

NATIONAL SOCIAL ISSUES- WOMEN, POPULATION, URBANISATION, EMPOWERMENT ETC**Dry eye disease epidemic**

For the first time, a large-scale hospital-based study in India involving over 14.5 lakh patients had found the incidence of dry eye disease to be 21,000 per year.

Highlights of the study:

- The incidence in urban areas was higher than in rural areas. The prevalence of dry eye disease will be in about 40% of the urban population by 2030.
- Age, urban residence, occupation and socio-economic affluence were found to be high risk-factors for developing the disease.
- With a large ageing population, growing middle-class and chronic nature of the disease, India is on the verge of a dry eye disease epidemic.
- The disease tends to be progressive with age. Once corneal damage becomes irreversible it can lead to visual impairment and even blindness.
- Early diagnosis and treatment are important. The disease is hugely underdiagnosed in India.
- The onset of dry eye disease is early in men than in women. In men, the age of disease onset is early 20s and 30s compared with 50s and 60s in women.
- Hormonal imbalance could be a likely reason for higher cases in women in their 50s and 60s.

About Dry eye disease: Dry eye disease could occur due to

- inadequate tear production (aqueous deficient)
- tear film instability due to evaporation
- or mixed type.

Testing the tear volume is mandatory for patients with the disease. Only this test will tell if the disease is evaporative [tear film instability], aqueous deficient or mixed.

INTERNATIONAL AFFAIRS- BILATERAL, GROUPINGS, ORGANISATIONS**Exercise Sary-Arka Anti-terror 2019**

India, Pakistan and the other member states of the Shanghai Cooperation Organisation (SCO) will take part in a joint anti-terrorism exercise to be held this year by the grouping.

Ex Sary-Arka Anti-terror 2019

- The decision to hold the joint exercise was announced during the 34th meeting of the SCO's Regional Anti-Terrorist Structure (RATS) council held in Tashkent, Uzbekistan.
- Delegations of the competent authorities of India, Kazakhstan, China, the Kyrgyz Republic, Pakistan, Russia, Tajikistan, Uzbekistan and the RATS Executive Committee attended the meeting.
- Chaired by Russia, the meeting also declared plans to hold the first stage of the joint border operation "Solidarity 2019-2021".

About RATS :Regional Anti-Terrorist Structure (RATS) is a permanent organ of the SCO which serves to promote cooperation of member states against the three evils of terrorism, separatism and extremism. It is headquartered in Tashkent. Its head is elected to three-year term. Each member state of SCO sends permanent representative to RATS

Shanghai Cooperation Organization's (SCO)

- The SCO, in which China plays an influential role, is also comprised of Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Uzbekistan, India and Pakistan.
- India and Pakistan were admitted into the bloc in 2017.
- It is Eurasian economic, political and security organisation headquartered in Beijing, China.
- Its main objective is military cooperation between member states. It is primarily centred on security-related concerns of Central Asian members with main threats being terrorism, separatism and extremism.

- It was established in June 2001 as a successor of Shanghai Five mechanism which was established in 1996 with China, Kazakhstan, Kyrgyzstan, Russia and Tajikistan as members.
- Iran, Afghanistan, Belarus and Mongolia enjoy observer status of SCO.
- Turkey, Azerbaijan, Armenia, Cambodia, Sri Lanka and Nepal are dialogue partners of SCO.

INDIAN ECONOMY

RBI governor bats for permanent status to Finance Commission

The 15th Finance Commission, constituted in November 2017, will give recommendations for devolution of taxes and other fiscal matters for five fiscal years, commencing April 1, 2020. RBI Governor Shaktikanta Das has said increasingly it is felt that there is a need to give permanent status to the Finance Commission and constitution of State Finance Commissions every five years.

Addressing various challenges

- According to Das, there is now general agreement in the country about the importance of fiscal consolidation roadmap both at national and sub-national levels.
- Successive finance commissions have made efforts to address the emerging issues and challenges, but in a democracy like India, the debate goes on.
- Geopolitical risks have necessitated higher expenditure on defence and internal security.
- Natural calamities and disasters have called for higher expenditure on relief and rehabilitation.
- In parallel, aspirations of people and the country as a whole have required that the government spends more on developmental programmes.

Why such move?

- The Commission can function as a leaner entity in the intervening period till the next Finance Commission is set up in a full-fledged manner.
- Over past several decades, Finance Commissions have adopted different approaches with regard to principles of tax devolution, grants to be given to states and fiscal consolidation issues.
- There is a need to ensure broad consistency between Finance Commissions so that there is some degree of certainty in the flow of funds, especially to the states.
- This has become even more critical in the post GST scenario.

Imbibing Continuity

- According to Das, finance commissions have over the past several decades adopted different approaches with regard to principles of tax devolution, grants to be given to states and fiscal consolidation issues.
- In other words, there has to be continuity and change between finance commissions.
- Increasingly, therefore, it is felt that there is a need to give permanent status to the finance commission.
- A commission can function till the next finance commission is set up in a full-fledged manner.
- During the intervening period, it can also address issues arising from implementation of the recommendations of the finance commission.

Other recommendations

- The principle of decentralisation works better when powers and functions are delegated based on which tier of governance is best suited to fulfill that responsibility.
- The constitution has already provided for delegation of certain functions to the urban and rural local bodies; but it is seen that there is still good distance to traverse when it comes to devolution of funds to these local bodies.

