

WHY ARE ADDED SUGARS HARMFUL

Why in News?

- According to a recent report, leading food and beverage brand Nestlé's products for babies in Asia, Africa and Latin America were found to contain added sugars, while the same products sold in Europe did not have it.
- Currently, Nestlé controls 20% of the baby-food market, valued at nearly \$70 billion.

What the Report Says on Nestlé?

- The report ('How Nestlé gets children hooked on sugar in lower-income countries' by a Swiss organisation Public Eye) **faulted Nestlé for employing different nutritional standards** in its products, depending on the country it served.
- Nestlé also **did not make the quantity of sugar content clear** on the products' packaging.
- The product included the world's biggest baby cereal brand **Cerelac**, which is meant for six-month-old babies.
 - Cerelac has no added sugars in Germany and the United Kingdom but contains **nearly 3 grams per serving when sold in Indian markets** and over 5 grams per serving in Ethiopia and 6 grams in Thailand.

What are Added Sugars?

- **Sugar is a simple carbohydrate.** Some food items have sugar that is naturally occurring.
 - **For example**, it is found in milk (lactose) and fruit (fructose) and any product that contains milk (such as yogurt, milk or cream) or fruit (fresh, dried) contains some natural sugars.
- **Free sugar or added sugar is added separately** to a food item during preparation or processing.

- **It can include natural sugars** such as white sugar, brown sugar and honey, as well as **other caloric sweeteners that are chemically manufactured** (such as high fructose corn syrup).
- **Low- and middle-income countries** are increasingly being exposed to free sugars with growing incomes and the proliferation of giant global food brands that mass produce their products.
- **According to a UNICEF-supported study**, of the 1,600 infant cereals, snacks and ready-to-eat meals marketed at young children in Southeast Asia, nearly half included added sugars and sweeteners.

Why are Added Sugars Harmful?

- Sugar consumption is supposed to be kept limited for health reasons. Excessive consumption can lead to **increased overall energy intake** in a person's overall diet.
- It may be at the cost of food items having **nutritionally adequate calories**, eventually leading to an **unhealthy diet**.
- **The risks of contracting non-communicable diseases**, such as diabetes, obesity and heart-related ailments, are then increased.
- Sugar should not be added to foods offered to babies and young children because it is **unnecessary and highly addictive**, starting a negative cycle that increases the risk of nutrition-based disorders in adult life.
 - **Tooth decay** is also associated with early exposure to sugar.

HOW IS PRICE OF GOLD DETERMINED

Background:

- Global price of gold (24 carat) on April 10 was \$2,349.88 per ounce. In India it was ₹7,174 per gram.
- In recent weeks gold has witnessed phenomenal price increase, with expectations to rise further.

- There is a direct relationship between global price of crude oil and the international price of gold (positive correlation).
- On the other hand, there is an inverse relationship between the external value of the U.S. dollar and the international price of gold (negative correlation).
- Simply put, whenever global oil prices shot up, the price of gold also rose.
- Similarly, whenever the U.S. dollar declined in value against the currencies of its major trading partners, gold appreciated in price.

How is Gold Price Determined Globally?

- Gold's price is determined by supply and demand factors.
- **Supply Side:**
 - The production of gold by producing countries and the cost of mining gold are factors to be considered on the supply side.
 - Since most of the available gold in the world has already been mined, new production will involve digging deeper into the bowels of the earth, which is expensive, as gold mining is both an energy and labour intensive.
 - So when the prices of crude oil and natural gas rise, it contributes to the rise in the price of gold.
- **Demand Side:**
 - However more than gold's supply, its demand contributes to periodic spikes in its price.
 - The demand for gold can be broken up into institutional, investor, consumer and industrial demand.
 - Central banks buy gold to boost their reserve assets, as it is a store of value and forms the basis for the issue of new currency.
 - **Consumer** demand arises from individuals as well as jewelers.
 - In both China and India, the largest consumers and importers of gold, it is bought as a traditional store of wealth and as ornaments for special occasions. So, consumer demand is mostly seasonal.

How is Gold Price Determined in India?

