



Millimeter Wave Transceiver | Uttarakhand | 11 Nov 2024

Why in News?

Recently, [Centre for Development of Telematics \(C-DOT\)](#) has signed an agreement with the **Indian Institute of Technology-Roorkee (IIT-Roorkee)** for the development of a “[Millimeter Wave Transceiver for 5G rural connectivity](#)”.

Key Points

- **Millimeter Wave Backhaul Technology Project:**
 - It aims to **develop millimeter wave backhaul technology for improved 5G connectivity**, particularly in rural areas.
 - A limited number of **small cell-based stations (SBSs)** will be connected to the network gateway through fiber, reducing infrastructure needs.
 - The transceiver development will use a **combined optical and millimeter wave approach**.
 - It is expected to **reduce the overall size and cost of the technology**, making it more efficient and affordable.
 - It **aims to reduce India's reliance on international semiconductor fabrication industries**, bolstering self-reliance.
 - It will **contribute to generating Intellectual Property Rights (IPRs)** and **developing a skilled workforce** in millimeter wave and Sub-THz technology, preparing for advancements in [5G](#) and [6G](#).
- **Support for Local Industry and Employment:**
 - The project **encourages small and medium-scale industries** to establish manufacturing units in India, especially in **polymer-based and metal-integrated structures**.
 - Increased **local manufacturing will create job opportunities** for Indian engineering graduates.
- **Funding Support under TTDF Scheme:**
 - The agreement is signed under **the Department of Telecommunications' Telecom Technology Development Fund (TTDF) scheme**.
 - TTDF is **designed to fund Indian startups, academia, and R&D institutions, supporting the domestic development and commercialization** of telecom products and solutions.

Millimeter Wave

- **About:**
 - It is a wireless communication technology that **uses high-frequency radio waves to transmit data**.
 - Millimeter waves have a **frequency range of 30-300 GHz, and a wavelength range of 1-10 millimeters**.
- **Uses:**
 - **5G:** Millimeter waves are **used in 5G to provide high-speed, increased bandwidth communications**.
 - **Explosive detection:** Millimeter waves **can pass through clothing** and reflect off of the body, allowing **imaging systems to detect concealed objects**.

- **Other applications:** Millimeter waves can be used for **business and residential broadband access, campus area networks, outdoor Wi-Fi hotspots,** and more.

Centre for Development of Telematics (C-DOT)

- It was **established in 1984**. It is an **autonomous Telecom R&D (Research and Development) centre of DoT (Department of Telecom)**, Ministry of Communications.
- It is a **registered society under the [Societies Registration Act, 1860](#)**.
- It is a registered public-funded research institution with the **Department of Scientific and Industrial Research (DSIR)**, Ministry of Science and Technology.

Global Recognition for ICAR-NRC Equine | Haryana | 11 Nov 2024

Why in News?

Recently, the **Department of Animal Husbandry & Dairying (DAHD)** under the Ministry of Fisheries, Animal Husbandry and Dairying has facilitated the designation of [Indian Council of Agricultural Research- National Research Centre on Equines, Hisar \(ICAR-NRC Equine\)](#) as a [World Organisation for Animal Health \(WOAH\)](#) Reference Laboratory for **Equine Piroplasmosis**.