- It is essential that State Finance Commissions are constituted every five years as per the mandate in Article 243I of the Constitution and arrangements are made for their robust functioning.

India sets up private sector alliance for DRR

India has set up private sector alliance for disaster resilient communities, known as ARISE, an initiative supported by the UN Office for Disaster Risk Reduction (UNISDR).

ARISE

- ARISE stands for the UNISDR Private Sector Alliance for Disaster Resilient Societies.
- It is a UNISDR-led network of private sector entities, whose members voluntarily commit to align with the Sendai Framework.
- Already 140 companies worldwide are members of ARISE.
- Its members share information, experience, activities, and projects, while the level of involvement and resources is at the discretion of each member.
- Most activities and interactions are at a local and regional level, and ARISE is structured accordingly.

Why such move?

- The government has taken the initiative to strengthen private sector participation and investment in building disaster resilient infrastructure and bring down disaster losses, one of the key goals of the Sendai framework for disaster risk reduction.
- This will bring Indian corporates to work in tandem with the government to take action before a disaster strikes and build back better after a calamity.
- ARISE India would turn the private sector's attention to the importance of action before a disaster strikes and to take advantage of opportunities that emerge to build back better after a disaster hits.

India's losses to disasters

- A study released by the UNISDR last year said India suffered economic losses of \$80 billion during the 20-year period of 1998 to 2017.
- India has been ranked among world's top five countries in absolute economic losses.

United Nations Office for Disaster Risk Reduction

- The UNISDR created in December 1999, is the successor to the secretariat of the International Decade for Natural Disaster Reduction.
- It was established to ensure the implementation of the International Strategy for Disaster Reduction.
- It is part of the United Nations Secretariat and its functions span the social, economic, environmental as well as humanitarian fields.
- UNISDR supports the implementation, follow-up and review of the Sendai Framework for Disaster Risk Reduction adopted by the Third UN World Conference on Disaster Risk Reduction on 18 March 2015 in Sendai, Japan.

ENVIRONMENT- CONSERVATION, BIO-DIVERSITY AND ISSUES

Parrotfish in Andaman

Coral cover protection along the existing protected marine areas in Andaman and Nicobar islands is necessary for conservation of the endangered Bumphead Parrotfish, a new study has suggested.

Bumphead Parrotfish

- Bumphead parrotfish, *Bombometopon muricatum*, is an important component of coral reef ecosystem, but is highly endangered globally.
- It is categorized as 'vulnerable' in the Red List of the International Union for Conservation of Nature (IUCN).
- This fish is a highly prized resource, but is threatened due to limited knowledge about its distribution and abundance in Indian waters.
- A research recently studied the distribution, abundance and dangers to this species in the waters of Andaman and Nicobar islands.

Threats

- A large body size, aggregating behaviour and limited activity at night make *B. muricatum* an easy target for spear-fishers.
- Combined with slow growth and low replacement rates, this has resulted in population decline across the Indo-Pacific and Red Sea region.
- The study reports that the presence of a protected area, live coral and algal cover, significantly influenced the distribution and abundance of *muricatum*.
- Incidental catch by fishers and degradation of coral reef habitats are two potential threats to the species.
- Evidence of low abundance of *muricatum* on ocean reefs surrounded by deep waters, and traits such as limited dispersal and gregariousness, could also have influenced the distribution and abundance of this fish.
- The findings suggest the necessity to ban night fishing for the species and to implement regulations regarding reef fishing.

SCIENCE AND TECHNOLOGY- EVERYDAY SCIENCE, SPACE, NUCLEAR, DEFENCE ETC

Hayabusa2

Japan's Hayabusa2 spacecraft will follow up last month's touchdown on a distant asteroid with another risky mission — dropping an explosive on the asteroid to make a crater and then collect underground samples for possible clues to the origin of the solar system. Hayabusa2 made history on 22 February when it successfully touched down on the boulder-strewn asteroid and collected some surface fragments.

Hayabusa: In mid-September 2005, Hayabusa landed on the asteroid Itokawa, and managed to collect samples in the form of grains of asteroidal material. It returned to Earth with the samples in June 2010, thereby becoming the first spacecraft to return asteroid samples to Earth for analysis.

Hayabusa2:

- It is an asteroid sample-return mission operated by the Japanese space agency, JAXA.
- It was launched on 3 December 2014 and rendezvoused with near-Earth asteroid 162173 Ryugu on 27 June 2018.
- It is in the process of surveying the asteroid for a year and a half, departing in December 2019, and returning to Earth in December 2020.
- Hayabusa2 carries multiple science payloads for remote sensing, sampling, and four small rovers that will investigate the asteroid surface to inform the environmental and geological context of the samples collected.
- The scientific objectives of Hayabusa2 mission are twofold:
 - To characterize the asteroid from remote sensing observations (with multispectral cameras, near-infrared spectrometer, thermal infrared imager, laser altimeter) on a macroscopic scale
 - To analyse the samples returned from the asteroid on a microscopic scale.

Significance of the mission: Ryugu is a C-type asteroid – a relic from the early days of the Solar System. Scientists think that C-type asteroids contain both organic matter, and trapped water, and might have been responsible for bringing both to Earth, thereby providing the planet with the materials necessary for life to originate.

QUOTE OF THE DAY

Do something today that your future self will thank you for.