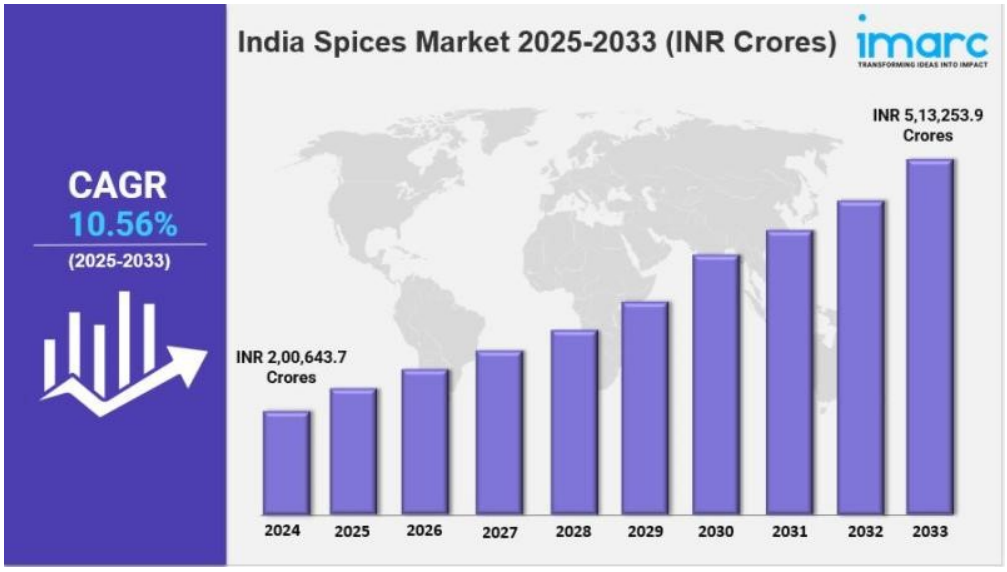
UPSC Daily Current Affairs| Prelim Bits 08-03-2025

India's Spices in Global Market

Why in News?

World Spice Organization (WSO) recently said that India's share in the global seasoning market was pegged at $14 billion in 2024 (0.7%), regardless of being the largest producer and exporter of spices.

- India spices market size reached INR 2, 00,643.7 Crores in 2024.



- The India Spices Market is witnessing significant expansion, fueled by a growing culinary culture, increased consumer interest in health benefits, and the rise of e-commerce platforms.
- Traditional spice-growing States as well as the North Eastern region, Odisha and Jharkhand were emerging as sizable producers of various spices.
- **Major spice-growing states in India**

Madhya Pradesh	Andhra Pradesh	Maharashtra	Uttar Pradesh	Kerala
Rajasthan	Telangana	Assam	West Bengal	
Gujarat	Karnataka	Orissa	Tamil Nadu	

- India has 15 different agro-climatic zones and this helps us grow a wide variety of spices, almost in all states.
- **Exporting Countries -** The spice sector's exports span across regions including China, Bangladesh, Sri Lanka, the USA, the UK, the Middle East, Thailand and Germany.
- According to the India Brand Equity Foundation (IBF) ***chilli, turmeric, cumin,***

ginger and coriander constitute approximately 76% of India's total spice exports.

- India currently exports 1.5 million tonnes of spices of all kinds worth $4.5 billion, commanding a quarter of the global spice market valued at $20 billion.
- Some 85% of the spices grown in India are consumed domestically, currently does not grow enough spices for exports.
- **Need of Value addition -** Currently only 48% of India's spice exports were valued-added products while the remaining bulk hits the markets as culinary whole spices.
- To achieve the Spices Board of India's export target of $10 billion by 2030, the country's share in value-added spices should rise up to 70%.
- Investigating the medicinal and nutraceutical potential of spices was also crucial for the Indian spice industry.
- China's share in the global market is 12%, and the U.S.A.'s share in the worldwide market is 11%, whereas India is pegged only at a paltry (minuscule) - 0.7%.
- Although India leads the world in spice production, Vietnam, Indonesia, Brazil and China are also active players in the global spice markets. Africa entered spice production in recent years.

Reference

The Hindu | Spice Market in India

New Research on Treatment for Vitiligo

Why in News?

A recent research's pre-clinical trial in mice has shown that a natural compound derived from gut-friendly bacteria significantly slows down the progression of vitiligo and may restore pigmentation.