Key Points

- **Equine Piroplasmosis:**
 - Equine piroplasmosis, **caused by the tick-borne protozoan parasites *Babesia caballi* and *Theileria equi***, affects **horses, donkeys, mules, and zebras**, posing serious health and economic challenges.
 - The disease shows a seroprevalence of 15-25% in India, with up to **40% in high-risk areas**, causing economic losses due to health impacts, productivity decline, and trade restrictions.
 - NRC Equine has developed advanced diagnostic tools for equine piroplasmosis, including **ELISA, Indirect Fluorescent Antibody Test, Competitive ELISA, blood smear examination, MASP in-vitro culture system, and PCR for antigen detection**.
- **Equine Population in India:**
 - As per the [20th Livestock Census](#), India has approximately **0.55 million equines (horses, ponies, donkeys, mules)** contributing to livelihoods and various industries.
 - Out of which 0.34 million are horses and ponies, 0.12 million are donkeys, and 0.08 million are mules, with **major populations in Uttar Pradesh, Rajasthan, Gujarat, and Haryana**.
- **NRC Equine's Role as a WOAHA Reference Laboratory:**
 - As a WOAHA Reference Laboratory, NRC Equine will **collaborate globally, providing diagnostic services, sharing technical expertise, and advancing research on equine piroplasmosis**.
 - NRC Equine is now the **fourth Indian lab to achieve WOAHA status**, joining labs recognized for [Avian Influenza](#), [Rabies](#), [PPR](#), and [Leptospirosis](#).
- **Formal Announcement:**
 - The official designation of ICAR-NRC Equine will be announced at the **92nd WOAHA General Session** and World Assembly of Delegates in May 2025.
 - This designation **strengthens India's diagnostic capabilities and international partnerships**, enhancing India's leadership in animal health, particularly in equine diseases.

World Organisation for Animal Health (WOAH)

- Established as OIE, WOAH is a **standard-setting body recognized under the Agreement on Sanitary and Phytosanitary Measures**.
- It works to improve global animal health and is **headquartered in Paris, France**.
- WOAH had 183 member countries, including India.
- It creates guidelines, such as the **Terrestrial Animal Health Code**, to help countries prevent disease entry.
- The [World Trade Organization \(WTO\)](#) acknowledges WOAH standards as international sanitary guidelines.

Mahendra Singh Mewar from Mewar Royal Family Passes Away | Rajasthan | 11 Nov 2024

Why in News?

Recently, Former Member of Parliament and member of the erstwhile **Mewar royal family Mahendra Singh Mewar** passed away in Udaipur. He was a **descendant of [Maharana Pratap](#)**.

Key Points

- **Maharana Pratap:**
 - **Rana Pratap Singh**, also known as Maharana Pratap, was **born on 9th May 1540 in Kumbhalgarh, Rajasthan**.
 - He was the **13th King of Mewar** and was the **eldest son of Udai Singh II**.
 - Maharana Udai Singh II ruled the kingdom of Mewar, with his capital at Chittor.
 - **Udai Singh II** was also a **founder of the city of Udaipur** (Rajasthan).
- **Battle of Haldighati:**
 - The [Battle of Haldighati](#) was **fought in 1576 between Rana Pratap Singh of Mewar and Raja Man Singh of Amber** who was the general of the Mughal emperor Akbar.
 - Maharana Pratap fought a brave war but was **defeated by Mughal forces**.
 - It is said that **Maharana Pratap's loyal horse named Chetak**, gave up his life as the Maharana was leaving the battlefield.
- **Reconquest:**
 - **After 1579**, the Mughal pressure relaxed over Mewar and Pratap recovered Western Mewar including Kumbhalgarh, Udaipur and Gogunda.
 - During this period, he also built a **new capital, Chavand**, near modern Dungarpur.
- **Death:**
 - He died on 19th January 1597. He was **succeeded by his son Amar Singh**, who submitted in 1614 to Emperor Jahangir, son of Akbar.



Pratap Gaurav Kendra

- It is a **tourist spot** at **Tiger Hill in Udaipur city, Rajasthan.**
- It aims at **providing information about Maharana Pratap** and the historical heritage of the area **with the help of modern technology.**

Rajgir Sports Complex | Bihar | 11 Nov 2024

Why in News?

Rajgir Sports Complex is set to host the [Women's Asian Hockey Champions Trophy, 2024](#) from 11th to 20th November, 2024 in Rajgir, Bihar.

Key Points

- Built at a **cost of approximately Rs 740 crores**, the complex stands out as **one of India's largest and most advanced complex**, designed to be self-sufficient.
- **Sports Facilities and Standards:**
 - In addition to the main cricket stadium, the complex will **accommodate 25 sports**, including hockey, football, kabaddi, volleyball, swimming, and wrestling, all built to meet international standards.
 - The first arena to be completed, it can seat around 8,000-10,000 spectators and features a playing field identical to the one used in Paris.
- **Architectural Style and Design:**
 - The Bihar government chose **brick and stone** for office buildings, residential facilities, and sports venues, **giving the complex a grand, traditional look.**
 - The hockey arena includes murals of [ancient Nalanda](#) as a center of learning, with this theme carried into the changing rooms.
 - A mural is a **piece of graphic artwork** that is painted or applied directly to a wall, ceiling or other permanent substrate.

