



P.L.RAJ IAS & IPS ACADEMY

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7. Short News

Adani Battery Energy Storage System in Khavda

Context – Adani Green Energy Limited has commissioned a 3.37 GWh Battery Energy Storage System (BESS) at Khavda, Gujarat.

1. It is the world's largest single-location battery storage project outside China.
2. Capacity – The 3.37 GWh BESS can power nearly 1 million homes for a day or run over 12 million LED bulbs for 10 hours.
3. Technology Used – The project integrates lithium-ion battery technology with advanced energy management systems for efficient power storage and delivery.
4. Khavda Renewable Hub – The storage project is part of AGEL's 30 GW renewable energy park at Khavda, of which around 9.9 GW is already operational.
5. Future Expansion – AGEL plans to expand battery storage capacity to over 50 GWh in the next five years.
6. Grid Stability – The BESS will help stabilise renewable-heavy power grids and ensure round-the-clock green electricity supply.

About the Battery Energy Storage System

1. BESS stores electricity in rechargeable batteries and supplies it later when demand is high or renewable energy generation is low.
2. Grid Stability – It helps balance fluctuations in electricity supply and ensures reliable 24×7 power delivery.
3. Peak Demand Management – Stored energy can be released during peak demand, outages or emergencies.
4. Importance – BESS is crucial for clean energy transition, energy security and reducing dependence on fossil fuels.

Gynacantha khasiaca (Long-tailed Duskhawker)

Context – The rare dragonfly *Gynacantha khasiaca* was rediscovered in Arunachal Pradesh nearly 110 years after its last recorded sighting.

1. A male specimen was observed in October 2024 along the Miao-Vijayanagar Road inside Namdapha National Park at an altitude of 600 metres.

About *Gynacantha khasiaca*

1. *Gynacantha khasiaca*, commonly known as the long-tailed duskhawker, is a rare dragonfly species belonging to the order Odonata.
 1. The species belongs to the genus *Gynacantha*, which comprises 92 species globally, with around 10 species found in India.
2. First Discovery – It was first recorded in the erstwhile Abor Hills of Arunachal Pradesh in 1914 and is considered one of India's lesser-known dragonfly species.
3. Key Features
 1. The dragonfly possesses two large compound eyes containing thousands of tiny lenses, enabling near-360° vision.

2. It can hover steadily in the air and exhibits rapid territorial patrolling behaviour.
3. The species generally has pale brown and green colouration and displays crepuscular activity, meaning it is active during dawn and dusk.
4. Habitat and Distribution – The species was rediscovered in the Namdapha National Park and Tiger Reserve in Arunachal Pradesh's Changlang district.
 1. Dragonflies and damselflies are closely associated with freshwater ecosystems, where they act as both predators and prey in aquatic food chains.
 2. Outside India, the species has also been recorded in Bangladesh, Myanmar and Nepal.
5. Significance
 1. Dragonflies are important ecological indicators of freshwater ecosystem health and biodiversity conservation
 2. The rediscovery highlights the ecological richness of Northeast India and the need for continued habitat protection and biodiversity monitoring.

PM-AJAY PORTAL AND MOBILE APP

Context – The Ministry of Social Justice and Empowerment (MoSJE) is set to launch the PM-AJAY Portal and AJAY Mobile Application to digitise the implementation and monitoring of the Pradhan Mantri Anusuchit Jaati Abhyuday Yojana (PM-AJAY) scheme.

About PM-AJAY Scheme

1. Objective – It is a Central Sector Scheme aimed at the socio-economic upliftment of Scheduled Castes (SCs).
2. Components – The Pradhan Mantri Anusuchit Jaati Abhyuday Yojana (PM-AJAY) comprises three key components –
 1. Adarsh Gram – Aims to improve socio-economic indicators by ensuring adequate infrastructure and services in SC-dominated villages.
 2. Grants-in-Aid (GIA) – Provides financial assistance for district/state-level projects aimed at socio-economic betterment of SC communities.
 3. Hostel Development – Focuses on providing residential facilities to enhance literacy and encourage enrolment of SCs in schools and higher education.