- **Recent Findings -** A microbial product administered weekly to vitiligo-prone mice over an 18-week period.
- By the end, pigment loss on the mice's backs was reduced by **74%.**
- The product reduced killer T cells that attack the skin's pigment and increased protective regulatory T cells, which are typically scarce in vitiligo patients.
- This simple microbial compound could work as a standalone therapy or in synergy with existing treatments.
- **Vitiligo -** Vitiligo is a chronic autoimmune disorder that causes white patches to appear on the skin.
- **Symptoms -** The body's defense system begins to attack the pigment-producing cells and causes de-pigmented white patches on the skin.
- It can also affect hair, eyes, and the inside of the mouth.
- It is linked to other health challenges, including for some persons, higher risks of cardiovascular disease, psychological distress, and endocrine disorders.
- **Causes -** A lack of pigment in your skin (melanin) causes vitiligo. Studies indicate that about 30% of vitiligo cases are genetic
- **Risk age groups -** Vitiligo affects all races and sexes equally.
- There are typically two peaks in persons with vitiligo in adolescence, and then, again, during the 40s and 50s.

- It has been found to be more severe in people with darker skin tones, as found in the Indian population.
- Naturally, the visibility of the discoloration in people with darker skin can also amplify stigma and emotional distress.
- **Prevalence** - It is estimated that vitiligo affects ***0.5% to 2%*** of the global population.
- The prevalence of vitiligo in India has been invariably reported to be between ***0.25% and 4%*** of dermatology outpatients across studies in the country, and up to 8.8% in Gujarat and Rajasthan.
- Vitiligo is ***not life-threatening or contagious***.
- **Treatment -** There ***isn't a specific medication*** to stop vitiligo from affecting your skin but there are certain drugs that can slow the speed of pigmentation loss.

Reference

The Hindu | Vitiligo

Synthesis of hydrogen peroxide

Why in News?

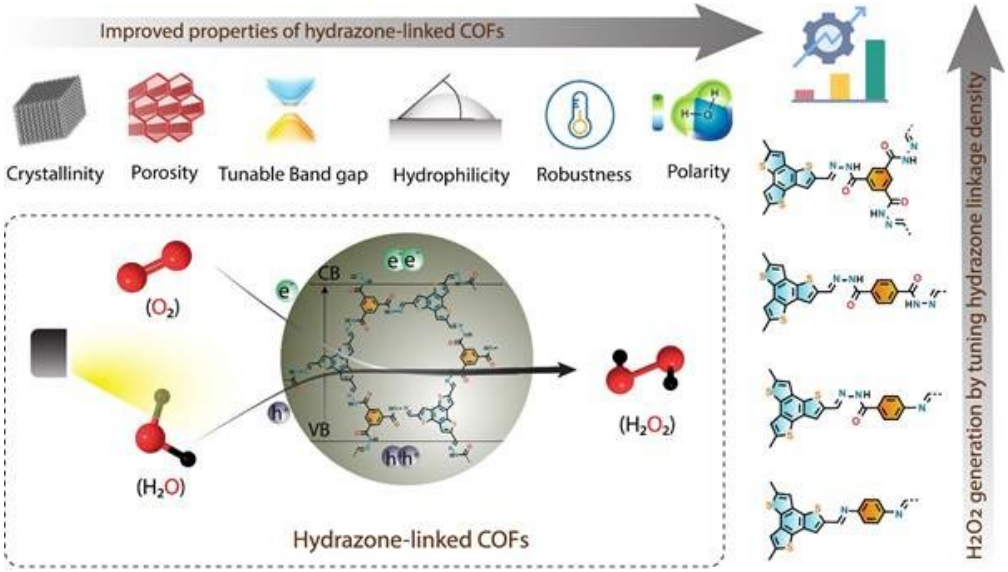
Researchers have found an efficient, less energy-intensive, and environmentally friendly way of synthesizing hydrogen peroxide.

