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General Studies-1

ICID Register of Heritage Irrigation Structures

Why in News?

A meeting of the International Executive Council, the highest decision making body of International Commission on Irrigation and Drainage (ICID), at Saskatoon in Canada last month has accepted Telangana government's nomination of *Sadarmatt anicut* across river Godavari in Nirmal district and *Pedda Cheruvu* in Kamareddy district in the ICID Register of Heritage Irrigation Structures.

Sadarmatt anicut

- The HIS award is a deserving recognition to this irrigation facility which has provided precious water for paddy crops in its designed ayacut of 13,100 acres in present day Khanapur and Kadem mandals since its construction in 1891-92.
- The anicut, which is English word for Telugu's *ana-katta*, meaning a rainfall bund, was built by Nawab Ikbal-ud-Dowla who bore the tile of Vicar-ul-Umrah Bahadur in 1891-92 about 50 km downstream of the Sri Ram Sagar Project (SRSP).
- Sadarmatt bund is 437.4 m long on its left flank and 23.8 m on its right flank.
- The left canal is 21.5 km long while the right canal is 10 km and the distributory is 12 km in length irrigating 5,700 acres, 3,400 acres and 4,000 acres respectively.

Pedda Cheruvu

- The Pedda Cheruvu (big tank in Telugu) located on the outskirts of this district headquarters town is spread over an area of 618 acres and was built in 1897 during the rule of Mir Mahaboob Ali Khan, the sixth Nizam of Hyderabad State.
- It has a 1.8-km-long tank bund and 145-metre weir and three sluices. It's catchment area is spread over 68.97 sq. km. and total flood flow is 8,860 cusecs.

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- With a capacity of 0.175 tmcft it provides water for irrigation to over 900 acres in Kamareddy, Sarampally, Narsampally and old Rajampet.
- It also provides drinking water for residents of the area.
- Womenfolk play Bathukamma during the Navaratrotsavalu on its bund and immerse them in its waters.
- It is a picnic spot for residents of the area who come to its bund for relaxation and have a panoramic view of nature. Consequently, the Government wanted to develop it as a tourist spot by creating the necessary infrastructure.

About International Commission on Irrigation and Drainage (ICID):

The ICID is *a Technical and Voluntary Not-for-profit, International NGO*, dedicated to enhance the world-wide supply of food and fibre for all people by improving water and land management, and the productivity of irrigated and drained lands.

- The ICID By-laws have been enacted its International Executive Council for the due implementation of the provisions of the Constitution of the Commission. It is headquartered in New Delhi.
- ICID has been involved in the global discussions leading to Agenda 21, World Water Vision, World Water Forums etc., which have become the focal point of several of its technical activities.
- In recognition of its significant contribution to the programs and objectives of International Year of Peace proclaimed by the UN General Assembly, on 15 September 1987 ICID was designated as a Peace Messenger by the UN Secretary General.

Ancient Monuments and Archaeological Sites and Remains Act, 1958

Why in News?:

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Historians have vociferously opposed changes to the Ancient Monuments and Archaeological Sites and Remains Act, 1958. If the Act comes into force, they say it could have disastrous consequences for historical monuments, they fear.

Concerns:

- *The Act proposes to allow the construction of Centre-approved public infrastructure within a 100 metre radius of Archaeological Survey of India (ASI)-protected monuments*. This is worrying because this could open the way for denigration of ancient monuments in the name of development.
- The monuments which are already deteriorating due to pollution, human interference and development activities around are further put under direct threat with the proposed changes.

The Ancient Monuments and Archaeological Sites and Remains (Amendment) Bill, 2017:

- **Construction in 'prohibited areas':** The Act defines a 'prohibited area' as an area of 100 meters around a protected monument or area. The central government can extend the prohibited area beyond 100 meters. The Act does not permit construction in such prohibited areas, except under certain conditions. The Act also prohibits construction in 'prohibited areas' even if it is for public purposes.

- The Bill amends this provision to permit construction of public works in 'prohibited areas' for public purposes.

- **Definition of 'public works':** The Bill introduces a definition for 'public works', which includes the construction of any infrastructure that is financed and carried out by the central government for public purposes. This infrastructure must be necessary for public safety and security and must be based on a specific instance of danger to public safety. Also, there should be no reasonable alternative to carrying out construction in the prohibited area.

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- **Procedure for seeking permission for public works:** As per the Bill, the relevant central government department, that seeks to carry out construction for public purposes in a prohibited area, should make an application to the competent authority.

- **Impact assessment of proposed public works:** The Bill empowers the National Monuments Authority to consider an impact assessment of the proposed public works in a prohibited area, including its (i) archaeological impact; (ii) visual impact; and (iii) heritage impact.

- The Authority will make a recommendation, for construction of public works to the central government, only if it is satisfied that there is no reasonable possibility of moving the construction outside the prohibited area.

General Studies-2

National Dairy Plan

Why in News?

Minister of Agriculture and Farmers' Welfare Shri Radha Mohan Singh, at the inauguration ceremony of the seminar "Role of Technology in Doubling Dairy Farmers' Income" in Anand, Gujarat, today praised the National Dairy Development Board (NDDB) for playing a crucial role in the implementation of **National Dairy Plan (NDP)** and Dairy Processing and Infrastructure Development Fund (DIDF).

