DAILY CURRENT AFFAIRS 22-11-2024

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Baltic sea

Syllabus: GS-1; Geography-Mapping

Context

- Two undersea fibre-optic communications cables in the Baltic Sea, including one linking Finland and Germany, have been severed, raising suspicions of sabotage by bad actors.

Geographical Features

- **Location:** The Baltic Sea is bordered by nine countries: Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia, and Sweden.
- **Connectivity:**
  - Connected to the North Sea through the Kattegat and Skagerrak straits.
  - Also linked via the Kiel Canal, which facilitates maritime trade.
- **Area and Depth:**
  - Surface area: Approximately 377,000 square kilometers.

- Average depth: About 55 meters; maximum depth is around 459 meters in the Landsort Deep.

- **Salinity:**
  - The Baltic Sea is a brackish water body due to its limited connection to the Atlantic Ocean and the influx of freshwater from surrounding rivers like the Vistula, Oder, and Neva.

Environmental Importance

- **Unique Ecosystem:**
  - Home to both marine and freshwater species due to its brackish water.
  - Includes the Baltic Proper, Gulf of Bothnia, Gulf of Finland, and Gulf of Riga.
- **Threats:**
  - Eutrophication caused by agricultural runoff and industrial pollutants.
  - Overfishing and habitat destruction.
  - Vulnerability to climate change, affecting ice cover and biodiversity.

Economic and Strategic Importance

- **Maritime Trade:**
  - The Baltic Sea is a vital trade route for the European Union, especially for exports of timber, iron, and oil.
- **Energy Transport:**
  - Hosts key oil and gas pipelines, such as the Nord Stream pipelines linking Russia and Germany.
  - Offshore wind energy projects are expanding in the region.
- **Tourism:**
  - Popular for cruise tourism and coastal destinations in countries like Sweden and Estonia.

Historical and Geopolitical Significance

- **Hanseatic League:** During the medieval period, the Baltic Sea was a central hub for the Hanseatic League, promoting trade and economic development in Northern Europe.
- **World War II:** Played a strategic role in naval operations during the war.
- **Current Geopolitics:**
  - Increasing militarization due to tensions between NATO and Russia.
  - Territorial disputes and naval exercises are frequent in the region.

Environmental Conservation Efforts

- **HELCOM (Helsinki Commission):** Established under the Helsinki Convention to protect the Baltic Sea environment.
- **EU Directives:** The European Union has implemented several policies for marine environment protection, targeting pollution and biodiversity conservation.

Moran and Mottock Tribe

Syllabus: GS-1; Tribes of India

Context

- The Moran and Motok communities have jointly announced a protest movement demanding tribal status.

Moran Tribe

- **Location**: The Moran people primarily reside in the **Dibrugarh** and **Tinsukia** districts of Assam, near the **Brahmaputra River**.
- **Origin**: The Moran tribe is believed to have migrated from the **Mongoloid stock** and is one of the ancient groups of **Assamese people**. They were originally part of the **Ahom kingdom**, and many of them were employed as soldiers during the Ahom rule.
- **Language**: The Morans speak the **Moran language**, which is part of the **Tibeto-Burman** language family. However, many Moran people also speak Assamese and other local languages.
- **Religion**: The Moran people primarily follow **Hinduism**, but they also have elements of traditional practices.
- **Economy**: They are mainly **agriculturists** and **tea garden workers**. They cultivate rice, vegetables, and fruits, and are also involved in fishing.
- **Cultural Aspects**: The tribe has its own distinct folk music, dance, and customs. The **Bihu festival** is an important event for the Morans, along with their unique festivals such as **Magh Bihu**.

Mottock Tribe

- **Location**: The Mottock people, also known as **Motu** or **Mottack**, are also based in the **upper Assam** region, particularly in areas like **Jorhat**, **Tinsukia**, and **Dibrugarh**.
- **Origin**: The Mottock tribe is believed to have descended from the **Bodo-Kachari** people and has historical connections with the **Ahom rulers**.
- **Language**: The Mottock people speak **Mottock**, which belongs to the **Bodo** language group. Many of them are bilingual, also speaking Assamese.
- **Religion**: Like the Moran tribe, the Mottocks primarily practice **Hinduism**, although their traditional beliefs and customs are preserved in their rituals.
- **Economy**: The Mottock people are traditionally involved in **agriculture** (especially rice farming), and many also work in **tea gardens**. They are known for their craftsmanship in making **traditional bamboo items**.
- **Cultural Aspects**: The Mottock tribe has a rich cultural heritage, with a focus on **dance, music**, and **folk arts**. Their traditional festivals are linked to the **Bihu festival**, though they have unique celebrations and dances as well.