Women's Asian Hockey Champions Trophy

- It is a **biennial international field hockey competition** featuring the top six women's national teams from member associations of the **Asian Hockey Federation**.
- The tournament includes the **best six women's national teams** from Asia.
- **South Korea** holds the most titles, having won the tournament **three times**.
- **India and Japan** have each won the tournament **twice**.

Report on Status of Gotti Koya Tribals | Chhattisgarh | 11 Nov 2024

Why in News?

The [National Commission for Scheduled Tribes](#) has asked the Union Home Ministry and Chhattisgarh, Maharashtra, Andhra Pradesh, and Odisha to submit a detailed report on the status of the [Gotti Koya tribals](#), who were displaced from Chhattisgarh due to [Maoist violence](#).

Key Points

- **Background and Displacement Challenges:**
 - The Commission **received a petition in March 2022 highlighting that Gotti Koya tribals, who fled Chhattisgarh** in 2005 due to Maoist violence, now **face significant difficulties** in neighboring states.
 - Tribal rights activists report around **50,000 Gotti Koya tribals displaced**, now residing in 248 settlements across Odisha, Andhra Pradesh, Telangana, and Maharashtra.
- **Concerns:**
 - The **Telangana government** reclaimed **land from internally displaced Gotti Koya families** in at least 75 settlements, affecting their livelihoods and increasing vulnerability.
 - According to the officials, **Gotti Koyas, being migrants from Chhattisgarh, do not qualify as Scheduled Tribes in Telangana** and thus **lack forest rights** there.
 - The Commission asked the **Director of the Centre for Economic and Social Studies** and **Forest Department representatives** to present **findings from surveys** conducted in Gotti Koya settlements in Telangana.
- **Government Data on Displaced Tribals:**
 - The government informed Parliament that **tribal families from Chhattisgarh are unwilling to return** despite **rehabilitation programs**.
 - According to the Union Minister of State for Tribal Affairs, 10,489 individuals from 2,389 families were displaced due to [Left-Wing Extremism](#) in Sukma, Bijapur, and Dantewada districts.

National Commission for Scheduled Tribes

- **About:**
 - It was **set up in 2004** by **amending Article 338** and by inserting a new article 338A in the [Constitution](#) through the [89th Constitution Amendment Act, 2003](#). Hence, it is a constitutional body.
 - By this amendment, the erstwhile National Commission for Scheduled Castes and Scheduled Tribes was **replaced by two separate Commissions namely:**
 - [National Commission for Scheduled Castes \(NCSC\)](#)
 - National Commission for Scheduled Tribes (NCST)
- **Objective:**

- Article 338A inter-alia gives powers to the NCST to oversee the implementation of various safeguards provided to [Scheduled Tribes \(STs\)](#) under the Constitution or under any other law for time being in force or under any other order to the Government and **to evaluate the working of such safeguards.**
- Composition:
 - It consists of a Chairperson, a Vice-Chairperson and 3 other Members who are appointed by the [President](#) by warrant under his hand and seal.
 - At least **one member should be a woman.**
 - The Chairperson, the Vice-Chairperson and the other Members **hold office for a term of 3 years.**

