

## 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.*

<p><b>Central Asia</b> Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan are the 5 Central Asian countries.</p>	
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### 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 species 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](#)