PM-AJAY Portal – Key Features

1. Digital Governance and Monitoring Platform –
 1. Centralised Digital Governance Platform – The portal will serve as a centralised digital platform for coordination, monitoring, and fund flow management under PM-AJAY.
 2. Coverage and Beneficiary Tracking – Track socio-economic development in over 47,000 SC-majority villages and more than 4 million beneficiaries.
 3. Milestone-Based Fund Flow System – Enable milestone-linked fund disbursement through digitally approved Village Development Plans (VDPs).
 4. Data-Driven Development Dashboards – The portal will provide national, state, and district dashboards based on 50 socio-economic indicators across 10 developmental domains.
2. Adarsh Gram Component
 1. An 'Adarsh Gram' is one wherein people have access to various basic services so that the minimum needs of all the sections of the society are fully met and disparities are reduced to a minimum.

2. Transition to Digital Village Planning – The portal will facilitate the transition from paper-based village planning to digital planning systems, enabling real-time preparation and approval of Village Development Plans (VDPs).
3. Grants-in-Aid (GIA) Component –
 1. Centralised MIS for Livelihood Programmes – The portal will function as a centralised Management Information System (MIS) for livelihood and skill development programmes.
 2. Financial and Physical Progress Monitoring – Track financial allocations and physical progress of beneficiary-oriented schemes.
 3. Real-Time Beneficiary Tracking – Support digital beneficiary registration and real-time monitoring of livelihood initiatives.
4. Hostel Component –
 1. Digital Monitoring of Hostel Infrastructure – Provide a digital platform for monitoring construction and repair of hostels for SC students.
 2. Online Proposal and Verification System – Enable online proposal submission, infrastructure tracking, and verification through geo-tagged photographs.
 3. Enhancing Transparency and Accountability – Improve transparency and accountability in hostel infrastructure projects.

PM-AJAY Mobile App

1. Unified Mobile Governance Platform – Extends PM-AJAY and PMAGY portal services to mobile users through a unified digital platform.
2. Features –
 1. Offline Surveys and VDP Preparation – Enables offline door-to-door surveys and real-time generation of Village Development Plans.
 2. Field-Level Monitoring Features – Supports geo-tagging, dashboard reporting, mobile inspections, notifications, and photo uploads.
 3. Beneficiary and Proposal Management – Facilitates proposal management, beneficiary tracking, and field-level monitoring.

HUMBOLDTIA NAIRIANA

Context – Researchers from JNTBGRI discovered a rare new evergreen tree species in Kerala's Shendurney Wildlife Sanctuary within the southern Western Ghats.

1. The discovery was officially published in the Journal of Plant Development Sciences.

About *Humboldtia nairiana*

1. *Humboldtia nairiana* is a newly identified evergreen tree species belonging to the genus *Humboldtia*.
 1. The species was named in honour of Prof. G.M. Nair, former Director of JNTBGRI, for his contributions to botanical research and plant conservation.
 2. The Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI), Thiruvananthapuram, Kerala, is an autonomous research and conservatory centre dedicated to the ex-situ conservation of tropical plant diversity, sustainable biotechnology research, and the exploration of traditional knowledge.
2. Habitat and Distribution – The species was discovered in the riparian forests of the Shendurney Wildlife Sanctuary within the Agasthyamala Biosphere Reserve of Kerala.
 1. It is strictly endemic to Kerala and is currently known only from a small area of less than 2 sq. km. at an elevation of around 300 metres.
3. Key Features

1. Physical Characteristics – *Humboldtia nairiana* is a medium-sized evergreen tree growing between 5–8 metres in height.
 1. It possesses pale brown warty bark with a distinct creamy-white blaze and angled smooth branchlets.
2. Floral and Fruit Traits – The species produces comparatively larger flowers with long pedicels and elliptic-oblong fruits having a shorter beak.
 1. Its unique vegetative and reproductive features distinguish it from closely related species such as *Humboldtia pomudiana*.
4. Conservation Status – Researchers have provisionally categorised the species as “Data Deficient” under IUCN criteria due to limited population data.
 1. Field surveys indicate that fewer than 10 mature trees exist in the wild, highlighting its fragile population status.

SHENDURNEY WILDLIFE SANCTUARY

1. Shendurney Wildlife Sanctuary is an important protected forest area located in the southern Western Ghats and forms part of the Agasthyamala Biosphere Reserve.
2. Location – The sanctuary is situated in Kollam district of Kerala and is known for its rich evergreen forests, riparian ecosystems and high biodiversity.
3. Establishment – Established in 1984 to conserve the fragile ecosystems and endemic flora and fauna of the Western Ghats region.
4. Conservation Efforts – The sanctuary protects several endemic and threatened species of plants, mammals, birds, reptiles and insects. It forms part of the Agasthyamala Biosphere Reserve, which is recognised for ecological conservation and sustainable biodiversity management.