Gotti Koya Tribe

- Gotti Koya are one of the few **multi-racial and multi-lingual tribal communities** in India.
- They live in the forests, plains, and valleys on **both sides of the [Godavari River](#)**, in the states of Andhra Pradesh, Telangana, **Chhattisgarh**, and Odisha.
- They are said to have migrated to central India from their original home in **Bastar, northern India.**
- **Language:**
 - The Koya language, also called **Koyi, is a Dravidian language.** It is closely **related to Gondi** and has been **strongly influenced by Telugu.**
 - Most Koyaspeak either Gondi or Telugu, in addition to Koyi.
- **Occupation:**
 - **Traditionally**, they were **pastoralists and shifting cultivators**, but now-a-days, they have **taken to settled cultivation** supplemented by **animal husbandry and seasonal forest collections.**
 - They grow Jowar, Ragi, Bajra, and other millets.
- **Society and Culture:**
 - All Gotti Koya belong to one of **five subdivisions called gotrams.** **Every Gotti Koya is born into a clan**, and he cannot leave it.
 - They have a **patrilineal and patrilocal family.** The family is called "Kutum". The nuclear family is the predominant type.
 - **Monogamy** is prevalent among the Koyas.
 - They practice their **own ethnic religion**, but also worship a number of **Hindu gods and goddesses.**
 - **Many Gotti Koya deities are female**, the most important being the "mother earth."
 - They **maintain community funds** and **grain banks at the village level** to help the needy families and provide food security.
 - They either bury or **cremate the dead.** They erect menhirs in memory of the dead.
 - Their main **festivals are Viji Pandum** (seeds charming festival) and **KondalaKolupu** (festival to appease Hill deities).
 - They perform a robust, **colourful dance called Permakok (Bison horn dance)** during festivals and marriage ceremonies.

Ganga's Water Quality Deteriorating | Uttar Pradesh | 11 Nov 2024

Why in News?

Recently, The [National Green Tribunal \(NGT\)](#) has observed that the water quality in [the Ganga](#) in Uttar Pradesh is deteriorating because of the **discharge of sewage or sullage into the river.**

Key Points

▪ NGT's Concerns:

- The NGT reviewed the sewage treatment situation in Uttar Pradesh, finding a 128 million litres per day (MLD) gap in sewage treatment in Prayagraj district.
 - The [Central Pollution Control Board \(CPCB\)](#) report revealed that 25 untapped drains in Prayagraj discharge untreated sewage into the Ganga, while 15 others discharge into the [Yamuna](#).
 - Out of 326 drains in Uttar Pradesh, 247 are untapped and discharge wastewater into the Ganga and its tributaries.

▪ NGT's Directives:

