

UPSC CURRENT AFFAIRS NOTES 13-04-2024

Muria Tribe

The Muria tribe lacks access to primary education, safe drinking water, and social welfare benefits also remains a dream and they are at risk of displacement.

About Muria Tribe



Location: They are located in the states of Telangana, Andhra Pradesh, Chhattisgarh, and Odisha.

The Muria settlements are known as habitations of Internally Displaced People (IDPs), whose population is around 6,600 in A.P., and they here are referred to as 'Gutti Koyas' by the native tribes.

Language: They speak Koya, which is a Dravidian language.

They have progressive perspective towards marriage and life as a whole. The biggest example being the Ghotul (a commune or dormitory), which is meant to create an environment for Muria youth to understand their sexuality.

Gutti Koyas' The held ST status in Chattisgarh but they were not granted ST status in their migrated states such as Telangana.

Baobab

In a groundbreaking conservation endeavor, the Global Society for the Preservation of Baobabs and Mangroves (GSPBM) has initiated a mission to rejuvenate the iconic Baobab trees.



Lifespan: Baobab trees are known for their longevity, with some specimens living for over 2,000 years. They are often referred to as "the tree of life" because of their remarkable longevity.

Trunk: These trees have massive, swollen trunks that can store water during droughts, helping them survive in arid climates. The trunk can reach diameters of up to 10 meters (33 feet).



Habitat: Baobabs are native to Africa, particularly found in the savannas, dry forests, and low-lying areas. Mandu, in the Dhar district of Madhya Pradesh, is perhaps the only place in India where baobab trees are found in abundance.

Significance:

Fruit: Baobab trees produce large, egg-shaped fruits that are rich in vitamin C and other nutrients. The fruits have a powdery pulp inside that is used in various traditional medicines and beverages.

Wildlife: Baobab trees are important for the ecosystem as they provide food, shelter, and nesting sites for various animals, including birds, insects, and mammals.

Cultural significance: These trees hold cultural significance in many African communities. They are often used as meeting places, landmarks, or even places of worship. Some cultures have legends and myths associated with baobab trees.

Ecological adaptation: Baobabs have adapted to survive in harsh environments. They can shed their leaves during the dry season to conserve water and then grow new leaves when the rains return.

Endangered status: Despite their iconic status, some species of baobab trees are facing threats due to habitat loss, climate change, and overexploitation.

Carbon storage: Baobab trees play a role in carbon sequestration, helping to mitigate climate change by storing carbon dioxide in their massive trunks and branches.

Tourist attractions: Many baobab trees have become tourist attractions, drawing visitors who marvel at their unusual appearance and learn about their ecological and cultural importance.

The evolution and essentials of India's climate policy

In recent years, the urgency of addressing climate change has become increasingly evident, propelling nations worldwide to commit to ambitious clean energy targets. Among these nations, India has emerged as a pioneer in sustainable development and climate action.



Determinants of climate policy in India

India's climate policy is shaped by five determinants: geography, population, impacts, worldview, and actions.

India's geography, population, and vulnerability to climate change impacts, such as extreme weather events, inform its climate policy.

The Indian worldview emphasizes living in harmony with nature, evident in cultural and philosophical traditions like the 'Prithvi Sukta' and Gandhi's ideals.

India's climate actions are based on science and evidence, despite historically low emissions, and include initiatives like the International Solar Alliance.

India's climate policy is informed by its vision of inclusive growth for all-round economic and social development, the eradication of poverty, a declining carbon budget, firm adherence to the foundational principles of the UNFCCC, and climate-friendly lifestyles.

The five major determinants of India's climate policy

India's climate policy is based on five major determinants: geography, population, impacts, worldview, and actions.

GEOGRAPHY

The Indian landmass has an area of 3.28 million sq km, accounting for 2.4% of the world's geographical land surface area and 4% of the world's freshwater resources.



India is the seventh largest country in the world. It is one of the 17 mega-biodiverse countries, having four biodiversity hotspots, 10 bio-geographic zones, and 22 agro-biodiversity hotspots.

India experiences six different seasons, and its civilization and economy have developed in harmony with this seasonal cycle.

In recent decades, climate change has disrupted this harmony by blurring the distinction between seasons, which has led to increased unpredictability and negative consequences for nature and society.

POPULATION

India's 1.4 billion people account for almost one-sixth of humanity.

It is home to 7-8% of the world's recorded species, with more than 45,500 species of plants and 91,000 species of animals documented so far.

The human-to-land ratio is very low in India at 0.0021 sq km, and is continuing to recede — we must learn to survive with this serious limitation, which requires understanding and integrated management of land and water.

IMPACTS

The Global Climate Risk Index 2020 prepared by Germanwatch puts India as the fifth most affected country in terms of experiencing extreme weather events, a sharp rise from its 14th position in 2017.

