

## CURRENT AFFAIRS

19<sup>th</sup> July 2022

### REDUCTION IN RICE/PADDY ACREAGE

#### SYLLABUS: GS PAPER-III (AGRICULTURE)

**CONTEXT:** While overall crop coverage has risen since last year, that of rice is down. Paddy (rice) acreage, at 128.50 lakh hectares (lh) as of July 15, was 17.4% down from last year's 155.53 lh.

#### CAUSE OF WORRY

**India** is one of the **world's biggest exporters of rice** (global share of more than 40%), thus the options for import in rice due to any production shortfall are limited.

#### WHY HAS ACREAGE FALLEN?

**Deficient rainfall:** A vast paddy-growing belt, from Uttar Pradesh to West Bengal, has had very little rain. Cumulative rainfall has been 55.5% below the long period average in West UP, and 70%, 45.8%, 48.9% and 45.1% respectively for East UP, Bihar, Jharkhand, and Gangetic West Bengal.

Deficient rainfall has meant that farmers in UP had transplanted only 26.98 lh under paddy until July 15, as against 35.29 lh during the same time last season.

Farmers in Bihar (from 8.77 lh to 6.06 lh), West Bengal (4.68 lh to 3.94 lh) and Jharkhand (2.93 lh to 1.02 lh) too have reported lower acreages.

So have those in Odisha, Chhattisgarh, and eastern Madhya Pradesh, although that gap should reduce with the monsoon turning the corner in these parts.

#### METHODS OF RICE CULTIVATION

- **Transplantation:** The seeds are first germinated and raised in nurseries. The seedlings are then transplanted onto the puddled field after 25-35 days.
- **Direct-Seed method:** The **pre-germinated seeds are directly drilled into the field** by a tractor-powered machine.
- **Drilling method:** One person ploughs a hole in land and other person sows the seed.
- **System of Rice Intensification:** It is a method of increasing the productivity of irrigated rice by changing the management of plants, soil, water, and nutrients, particularly by eliciting greater root growth.

### FOREST FIRES

#### SYLLABUS: GS PAPER-III (ENVIRONMENTAL POLLUTION & DEGRADATION)

**CONTEXT:** In France, Greece, Portugal and Spain, wildfire destroys thousands of hectares of land, forces thousands from their homes and kills several emergency personnel.

#### ABOUT FOREST FIRES

- Also called **bush or vegetation fire or wildfire**, it can be described as **any uncontrolled and non-prescribed combustion or burning of plants in a natural setting such as a forest, grassland, brush land or tundra, which consumes the natural fuels and spreads based on environmental conditions** (e.g., wind, topography).
- Forest Fires **can be incited by human actions**, such as land clearing, extreme drought or in rare cases by lightning.

- There are **three conditions** that need to be present for a wildfire to burn: **fuel, oxygen, and a heat source**.

## REASONS BEHIND GLOBAL WILDFIRES

### NATURAL CAUSES

- **Extreme climatic conditions:** e.g., high wind speed and direction, temperature, low level of moisture in soil and atmosphere, and duration of dry spells.
- **Lightning strike:** In Australia, most bushfires are caused by lightning
- **The friction of bamboos swaying** due to high wind velocity: e.g., in deciduous forests of northeast India
- **Rolling stones that result in sparks:** In the mountainous forest e.g., Uttarakhand
- **Role of El Nino and La Nina:** Indonesian in 2019 experienced high forest fire incidents due to El Nino's impact
- **Role of sudden stratospheric warming in Antarctica:** 2020 bush fires in Australia was further strengthened

### HUMAN RELATED CAUSES

#### Intentional fires:

- **Economic reasons:** e.g., Human caused fires are also a major issue in Indonesia, where large areas of peatland were burned during last year's fires to be converted into tree plantations.
- **In Pantanal (South America):** Soy and cattle farmers set fires on their land during the summer, but drought and intense winds caused these fires to rage out of control and surpass traditional barriers such as roads and streams.
- **Graziers and gatherers** start small fires to get good grazing grass for their cattle and to gather minor forest produce such as Madhuca Indica flowers and leaves of Diospyros elanoxylon.
- **Shifting cultivation practice:** North-Eastern region of India and in parts of the States of Odisha and Andhra Pradesh.
- Forest fires by villagers to ward off wild animals.

**Unintentional fires:** logging activity related fires, campfires in forests for recreation, E.g., through discards cigarette butts.

#### Climate change:

- It is increasing the fire season and the size of areas affected by the fire. Droughts, which might be exacerbated by climate change, also make wildfires more likely. For instance, Australia has been experiencing such a drought over the past few years, which contributed to the widespread of wildfires in 2020.
- **Climate change is changing the nature and intensity of the fires:** There are more **pyrocumulonimbus clouds – clouds formed on top of heat sources** – that can bring lightning-intensive storms and increase the spread of fire. In Siberia and Russia, climate change is causing winters to become shorter and weather to become drier and windier, leading to more intense fires occurring across larger areas.

