

## 15<sup>th</sup> Sept 2025

- Asia Cup
- UNESCO Heritage
- Plastic Pollution
- 1<sup>st</sup> Bamboo based ethyanol plant
- Diversity in Food production
- Chlamidiya Infection

## Kuldeep, Axar leave Pakistan in a daze

The two combine to pick up five wickets and restrict the opposition to a modest total; Abhishek, Suryakumar and Tilak star in the chase

### ASIA CUP

**Vivek Krishnan**  
DUBAI

A nervy evening at the Dubai International Cricket Stadium turned into a night of celebration for India as Suryakumar Yadav's team maintained its stranglehold over Pakistan. In a Group-A battle of the arch-rivals at the Asia Cup on Sunday, India strolled to a target of 128 in 15.5 overs with seven wickets in hand to virtually seal qualification for the Super Four phase. Post victory, the two teams did not exchange customary



**To the fore again:** Kuldeep's bag of tricks proved too much for the Pakistan batters. AP

in the third over, he got Hardik Pandya away for boundaries.

At the other end, Sahibzada Farhan clumped Bumrah for two sixes before the field restriction eased. Yet, Pakistan had ambled along to 42 for two in six overs with Farhan at a run-a-ball 19.

With the desperation of the Pakistan batter mounting, it was easy to forget Fakhar's attempted slog when Axar came into the attack in the eighth over. To the latter's credit, he gave the ball a bit of air and drew the left-hand batter into a miscue that carried over to long-on. In his very next over, Axar would also try



**8260224080**

# Centre reopens PLI scheme for white goods till Oct. 14, cites market growth

**The Hindu Bureau**

NEW DELHI

The Union government has reopened the application window for the production-linked incentive (PLI) scheme for white goods, it said on Sunday, citing market growth and growing industry confidence following the success of earlier rounds of the scheme.

“The application window for the PLI Scheme for white goods (Air Conditioners and LED lights) is being reopened based on the appetite of the industry to invest more under the scheme, which is an outcome of the growing market and confidence generated due to manufacturing of key components of ACs and LED lights in India un-

der the PLI for white goods scheme,” the Ministry of Commerce and Industry said on Sunday.

## More investments

The application window for the scheme will remain

## Switching on

The Union government is reopening the application window for the Production-Linked Incentive scheme for white goods

■ **Application window:** Sept. 15 to Oct. 14

■ **Scheme goal:** To boost manufacturing of **AC and LED light** components, including those not currently produced in sufficient quantities in India

■ **Who can apply:** Both **new applicants** and **existing beneficiaries** who wish to invest more



■ **Current status:** 83 applicants with a committed investment of **₹10,406 crore** have already been selected

open between September 15 and October 14.

The release further said that in order to avoid any discrimination, both new applicants as well as existing beneficiaries of the scheme who want to invest

more would be eligible to apply, subject to the guidelines.

So far, the Ministry said, 83 applicants with committed investment of ₹10,406 crore have been selected as beneficiaries under the scheme.

“The investments will lead to manufacturing of components of Air Conditioners and LED lights across the complete value chain including components which are not manufactured in India presently with sufficient quantity,” it said.

The Union Cabinet had given its approval for the PLI scheme for white goods for the manufacture of components and sub-assemblies of ACs and LED lights in April 2021.

## *Natural wonder*



The *Erra Matti Dibbalu* (red sand dunes) beside the Visakhapatnam-Bheemunipatnam Beach Road in Andhra Pradesh. The unique geological formations were added to the Tentative List of UNESCO Natural Heritage Sites recently. V. RAJU

# How serious is the global plastic pollution crisis?

What role should governments and individuals play in curbing plastic use?

Prakash Nellyyat

## The story so far:

**R**apidly increasing plastic pollution is a serious global environmental issue as it significantly impacts ecosystems, their functions, sustainable development, and ultimately the socio-economic and health dimensions of humanity. With this realisation, this year's World Environment Day (June 5) focused on "Ending Plastic Pollution" and encouraging worldwide awareness and action against it.