- Currently, over 95% of H_2O_2 is produced industrially using the ***anthraquinone oxidation process***.
    - It is very energy intensive, expensive and produces many hazardous chemicals as by-products.
- **Recent Findings -** Scientists discovered a new class of porous and ordered polymers with modifiable catalytic sites and light-harvesting properties in visible range, called covalent organic frameworks (COFs).
- It have emerged as promising photocatalysts.
- **Done by -** S. N. Bose National Centre for Basic Sciences, Kolkata, an autonomous institute under the Department of Science and Technology (DST).
- They have designed and prepared a series of COFs having good water affinity through careful control of the hydrazone linkage density.
- They also studied their effect on the photocatalytic performance for H2O2 generation.
- It was observed that the *hydrazone-linked COFs* provide abundant docking sites for water and oxygen, thereby promoting 2 main pathways for *photocatalytic H2O2 generation*
    - Water oxidation reaction (WOR) and
    - Oxygen reduction reaction (ORR)
- As a result, the hydrazone-linked COF exhibited exceptional photocatalytic H2O2 production without external sacrificial electron donors when irradiated with a 40 W blue LED (λ = 467 nm).
- Interestingly, a significant amount of H2O2 (550 µmol g-1 h-1) was also produced under sunlight irradiation.
- It outperforms most organic photocatalysts under similar conditions, thus demonstrating a clean and sustainable pathway.

- Furthermore, as-synthesized hydrazone-linked COFs can generate H2O2 up to 21641 µmol g-1 h-1 using an aqueous benzyl alcohol solution by preventing the degradation of H2O2.

Aqueous benzyl alcohol consists of (water: benzyl alcohol = 90:10)

- This strategy will be helpful in developing a continuous flow reactor for the sustainable production of H2O2 and will reveal a laboratory-to-industry technology transfer for the benefit of mankind.



Hydrogen peroxide (H_2O_2)
• It is a chemical, versatile oxidizing agent widely used in environmental disinfection, chemical synthesis, paper bleaching, and fuel cells. • **Significance –** Driven by the increasing awareness of disinfection, the rise in the number of surgeries, and the prevalence of hospital-acquired infections.

References

PIB | Hydrazone-linked COFs

‘D’ (Doubtful) voters

Why in News?

The opposition recently raised concerns over the plight of ‘D’ (Doubtful) voters in Assam, demanding the closure of detention centre and the tabling of the National Register of Citizens (NRC) report in the Assembly.

- Doubtful Voter are those persons who are identified during electoral roll revision as D Voters, cases of which are pending with the Foreigners Tribunals or as declared as foreigners by the Tribunal.
- **Category introduced by –** Election Commission of India in 1997.
- “D” voters can apply for inclusion of their names in the updated NRC.

- However, a “D” Voter’s name will only be included in *NRC after getting clearance from the Foreigners Tribunals* and on removal of their names as "D" Voter from the Electoral Roll.
- It is not defined in the ***Citizenship Act of 1955 or the Citizenship Rules of 2003.***
- In India, a family or individual is notified in a pro forma after the verification process concludes whether they have been classified as a dubious citizen (D-Category).
- If a person's citizenship is questioned, the local registrar will note it in the population register for additional investigation.
- Prior to making a decision on whether to include the person's name in the record, the *Taluk or Sub-district Registrar of Citizenship* ensures a fair process by giving them a chance to be heard.
- The Registrar conducts a thorough investigation, with ***90 days*** to complete and provide evidence for their conclusions.
- If it is found that a person is an illegal immigrant or foreign national, they may face serious consequences such as deportation or placement in a detention facility.
- Voters with doubts are ***prohibited from casting ballots*** or running for office in the country's elections.

According to Assam, there are 96,987 D voters in the state as of February this year.

Reference

India Today NE | ‘D’ voters crisis

Marbled Cat

Why in News?

The elusive marbled cats have been spotted recently at Dehing Patkai National Park, Assam.

- It is a ***small wild cat*** native to the eastern Himalayas and Southeast Asia.
- **Scientific name** – Pardofelis marmorata.
- **Habitat** – Cleared areas or agricultural plantations, at lower elevations and deciduous-evergreen tropical forests.
- **Distribution** – Nepal, Myanmar, Laos, Thailand, Vietnam, Cambodia, Malaysia, Sumatra, and Borneo.
    - **In India** – Northern India, Sikkim & Assam.

Dehing Patkai Wildlife Sanctuary *was declared as National Park on 15th June, 2021 and is the only sanctuary in India which is home to 7 different species of wild cats.*

- **Morphology** – Short, broad face, rounded ears, long bushy tail, coat is thick & soft and its color can vary from dark gray-brown to yellowish gray to red-brown.

- It marked with large, irregular dark-edged blotches, legs and underparts are patterned with black spots.