Gluten

Syllabus: GS-3; Science & tech

Context

- Gluten-Free Products Market Expected to Collect $7.5 Billion.

About

- Gluten is a group of storage proteins found in wheat, barley, rye, and related grains.
- It comprises two main proteins: **gliadin** (responsible for dough's stretchiness) and **glutenin** (provides elasticity).

Sources of Gluten

- Found in grains such as wheat, barley, rye, and triticale (a hybrid of wheat and rye).
- Products like bread, pasta, cereals, and baked goods commonly contain gluten.

Importance of Gluten

- **Culinary Role**:
  - Provides structure to baked goods by trapping gas during fermentation, giving them a chewy texture.
- **Nutritional Value**:
  - Contains essential amino acids, though not a complete protein source.

Gluten-Related Disorders

- **Celiac Disease**:
  - An autoimmune disorder triggered by gluten consumption. It causes damage to the small intestine and malabsorption of nutrients.
  - Symptoms: Diarrhea, weight loss, fatigue, and abdominal pain.
  - Treatment: Lifelong gluten-free diet.
- **Non-Celiac Gluten Sensitivity (NCGS)**:
  - Symptoms similar to celiac disease but without intestinal damage.
- **Wheat Allergy**:
  - An allergic reaction to proteins in wheat, including but not limited to gluten.
- **Dermatitis Herpetiformis**:
  - A skin manifestation of celiac disease, characterized by itchy, blistering skin rash.

Gluten-Free Trend

- **Gluten-Free Diet**: Necessary for those with gluten-related disorders but increasingly adopted as a lifestyle choice.
- **Economic Impact**: Rise in gluten-free products, leading to a multibillion-dollar industry.

India and Gluten

- Indian staple foods like **wheat chapati** and **naan** are gluten-rich.
- Increased awareness due to the prevalence of gluten intolerance and access to gluten-free alternatives.

The dangers of high-altitude sickness

Syllabus: GS-3; General Science

Context

- In September 2024, a trekker from Idukki, Kerala, died in Uttarakhand while attempting to scale Garur Peak due to respiratory failure. Every year, numerous tourists like this succumb to the effects of high-altitude sickness in the pristine but challenging inner Himalayas.

Definition

- High-altitude sickness, or **Acute Mountain Sickness (AMS)**, occurs when the body fails to acclimatize to elevations typically above **8,000 feet (2,400 metres)**. It results from reduced oxygen levels at high altitudes, leading to **hypoxia** (oxygen deficiency in body tissues).

Early Symptoms of AMS:

- Headache
- Nausea
- Fatigue
- Shortness of breath

Severe Forms of High-Altitude Sickness:

- **High-Altitude Pulmonary Edema (HAPE):**
  - Fluid accumulates in the lungs.
  - Symptoms: Severe breathing difficulties.
  - Requires immediate medical attention.
- **High-Altitude Cerebral Edema (HACE):**
  - Fluid collects in the brain.
  - Symptoms: Confusion, hallucinations, and potential coma.
  - Immediate descent and treatment are essential to prevent fatal outcomes.

Causes and Preventive Strategies

Physiological Response to High Altitude:

- Increased breathing rate (hyperventilation).

- Higher production of red blood cells to carry oxygen, leading to thicker blood and added strain on the heart.

Key Preventive Measures:

- **Gradual Ascent:**
  - Rest day every **3-4 days** above **3,000 metres**.
  - Limit sleeping elevation gain to **500 metres per day**.
- **Medications:**
  - **Acetazolamide:** Aids acclimatization by improving oxygenation.
  - **Dexamethasone:** A steroid to reduce severe inflammation.
  - **Nifedipine:** Prevents HAPE in individuals with a history of the condition.
  - Note: Medications should be taken under medical supervision.

Infrastructural Issues in Himalayan States

Challenges:

- **Inadequate Healthcare Facilities:** Limited capacity in remote high-altitude regions, except for some like **Leh**, Ladakh.
- **Lack of Preventive Protocols:** No systematic health screenings for tourists venturing into high-altitude zones.

