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### **1. What is Ola's Krutrim AI, dubbed as India's indigenous AI?**

#### **Why in News?**

Earlier this year, Indian multinational ridesharing company, Ola, introduced Krutrim AI, claiming it as "India's own AI". Upon launch, it was revealed that the initial iteration of the product will get substantial enhancements as the company aims to expand its foundation.

#### **What is Krutrim AI?**

According to Ola, Krutrim AI is an assistant "envisioned to be your own personalised assistant, which can simplify your personal and professional life by getting a variety of tasks done for you, while keeping the aesthetic sense and sensibilities of the Indian ethos."

The company aims to develop a unique form of AI designed to cater to the diverse needs and nuances of the Indian consumer. Ola claims Krutrim is built on its own foundation model and that it is "Indian at heart."



#### **What can Krutrim AI do?**

With the help of Krutrim, Ola hopes to bridge the gap between conventional AI and the specific needs based on Indian languages and culture.

Krutrim is supposed to be different from its international peers as it claims to be able to perform tasks in English, Hindi, Tamil, Telugu, Malayalam, Marathi, Kannada, Bengali, Gujarati, Kannada and Hinglish.

### **What is the tech behind Krutrim AI?**

Krutrim AI uses Natural Language Processing (NLP) — a component of AI — to understand the nuances of human language, including colloquialisms and cultural contexts. Machine Learning (ML) algorithms enable it to learn from vast data sets and improve its responses over time. Moreover, Deep Learning, a sophisticated branch of ML, helps it recognise patterns and analyse complex data, which could be crucial for Krutrim AI's performance. While the exact technologies used are not disclosed, these methodologies align with the AI's demonstrated functions.

### **How can it help users?**

Krutrim AI offers a wide range of applications across various sectors, significantly enhancing user experiences, according to Ola. The company said Krutrim AI-powered chatbots can also offer culturally sensitive interactions in Indian languages, improving support experiences. In education, it offers personalised learning, tailoring content to address individual needs within the Indian context.

For content creators, Krutrim AI can help with the ideation and localisation of content to make it more relatable. Besides, when it comes to administrative tasks across industries, this could help in automating repetitive tasks.

Relevance: GS Prelims; Science & Technology

Source: The Indian Express

## **2. Why Pakistan's 'piracy' of Indian basmati rice varieties is concerning**

### **Why in news?**

Scientists at the Indian Agricultural Research Institute (IARI) and exporters have red-flagged the "illegal" cultivation of its improved basmati rice varieties in Pakistan. The issue came to the fore after the emergence of promotional YouTube videos, featuring recently-released IARI varieties, by Pakistani seed firms in places such as Multan, Bahawalnagar and Hafizabad.

The threat relates to the alleged seed piracy and unlawful cultivation in Pakistan of improved high-yielding varieties of basmati rice developed by IARI.

### **What is so special about the IARI-bred varieties?**

Traditional tall basmati varieties — the likes of Taraori (HBC-19), Dehraduni (Type-3), CSR-30 and Basmati-370 — were low-yielding, producing barely 10 quintals of paddy (rice with husk) per acre over 155-160 days from nursery sowing to harvesting. IARI varieties, having shorter plant heights, yield more grain, and in less number of days.

The first IARI variety — PB-1, released for commercial cultivation in 1989 — yielded 25-26 quintals/acre and matured in 135-140 days.

PB-1121, released in 2003, yielded less (20-21 quintals) with slightly longer maturity (140-145 days). Its USP was the grain quality — an average kernel length of 8 mm (versus 7.2-7.4 mm for Taraori and PB-1) that elongated to 21.5 mm (versus 14-14.75 mm) on cooking.

This was followed by PB-6 (a cross of PB-1 and PB-1121, released in 2010) and PB-1509 (2013). The last one yielded as much as PB-1, but with a seed-to-grain duration of just 115-120 days. IARI subsequently also unveiled improved versions of PB-1121 (PB-1718 and PB-1885), PB-1509 (PB-1692 and PB-1847) and PB-6 (PB-1886), incorporating genes conferring resistance to bacterial blight and rice blast fungal disease.