## How serious is the issue?

The OECD's 'Global Plastic Outlook' reveals that global plastic consumption has increased significantly due to the growth of emerging economies and markets. Plastics production doubled from 2000 to 2019, reaching 460 million tonnes, while waste generation grew to 353 million tonnes. Nearly two-thirds of plastic waste has a lifespan of less than five years, with 40% coming from

packaging, 12% from consumer goods, and 11% from clothing and textiles. Among this waste, only 9% is recycled. Another 19% is incinerated, 50% ends up in landfills, and 22% evades waste management systems, often entering uncontrolled dumpsites, being burned in pits, or ending up in terrestrial or aquatic environments, especially in poorer countries.

According to the Intergovernmental Negotiating Committee on Plastic Pollution, in 2024 alone, 500 million tonnes of plastic were produced or used, generating around 400 million tonnes of waste. If the current trends continue, global plastic waste could almost triple by 2060, reaching 1.2 billion tonnes.

The Ocean Conservancy data reveal that each year, 11 million tonnes of plastic enter the ocean, in addition to the estimated 200 million tonnes that already flow through our marine environment. According to a United Nations Environment Programme (UNEP) expert, if the current rate of plastic production and waste generation continues, there

will be more plastic in the ocean than fish by the mid-century.

## Why is plastic pollution such a grave problem?

The non-biodegradable character of plastics is a serious challenge. It simply breaks into smaller and smaller pieces over time, creating micro- and nano-plastics that infiltrate and contaminate every part of the planet, from the summit of Mount Everest to the depths of the oceans. Plastics account for 3.4% of global greenhouse gas emissions. UNEP has stated that plastic production, use, and disposal could account for 19% of the total global carbon budget by 2040.

## What remedies are being proposed?

At the fifth session of the UN Environment Assembly (2022), all 193 UN member states agreed to end plastic pollution through a legally binding international agreement. This is critical to achieving the UN Sustainable Development Goals, including climate action, sustainable consumption and production, protection

of oceans, and the restoration of ecosystems and biodiversity. UNEP's ambitious goal of reducing plastic waste by 80% within two decades requires serious action and international cooperation, innovation, better product design, and environment-friendly alternatives, as well as efforts to improve waste management and increase recycling.

As plastics and their chemical additives are primarily made from petrochemical feedstock, limiting their production and eliminating unnecessary items, especially single-use plastics, is urgent.

Governments should permit production only within existing legal frameworks.

Most plastics used today are virgin (primary) plastics, while global production of recycled (secondary) plastics is only 6%. Improving recycling technologies and building profitable markets for recycled plastics are crucial.

Imposing landfill and incineration taxes can incentivise recycling. Extended Producer Responsibility schemes, landfill taxes, deposit refunds, and pay-as-you-throw systems need to be introduced.

Finally, people must adopt greener alternatives that have been used in the past. The media, too, has a significant role to play in shaping awareness.

*Prakash Nellyyat is Former Fellow, Centre for Biodiversity Policy and Law at the National Biodiversity Authority, Chennai, and the co-author of the books:*

*'Biodiversity Conservation through Access and Benefit Sharing' and 'Biodiversity and Business'*

# PM inaugurates India's first bamboo-based ethanol plant

Golaghat facility billed as world's first green bamboo bioethanol plant; ₹7,230-crore polypropylene project also initiated at Numaligarh Refinery; the facility aims to reduce dependence on fossil fuels

**The Hindu Bureau**  
GUWAHATI

Prime Minister Narendra Modi on Sunday underscored the need for India to be self-sufficient in energy. He was speaking after inaugurating the country's first bamboo-based ethanol plant in eastern Assam's Golaghat district.

He laid the foundation stone for a ₹7,230-crore polypropylene plant at the Numaligarh Refinery. The project will be established near the ₹5,000-crore bioethanol plant, a "zero-waste" facility described as the world's first to produce ethanol from green bamboo.



**Clean energy:** Prime Minister Narendra Modi during the inauguration of Assam Bio-Ethanol Private Ltd. (ABEL), Numaligarh Refinery Plant, in Golaghat on Sunday. PTI

the world now. Our energy needs have been increas-

look for hydrocarbons under the sea. Referring to

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[cscorner.in](http://cscorner.in)



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# India must invest more in accelerating diversification of food production: FAO Chief Economist Maximo Cullen

**A.M. Jigeesh**  
NEW DELHI

About 40.4% of the Indian population (approximately 60 crore people) are unable to afford a healthy meal, says Maximo Torero Cullen, Chief Economist, Food and Agriculture Organization (FAO) of the United Nations.

