DAILY CURRENT AFFAIRS 29-11-2024

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Ustad Bismillah Khan Yuva Puruskar

Syllabus; GS-1; Art & Culture- Awards and Recognitions

Context

- 82 Young Artists Conferred with Ustad Bismillah Khan Yuva Puruskar for the Years 2022 and 2023.

About

- **Named After**: The award is named after **Ustad Bismillah Khan**, the legendary shehnai maestro and Bharat Ratna awardee, who is widely regarded as one of the greatest musicians of India.
- **Purpose**: It is given to young artists under the age of 40 in recognition of their talent and contribution to Indian classical music, dance, theatre, and other performing arts.
- **Established**: The award was instituted in 2006 by the Sangeet Natak Akademi to encourage and promote young artists in the fields of performing arts.

Eligibility Criteria

- **Age Limit**: Candidates must be under the age of 40 at the time of receiving the award.

- **Fields of Excellence**: The award is given in various categories of performing arts, including music (both classical and folk), dance, theatre, and other forms of traditional art.

- **Selection**: The recipients are chosen based on their exceptional skills and contributions to their respective art forms. The Sangeet Natak Akademi's advisory boards, consisting of eminent personalities in the field of performing arts, play a key role in the selection process.

Award Details

- **Recognition**: The award recognizes outstanding young talent in the Indian performing arts scene.
- **Prize**: The recipient receives a **certificate** of recognition and a **cash prize**.
- **Significance**: The award highlights the importance of nurturing young talent and the contribution of young artists in keeping India's rich cultural heritage alive.

National Mission on Natural Farming (NMNF)

Syllabus: GS-2; Government policies and Interventions

Context

Centre launches scheme to promote natural farming

Key Highlights of NMNF

- **Objective:**
  - Promote natural farming as a sustainable agricultural practice.
  - Minimize the use of chemical fertilizers and pesticides.
  - Enhance soil fertility and biodiversity.
- **Launch and Implementation:**
  - Launched in **2023**, as part of the efforts to achieve sustainable agricultural practices.
  - Implemented across India, with a focus on regions that are heavily reliant on chemical farming.
- **Core Principles of Natural Farming:**
  - Use of natural bio-stimulants like **Jeevamrit** (fermented microbial culture) and **Beejamrit** (seed treatment).

- Mulching with organic matter to enhance soil fertility.
- Intercropping and crop rotation to maintain biodiversity.
- Avoidance of synthetic chemicals.

- **Target Beneficiaries:**
  - Small and marginal farmers.
  - Agricultural communities practicing rain-fed farming.
- **Key Components:**
  - **Capacity Building:** Training farmers through workshops and demonstrations.
  - **Financial Assistance:** Direct support to farmers for adopting natural farming methods.
  - **Research and Development:** Studying the impacts and refining natural farming techniques.
  - **Technology and Awareness:** Use of digital platforms for outreach and monitoring.
- **Environmental Benefits:**
  - Reduces carbon footprint by avoiding synthetic fertilizers.
  - Promotes carbon sequestration in soil.
  - Enhances water retention capacity of the soil.
- **Economic Benefits:**
  - Reduces input costs for farmers by eliminating chemical fertilizers and pesticides.
  - Increases crop resilience and productivity through improved soil health.
- **Challenges:**
  - Initial resistance from farmers accustomed to chemical-intensive farming.
  - Need for large-scale awareness campaigns.
  - Long gestation period for visible benefits.
- **Monitoring and Evaluation:**
  - A dedicated portal tracks the adoption and progress of NMNF.
  - Involvement of grassroots organizations for effective implementation.
- **Role in Doubling Farmers' Income:**
  - The mission is aligned with the goal of doubling farmers' income by reducing input costs and improving yields.

Related Schemes

- **Paramparagat Krishi Vikas Yojana (PKVY):** Focuses on organic farming practices.
- **National Agroforestry Policy:** Promotes tree-based farming.
- **Mission for Integrated Development of Horticulture (MIDH):** Encourages sustainable horticultural practices.

