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Rat Tail Falls

Syllabus: GS-1; Geography

Context

- Recent heavy rainfall has significantly increased the water flow of The Rat Tail Falls, enhancing its dramatic cascade down the hills.



More to know

- **Location:** Thalaiyar Falls, also known as Rat Tail Falls, is located in the **Palani Hills** of the Dindigul district in **Tamil Nadu**, India. It lies within the scenic Western Ghats, a UNESCO World Heritage Site recognized for its rich biodiversity.
- **Height and Structure:** With a height of about **297 meters (975 feet)**, it is the **highest waterfall in Tamil Nadu** and among the **highest in India**. The falls descend in a thin, ribbon-like shape, resembling a "rat's tail," which is the origin of its nickname.
- **Formation and Source:** Thalaiyar Falls is primarily **fed by the Manjalar River**, originating from the Palani Hills. The waterfall's flow varies greatly with the seasons, often becoming more robust during monsoons.
- **Tourism:** The falls are visible from a distance but relatively challenging to access due to its remote and rugged terrain. It is visible from the Dum Dum Rock viewpoint on the Batlagundu-Kodaikanal Ghat Road. The area around the falls is less developed for tourism, maintaining its pristine nature but limiting direct access.

Korowai Tribe

Syllabus: GS-1; Tribes

Context

- Indian vlogger Dheeraj Meena visited the jungles of Indonesia to meet 'human eating' Korowai tribes and documented his interaction with the tribal community.



About

- The Korowai Tribe is an indigenous group residing in the remote jungles of **southeastern Papua, Indonesia**, particularly near the border with Papua New Guinea.
- Known for their unique culture, the Korowai are often noted in anthropological studies for their isolated way of life, traditional customs, and once-practiced ritualistic cannibalism.

Language and Population

- The Korowai language belongs to the **Awyu-Dumut family of languages**, which is part of the Trans-New Guinea languages.
- Estimates of the population are challenging due to the tribe's remote and dispersed settlement patterns, but it's roughly around 3,000 to 4,000 people.

Social Structure and Beliefs

- They are traditionally organized into small kin-based clans, living in isolated family groups.
- The Korowai believe in both benevolent and malevolent spirits, which they perceive to affect their lives and environment.

Cannibalism and Rituals

- **Past Practices:** Ritual cannibalism was practiced as part of their belief in "Khakhua" (witch spirits). The Korowai believed that illnesses or sudden deaths in the community were caused by Khakhua disguised as humans. Killing and consuming those suspected of being Khakhua was seen as a way to protect the community.
- **Modern Reports:** Today, most reports suggest that cannibalistic practices have largely ceased, especially with increasing contact with the outside world. Exposure to modern cultures has introduced new perspectives, though traditional beliefs persist in some areas.

Public Accounts Committee (PAC)

Syllabus: GS-2; Parliamentary committees

Context

- Sebi chief Madhabi Puri Buch to appear before Public Accounts Committee

About

- The Public Accounts Committee (PAC) is an essential financial committee in the Indian Parliament responsible for scrutinizing public spending and ensuring financial accountability.

Formation and Structure

- **Establishment:** PAC was established in 1921 under the Government of India Act, 1919.
- **Composition:** The PAC consists of **22 members**—15 from the Lok Sabha and 7 from the Rajya Sabha.
- **Appointment:** Members are elected annually by Parliament based on proportional representation to ensure fair representation across parties.

- **Chairperson:** Traditionally, the Chairperson is a member of the opposition party in the Lok Sabha, promoting an unbiased review of government accounts. This convention enhances transparency and checks on the executive.
- **Tenure:** Members serve a **one-year term**, with the possibility of re-election.

Primary Functions

- **Expenditure Review:** Examines the expenditure sanctioned by Parliament to ensure funds are spent prudently and according to the approved purposes.
- **Audit Scrutiny:** Reviews audit reports of the Comptroller and Auditor General (CAG) on various accounts of the government, such as departmental expenditures, autonomous bodies, and public enterprises.
- **Efficiency and Effectiveness:** Ensures that funds are used efficiently and examines whether the intended objectives of spending were achieved.
- **Accounting Accuracy:** Verifies the accounts to prevent financial irregularities, fraud, and wasteful expenditures.
- **Recommendations:** Makes recommendations for better management of public finances based on its findings.

Key Reports and Focus Areas

- The PAC's reports focus on issues highlighted by the CAG, such as fiscal discipline, leakages, irregularities, and compliance failures.
- **CAG's Reports:** PAC critically examines the findings in CAG's reports on various ministries, departments, and autonomous bodies.
- **Focused Sectors:** PAC often targets sectors with large budget allocations or significant public impact, such as health, education, defense, and infrastructure.

Limitations

- **Advisory Role:** PAC can only recommend corrective actions and does not have executive powers to enforce its suggestions.
- **Time Constraint:** The large volume of government expenditure and the limited time the PAC has means not all expenditures can be reviewed in depth.
- **Lack of Jurisdiction over Policy:** PAC's mandate is limited to assessing the legality and efficiency of expenditures, not the policies behind them.

Significance

- **Accountability Mechanism:** PAC plays a crucial role in ensuring governmental accountability and integrity in public finance.

- **Transparency:** Promotes transparency in financial dealings, helping Parliament monitor the executive's financial activities.
- **Democratic Oversight:** By scrutinizing government accounts, the PAC strengthens the democratic accountability of the government.

Industrial Alcohol

Syllabus: GS-3; Science and Tech, Environmental Concern

Context

- A Constitution Bench of nine judges, in an 8:1 majority judgment, upheld the States' right to regulate industrial alcohol.

