

# CURRENT AFFAIRS

30 OCTOBER 2022



## TOPIC: AGRICULTURE

# *Kalanamak rice is now small, strong*

Indian Agriculture Research Institute has successfully tested two new dwarf varieties in Uttar Pradesh that give double the yield

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**K**alanamak, a traditional variety of paddy with black husk and strong fragrance, which is considered a gift from Lord Buddha to the people of Sravasti when he visited the region after enlightenment, is all set to get a new look and name.

Grown in 11 districts of the Terai region of northeastern Uttar Pradesh and in Nepal, the traditional variety has been prone to 'lodging', a reason for its low yield. Lodging is a condition in which the top of the plant becomes heavy because of grain formation, the stem becomes weak, and the plant falls on the ground.

Addressing the problem, the Indian Agriculture Research Institute (IARI) has successfully developed two dwarf varieties of Kalanamak rice. They have been named Pusa Narendra Kalanamak 1638 and Pusa Narendra Kalanamak 1652.

The IARI says the new name is in recognition of its association with the Acharya Narendra Dev University of Agriculture



A field in U.P. where Kalanamak paddy is being grown on a trial basis. SPECIAL ARRANGEMENT

and Technology in Ayodhya, for testing the two varieties.

The yield of the new varieties is double that of the traditional variety. The IARI and the the Uttar Pradesh Council of Agriculture are working together to make the seeds available to farmers at the earliest.

**CONTINUED ON**  
**>> PAGE 10**

## Indian Council for Agricultural Research

- ✓ It's the largest network of agricultural research and education institutes in the world. ICAR is a registered society under the Societies Registration Act, 1860.
- ✓ ICAR is an autonomous organisation under the Department of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare, Government of India.
- ✓ It was established on 16 July 1929.
- ✓ ICAR was Formerly known as Imperial Council of Agricultural Research.
- ✓ Union Minister of Agriculture is the ex-officio President of the ICAR Society.

## TOPIC: HEALTH

# Neutralising multi-drug resistant Salmonella

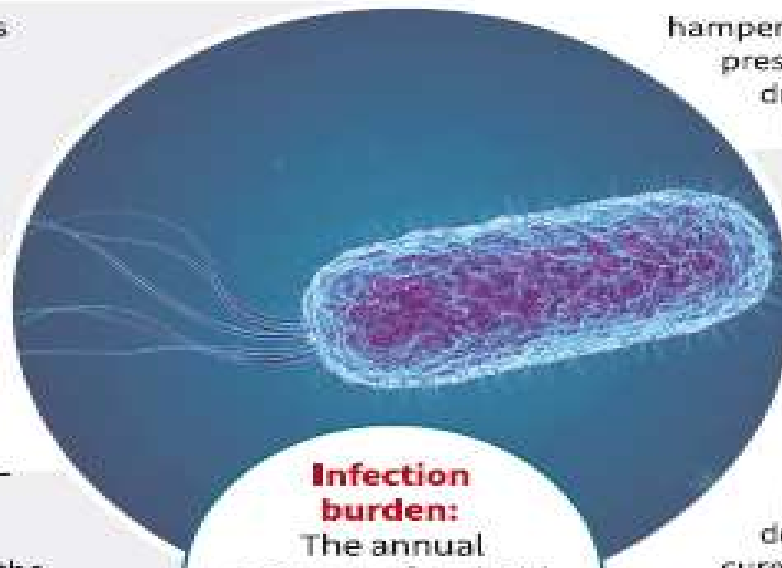
The bacteria causes bloodstream infection in malnourished and immunocompromised people

- The bacteria undergoes continuous adaptation to the available antibiotics creating a risk of developing antimicrobial resistance to all drugs

- The outer membrane porins of the bacteria play an essential role in the survival of the bacteria in the presence of antibiotics

- The outer membrane protein A restricts the entry of antibiotics into the bacteria, thus improving the survival of the pathogen

- Deleting the outer membrane protein A (OmpA) from Salmonella



**Infection burden:**  
The annual estimate of typhoid fever in India is 4.5 million cases and 8,930 deaths.

hampers its survival in the presence of two beta-lactam drugs — ceftazidime and meropenem

- Removing OmpA resulted in a greater intake of antibacterial drugs, which ultimately killed the mutant bacteria

- Administration of ceftazidime in mice infected with the OmpA-deleted strain of Salmonella cured the infection

- The strategy of targeting the outer membrane protein A can also be used to develop novel antimicrobials for other pathogens

# TOPIC:CLIMATE CHANGE

## Is the world's climate action plan on track?

What will be the key points of debate during the COP27 summit in Egypt in November? Why are issues such as food security, energy and biodiversity on top of the agenda? What are world leaders expected to do? What will be India's contribution at the summit?