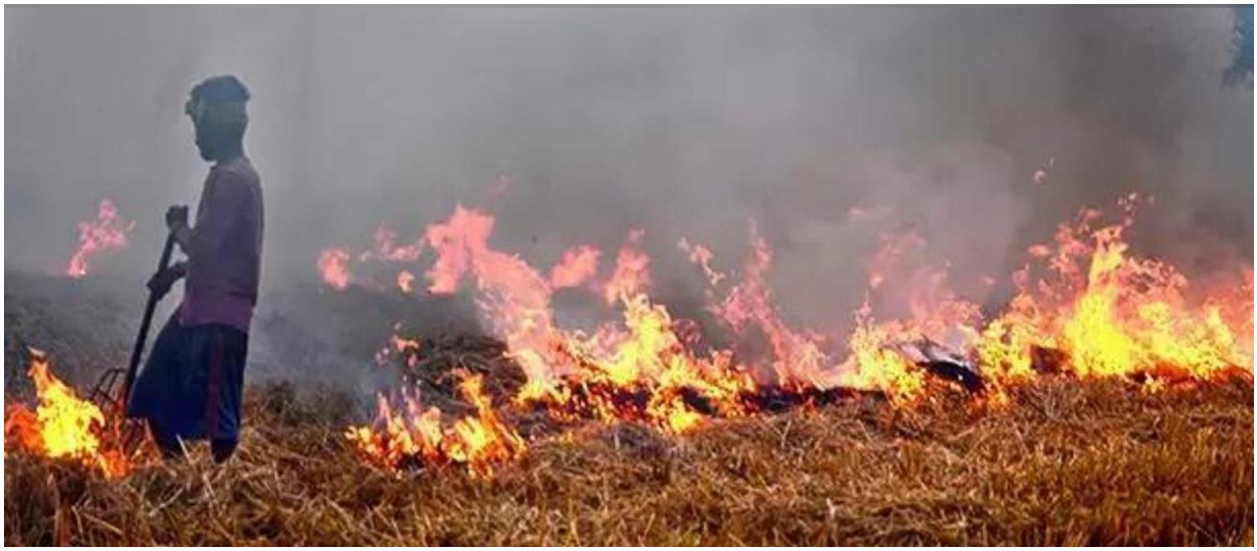
The NMNF is a crucial step towards ensuring sustainable agricultural growth while addressing environmental concerns. Its success could provide a blueprint for global sustainable farming practices.

Tracking Stubble Burning

Syllabus: GS-2; Government policies, GS-3; Environmental Concern

Context

- Experts call for more efficient methods of tracking farm fires; say current count may be an underestimation.



Current Scenario of Air Pollution in Delhi

- Delhi's air quality has reached **hazardous levels**, with pollution 26 times above the WHO's prescribed limit.
- Meteorological factors like fog and westerly winds are **trapping particulate matter**, worsening the air quality.

Farm Fires and Satellite Monitoring Challenges

- **Satellite-based Monitoring:**
  - Farm fire data is primarily gathered using polar-orbiting satellites like **Suomi-NPP** and **NOAA-20**, equipped with the **Visible Infrared Imaging Radiometer Suite (VIIRS)**.

- These satellites pass over India during early afternoon and can miss fires that occur outside their observation window.
- This limitation raises questions about the accuracy of reported fire counts.

- **Alternative Satellite Evidence:**
  - The **GEO-KOMSAT 2A**, a Korean satellite, suggests a spike in late-afternoon fires, potentially missed by polar satellites.
  - Researcher Hiren Jethva highlights that **aerosol levels** remain stable or have increased, despite a reported decline in fire incidents.

Reported Trends in Stubble Burning

- **Decline in Reported Fires:**
  - In 2023, Punjab reported **8,404 fires** (lowest since 2012), down from **65,600 in 2022** and a peak of **1,33,442 in 2016**.
  - Haryana also reported a record low of 1,000 fires.
- **Skepticism Over Data:**
  - Researchers argue that improved awareness among farmers about satellite monitoring may lead them to avoid burning during satellite overpass times.
  - Newer metrics, such as **burned area estimation**, could provide a clearer picture of stubble-burning activity.

Aerosol Pollution and Cross-Border Factors

- High aerosol levels from **eastern Pakistan** (AOD reaching 4) contribute to pollution in northern India, including Delhi.
- Cross-border pollutants are exacerbating air quality issues, as noted by Professor Sachidanand Tripathi from IIT Kanpur.

Recommendations for Improved Monitoring and Policy

- **Enhanced Satellite Metrics:**
  - Shift focus to **burned area data** instead of just fire counts.
  - Include continuous monitoring from geostationary satellites like GEO-KOMSAT 2A.
- **Policy Adjustments:**
  - Better implementation of stubble management schemes.
  - Increase incentives for biomass use in industries to discourage burning.
- **Ground-Based Observations:**
  - Strengthen local pollution monitoring systems in both India and Pakistan for a clearer understanding of transboundary effects.

This holistic approach could help mitigate air pollution in Delhi while providing more reliable data on stubble-burning trends.

Women in constituent assembly

Syllabus: GS-2; the constitution of India

Context

- Recently on Constitution Day President Droupadi Murmu recalled the role of women members in the Constituent Assembly of India, the body tasked with formulating the Constitution of independent India.

Ammu Swaminathan

- **Key Contributions**: Advocated for gender equality and supported the Hindu Code Bill. Her stand on widowhood restrictions showcased her commitment to women's rights.
- **Personal Background**: Hailing from Kerala, she was influenced by her mother's struggles with societal restrictions and later became a political figure who contested elections and served as India's goodwill ambassador.
- **Legacy**: Despite facing resistance from a male-dominated assembly, she worked towards challenging oppressive norms and made significant contributions to post-independence India.

