Prelim Bits 07-12-2022 | UPSC Daily Current Affairs

NSAs of India and Central Asia

India hosts a conclave of top security officials from Central Asia with a focus on the evolving security situation in Afghanistan.

- The National Security Advisors (NSA) level meeting was the outcome of the India-Central Asia virtual summit held in January 2022.
- The first India-Central Asia meeting of NSAs/secretaries of security councils was hosted by National Security Advisor Ajit Doval.
- The NSAs of Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan participated in the event.
- It focused on evolving a common framework to deal with challenges of terrorism in the region, including Afghanistan.
- The NSAs discussed the current situation in Afghanistan and its impact on the security and stability of the region,
- Also emphasised respect for Afghanistan's sovereignty, unity and territorial integrity and urging non-interference in its internal affairs.

India considers Central Asian countries as its extended neighbourhood.

Central Asia Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan are the 5 Central Asian countries.	

References

1. Indian Express - Financing lifeblood of terrorism: NSA
2. The Hindu - India-Central Asia security: NSA Doval
3. Hindustan times - India-Central Asia NSAs

ChatGPT

The latest AI tool ChatGPT is creating a buzz among computer scientists and programmers due to its creative capabilities.

- The OpenAI Company developed a new Chabot called ChatGPT.
- ChatGPT is much more than a chat bot and is fine-tuned to provide conversational responses.
- ChatGPT is a 'conversational' AI and answers queries just like a human.
- ChatGPT is being seen as a replacement for the basic emails, party planning lists, CVs,

write four-page essays, solve math equations, and even spot errors in code.

- **GPT Language model** - The Generative Pre-Training (GPT) language model is a type of neural network that can create new content based on input content and this is called Training Data.
- This technology makes it suitable for creative tasks like writing a new story.
- ChatGPT is the latest version of GPT API (DPT3) and is additionally trained on conversational transcripts with human feedback.

OpenAI is a start-up focused on artificial intelligence and its potential use cases founded in 2015.

References

1. The Hindu - The workings of ChatGPT
2. Indian Express - What is OpenAI's ChatGPT Chabot?

Biofloc Farming

The success of a biofloc farm in Kochi is likely to give boost to aquaculture and promote nutritional security.

- **Biofloc** - The biofloc is a heterogeneous aggregate of suspended particles and variety of microorganisms associated with extracellular polymeric substances.
- It is composed of microorganisms such as bacteria, algae, fungi, invertebrates and detritus, etc.
- **Biofloc Technology** - It is a method of high-density fish farming in a controlled environment in which fish wastages are converted into useful nutrients.
- This technology is based on the principle of **flocculation** within the system.

Flocculation is a process by which a chemical coagulant added to the water acts to facilitate bonding between particles, creating larger aggregates which are easier to separate.

- The principle of this farming technique is the generation of nitrogen cycle by maintaining higher C:N ratio by adding carbohydrate source.
- The heterotrophic microbes assimilates the nitrogenous waste that can be exploited by the cultured spices as a feed.
- The water quality is improved through the production of high quality single cell microbial protein.
- The biofloc technology effectively treats the waste and also grants nutrition to the aquatic animal.
- This technology has been implemented in shrimp farming due to its bottom dwelling habit (benthic species) and resistance to environmental changes.

Benefits of Biofloc culture

- Improves land and water use efficiency
- Limited or zero water exchange
- Higher productivity and biosecurity

References

1. The Hindu - Biofloc farming success likely to boost aquaculture
2. Vikaspedia -Biofloc culture
3. National Fisheries Development Board - Biofloc culture

Square Kilometre Array

Construction of the world's largest radio astronomy observatory, the Square Kilometre Array, has begun in Australia after three decades in development.

- The Square Kilometre Array (SKA) project is an international effort to build the world's largest radio telescope, with eventually over a square kilometre (one million square metres) of collecting area.
- Two SKA telescopes are constructed at radio-quiet sites in South Africa and Australia.
    1. Australia - SKA-Low - Low frequency aperture array antennas
    2. South Africa – SKA-Mid - Mid-frequency array antennas
- The SKA consists of 4 precursor telescopes which are located at SKA sites and will be inducted to the SKA.
    1. The South African MeerKAT and Hydrogen Epoch of Reionization Array (HERA)
    2. The Murchison Widefield Array (MWA) and CSIRO's Australian SKA Pathfinder (ASKAP).

The Arecibo telescope in Puerto Rico, which was the second-largest single-dish radio telescope in the world, collapsed in December 2020.

- The SKA will give astronomers insight into the formation and evolution of the first stars and galaxies after the Big Bang, the role of cosmic magnetism, the nature of gravity.

Square Kilometre Array Observatory

- The SKA Observatory (SKAO) is an inter-governmental organisation established in early 2021.
- The SKAO dedicated to radio astronomy, is headquartered in the UK.
- It will undertake the construction, operation and maintenance of the SKA telescopes.
- Organisations from 16 member countries take part in SKA project.
- National Centre for Radio Astrophysics (NCRA) represents participation from India.

References

1. Indian Express - 133 dishes will be added to its 64-dish MeerKAT
2. Hindustan Times - Work begins on most powerful radio telescope
3. SKA Telescope
4. SKA Observatory

Criminalising adultery in Indonesia

Indonesia's Parliament passes law on criminalising adultery amending its criminal code.

> *Indonesia, the world's fourth most populous nation and third largest democracy, proclaimed independence August 17, 1945.*

- Indonesia's Parliament passed a new criminal code criminalising adultery, sex outside marriage, religious blasphemy, etc.
- Earlier, the Dutch Criminal Code was adopted as the Indonesian Criminal Code.
- Indonesia's Parliament stipulated tough punishments for adultery, rape and homosexuality in line with Sharia laws.
- **Adultery** - The criminal code included articles that make sex outside marriage punishable by a year in jail and cohabitation by 6 months.
- The adultery charges must be based on police reports lodged by their spouse, parents or children.
- **Foreigner Visitors** - The amended criminal code criminalizes extramarital sex for citizens and visiting foreigners alike.
- **Abortion** - The code maintains that abortion is a crime, but it adds exceptions for women with life-threatening medical conditions and for rape, provided that the foetus is less than 12 weeks old.
- **Contraception** - It also says the promotion of contraception is illegal.
- **Limitation on Political Liberties** - Insulting a sitting president and vice president, state institutions and national ideology are banned under the new code.
- The new legal codes will come into effect in maximum of 3 years.

> *In 2018, India decriminalised adultery. The Supreme Court removed the colonial era provisions on adultery in IPC and CrPC.*

References

1. The Hindu - Indonesia criminalised adultery
2. Times Now - Indonesia bans adultery

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