- **Demand and Supply:**
 - The demand and supply largely influence the gold rate in the domestic market.
 - The price will be higher when the demand for gold exceeds supply.
 - But the price will fall if the demand in the market is lower than the supply of gold.
- **Interest Rate:**
 - The gold loan interest rate in India are monitored and changed by the RBI.
 - It is done to manage the capital flow in the Indian market.
 - In case of higher interest rates, gold sell-off will be heavy.
- **Economic Situation:**
 - People often invest in gold to hedge against inflation and recession.
 - Any adverse economic factors lead to a fall in the financial market.
 - In such a situation, investors have limited liquidity and more losses.
 - That's why they invest in gold because its demand increases in the domestic market.
- **Rupee-Dollar Conversion Rate:**
 - If the value of the dollar increases against the rupee, it becomes expensive for India to import gold from international markets.
 - Therefore, the price of gold also rises considerably in the Indian market.
- **Mathematical Formula to Calculate Gold Prices:**
 - The gold rate in India can be calculated using two mathematical formulas depending on the purity of gold.
 - The two formulas to calculate gold prices are as follows:
 - **Purity Method (Percentage)**
 - $\text{Gold value} = (\text{Gold rate} \times \text{purity} \times \text{weight}) / 24$
 - **Karats Method**
 - $\text{Gold value} = (\text{Gold rate} \times \text{purity} \times \text{weight}) / 100$

DURGA-2

The Defence Research and Development Organisation (DRDO) is reported to be testing a prototype of its DURGA-2 (Directionally Unrestricted Ray Gun Array) system.



- It damages or destroys its target using focused energy by means of lasers, microwaves or particle beams.
- **Advantages:** These weapons have several advantages over conventional munitions.
 - They transmit **lethal force** at the speed of light (about 300,000 kilometers per second).
 - Their beams are not affected by the constraining **effects of gravity or atmospheric drag**.
 - They are extremely precise. Fourth, their effects can be tailored by varying the type and intensity of energy delivered against targets.
- **Significance**
 - The **aerospace industry** can transform the way wars will be fought.
 - This will enable us to produce cutting edge platforms, weapons, sensors, and networks essential to fight and win a future war.
- **Other countries which have this system:** Russia, France, Germany, the United Kingdom, Israel, and China.

WHAT IS GPS SPOOFING?

Israel reportedly used GPS spoofing against Iran's missile targeting teams by jamming Global Positioning System (GPS) navigation signals.



GPS spoofing is also known as GPS simulation, refers to the **practice of manipulating** or tricking a **GPS receiver** by broadcasting false GPS signals.

- It misleads the GPS receiver into believing it is located somewhere it is not, resulting in the device providing inaccurate location data. This form of **cyberattack** undermines the reliability of GPS data, which is vital for a variety of applications.

- It has evolved significantly over the years. Initially a theoretical threat, it has now become a practical concern due to the availability of inexpensive software and hardware capable of transmitting fake GPS signals.
- Spoofing is **not the same as jamming**. While jamming, as the name suggests, is when the GPS signals are jammed, spoofing is very different and way more threatening.
- Planes and other aircraft regularly deal with jamming while spoofing of the kind happening in the above-mentioned incidents has reportedly never been seen before.
- **Working**
 - GPS spoofing exploits the inherent vulnerabilities in the GPS infrastructure – the **weak signal strength** of GPS satellites.
 - The Global Positioning System functions by sending signals from satellites to GPS receivers on Earth.
 - These receivers then calculate their position based on the time it takes for these signals to arrive. However, due to the weak signal strength of the GPS satellites, these signals can be easily overwhelmed by fake signals, resulting in inaccurate location data on the receiving device.
- **Impacts**
 - It can have potentially catastrophic effects, particularly where **navigation** is concerned.
 - It has the potential to affect various industries extensively, including logistics and supply chain, telecommunications, energy, and defense.

AGROFORESTRY

What is Agroforestry?

A diversified land-use practice **integrating crops, trees and livestock** is broadly known as agroforestry. It **can enhance farmer livelihoods and the environment** and is slowly gaining in popularity after decades of monocropping inspired by the Green Revolution.

What are the Initiatives to Promote Agroforestry in India?