- **Comparison** – To *small clouded leopards* both bear the distinctive marbling pattern on their coats, with the combination of large, irregular shaped dark blotches, lined with black.
- **Behaviour** – It is a *nocturnal* animal, mainly active at night.
- It is known as a *very good climbers and relatively solitary* in nature.
- **Diet** – Birds, squirrels, rats, and possibly lizards and frogs.
- **Threats**
  - Deforestation.
  - Habitat loss and fragmentation.
  - Hunted for its fur, eating, commercial purposes, or medicine.
- **Conservation status**
  - **IUCN status** – Near Threatened (NT).
  - **CITES** – Appendix I.
  - **WPA, 1972** – Schedule I.

References

1. The Times of India| Marbled Cat
2. FCF| Marbled Cat

One Liners 08-03-2025
History, Art and Culture
Bodhipath Film Festival • **Organized by** – International Buddhist Confederation (IBC). • **To be held at** – India International Centre, New Delhi. • **Aim** – To celebrate and showcase the rich spiritual, cultural, and philosophical traditions of Buddha Dhamma through the motion picture medium.
Geography

Silvassa

• It is a town, administrative headquarters of union territory of Dadra and Nagar Haveli district.
• **Economic centre** – It is primarily agricultural and produces rice, pulses (legumes), and fruit crops.
• **Damanganga River** – It flows through Maharashtra, Gujarat and U.Ts of Dadra and Nagar Haveli & Daman & Diu.



Economy

DPIIT & Mercedes-Benz India Sign MoU

• **DPIIT** – Department for Promotion of Industry and Internal Trade.
• **Aim** – To support startups, innovators, and entrepreneurs in achieving technological excellence and fostering societal development.
• To advance India's manufacturing ecosystem, road safety, and environmental sustainability.

Agriculture

World Spice Organisation

• **Objective** – To facilitate the spice industry in dealing with issues of "Food Safety & Sustainability".
• It is a *not-for-profit organization.*
• **Headquarters** – *Kochi*, the spice capital of India.
• **Registered under** – Travancore Cochin Literary, Scientific and Charitable Societies Act, 1956.

Environment

Lesser-Known Species

Eurasian Otter

• It is a *keystone species*, which is shy and nocturnal creature.
• **Habitat** – Tamirabharani River and Pothigai hills of Western Ghats.
• **India** – It is home to 3 otter species.
• **IUCN status** – *Near Threatened*.

Large Soft-Shell Freshwater Species

Species	Scientific Name	Habitat	IUCN Status
Cantor's Giant Soft-shell	Pelochelys Cantorii	Native to Southeast Asia.	Critically endangered
Leith's Soft-shell Turtle	Nilssonia Leithii	Endemic to Peninsular India.	Critically endangered
Indian flapshell turtle	Lissemys Punctata	Cauvery region.	Vulnerable

Shendurney Wildlife Sanctuary

• **Located in** – Kollam district, *Kerala*.
• **Part of** – Agsthyamali Biosphere Reserve.
• It is a valley of green splendour acclaimed for its rich biodiversity.
• It is home to a variety of animal species, including several endangered and endemic species.

Security

Shaurya Vedanam Utsava

• It is a 2 day *Armed Forces Display* conducted by *Indian Army*.
• **Held at** – Motihari, Bihar.
• **Feature** – It displayed a military equipment, martial arts, mass performance by military bands, combat demonstration by Special Forces, motorcycle dog show and more.

Miscellaneous

Honorary Order of Freedom of Barbados Award

• **Awarded to** – Prime Minister Narendra Modi.
• **Awarded for** – In recognition of his *strategic leadership* and *valuable assistance* during the Covid pandemic.
• **Received by** – Minister of State for External Affairs on behalf of Modi.

International Women's Day 2025

• **Celebrated on** – *March 8*, annually.
• **Theme for 2025** – Accelerate Action.
• **Aim** – To educate society on the remarkable women's rights movement while celebrating the cultural, political, and socio-economic achievements of women and girls.

Global Road Infratech Summit & Expo (GRIS)

• **Organized by** – International Road Federation-India Chapter (IRF-IC).
• **Theme** – Vision Zero: Sustainable Infratech and Policy for Safer Roads.
• **Reason for road accidents** – Due to poor civil engineering practices in road design, construction, management and improper road signages and marking systems.
• **India's aim** – To reduce accident rates by *50% in 2030*.
• Accidents contribute to an *economic loss of 3 % to GDP*.



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