyme-manufacturing facilities:**
 - The enzymes in question are derived from tweaking a fungus (through several steps of genetic engineering) that belongs to a broader family of fungi called *Penicillium funiculosum* (derived from rice stubble and soil).
 - Such enzymes then act as an efficient hydrolyser of organic refuse such as rice stubble.
 - **The first such plant** to produce the necessary enzymes may come up in Manesar, Haryana.
 - It is expected to provide the required enzymes to the existing plant in Panipat (Haryana) and the proposed 2G bioethanol plants in Mathura (UP) and Bhatinda (Punjab).

Significance of Establishing Enzyme-Manufacturing Facilities in India:

- **Support ethanol production:** A combination of enzymes and the right kind of treatment are essential for turning stubble into ethanol.
 - **Reduce import bill and cost of ethanol production:**
 - As of today, these enzymes are imported and constitute a significant component of the cost of the 2G-ethanol production process.
 - If India's ethanol requirements in the future were to be met by locally produced enzymes, **the cost of obtaining the enzymes might be reduced by about two third.**
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WHAT DOES SPACEFLIGHT DO TO THE HUMAN BODY?

- On August 24, NASA announced that Boeing's Starliner crew capsule, which had transported astronauts **Sunita Williams** and **Barry Wilmore** to the International Space Station (ISS) for its first crewed test flight, was deemed unsafe for their return journey.



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- As a result, NASA has extended Williams and Wilmore's stay on the ISS until February 2025.
- They are scheduled to return aboard a SpaceX crew capsule, set to launch in September 2024.
- Meanwhile, Boeing's Starliner will undock and return to Earth without any crew on board.

Understanding Space & Microgravity:

- Space is defined by its conditions, which differ vastly from Earth.
- Space begins at the **Karman line**, 100 km above sea level, where gravity significantly weakens but does not disappear.
- This microgravity environment affects various bodily functions, leading to several health issues for astronauts.

Effects on Human Body:

- **Bones:** In microgravity, bones weaken due to the lack of weight-bearing activities, which may cause the body to deposit excess minerals in the kidneys, leading to kidney stones.
- **Digestion:** The digestive system slows down, potentially leading to weight gain.
- **Eyes:** Spaceflight-associated neuro-ocular syndrome (SANS) is a condition affecting eyesight, caused by fluid accumulation in the head.
- **Heart and Muscles:** The heart may shrink due to reduced workload, and muscle mass can decrease, leading to overall weakness.
- **Blood and Brain:** The body loses more red blood cells, requiring dietary adjustments. The brain works harder to maintain balance and orientation due to altered signals from the body in microgravity.

How Does Astronauts Counter These Effects?

- **Countermeasures and Research:**
 - Space agencies have implemented strict exercise regimes and predictable routines to help mitigate these effects.



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- Researchers are also exploring the impact of different nutrients and drugs in space, as well as developing new technologies and protocols to monitor and manage health issues.
- Japan's **KAKENHI programme** is studying biological responses to various parts of the space environment.
- Europe's **Space Omics** Topical Team is developing space omics tools and methods.
- In the U.S., the 'Complement of Integrated Protocols for Human Exploration Research' project allows astronauts to sign up for experiments in space that will study their health in standardised ways.
- Scientists from around the world, including India, are part of the **International Standards for Space Omics Processing** to develop research and ethics guidelines.

Records in Space:

- 11 individuals have spent more than 300 days in space on a single mission.
- The record for the longest single mission is held by Russia's Valeri Polyakov with 437 days.
- The American record is held by Frank Rubio with 370 days.
- **Oleg Kononenko is the only astronaut to have spent more than 1,000 days in space across multiple missions.**
- Peggy Whitson, a U.S. astronaut, has spent 675 days in space, making her the second active spacefarer on this list.
- **If Sunita Williams and Barry Wilmore's current trip ends on February 15, 2025, they will have spent 256 days in orbit.**

WHAT IS ANTI-DUMPING DUTY?

The Union Ministry of Commerce and Industry recently recommended imposing an anti-dumping duty on aluminium foil imported from China.



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- It is a **protectionist tariff** that a domestic government imposes on **foreign imports** that it believes are **priced below fair market value**.
- **Dumping** is a process wherein a **company exports a product at a price that is significantly lower than the price it normally charges in its home** (or its domestic) market.
- The duty is priced in an amount that equals the difference between the normal costs of the products in the importing country and the market value of similar goods in the exporting country or other countries that produce similar products.
- It is imposed **to protect local businesses** and markets from unfair competition by foreign imports.
- Thus, the purpose of anti-dumping duty is **to rectify the trade distortive effect of dumping** and re-establish fair trade.
- While the intention of anti-dumping duties is to protect local businesses and markets, these tariffs **can also lead to higher prices for domestic consumers**.
- In India, the **Ministry of Finance makes the final decision** on whether to impose anti-dumping duties.

What is Countervailing duty (CVD)?

- It is a **specific form of duty** that the government imposes **to protect domestic producers by countering the negative impact of import subsidies**.
- CVD is thus an **import tax by the importing country on imported products**.

Why is CVD imposed?

- **To avoid flooding the market in the importing country** with these goods, the government of the importing country imposes CVD, charging a specific amount on the import of such goods.