### Sumeda

#### The story so far:

Leaders from around 200 countries will gather in the Egyptian city of Sharm El-Sheikh from November 6-18 for the 27th round of the Conference of Parties, or COP27, to deliberate on a global response to the increasing threat of climate change. The annual summit comes at a crucial juncture against the backdrop of global inflation, energy, food and supply chain crises, fuelled by an ongoing war in Ukraine and exacerbated by extreme weather events, with data showing that the world is not doing enough. At COP27, negotiations are likely to focus on efforts to decarbonise, finance climate action measures and other issues related to food security, energy and biodiversity.

#### What have been the key takeaways from past COPs?

The participants at COPs are signatories to the United Nations Framework Convention on Climate Change, or UNFCCC, adopted 30 years ago. At present, the UNFCCC has 198 members. The first COP was held in 1995 in Berlin. Since then, a few COPs have stood out with historic agreements. For instance, the Kyoto Protocol, adopted at COP3 in 1997, committed industrialised economies to limit and reduce greenhouse gas emissions. COP21, another significant conference, ended with the 2015 Paris Agreement in which member countries agreed to keep global warming below 2°C, ideally no more than 1.5°C, compared to pre-industrial levels. The previous summit, hosted by Glasgow, ended with the Glasgow

The UN Climate Change report says the world is failing to act with urgency to curb greenhouse gas emissions

Climate Pact that called for the 'phasing down' of unabated coal power.

#### What's on the agenda at the upcoming summit?

COP27 will seek to strengthen a global response and deliberate if wealthy nations emitting carbon dioxide should compensate for the loss to developing countries with a lower carbon footprint. Broadly, the summit seeks to "accelerate global climate action through emissions reduction, scaled-up adaptation efforts and enhanced flows of appropriate finance" through its four priority areas of mitigation, adaptation, finance and collaboration. As per the presidential vision statement, COP27 will be about moving from negotiations and planning to the implementation of promises and pledges made. Experts say the conference could emerge as an "in-between COP," since climate change goals have either passed or are not due soon, giving COP27 a platform to push forward issues that developed economies pass over.

#### How has the world been doing on climate change since the Glasgow meet?

The world has changed since the last COP in Glasgow. Extreme weather events and scientific reports are a stark reminder of the devastating impact of human pressure on the climate and the inefficiency of existing plans. These reports, likely to leave an impact on political agenda and environmental diplomacy, have built momentum for the Egypt summit.

A recent UN report has warned that "efforts remain insufficient" to limit global temperature rise to 1.5°C, as per the Paris Agreement. The UN Climate Change report says the world is failing to act with urgency to curb greenhouse gas emissions despite the planet witnessing climate-enhanced heatwaves, storms and floods after just 1.2°C of warming. Even if the countries meet their pledges, we are on track for around 2.5°C of warming, which will be disastrous. The findings are based on an analysis of the latest Nationally Determined Contributions (NDCs), or country-specific action plans to cut emissions and adapt to climate impacts. The report adds that emissions compared to 2010 levels need to fall 45% by 2030 to meet the Paris deal's goal.

#### What did the IPCC report state?

This year's Intergovernmental Panel on Climate Change (IPCC) assessment report stated that climate change has produced irreversible losses to natural ecosystems and has warned of severe consequences to food supply, human health and biodiversity loss if carbon emissions from

human activity are not sharply reduced. As per the report, 3-14% of all species on earth face a very high risk of extinction at even 1.5°C, with devastating losses at higher temperatures in the current situation. It adds that limiting warming to around 1.5°C requires global greenhouse gas emissions to peak before 2025 and be reduced by 43% by 2030. Coal-fired power plants operating without technology to capture and store carbon would need to be shuttered by 2050, a warning relevant to India which operates roughly 10% of global capacity.

The World Resources Institute also paints a grim picture in its report. It suggests that the world needs to curb emissions six times faster by 2030 than the current trajectory to meet the 1.5°C target. Of the 40 indicators examined, none is on track to reach the 2030 target. "Unabated coal-based electricity generation, although declining worldwide, continues to expand across some regions, while unabated fossil gas-based electricity, is still rising globally," it notes.

Mitigation measures to keep temperatures below 2°C and the need for climate change adaptation mentioned in these reports are likely to come up for discussion at the COP27.