Solutions:

- Establish specialized health facilities similar to Leh in other regions.
- Introduce health checks at entry points for high-altitude areas, akin to the "Inner Line Permit" system.

Role of Registration Systems

Mandatory Tourist Registration:

- Enables **monitoring** of tourist movement in remote mountain areas.
- Facilitates rapid emergency response and enhances research on high-altitude illnesses.
- Supports demographic and risk analysis to improve preventive strategies.

Early Interventions and Treatment

Preventing High-Altitude Sickness:

- **Gradual Acclimatization:** Essential for the body to adapt to lower oxygen levels.
- **Medication Use:** To manage symptoms but not as a substitute for acclimatization.

Treatment Strategies:

- **Immediate Descent:** The most effective remedy; descending by **300-1,000 metres** often resolves symptoms.
- **Supplemental Oxygen:** Relieves hypoxia in emergencies.
- **Portable Hyperbaric Chambers:** Simulates lower altitude conditions to manage severe cases like HACE or HAPE.

Policy Recommendations

To address high-altitude sickness effectively, the following steps are recommended:

- **State-of-the-Art Medical Infrastructure:** Build specialized healthcare facilities in high-altitude areas.
- **Dedicated Research Centres:** Focused on studying high-altitude illnesses and risk factors.
- **Air Ambulance Services:** For rapid evacuation during emergencies.
- **Information Dissemination:** Provide comprehensive health and safety guidelines through government websites and check-in points.

United Nations Framework Convention on Climate Change (UNFCCC)

Syllabus: GS-3; Environment, Climate Change, and Sustainable Development

Context

- 'Cut the theatrics': UN climate chief tells COP29 negotiators to focus on solutions as talks enter final week.

About

- **Established:** 1992 during the Earth Summit in Rio de Janeiro.
- **Objective:** To stabilize greenhouse gas concentrations in the atmosphere to prevent dangerous anthropogenic interference with the climate system.

- **Significance:** It is a key international treaty to address global climate change issues.

Key Features:

- **Framework Nature:**
  - Acts as a foundation for specific protocols and agreements like the Kyoto Protocol (1997) and Paris Agreement (2015).
  - Does not set binding emission reduction targets for countries.
- **Parties to the Convention:**
  - Total members: 198 (known as the Conference of the Parties or COP).
  - Regular meetings, called COPs, are held to negotiate and advance climate goals.
- **Principles of UNFCCC:**
  - **Equity:** Acknowledges historical responsibilities of developed countries.
  - **Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC):** Developed nations bear more responsibility to combat climate change.
  - **Precautionary Measures:** Encourages action even in the absence of full scientific certainty.
  - **Right to Development:** Developing countries' development should not be hindered.

Bodies of UNFCCC:

- **COP (Conference of the Parties):**
  - Supreme decision-making body.
  - Reviews the implementation of the Convention and adopts decisions.
- **Subsidiary Bodies:**
  - **SBSTA (Subsidiary Body for Scientific and Technological Advice):** Provides technical advice.
  - **SBI (Subsidiary Body for Implementation):** Reviews implementation efforts.
- **Financial Mechanism:**
  - Managed by the **Global Environment Facility (GEF)** and the **Green Climate Fund (GCF).**
  - Aims to assist developing nations in climate action.

Milestones Under UNFCCC:

- **Kyoto Protocol (1997):**

- Legally binding targets for developed countries.
- Introduced market mechanisms like Clean Development Mechanism (CDM).

- **Paris Agreement (2015):**
  - Aims to limit global warming to well below 2°C, preferably 1.5°C.
  - Countries set Nationally Determined Contributions (NDCs) to reduce emissions.
- **Recent Developments:**
  - Focus on adaptation, mitigation, and finance for climate resilience.
  - Discussions on **Loss and Damage Fund** for vulnerable nations.

Challenges:

- **Inadequate Commitments:** Insufficient targets to meet the goals of the Paris Agreement.
- **Financial Constraints:** Lack of substantial funding for developing countries.
- **Compliance Issues:** Non-binding nature for some commitments leads to weak implementation.

India's Role:

- **Active Participation:** Regularly attends COP meetings and advocates for equity.
- **National Actions:** Initiatives like the **National Action Plan on Climate Change (NAPCC)** and targets under the Paris Agreement.
- **International Leadership:** Leading the **International Solar Alliance (ISA)** and championing sustainable development.