The World Bank report on the Impact of Climate Change on South Asia (2018) predicts that rising temperatures and changing monsoon rainfall patterns could cost India 2.8% of its GDP and depress the living standards of nearly half the country's population by 2050.

WORLDVIEW

Our worldview is shaped by our ancestors — of living in harmony and consonance with nature.

The 'Prithvi Sukta' says that the Earth is our Mother, and sacred groves tell us that the idea of protection of nature and natural resources has seeped into our way of life.

Gandhi's ideals of standing up for the last man, trusteeship, and the ability of the Earth to provide enough for everyone's needs and not anyone's greed represents a continuous strain of thought since time immemorial.



The logo of the Ministry of Environment, Forest and Climate Change (MoEFCC) — Nature Protects if She is Protected — shows our reverence, and respect for nature, and our focus on conserving it.

Actions

Our actions are shaped by science and are based on evidence and numbers. Despite having historical cumulative emissions of less than 4% (1850-2019) and 1.9 tonnes of CO₂ per capita emissions, India has not dissuaded itself from taking resolute domestic and international actions that benefit the planet.

India has created international institutions like the International Solar Alliance (ISA) to focus on the transition to renewable energy, separated carbon emissions from economic growth, and is one of the G20 countries that are on track to meet the Nationally Determined Contribution (NDC) targets.

Evolution of Climate Policy in India

The Environment (Protection) Act, 1986

The Environment (Protection) Act, of 1986 authorizes the central government to protect and improve environmental quality, control and reduce pollution from all sources, and prohibit or restrict the setting and /or operation of any industrial facility on environmental grounds. The Environment (Protection) Act was enacted in 1986 to provide for the protection and improvement of the environment.

CBDR-RC principle

India has been a consistently strong voice of the Global South: the CBDR-RC (Common But Differentiated Responsibilities and Respective Capabilities) principle was developed largely through Indian interventions at the Rio Summit, in 1992.

The Biological Diversity Act 2002 and Biological Diversity Rules

The Biological Diversity Act 2002 and Biological Diversity Rules provide for the conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of the benefits arising out of the use of biological resources and knowledge associated with it.

The Public Liability Insurance Act and Rules 1991 and Amendment, 1992



The Public Liability Insurance Act and Rules 1991 and Amendment, 1992 were drawn up to provide for public liability insurance to provide immediate relief to the persons affected by accident while handling any hazardous substance.

The National Action Plan on Climate Change (NAPCC) 2008

The National Action Plan on Climate Change (NAPCC) 2008, with eight missions, has laid the ground for understanding climate change and acting on it. Thirty-four Indian states and Union Territories have prepared State Action Plans on Climate Change (SAPCCs) consistent with the objectives of NAPCC.

National Green Tribunal Act, 2010

Under the National Green Tribunal Act 2010 for effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources including enforcement of any legal right relating to the environment and giving relief and compensation for damages to persons and property and for matters connected there with or incidental thereto.

It is a specialized body equipped with the necessary expertise to handle environmental disputes involving multidisciplinary issues. The Tribunal shall not be bound by the procedure laid down under the Code of Civil Procedure, 1908, but shall be guided by principles of natural justice.

It also accounts for providing compensation and relief to affected people for property damage.

Global institutions

India has reflected this confidence in building global institutions such as the ISA, the Coalition for Disaster Resilient Infrastructure (CDRI), and the Global Biofuels Alliance (GBA).

WORLD'S LARGEST RENEWABLE ENERGY PARK IN GUJARAT'S KHAVDA REGION

In a remote area bordering Pakistan, Gautam Adani's group has built the world's largest renewable energy park in Gujarat's Khavda region, boasting a massive 45 GW capacity for generating electricity largely from solar energy.



Adani's group proceeded to install solar panels, erect windmills, and establish worker colonies and desalination plants, turning the barren land into a thriving hub of renewable energy production.

Development Plans:

Investment: Adani Green Energy Ltd plans to invest approximately Rs 1.5 lakh crore to generate 30 megawatts of clean electricity at Khavda, aiming to add 4 GW in the current fiscal year and 5 GW annually thereafter.

Challenges: The area's remoteness presents challenges like heavy dust storms and lack of infrastructure, but Adani Group has undertaken measures to address them.

Power Generation and Ambitions:

Scope: At its peak, Khavda will generate 81 billion units of power, equivalent to powering entire nations such as Belgium, Chile, and Switzerland.

Ambition: Adani Group's renewable energy plans aim to generate 500 GW of electricity from non-fossil sources by 2030, contributing to a broader goal of achieving net-zero emissions by 2070.

Construction and Infrastructure:

Preparation: Extensive studies and assessments were conducted before commencing development, including geotechnical investigations, seismic studies, and feasibility assessments.

