DAILY CURRENT AFFAIRS ANALYSIS

19 AUGUST 2023

1 – About Matangini Hazra and Kanaklata Barua:

GS I

Indian Culture

- **Context:**

- On the eve of Independence Day, the President of India paid tribute to the women who had fought for their country's independence.

- **Matangini Hazra:**

- Her birthplace was Hogla, a West Bengali village near Tamluk, in 1869.
- The daughter of a poor farmer, Matangini was unable to afford an official education.
- She was 12 when she got married, and because she couldn't raise a decent dowry, she was declared a widow at 18.
- Matangani was referred to in our society as Gandhiburi, or the elderly Gandhian woman, because of her deep commitment to Gandhi.
- At the age of sixty-one, she was arrested in 1930 for her participation in the Civil Disobedience Movement and Gandhi's Salt March.
- She enthusiastically joined the Indian National Congress and began spinning her own khadi in Gandhi's manner.
- She started to take a more active part in the freedom struggle in August 1942, during Gandhi's Quit India Movement.
- In September of that year, a massive march of around 6,000 protestors, most of them women, was led by 73-year-old Hazra.
- The aim of the parade was to remove British personnel from the police station in Tamluk.
- British cops fired three rounds at her.
- While she was dying, she was yelling "Vande Mataram."
- The first statue honouring a female revolutionary was that of Matangini Hazra, which was placed in the Kolkata Maidan in 1977.
- Assam honours Kanaklata Barua, one of the youngest martyrs of the Quit India Movement.
- Barua led a group of liberation warriors called the Mrityu Bahini on September 20, 1942, when they unfurled the Tricolour at the Gohpur police station.
- Following an altercation, Barua was shot and murdered at the front of the parade when police would not allow him to continue.
- The squad's rigorous rule that members must be at least eighteen years old was broken by Kanaklata.

- ***Source → The Hindu***

2 – Details of Cloudburst:

GS I

Indian Geography

- **Context:**

- The state of Himachal Pradesh has seen landslides due to the recent intense rainfall.

- **About:**

- A cloudburst is a brief, intense downpour that occurs locally.
- Though it can occur on lowlands as well, mountainous regions are where the phenomenon is most common.
- But not every instance of exceptionally high rainfall results in cloudbursts.
- A cloudburst has a very specific definition:
- When 10 cm or more of rain falls in an hour over an area that is at least 10 km by 10 km, it is referred to as a cloudburst occurrence.
- A cloudburst would also be described by this definition as five centimetres of rain falling on the same location in thirty minutes.
- The average annual rainfall in India
- An average Indian year brings 116 cm of rain to the entire country.
- This indicates that if all of India's annual rainfall were dispersed equally throughout the nation, the total volume of water stored would be 116 cm high.
- Different parts of the country receive different amounts of rainfall; in some, nearly ten times as much falls in a single year.
- Nonetheless, 116 centimetres of rain are usually expected in India annually.

- **Cloudburst as opposed to regular rainfall:**

- 10% of the yearly rainfall in a given area can fall in an hour during a cloudburst event.

- **What is the frequency of cloudbursts?**

- It is common to experience cloudbursts, particularly in the monsoon season.

- Because of the regional structure, wind patterns, and temperature difference between the lower and upper atmosphere, the bulk of these occur in the Himalayan states.
- These incidents tend to be more isolated.
- They often occur in extremely small spaces without rainfall gauges.
- But the impacts of these occurrences are not limited to a tiny region.
- Because of the geography, heavy rains can cause flash floods and landslides, which cause substantial damage downstream.
- For this reason, any sudden downpour that results in the loss of life or property in mountainous areas is called a "cloudburst" irrespective of whether the rainfall meets the qualifying criteria.
- **Do cloudbursts have a pattern?**

- The Indian Meteorological Department forecasts rainfall many days in advance, but it does not predict how much will fall.
- It is impossible for meteorologists to predict with precision how much rain will fall where it will fall, even though forecasts may mention light, moderate, or heavy precipitation.
- The estimates cover a large geographic area, with district-level accuracy being the highest.
- As the forecasts zoom in over smaller areas, they get progressively more unclear.
- Predicting exact cloudburst instances is impossible.