## IMPACT OF FOREST FIRES

- The biodiversity of forests and the entire ecosystem have been affected due to deforestation. Along with tree plants in the forest, small grasses and shrubs are also destroyed. Due to which the incidence of soil erosion, landslides, and rapid flooding is increasing.
- Forest firewood also burns, which causes economic damage.
- The families and communities of the tribal class depend on the forests and their social and economic condition is affected by forests. In India, the livelihood of the people of about 1.70 lakh villages is dependent on fuel, bamboo, fodder, and small wood.
- Smoke and diverse types of poisonous gases emanating from forest fires adversely affect the health of human beings and all beings. According to scientists, the gases released from this fire, whose effect lasts for 3 years in the atmosphere, can cause fatal diseases like cancer. Thus, it causes environmental pollution.
- Forests play a significant role in mitigation and adaptation to climate change. They serve as a sink, reservoir, and source of carbon. A healthy forest reserves and accumulates more carbon than any other terrestrial ecosystem.
- Forest fires can have many adverse effects on forest cover, soil, tree growth, vegetation, and overall flora and fauna. Due to ash in several hectares of forest from fire, this place becomes unfit for any vegetative growth.

## GOVERNMENT EFFORTS TO CONTROL FOREST FIRES

- Since 2004, FSI has developed a forest fire alert system to monitor wildfires in real-time. In its upgraded version launched in January 2019, the system now uses satellite information collected from NASA (National Aeronautics and Space Administration) and ISRO.
- Action plan for prevention of forest has been given by the Center to about 21 states. Out of these, the action plan submitted by Maharashtra, Uttarakhand, Uttar Pradesh, and Himachal Pradesh has been approved by the Center.
- In Para 11.2 of the 21st draft of the Earth Conference in Rio in 1992, various problems arising from forest fires were discussed in detail.

## PRELIMS FACTS

### CHIMERIC ANTIGEN RECEPTOR (CAR) T-CELL THERAPY

- Chimeric antigen receptor T cells are **T cells that have been genetically engineered to produce an artificial T cell receptor for use in immunotherapy.**
- Chimeric antigen receptors are receptor proteins that have been engineered to give T cells the new ability to target a specific protein.
- It is used to **treat certain blood cancers**, and it is being studied in the treatment of other types of cancer.
- T cells are part of the immune system and **develop from stem cells in the bone marrow.** They help protect the body from infection and may help fight cancer.
- Under the government programme– **An Innovation in Science Pursuit for Inspired Research (INSPIRE)** faculty from the Department of Science & Technology (DST) is working on an **Alternative Anti-Cancer Therapy (Anti-Angiogenic) using transgenic zebrafish.**

## JAGRITI

- Recently, Jagriti Mascot was launched by the **Department of Consumer Affairs (DoCA)**, in a bid to empower consumers and generate awareness on their rights.
- **The Mascot will be presented as an empowered consumer, mushrooming awareness on consumer rights and addressing solutions for the problems faced by consumers.**
- It will raise consumer awareness on several themes of the Department such as, Hallmarking, provisions of Consumer Protection Act 2019, provisions of weights & measures Act, National Consumer Helpline toll free number 1915, decisions of Central Consumer Protection Authority besides the consumers' testimonials on grievance redressal.
- Jagriti mascot will be displayed along with tagline **"Jago Grahak Jago"** across all the media campaigns.
- Jagriti Mascot and "Jago Grahak Jago tagline" are new synonymous with young aware consumers. Both seek to bring sharp focus towards consumer rights knowledge and movement.

## PROJECT 17A FRIGATE

- Recently, the Defense Minister of India launched **Y-3023 Dunagiri, a Project 17A frigate built by Garden Reach Shipbuilders Limited (GRSE) in Kolkata.**
- 'Dunagiri' is the **fourth ship of Project 17A Frigates.**
- It is named after a **mountain range in the state of Uttarakhand.**
- 'Dunagiri' is the **reincarnation of the erstwhile 'Dunagiri,' the Leander Class ASW Frigate, which in her 33 years of service had witnessed various challenging operations and multinational exercises.**
- Project 17A frigates are **follow-on of the P17 Frigates (Shivalik Class) with improved stealth features, advanced weapons and sensors and platform management systems.**
- There will be seven frigates built under P-17 A for the Indian Navy which will be equipped with advanced stealth capability, four at Mazagon Dock Shipbuilders (MDL), Mumbai and three at Garden Reach Ship Builders Limited (GRSE), Kolkata.