PB-1121 was “released” in Pakistan in 2013 — as PK-1121 Aromatic variety, and marketed as Kainat 1121 Basmati (‘Kainat’ being Urdu for ‘cosmos’). PB-1509 was, likewise, registered and renamed as Kissan Basmati in 2016. More recent are YouTube videos of Pakistani seed companies and so-called research farms and agro consultants, discussing new IARI varieties — including PB-1847, PB-1885 and PB-1886, which were notified under India’s Seeds Act only in January 2022. It is the surfacing of these videos that alerted the authorities in India, especially IARI scientists.

### **Is this concerning?**

On the face of it, not much. Pakistan’s basmati exports are a fraction of India’s. That said, India still has multiple reasons to be concerned.

To start with, basmati rice is grown only in India and Pakistan. Pakistan predominantly exports Super Basmati, a high-yielding variety (similar to IARI’s PB-1) bred by the Rice Research Institute at Kala Shah Kaku, near Lahore. This variety, released in 1996, has helped Pakistan gain a 66-70% share in the European Union-United Kingdom market for brown (unpolished/husked) basmati rice. That share has further gone up to 85% in the new marketing year from September 2023.

Moreover, while India is a clear market leader in Saudi Arabia, Iran, Iraq, United Arab Emirates and other West Asian countries, it has largely to do with consumer preference there for parboiled basmati rice. This rice — where paddy is soaked in water and partially boiled in the husk before milling — has harder grains, less susceptible to breakage after cooking for long than regular white rice. But with Pakistan mills increasingly adopting parboiling technology — and its farmers planting superior IARI basmati varieties — there could be challenges going forward.

A weak Pakistani currency (Rs 279 to the US dollar, against India’s Rs 83.5) only adds to its competitive advantage.

### **What should India do?**

India enacted the Protection of Plant Varieties and Farmers’ Rights Act in 2001. The IARI-bred improved basmati varieties are all registered under this Act, which allows only Indian farmers to sow, save, re-sow, exchange, or share the seed/grain produced from them.

However, even they cannot violate the rights of the breeder — in this case, IARI — by selling the seeds of the protected varieties in branded (packaged and labelled) form.

Moreover, the IARI varieties are notified under the Seeds Act, 1996, which allows their cultivation only in the officially demarcated Geographical Indication (GI) area of basmati rice within India. This covers seven states: Punjab, Haryana, Himachal Pradesh, Delhi, Uttarakhand, Uttar Pradesh (west) and two districts of Jammu & Kashmir (Jammu and Kathua).

The sale of seeds and cultivation of the above protected basmati varieties in Pakistan would arguably qualify as an intellectual property rights (IPR) violation, which India can raise in relevant bilateral forums and at the World Trade Organisation.

Relevance: GS Prelims & Mains Paper II; Bilateral Relations

Source: Indian Express

### 3. Who are ISIS-K, allegedly behind the Russia concert attack?

#### Why in news?

Multiple gunmen went on a shooting rampage in Moscow's famous Crocus City Hall, killing at least 143 people, and injuring hundreds more. So far, at least 11 people, including four suspected gunmen, have been arrested, the Kremlin said.





Earlier, the Islamic State Khorasan (ISIS-K) claimed responsibility for the attack in a statement posted on social media. However, it is still early to say beyond doubt what the group's motivations were, or whether at all the group was behind the attack.

### Who are the ISIS-K?

Islamic State Khorasan (ISIS-K), emerged in eastern Afghanistan in late 2014, and is currently one of the most active ISIS-affiliates. 'Khorasan' refers to an ancient caliphate in the region that today encompasses parts of Afghanistan, Iran, Pakistan and Turkmenistan.



The group's membership is said to have declined since 2018, with the United States and Taliban inflicting heavy losses. However, Al Jazeera noted that it still remains one of the greatest threat to Taliban's authority in the region.

### What attacks has ISIS-K carried out?

The group has been responsible for a host of high-profile attacks since its inception.

#### These include:

- The Kabul international airport attack in 2021, during the US's Afghanistan withdrawal. The attack killed 13 US troops, and at least 175 Afghan civilians.
- The suicide bombing at the Russian embassy in Kabul, in 2022.
- The twin bombings in Kerman, Iran, earlier in 2024, which killed nearly 100 people.

### Why attack Russia?

The Moscow attack is the group's most notable activity outside its home turf in Afghanistan and Iran. However, the group has openly opposed Putin due to his alleged mistreatment of Muslims in Russia, for years.

Relevance: GS Prelims & Mains Paper II; International Issues

Source: Indian Express

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