- ***Source → The Hindu***

3 – About the Aditya-L1 mission:

GS III

Science and Technology

- **Context:**

- The Indian Space Research Organisation (Isro) supplied the images from the Aditya-L1 mission.

- **Mission details for Aditya-L1:**

- To find out more about the Sun's magnetic field and atmosphere, the Aditya-L1 will conduct a thorough examination of the planet.
- With seven payloads (instruments) attached, it will continually scan the Sun in order to research solar emissions, coronal mass ejections (CMEs), solar winds, and solar flares.
- Aditya L1 will continue to observe while it is pointed towards the Sun.

- **The significance of studying the Sun:**

- The solar environment and weather have an impact on the weather throughout the solar system.
- Variations in this weather can create power outages and other disturbances on Earth, interfere with or damage the onboard electronics of satellites, and impact their orbits or lives.
- It is necessary to appreciate solar activity in order to understand space weather.
- It need ongoing solar observations to comprehend, track, and predict the effects of storms that are aimed towards Earth.
- The main benefit of having a satellite in the halo orbit around L1 in the Sun-Earth system is being able to watch the Sun continuously without being obscured by occultation or eclipsed by light. This is due to the fact that L1 is traversed by every storm that originates in the Sun and advances towards Earth.
- Lagrangian/Lagrange Point 1, or L1, is one of the five locations in the orbital plane of the Earth-Sun system.
- Named for the Italian-French mathematician Josephy-Louis Lagrange, Lagrange Points are places in space where the gravitational forces of a two-body system, such as the Sun and the Earth, produce heightened zones of attraction and repulsion.
- Spacecraft can use them to reduce the amount of fuel required to stay in place.
- At the L1 point is the Solar and Heliospheric Observatory Satellite (SOHO), a cooperative venture of NASA and the European Space Agency (ESA).
- The L1 point is located 1.5 million kilometres, or about a tenth of the way, from Earth to the Sun.

- ***Source → The Hindu***

4 – All about Nutrition and Tuberculosis:

GS II

Health related issues

- **Context:**

- According to recent research, nutritional support played a role in reducing the death rate among TB patients in a Jharkhand study as well as preventing TB among household contacts.

- **Important details:**

- The World Health Organisation estimates that the number of cases of tuberculosis caused by undernutrition is double that of HIV cases globally.

- Any attempt to remove tuberculosis in India by 2025 will only be successful if the population's malnutrition is addressed.
- Reasonable estimates indicate that 40% of new cases of tuberculosis in India each year are related to undernutrition.

- **Principal achievements in this case:**

- In four districts of Jharkhand, a large field-based experiment was carried out between August 2019 and August 2022 as part of a collaborative effort with the National Institute for Research in Tuberculosis-Indian Council of Medical Research (NIRT-ICMR) and the National Tuberculosis Elimination Programme (NTEP).
- The study was called the RATIONS (Reducing Activation of Tuberculosis by Improvement of Nutritional Status) trial.
- There was a 60% lower chance of tuberculosis death when 5% of body weight was gained in the first two months.
- A 2022 Indian study found that the death rate was five times greater for patients with severe undernutrition who did not gain weight after treatment.
- The dietary support provided to the intervention group led to a 39%–48% reduction in tuberculosis cases among household contacts when compared to the control group.
- Incidence of pulmonary and extra-pulmonary tuberculosis dropped by 39% and 48%, respectively.

- **What sort of support did they receive nutritionally?**

- Each adult household contact in the intervention arm received 5 kg of rice, 1.5 kg of split pigeon peas (tur dal), and vitamin pills each month for a total of six months.
- Any home with a kid (under the age of 10) received 50% of the adult feeding support.
- The nutritional support for tuberculosis patients consisted of 5 kg of rice, 1.5 kg of milk powder, 3 kg of roasted chickpea flour, 500 ml of oil, and vitamin tablets for six months for those with drug-susceptible TB and 12 months for those with MDR-TB.

- **The effects of starvation:**

- **Many newly diagnosed cases of tuberculosis are caused by five risk factors:**

- Malnourishment
- with HIV
- alcoholism disorders
- tobacco use, especially in males, and
- diabetic.

- In countries where tuberculosis is widespread, such as India, undernutrition is the most common risk factor and the main population-attributable risk factor for tuberculosis.