1. **Trees Outside of Forests India’ (TOFI) initiative:** It’s a joint initiative of the USAID and India’s MoEFCC. It seeks to enhance tree cover in 7 Indian states by identifying promising expansion opportunities
2. **Jaltol:** It is an open-source water-accounting tool developed by the Bengaluru-based WELL Labs to assess which trees don’t compete with the crops for water. **For example,** mango plantations don’t compete with kharif crops in the central Karnataka plateau.
3. **Diversity for Restoration:** It is a decision support tool that provides a tailored list of climate-resilient species that reverse land degradation while diversifying livelihood opportunities through agroforestry.
4. **Payment for ecosystem services (PES):** In PES, an ecosystem service user, e.g. a food processing company, volunteers to pay a service provider, such as a small farmer, for trees promoting a service like pollination.

Why is Agroforestry Remains Restricted to Medium or Large Farmers? Small farmers seldom grow trees because of their **long gestation, a lack of incentive or investment-based capital, and weak market linkages.** Water availability and government policies and schemes have been recurrent concerns for small farmers across states. **For example,** the **Indian Forest and Wood Certification Scheme 2023** has an exhaustive list of eligibility criteria for farmers and industries.

How can Agroforestry be Widely Adopted by Engaging Small Farmers? Although secure land tenure is a prerequisite for agroforestry uptake, ensuring economic viability through market linkages while meeting the criteria of sustainable agroforestry is crucial to empower these farmers.

KEY FACTS ABOUT STATE OF PALESTINE

The United States vetoed a widely backed U.N. resolution that would have paved the way for full United Nations membership for the state of Palestine.



- **Location:**
 - It is located in **Western Asia**. The Palestinian territories are made up of the areas known as **Gaza and the West Bank**. Both of which are ruled over and controlled by different governments.
 - It is geographically positioned both in the **Northern and Eastern hemispheres** of the Earth.
 - The Gaza Strip is bordered by the **Mediterranean Sea** to the west; by Egypt on the southwest and by Israel on the east and north.
 - The West Bank is bordered by Israel in the north, south, and west; and by Jordan and the Dead Sea in the east.
- The **Jordan River** is the most significant geographical feature in Palestine. The river runs north to south from the Sea of Galilee to the Dead Sea.
- The highest point in Palestine can be found within the West Bank at **Mount Nabi Yunis** at an elevation of 3,379ft.
- **Climate:** The climate in both Gaza and the West Bank can be roughly described as **Mediterranean** with Gaza being slightly hotter and drier than those in the West Bank.
- The eastern border with Jordan also tends to be hotter than average and experiences a considerably less amount of rainfall throughout the year.

[WHAT IS THE GLOBAL ALLIANCE FOR INCINERATOR ALTERNATIVES \(GAIA\)?](#)

The Global Alliance for Incinerator Alternatives (GAIA) Asia Pacific has called on the ASEAN to take decisive action in response to plastic pollution.



- It is a **worldwide alliance** of more than 1,000 grassroots groups, non-governmental organizations and individuals. It **aims to power a transition** away from our current linear and extractive economy and **towards a circular system** that supports people's right to a safe and **healthy environment**.

- It envisions a **just, zero-waste world** built on respect for ecological limits and community rights, where people are free from the burden of toxic pollution and resources are sustainably conserved, not burned or dumped.
- This entails **fighting pollution** and **building regenerative solutions** in cities through local campaigns, **shifts in policy and finance**, research and communication initiatives, and movement building.
- They work on four primary **points of intervention: incineration, zero waste, plastic, and climate.**

What is Incineration?

- Incineration is the process of **burning hazardous materials at temperatures high enough to destroy contaminants.**
- Incineration is **conducted in an “incinerator,”** which is a type of furnace designed for burning hazardous materials in a combustion chamber.
- Many different types of hazardous **materials can be treated** by incineration, **including soil, sludge, liquids and gases.**
- Although it destroys many kinds of harmful chemicals, such as solvents, PCBs (polychlorinated biphenyls) and pesticides, incineration **does not destroy metals, such as lead and chromium.**
- Modern incinerators **include air pollution control equipment** (e.g., fabric filters, scrubbers and electrostatic precipitators) to remove fly ash and gaseous contaminants.