Talking to *The Hindu*, Dr. Cullen said the number was a significant decrease from the FAO's assessment in 2023 that 74.1% of India's population was unable to afford a healthy diet in 2021.

He said India needed to start to invest more in accelerating the diversification of food production.

Dr. Cullen said India played a crucial role in achieving the Sustainable Development Goals of zero hunger by 2030 because of

the level, size, and population of the country.

"Reduction of hunger in India affects the world and affects, of course, South Asia. So India, I think, has a huge role to play. That's why we believe it's so important that they continue and accelerate the transformation. India needs to move to the higher level – that is access to healthy diets, which right now is 40.4% of the population. So we need to improve that even more and also to find ways to assure this today and tomorrow," he said.

"The Green Revolution played its role, but now it's time to do more. So don't forget about it, but do more. We need to do more," Dr. Cullen said.

On the FAO's assessment in 2023 that 74.1% of India's population was unable to afford a healthy diet



Maximo Torero Cullen

in 2021, he said that in 2024, the percentage of the population that could not afford a healthy meal was 40.4.

"The methodology is improved. So yes, there is an important decrease. So the number to compare is basically to look at the State of Food Security and Nutrition in the World [SOFI] of this year to look at

the previous year's number. But yes, there is a significant improvement, but still it's too high. Healthy diet is diversity. It means fruits and vegetables, proteins, and also means cereals. More than 40% of the country's population cannot afford a healthy diet. So it's a minimum cost to healthy diet," the FAO Chief Economist said.

## Address the situation

Dr. Cullen added that the immediate step the Indian government should take to address the situation was diversification.

"India needs to start to invest more in accelerating the diversification of production. To move from cereals to high-value commodities. Pulses could be an option because they are more nutritious, they also have proteins. So pulses is

an option and this is very consistent with your culture. But India should move more to fruits and vegetables and that requires an effort because you will need to substitute at some point," he said.

## Tariff war

On the tariff war, he said the first problem of tariffs was inefficiencies.

"You will be more inefficient in the way you move commodities. Because before you were optimising the world, now the world is segmented. The world that wants low tariffs, but the world that has now high tariffs. The second issue is uncertainty. The changes of tariffs every day has created a lot of uncertainty and that complicates markets. Although markets have already learned how to manage this uncertain-

ty, so things don't change too much," he said.

He, however, said the impact of food insecurity due to tariffs was not so high, but inefficiencies would be high.

"But assume they get into a situation where you play tit-for-tat, then this could be very dangerous. It's not happening at this point, countries are not responding. So let's see how it evolves, but uncertainty and inefficiencies will make us less resilient for sure, because we will have less places where to have food access because of the tariffs. It will affect farmers, it will affect the smallholders, especially will affect the farmers who are more linked to the markets. But what will happen at the end is that you will have a segmented trade," he said.

R.K.Vij

**The story so far:**

The Supreme Court, in *Kattavellai @ Devakar v. State of Tamil Nadu*, recently issued guidelines to maintain the integrity of deoxyribonucleic acid (DNA) samples in criminal cases. The court directed the Director Generals of Police of all States to prepare sample forms of the Chain of Custody Register and all other necessary documentation as directed, and to ensure their dispatch to all districts with instructions.

**What was the need to issue such directions?**

The court, in the above case involving rape, murder, and robbery with an attempt to cause death, found significant unexplained delays in sending samples of the vaginal swabs to the Forensic Science Laboratory (FSL) for DNA analysis. Moreover, the chain of custody of the sample could not be established. Under such circumstances, the court held that the possibility of sample contamination could not be ruled out.

The court observed that although some guidelines have been issued by various bodies, there is neither uniformity nor a common procedure required to be followed by all investigating authorities. Even though 'Police' and 'Public Order' are subjects mentioned in the State List of the Seventh Schedule of the Constitution, the Supreme Court deemed it necessary to issue these guidelines to have uniformity of procedure.