- It is also to responsible for increased mortality, deteriorating TB illness, and unsatisfactory treatment outcomes.
- A diagnosis of severe undernutrition was associated with a twofold greater risk of death, according an Indian study.
- Undernutrition plays a major role in the progression of latent tuberculosis infection into tuberculosis disease.
- It increases the risk of drug toxicity, mortality, and relapsed tuberculosis.
- For each unit drop in BMI, the risk of tuberculosis increases by around 14%.
- Low bioavailability of drugs such as rifampicin is common in malnourished patients, which can lead to treatment failure and the development of multidrug resistance.

- **In relation to TB:**

- The main cause of tuberculosis is an infection with Mycobacterium tuberculosis.
- Though they usually attack the lungs, tuberculosis germs can also affect the kidney, spine, and brain.

- **There are two illnesses linked to tuberculosis:**

- B.T. hidden.

- Since the TB germs are dormant in your body, you have an infection, but you don't have any symptoms.
- Latent TB, also referred to as dormant TB or TB infection, is not contagious.
- Dormant tuberculosis can reactivate.

- **Live TB:**

- This disease, sometimes referred to as TB sickness, leaves you feeling sick and can, for the most part, transmit to other individuals.
- It may occur years after a bacterial TB infection or shortly after.
- Antagonists are the mainstay treatment for tuberculosis.
- However, it has been seen that the bacteria can grow resistant to these medications.
- Drug-resistant forms of tuberculosis are currently a serious global problem.

- **In India, the frequency is:**

- At the time of India's independence in 1947, an estimated 2.5 million Indians were estimated to have active tuberculosis, with an estimated 500,000 deaths from the disease occurring annually.

- In 1948, a TB immunisation effort was launched.
- The BCG vaccination protects against the most severe forms of tuberculosis, including paediatric TB meningitis, but not against tuberculosis in adults.
- In India, the first national TB study conducted between 1955 and 1958 found that four out of every 1,000 people had TB.
- After the National Tuberculosis Institute was established in 1959, a multidisciplinary team conducted a number of research studies that led to the creation of the National Tuberculosis Programme in 1963.
- The primary therapeutic approach for tuberculosis in the project was chemotherapy.
- The primary TB eradication initiatives of the Indian government consist of:

- **Ni-kshay Mitra Scheme:**

- The President announced the Ni-kshay Mitra programme to give those receiving TB treatment additional nutritional, occupational, and diagnostic support.
- Enhancing treatment outcomes for tuberculosis patients and offering greater patient assistance will be made easier with the Ni-kshay 2.0 portal.
- In addition to maximising CSR opportunities, it will boost community involvement in accomplishing India's goal of eradicating tuberculosis by 2025.

- **The countrywide initiative to end tuberculosis:**

- The National Tuberculosis Elimination Programme (NTEP), formerly known as the Revised National Tuberculosis Control Programme (RNTCP), aims to strategically eradicate tuberculosis (TB) in India by 2025, five years ahead of the Sustainable Development Goals.
- In 2020, the RNTCP was renamed as the National TB Elimination Programme (NTEP) to underscore the Indian government's objective of eliminating tuberculosis in the country by 2025.
- It is accountable for carrying out the Government of India's five-year National Strategy Plans for TB Elimination in conjunction with the States/UTs. These plans covered about a billion people in 632 districts/reporting units.

- The goal of the National Strategic Plan for TB Elimination was set forth to end tuberculosis by the year 2025.
- This multimodal approach intends to identify all TB patients with an emphasis on undiagnosed TB in high-risk communities and TB patients seeking care from private providers.

- **Nikshya Poshan Yojana:**

- The Ni-kshay Poshan Yojana (NPY) helped to ensure that TB patients, especially the underprivileged ones, received the nutrition they required.
- Since 2018, more over 65 lakh people have undergone TB treatment nationwide, with an estimated 1,707 crore paid out.

- **Improved diagnosis:**

- More accurate molecular diagnostic assays, such as CB-NAAT and TureNat, which were also utilised to screen for Covid-19, are now more widely accessible because to the epidemic.
- Additionally, the government has created a universal medication susceptibility test, which requires an assessment of the mycobacterium's antibiotic susceptibility for all newly diagnosed cases.

- **Way Forward:**

- Tuberculosis (TB) remains a serious public health issue in our country.
- Therefore, the TB programmes should strongly emphasise the detection and treatment of latent tuberculosis in order to lower the likelihood of active TB and to accomplish the aim of TB elimination.