About Industrial Alcohol

- Refers to ethanol or ethyl alcohol produced for industrial purposes. Unlike potable alcohol, it is often denatured (made unfit for drinking) to avoid misuse and evasion of taxes.

Types

- **Ethanol (Ethyl Alcohol):** Used extensively in various industries, particularly as a solvent, fuel, and raw material in the production of other chemicals.
- **Methanol (Methyl Alcohol):** Primarily used as an industrial solvent, antifreeze, and fuel additive.

Production of Industrial Alcohol

- **Raw Materials:**
 - Produced from **sugarcane, molasses, grains** (such as maize, barley, wheat), and **cellulosic biomass**.
 - **Fermentation Process:** Carbohydrates in raw materials are fermented by yeast to produce ethanol.
- **Distillation:** Following fermentation, the alcohol is distilled to achieve a higher concentration.
- **Denaturation:** Industrial alcohol is often mixed with chemicals (like methanol or acetone) to prevent human consumption.

Uses of Industrial Alcohol

- **Chemical Industry:** Acts as a raw material for producing acetic acid, acetaldehyde, ethyl acetate, and other chemicals.
- **Pharmaceutical Industry:** Used as a solvent for drug synthesis and extraction.
- **Cosmetic Industry:** Incorporated into perfumes, lotions, and personal care products.
- **Fuel:** Ethanol serves as an **alternative fuel** (bioethanol) or additive to gasoline (like E10, E85 blends).
- **Sanitizers and Disinfectants:** Widely used as a base in hand sanitizers and disinfecting products.
- **Food Industry:** Used in the manufacture of food flavorings, colorings, and preservatives.

Environmental Impact

- **Positive Aspects:**
 - Reduces **carbon footprint** when used as a biofuel alternative to fossil fuels.
 - Produced from **renewable resources** like biomass.
- **Challenges:**
 - Production of industrial alcohol from agricultural sources can lead to **deforestation and loss of biodiversity**.
 - **Water-intensive:** The production of bioethanol from crops requires a significant amount of water.

Regulations in India

- **Ethyl Alcohol (Control):** Governed by the Excise Department to prevent its misuse and ensure proper taxation.
- **National Policy on Biofuels, 2018:**
 - Encourages the use of biofuels, including ethanol, to reduce dependency on fossil fuels and lower greenhouse gas emissions.
 - Promotes the use of **second-generation (2G) bioethanol** produced from agricultural waste, thus addressing food security concerns.

Significance of Industrial Alcohol in India

- **Economic Impact:** Enhances the income of farmers and provides a use for surplus agricultural products.

- **Energy Security:** Ethanol-blended fuels (such as E20, which contains 20% ethanol) reduce the import burden of crude oil.
- **Employment Generation:** The ethanol industry provides jobs in production, transportation, and supply chains.

Challenges in India's Industrial Alcohol Sector

- **Supply Constraints:** Insufficient production of ethanol to meet blending targets.
- **Infrastructure Limitations:** Inadequate blending infrastructure in many states.
- **Regulatory Hurdles:** Variations in state-level excise policies complicate production and distribution.

Know more

Ethanol Blending Program (EBP):

- The Government of India has set a target to achieve **20% ethanol blending (E20) with petrol by 2025** under the National Biofuel Policy, 2018.
- This aims to reduce carbon emissions, save foreign exchange, and support the farmers by utilizing surplus sugarcane and grains for ethanol production.

Indian Flapshell Turtles

Syllabus: GS-3; Biodiversity

Context

- Noida police arrested two women who were allegedly involved in smuggling Indian flapshell turtles.

About

Taxonomy and Distribution

- **Family:** Trionychidae
- **Order:** Testudines
- **Common Names:** Indian Flapshell Turtle, Indian Softshell Turtle.
- **Distribution:**
 - Native to the Indian subcontinent, found in India, Pakistan, Bangladesh, Nepal, and Sri Lanka.
 - Prefers freshwater habitats such as rivers, lakes, and ponds.



Physical Characteristics

- **Shell:**
 - Soft, flattened, and leathery rather than hard, providing flexibility and protection.
 - The shell can range in color from olive to brown with dark spots.
- **Size:**
 - Adults typically measure 25 to 30 cm in shell length.
- **Limbs:**
 - Paddle-like limbs adapted for swimming, with three distinct claws on each limb.
- **Head:**
 - Long, pointed snout with two elongated nostrils at the tip, which aids in breathing while submerged.

Behavior and Diet

- **Feeding Habits:**
 - Omnivorous; feeds on aquatic vegetation, insects, fish, and carrion.
- **Breathing:**
 - Can respire through its skin and cloaca, allowing it to stay underwater for extended periods.

Reproduction

- **Mating:**
 - Breeds in the monsoon season (June to September).
- **Nesting:**
 - Females lay eggs on sandy riverbanks or beaches, typically laying 10 to 30 eggs per clutch.
- **Incubation:**
 - Eggs hatch after about 45 to 70 days, depending on environmental conditions.

Conservation Status

- **IUCN Red List:**
 - Classified as Vulnerable due to habitat loss, pollution, and hunting for meat and medicinal purposes.
- **Threats:**
 - Loss of habitat due to dam construction, agricultural runoff, and urbanization.
 - Collection for the pet trade and consumption in some regions.

Conservation Efforts

- **Legal Protection:**
 - Listed under the Wildlife Protection Act of 1972 in India, which prohibits hunting and trade.
- **Habitat Conservation:**
 - Efforts to preserve freshwater habitats and promote sustainable practices to protect their ecosystems.
- **Awareness Programs:**
 - Education and awareness campaigns to inform local communities about the importance of conserving the species.