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- The duty nullifies and **eliminates the price advantage** enjoyed by an **imported product**.
- The **WTO permits** the imposition of **CVD** by its member countries.

Countervailing duty v/s Anti-dumping duty:

- **Anti-dumping duty** is imposed to **prevent low-priced foreign goods** from damaging the local market. On the other hand, **CVD will apply to foreign products** that have **enjoyed government subsidies**, which eventually leads to very low prices.
- While the **anti-dumping duty amount depends on the margin of dumping**, the **CVD amount will completely depend on the subsidy value** of the foreign goods.

WORLD GOLD COUNCIL



The World Gold Council (WGC) has raised its projection for India's gold consumption in 2024 to 850 tonnes from 750 tonnes.

- It is the market development organisation for the **gold industry**.
- It is a **nonprofit association** formed in 1987 whose members comprise the world's leading and most forward-thinking gold mining companies.
- The WGC was established to promote the use of and demand for gold through marketing, research, and lobbying.
- **Headquartered in London**, with operations in India, China, Singapore, and the USA, the WGC covers the markets which comprise about three-quarters of the world's annual gold consumption.
- The WGC is also the global authority on gold, and they offer comprehensive analyses of the industry.
- It aims to **maximize the industry's potential** growth by monitoring and defending existing gold consumption.

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- It achieves this by **setting up gold standards, proposing policies**, ensuring fairness and sustainability in the gold mining industry, and promoting the usage and demand for gold for individuals, industries, and institutions.
 - It also co-sponsors research in the development of new uses for gold, or of new products containing gold.
 - WGC was the creator of the first gold **exchange-traded fund**.
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DISPUTE RESOLUTION SCHEME



The Central Board of Direct Taxes (CBDT) has introduced the Dispute Resolution Scheme (e-DRS), 2022, as a streamlined and efficient platform for taxpayers to resolve their income tax disputes.

- The scheme aims to reduce litigation and provide a faster and more **cost-effective resolution for taxpayers**.
 - This initiative, established under **section 245MA of the Income-tax Act, 1961**, will allow taxpayers to resolve disputes electronically through Dispute Resolution Committees (DRCs).
 - **Eligibility:**
 - Taxpayers who meet certain conditions specified in section 245MA can apply for dispute resolution.
 - This includes cases where the disputed amount does not exceed **10 lakh** and the taxpayer's income for the relevant year **is below Rs. 50 lakh**.
 - The dispute must not involve information from searches or international agreements.
 - The DRC, established in all 18 regions across the country, can modify orders, reduce penalties, or waive prosecution. They are required to decide within six months of receiving the application.
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NATIONAL CONFERENCE OF THE DISTRICT JUDICIARY

Why in news?

PM Modi inaugurated the National Conference of District Judiciary on 31st August, 2024 at Bharat Mandapam in New Delhi. On the occasion, Prime Minister also unveiled the stamp and coin commemorating 75 years of the establishment of the Supreme Court of India.

The two-day Conference is being organised by the Supreme Court of India. It will host five working sessions that will deliberate and discuss on the issues related to District Judiciary such as Infrastructure and Human Resources, Inclusive Courtrooms for all, Judicial Security and Judicial Wellness, Case Management and Judicial Training.

Modern Judiciary in India

- **Evolution**

- **Introduction of Judicial System:** The British colonial administration introduced a judicial system in India based on Anglo-Saxon jurisprudence.
- **Royal Charter of 1661:** The Royal Charter of Charles II (1661) empowered the Governor and Council to adjudicate civil and criminal cases according to the laws of England.
- **Regulating Act of 1773:** This act established the Supreme Court of India in Calcutta, with a Chief Justice and three judges (later reduced to two) appointed by the Crown. It acted as the King's court, not as the East India Company's court.
- **Supreme Courts in Madras and Bombay:** Later, Supreme Courts were also established in Madras and Bombay, holding jurisdiction over "His Majesty's subjects."
- **Dual Judicial Systems:** During this period, the judicial system had two distinct systems of courts:
 - **English System of Royal Courts:** Followed English law and procedure in the presidencies.



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- **Indian System of Adalat/Sadr Courts:** Followed Regulation laws and Personal laws in the provinces.
 - **High Court Act of 1861:** This act merged the two systems, replacing the Supreme Courts and native courts (Sadr Dewani Adalat and Sadr Nizamat Adalat) in Calcutta, Bombay, and Madras with High Courts.
 - **Highest Court of Appeal:** The highest court of appeal was the Judicial Committee of the Privy Council.
 - **Development of Unified Court System:** The British made efforts to develop the Indian legal system into a unified court system.
 - **Indian Laws and Courts:** Indians had neither their own laws nor courts; both were designed to meet the needs of the colonial power.
 - **Government of India Act of 1935 (Section 200):** This act set up the Federal Court of India as an intermediate appellate body between High Courts and the Privy Council, especially for interpreting the Indian Constitution.
 - **Limited Power of Federal Court:** The Federal Court could only issue declaratory judgments, meaning it could declare the law but had no authority to enforce compliance.
 - **Judicial Review:** The Federal Court's power of 'judicial review' was largely symbolic, with very limited practical power.
 - **Federal Court's Continuation:** Despite its limitations, the Federal Court continued to function until 26th January 1950, when independent India's Constitution came into force.
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