- ***Source → The Hindu***

5 – Details of Cauvery water sharing issue:

GS II

Inter State Water Disputes

- **Context:**

- The Tamil Nadu government has asked the Supreme Court to direct Karnataka to guarantee water delivery in compliance with the Cauvery Water Disputes Tribunal's (CWDT) final ruling, which the SC amended in 2018.

- **The water of the Cauvery:**

- The use and development of the Cauvery waters were regulated by agreements reached in 1892 and 1924 between the Madras presidency and the erstwhile royal state of Mysore.
- The 1924 agreement was necessary because Madras opposed Mysore building the Krishnarajasagar dam over the Cauvery. It was made simpler by the agreement, which allowed Madras to build the Mettur dam.
- One important aspect of the agreement was the limitation on the amount of land that the two states may utilise for safe irrigation with the use of the Cauvery waters.

- The Cauvery River, which is 802 km long, passes through the Karaikal region of Pondicherry, or what is now Puducherry, as well as sections of Kerala, Tamil Nadu, and Karnataka. It also has three tributaries. Talacauvery in the Karnataka district of Kodagu is its source.
- Water sharing in the Cauvery Basin has been the main topic of discussion from the start.

- **Under the terms of the 1892 and 1924 treaties, the approximate river water allocations were as follows:**

- 75% to Tamil Nadu and Pondicherry
- With 23% going to Karnataka and
- what's left in Kerala.

- **Cauvery Fact-Finding Committee:**

- A final draught was prepared in 1976 based on the Cauvery Fact Finding Committee's (CFFC) recommendations.
- This idea was accepted by all states, and it was formally announced in Parliament by the union administration.
- However, the agreement was cancelled when Tamil Nadu was placed under the president's administration shortly after.
- The 1924 agreement was rejected by the next AIADMK government, which claimed that it was just an extension and not a review.
- It demanded that everyone go back to the accords from 1892 and 1924 and that the status quo be restored.
- **Cauvery Water Tribunal dispute:**

- In 1986, a group of Tamil Nadu farmers from Tanjavur filed a petition with the Supreme Court asking for the creation of a tribunal to settle the Cauvery water dispute.
- Upon reviewing the petition, the Supreme Court directed the two states to wrap up talks in 1990.
- After talks between the two states broke down, the Supreme Court ordered the union government to set up a tribunal to resolve the disagreement, make a ruling, and allocate water among the four states.
- In accordance with the Inter-State Water Disputes Act, 1956, the Cauvery Water Disputes Tribunal was founded on June 2, 1990, and its chairman is former Bombay High Court chief judge Chittatosh Mookerjee.
- When Justice Mookerjee retired in 1999, N.P. Singh was chosen to fill his position.

- **How is water brought to people?**

- Tamil Nadu receives water releases from Karnataka, the upper riparian state in the Cauvery basin, on a monthly schedule.

- As per the schedule, Karnataka is required to provide Tamil Nadu with access to a total of 177.25 TMC at Biligundlu throughout the normal water year, which runs from June to May.
- The southwest monsoon season, which runs from June to September, calls for the distribution of 123.14 TMC out of this total.
- During periods when the monsoon yields lower than anticipated rainfall, the Cauvery problem intensifies.
- Following the SC's 2018 ruling regarding the CWDT's 2007 award, the Cauvery Water Management Authority (CWMA) and Cauvery Water Regulation Committee (CWRC) were established to guarantee the judgment's execution.

- **The current issue:**

- For a period of 15 days, Karnataka would have to provide 0.86 TMC every day, or 12.9 TMC total.
- The Authority also decided that future rains would determine how much may be released and how much would be reevaluated.
- More than anything, Tamil Nadu seemed to have been displeased with Karnataka for not adhering to the amount negotiated upon during the conference.

- **Rationale for Karnataka:**

- Karnataka has maintained that lower rainfall in the Cauvery basin, particularly in Kerala, is the cause of the inadequate inflow to its own reservoirs.
- According to data from the Meteorological Department, Kodagu received 44% less rainfall than expected between June 1 and August 15.
- When it came to participating in financial suffering, Tamil Nadu had pushed Karnataka to follow a formula, but Karnataka had refused.

- ***Source → The Hindu***