Since the beginning, the NDDB has implemented several major dairy development programs including **'Operation Flood'.** As a result, India has become self-sufficient to meet the demand of milk.

About NDP:

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National Dairy Plan

- **Genetic enhancement through AI:**
  - Increase number of high genetic merit bulls and import of exotic purebred bulls or equivalent embryos.
  - Increasing the annual production of high quality semen to 100 million doses to improve AI coverage from 20 per cent to about 35 per cent.
  - Doorstep AI delivery services
- **Feed and nutrition:**
  - Awareness about the balanced ration
  - Improve supply of certified / truthfully labelled fodder seeds.
  - Conservation of green fodder through silage for use in fodder deficit areas.
- **Marketing**
  - Strengthen existing dairy cooperatives
  - Promoting Producer Companies.

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What is Operation Flood?

OPERATION FLOOD

- OBJECTIVES:
  - To create a 'flood of milk' across the country
  - To facilitate long term investment in dairying and cattle development
  - To reduce the cost of milk for consumer and to increase the share of milk price obtained by producer
  - To ensure availability of efficient personnel to manage and control every facet of the program
- The whole operation was divided into three phases

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Opening ceremony: INDO-MONGOLIA joint exercise Nomadic Elephant-2018

Indo-Mongolia joint exercise Nomadic Elephant-2018, commenced today at Mongolian Armed Forces (MAF) Five Hills Training Area, Ullanbaatar, Mongolia with a brief but impressive opening ceremony.

About the Exercise:

- The 12 days long joint exercise will be conducted from 10 Sep to 21 Sep 2018. Exercise Nomadic Elephant is an annual, bilateral exercise since 2006.
- It is designed to strengthen the partnership between Indian Army and Mongolian Armed Forces.
- The exercise will see them improve their tactical and technical skills in joint counter insurgency and counter terrorist operations in rural and urban scenario under United Nations mandate.
- During the exercise both sides will jointly train, plan and execute a series of well developed tactical drills for neutralisation of likely threats that may be encountered in urban warfare scenario.
- Exercise Nomadic Elephant-2018 will contribute immensely in developing mutual understanding & respect for each others military and also facilitate in tackling the world wide phenomenon of terrorism.

General Studies-3

Successful Air-to-Air Refuelling of LCA Tejas

In a significant achievement and a major step towards Final Operational Clearance (FOC) of LCA Tejas, the mid-air refuelling of 'wet contact' trial for LCA Tejas MK-1 was successfully carried out today from an Indian Air Force base. The trial was a part of the Air-to-Air refuelling flight tests conducted by IAF.

Advantages:

- The Air-to-Air refuelling capability for LCA is a 'force multiplier' for the IAF, giving the aircraft the potential to stay airborne for much longer periods of time.

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- The enhanced range and endurance in air is expected to provide IAF a host of options in exploiting the operational potential of the LCA as well as to participate in international exercises without having to stage through several locations enroute.

About the Tejas:

Climate impact of Rice farming:

Rice farming across the world could be responsible for up to twice the level of climate impact relative to what was previously estimated, according to a study conducted in India.

Details of Study:

- The study, published in *PNAS*, found that intermittently flooded rice farms can emit 45 times more nitrous oxide as compared to the maximum from continuously flooded farms that predominantly emit methane.

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- According to a global analysis by Environmental Defense Fund (EDF) in the US, methane and nitrous oxide emissions from rice farms could have the same long-term warming impact as about 600 coal plants.
- The full climate impact of rice farming has been significantly underestimated because up to this point, nitrous dioxide emissions from intermittently flooded farms have not been included.
- The researchers investigated greenhouse gas emissions from rice farms across southern India.
- They found that nitrous oxide emissions from rice can contribute up to 99 % of the total climate impact of rice cultivation at a variety of intermittently flooded farms.
- These emissions contributed substantially to global warming pollution — far more than the estimate of 10% previously suggested by multiple global rice research organizations.

Methane emissions

- The researchers found an inverse correlation between methane and nitrous oxide emissions from rice farming.
- Water and organic matter management techniques that reduce methane emissions can increase nitrous oxide emissions, they said.
- This, the team said, is crucial because nitrous oxide is a long-lived greenhouse gas that traps several times more heat in the atmosphere than methane over both 20 and 100-year time frames.
- Rice is a critical source of nutrition for the world's rapidly growing population, providing more calories to humans than any other food, researchers said.
- However, growing rice is also resource-intensive: rice cultivation covers 11 % of the Earth's arable land, consumes one-third of irrigation water.

Way Forward:

- The researchers found that carefully chosen farming techniques at individual farms reduced net greenhouse gas emissions from rice cultivation by as much as 90% by integrating shallow (mild-intermittent) flooding with co-management of nitrogen and organic matter.
- If all irrigated rice farmers only used the proposed shallow flooding instead of continuous or intense forms of intermittent flooding, estimates in the

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accompanying analysis shows that the rice farms with irrigation have the potential to reduce their global climate impact by 60%.