Annie Mascarene

- **Key Contributions**: Prominent for her work in advancing the cause of universal suffrage and political rights for marginalized communities, especially in Travancore. She also advocated for strong central governance while respecting local autonomy.
- **Personal Background**: Born into a Latin Christian family from the lowest caste, Mascarene overcame significant social barriers to become a lawyer and political activist.
- **Legacy**: Her resilience in the face of personal and political adversity set a strong example for future generations of women in politics.

Begum Qudsia Aizaz Rasul

- **Key Contributions**: A vocal advocate for women's rights within the context of a Muslim-majority society, she opposed separate electorates for different religious groups and actively campaigned for women's political participation.
- **Personal Background**: Coming from a privileged background, she challenged conservative views by discarding purdah and participating in electoral politics, winning a non-reserved seat.
- **Legacy**: She played a crucial role in bridging gaps between different communities and was one of the few women who took a stand against the division of India during the independence movement.

Dakshayani Velayudhan

- **Key Contributions**: As the first Dalit woman to graduate in science and enter the Cochin Legislative Council, she strongly opposed caste-based divisions and fought for equality in education and politics.

- **Personal Background**: Hailing from the oppressed Pulaya community, she faced discrimination but persisted in her education and activism, leading her to become a member of the Constituent Assembly.
- **Legacy**: Velayudhan's views on nationalism and unity challenged the prevailing casteist norms of the time, advocating for a more inclusive society.

Renuka Ray

- **Key Contributions**: Known for her advocacy for women's rights, she opposed reservations for women in legislatures, arguing it was an insult to their intelligence. She also fought for inheritance and divorce rights for women.
- **Personal Background**: From a distinguished family, she joined the freedom struggle and later became a prominent social activist. She studied at the London School of Economics and was active in women's organizations.
- **Legacy**: Her work in the Central Legislative Assembly and her stance on gender equality left an enduring impact on the fight for women's rights in post-independence India.

Candidatus Phytoplasma

Syllabus: GS-3; Agriculture

Context

- Recent studies have identified Candidatus Phytoplasma as the causative agent of an unusual disease impacting sesame crops in Midnapore, West Bengal.
- Revered as the "Queen of Oil" for its ancient heritage and medicinal properties, sesame plants affected by this disease exhibit deformities and virescence, leading to substantial yield losses.

About

- Candidatus Phytoplasma is a genus of intracellular bacterial pathogens belonging to the class Mollicutes.
- These bacteria primarily infect plants, residing in the phloem tissue, and are transmitted by insect vectors such as leafhoppers.
- They are also known as "mycoplasma-like organisms" due to their lack of rigid cell walls and pleomorphic shape.

Characteristics:

- **Genomic Traits**:
  - Phytoplasmas have a highly reduced genome, encoding minimal metabolic functions. This reduction is attributed to their dependency on hosts for survival.
  - Their genomic studies have advanced understanding of parasitism and host interactions.
- **Symptoms in Plants**:
  - Infected plants display stunted growth, yellowing, and symptoms such as:

- **Witches' broom**: Excessive shoot proliferation.
- **Phyllody**: Transformation of flowers into leaf-like structures.
- **Virescence**: Green pigmentation of floral organs.
- **Purple top**: Reddening of leaves and stems.

- **Transmission**:
  - The bacteria spread through insect vectors, which acquire the pathogen by feeding on infected plants. The insects transmit the bacteria to healthy plants during feeding.
- **Affected Crops**:
  - Over 700 plant species are affected, including economically important crops like fruits, vegetables, and ornamental plants. Significant losses have been recorded in crops like apples and coconut palms.

Global Concerns:

- **Economic Impact**:
  - Diseases caused by phytoplasmas, such as sandalwood spike disease and phyllody in sesame, lead to substantial yield losses globally.
  - For example, an apple phytoplasma outbreak in Italy caused losses of over €100 million.
- **Impact of Climate Change**:
  - Rising temperatures favor the spread of insect vectors, increasing the prevalence of phytoplasma-related diseases.

Advancements in Detection:

- **Modern Techniques**:
  - Methods like Whole Genome Bisulfite Sequencing (WGBS) and anchored hybrid enrichment outperform traditional PCR techniques, allowing for the identification of previously undetected phytoplasma strains.
- **Taxonomic Updates**:
  - Recent updates in taxonomy incorporate genomic features, enhancing the precision in identifying and classifying phytoplasma species.

Significance for Agriculture:

- Developing disease-resistant plant varieties and effective pest management strategies is crucial to mitigating the impact of phytoplasma infections on global food security and economy.