Initiative: Construction began in 2022, focusing on infrastructure development, including roads, drainage systems, desalination plants, and enhanced connectivity measures such as laying optical fiber cables.

Anti-tank guided missiles (ATGMs)

Trishakti Corps of the Indian Army conducted a training exercise, involving the firing of anti-tank guided missiles (ATGMs) at a super high-altitude area of 17000 feet in Sikkim.



Anti-tank guided missiles (ATGMs)

ATGMs are precision weapons designed to destroy heavily armored targets, particularly tanks and armored vehicles.



Guidance Systems:

These missiles are guided by various systems, including wire-guided, laser-guided, infrared-homing, or radar-guided technology. This guidance allows for precise targeting of enemy armored vehicles.

Warhead:

ATGMs are equipped with specialized warheads designed to penetrate armored surfaces. They may use shaped charges, high-explosive anti-tank (HEAT) warheads, or tandem warheads for defeating reactive armor.

Range:

ATGMs have varying ranges depending on the type and model. They can range from short-range systems designed for close combat to long-range missiles capable of engaging targets several kilometers away.

Mobility:

ATGMs are deployed on various platforms, including infantry units, vehicles, helicopters, and even unmanned aerial vehicles (UAVs). This versatility allows for flexible deployment and engagement of enemy armor from different operational environments.

Countermeasures:

Modern ATGMs may incorporate counter-countermeasures to evade enemy defenses, such as decoys, smoke screens, or electronic warfare systems to disrupt enemy targeting.

Operational Use:

ATGMs are employed in both offensive and defensive operations. They provide infantry units and armored formations with a potent capability to engage and neutralize enemy armor threats, as well as fortified positions.

Development and Proliferation:

ATGMs are developed by various countries and defense contractors worldwide, with major producers including the United States, Russia, China, and European nations. They are widely proliferated and used by military forces across the globe.

Effectiveness:



ATGMs have proven to be highly effective weapons against armored targets, capable of inflicting significant damage and disrupting enemy maneuvers on the battlefield.

Anti-tank guided missiles (ATGMs) developed or in service with India, along with their features:

Nag Missile: The NAG missile has been developed to strike and neutralize highly-fortified enemy tanks. It also has night strike capabilities.

Features:

Fire-and-forget capability: Once launched, the missile autonomously guides itself to the target.

Imaging infrared seeker: Allows the missile to track and engage targets in day and night conditions.

Top-attack capability: Utilizes a steep angle of attack to strike the thinner top armor of armored vehicles, defeating explosive reactive armor (ERA).

Range: Up to 4 km.

Platforms: Deployed on both land-based launchers and airborne platforms such as helicopters.

HELINA (Helicopter Launched Nag): DRDO is currently in the final stages of the development of the helicopter-launched version of Nag ATGM, called the Helina, which underwent successful tests in 2018.

Features:

A variant of the Nag missile specifically designed for launch from helicopters.

Inherits the same fire-and-forget capability, imaging infrared seeker, and top-attack capability as the land-based Nag missile.

Suited for use on attack helicopters such as the HAL Rudra.

Provides helicopters with a standoff capability against armored targets.

Spike ATGM (Imported and License Produced): Spike is an Israeli fire-and-forget anti-tank guided missile and anti-personnel missile with a tandem-charge high-explosive anti-tank warhead. As of 2007, it is in its fourth generation. It was developed and designed by the Israeli company Rafael Advanced Defense Systems.



Features:

Fire-and-forget or fire-and-steer capability: This can be launched and guided autonomously or manually steered by the operator.

Imaging infrared seeker: Provides high-precision guidance for day and night engagements.

Tandem warhead: Utilizes two warheads, with the second one triggered after penetrating armor, increasing armor penetration capability.

Range: Varies depending on the variant (Spike-MR: 2.5 km, Spike-LR: 4 km).

Imported initially, later licensed and produced in India as part of the 'Make in India' initiative.

Amogha-1 ATGM: Amogha-1, is a second-generation, Anti-Tank Guided Missile that has pinpoint accuracy for a range of up to 2.8 km. It is under development by Bharat Dynamics at Hyderabad.

Features:

Semi-automatic command to line of sight (SACLOS) guidance system: Requires the operator to track the target manually until impact.

Tandem warhead: Designed to defeat armored vehicles equipped with explosive reactive armor.

Range: Up to 2.8 km.

Intended for use by infantry units and light combat vehicles.

MPATGM (Man-Portable Anti-Tank Guided Missile): The MPATGM or man-portable anti-tank guided missile, is an Indian third-generation fire-and-forget anti-tank guided missile derived from India's Nag ATGM.

Features:

Under development by DRDO.

Portable by infantry soldiers, providing them with a potent anti-tank capability.

Fire-and-forget capability: Allows the missile to be launched and guided autonomously.

Expected range: Up to 2.5 km.



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