**What are the guidelines?**

The Supreme Court issued four guidelines for cases where DNA evidence is involved. The first guideline states that the collection of DNA samples once made



DNA is a molecule that encodes the genetic information in all living organisms. GETTY IMAGES

after due care and swift and appropriate packaging, including FIR number and date, the sections and statutes involved, details of the investigating officer, the police station, and the requisite serial number, shall be duly documented. The document recording the collection must include the signatures and designations of the medical professional present, the investigating officer, and independent witnesses.

Second, the investigating officer shall be responsible for the transportation of the DNA evidence (sample) to the concerned police station or hospital, as the case may be. He must also ensure that the samples reach the concerned FSL within 48 hours of collection. In the event of any delay, the reasons must be recorded, and all efforts should be made to preserve the samples.

Third, while samples are stored pending trial or appeal, no package shall be opened, altered, or resealed without express authorisation from the trial court.

The fourth guideline states that from the time of collection to the logical end, i.e., conviction or acquittal of the

accused, a Chain of Custody Register must be maintained. This register must be appended to the trial court record. The investigating officer is responsible for explaining any lapses in compliance.

**What has the Supreme Court said so far?**

The DNA profiles have a tremendous impact on criminal investigations. In *Anil v. State of Maharashtra* (2014), the Supreme Court observed that a DNA profile is valid and reliable, but this depends on quality control and procedure in the laboratory. However, in the *Devakar* case, the court said that quality control and procedure outside the laboratory are equally important to ensure that the best results can be derived from collected samples.

In a three-judge Bench decision in *Manoj and Ors. v. State of Madhya Pradesh* (2022), the Supreme Court rejected a DNA report on the ground that recovery was made 'from an open area and the likelihood of its contamination cannot be ruled out'. It was also observed that the blood stains found on the articles were

disintegrated and the quantity was insufficient to run any classification test.

In another case, *Rahul v. State of Delhi, Ministry of Home Affairs* (2022), DNA evidence was 'rejected because it remained in the police Malkhana for two months and during such time, the possibility of tampering could not be ruled out'. It was said that 'the collection and sealing of the samples sent for examination were not free from suspicion'. The court also said the trial court and the High Court did not examine the underlying basis of the findings in the DNA reports or whether the techniques used had been reliably applied by the concerned expert.

Therefore, while the investigating agency needs to ensure that samples are collected properly, without any possibility of contamination, and sent to the FSL without any (unexplained) delay, the expert must also ensure proper quality control and procedure in the FSL.

**How important is the DNA evidence in criminal cases?**

DNA is a molecule that encodes the genetic information in all living organisms. It can be obtained from biological materials, such as bone, blood, semen, saliva, hair, or skin. Generally, when the DNA profile of a sample found at a crime scene matches the DNA profile of a suspect, it can be concluded that both samples have the same biological origin. However, it is not substantive evidence in criminal cases.

The Supreme Court, in the *Devakar* case, stated that DNA evidence is in the nature of opinion evidence as envisaged under Section 45 of the Evidence Act (Section 39 of the Bharatiya Sakshya Adhiniyam, 2023), and like any other opinion evidence, its probative value varies from case to case. Therefore, DNA evidence must be proved scientifically and legally.

R.K. Vij is a former IPS officer

**THE GIST**

▼ The Supreme Court has issued uniform guidelines to ensure the integrity of DNA samples in criminal cases, directing strict documentation, swift transfer, and a clear chain of custody.

▼ Past rulings show that lapses in handling have led to DNA reports being rejected, making both proper collection and quality control essential.

# Australia approves first vaccine to save koalas from chlamydia

## Associated Press

**A** regulator has approved the world's first vaccine to protect koalas from chlamydia infections, which are causing infertility and death in the iconic native species that is listed as endangered in parts of Australia.

The single-dose vaccine was developed by the University of the Sunshine Coast in Queensland state after more than a decade of research led by professor of microbiology Peter Timms.

The research showed the vaccine reduced the likelihood of koalas developing symptoms of chlamydia during breeding age and decreased mortality from the disease in wild populations by at least 65%.

The recent approval by Australia's veterinary medicine regulator means the vaccine can now be used in wildlife hospitals, veterinary clinics, and in the field to protect the nation's most at-risk koalas, Timms said.

"We knew a single-dose vaccine – with no need for a booster – was the answer to reducing the rapid, devastating spread of this disease, which accounts for as much as half of koala deaths across all wild populations in Australia," Timms said in a statement