#### Where does India stand?

India is one of the 197 countries that has promised to limit the increase to no more than 1.5°C by 2030. It is also working on a long-term roadmap to achieve its target of net zero emissions by 2070. Prime Minister Narendra Modi had committed at the Glasgow summit that the country would get its non-fossil energy capacity to 500 GW by 2030, meet half of its energy requirement from renewable sources and reduce carbon emissions. India is the third-largest greenhouse gas emitter in the world. Though India updated its climate pledges in line with commitments made at the previous summit, experts have slammed New Delhi for not setting ambitious targets. The Climate Action Tracker, an independent analysis that tracks government climate action classifies India's action as "highly insufficient". It says India's continued support to the coal industry undermines a green recovery. India had previously come under intense criticism over its stand to "phase down" coal power, instead of phasing it out, at COP26. "While stronger on paper, India will already achieve these targets with its current level of climate action and the new targets will not drive further emissions reductions," the tracker notes.

The country is, however, expected to play a key role at COP27. A government official told Associated Press that a key issue for India at the summit will be financing both – adapting to climate change and limiting fossil fuel emissions. The official said the country wants the \$100 billion-a-year pledge of climate funds for developing countries, a promise that remains unfulfilled.



Red alert: Smoke rises from a coal-powered steel plant in Jharkhand. AP



## TOPIC:STATE EXECUTIVES

*What is the doctrine of pleasure?*

### What is the concept?

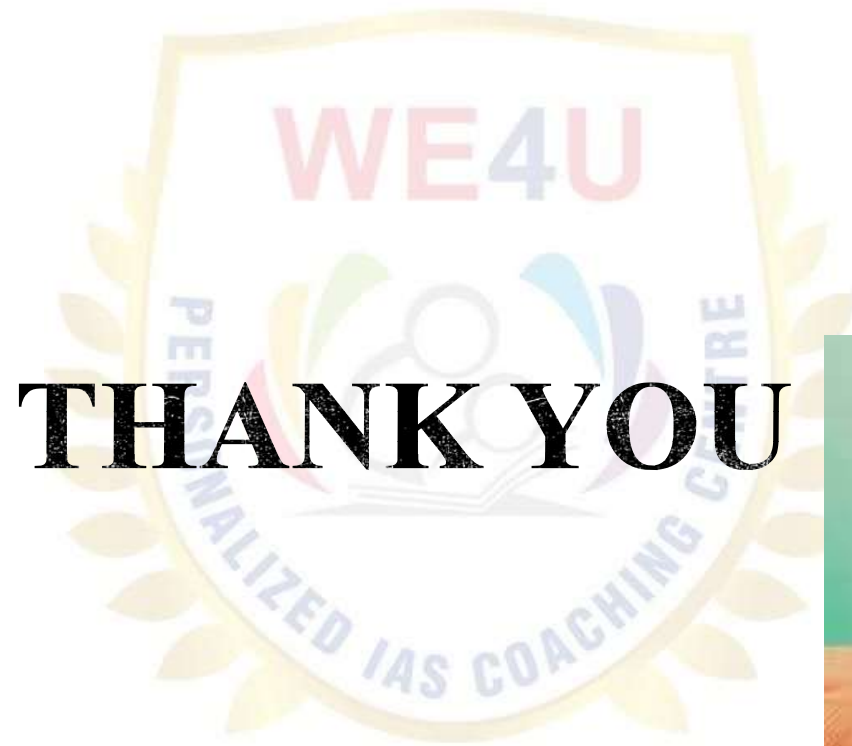
The pleasure doctrine is a concept derived from English common law, under which the crown can dispense with the services of anyone in its employ at any time. In India, Article 310 of the Constitution says every person in the defence or civil service of the Union holds office during the pleasure of the President, and every member of the civil service in the States holds office during the pleasure of the Governor. However, Article 311 imposes restrictions on the removal of a civil servant. It provides for civil servants being given a reasonable opportunity for a hearing on the charges against them. There is also a provision to dispense with the inquiry if it is not

Under the Constitution, the 'pleasure' referred to is taken to mean the right of the Chief Minister to dismiss a Minister. The Governor of an Indian State cannot remove a Minister on his own

practicable to hold one, or if it is not expedient to do so in the interest of national security. In practical terms, the pleasure of the President referred to here is that of the Union government, and the Governor's

pleasure is that of the State government.

Under Article 164, the Chief Minister is appointed by the Governor; and the other Ministers are appointed by the Governor on the CM's advice. It adds that Ministers hold office during the pleasure of the Governor. In a constitutional scheme in which they are appointed solely on the CM's advice, the 'pleasure' referred to is also taken to mean the right of the Chief Minister to dismiss a Minister, and not that of the Governor.



**THANK YOU**