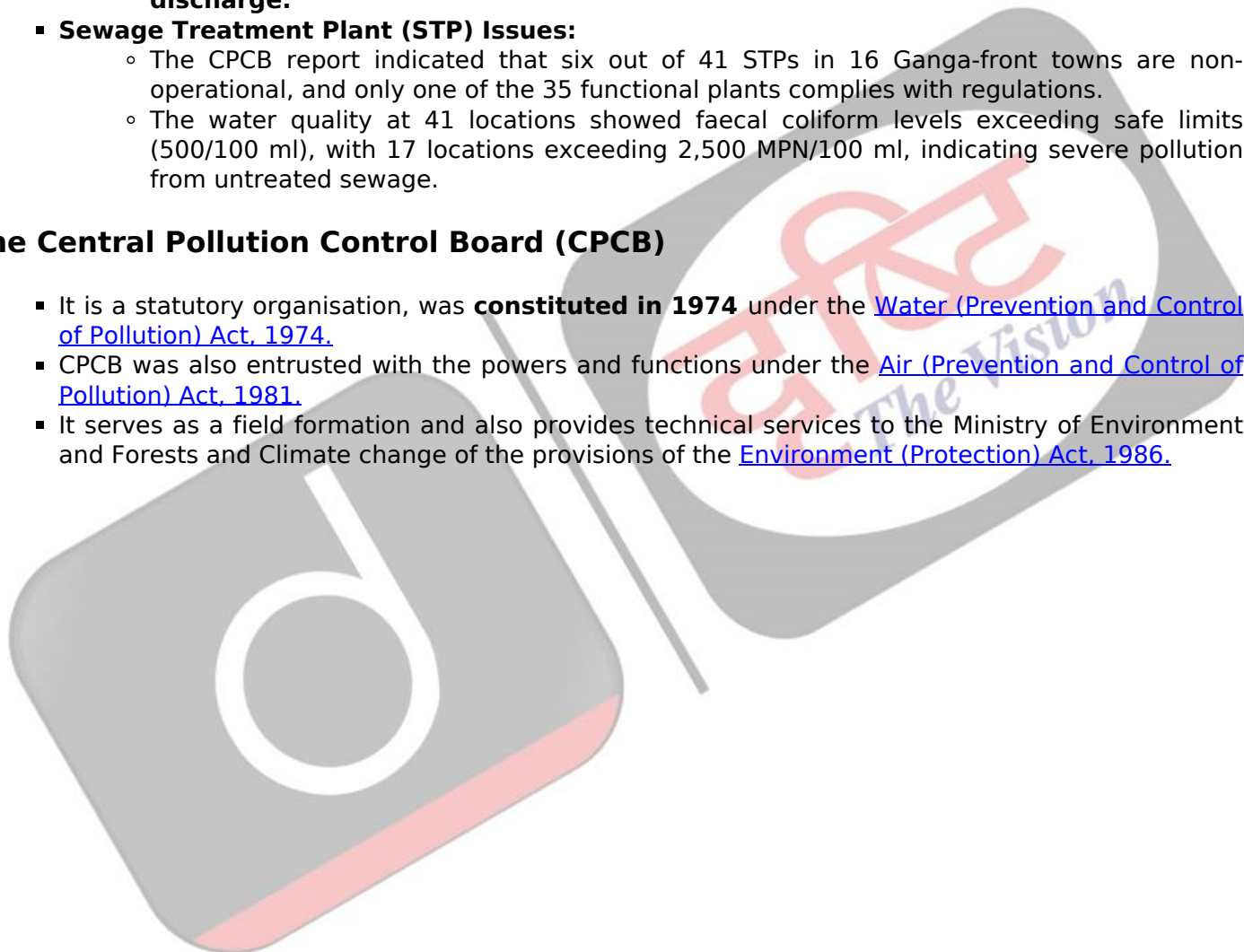
- The NGT ordered the Uttar Pradesh chief secretary to submit an affidavit detailing each drain's sewage, connected **sewage treatment plants (STPs)**, and timelines for making STPs functional.
- The affidavit should also include **short-term measures to prevent untreated sewage discharge**.

▪ Sewage Treatment Plant (STP) Issues:

- The CPCB report indicated that six out of 41 STPs in 16 Ganga-front towns are non-operational, and only one of the 35 functional plants complies with regulations.
- The water quality at 41 locations showed faecal coliform levels exceeding safe limits (500/100 ml), with 17 locations exceeding 2,500 MPN/100 ml, indicating severe pollution from untreated sewage.

The Central Pollution Control Board (CPCB)

- It is a statutory organisation, was **constituted in 1974** under the [Water \(Prevention and Control of Pollution\) Act, 1974](#).
- CPCB was also entrusted with the powers and functions under the [Air \(Prevention and Control of Pollution\) Act, 1981](#).
- It serves as a field formation and also provides technical services to the Ministry of Environment and Forests and Climate change of the provisions of the [Environment \(Protection\) Act, 1986](#).



NATIONAL GREEN TRIBUNAL

The National Green Tribunal (NGT) is a specialised body for swift resolution of environmental and natural resource cases.

About

- ③ **Establishment:** By National Green Tribunal Act 2010
- ③ **Objective:** Quick resolution of environmental & natural resource cases
- ③ **Case Resolution:** Within 6 months
- ③ **Places of Sitting:** New Delhi (Principal), Bhopal, Pune, Kolkata, and Chennai

Structure

- ③ **Composition:** Chairperson, Judicial Members, and Expert Members
- ③ **Tenure:** Up to 5 years/until age 65 (no reappointment)
- ③ **Appointments:** Chairperson - Central Government (with the CJI's consultation)
 - 10-20 judicial members & 10-20 expert members - Selection Committee

India is the third country globally (after Australia and New Zealand) and the first developing nation to establish a specialised environmental tribunal like NGT.

Powers & Jurisdiction

- ③ **Jurisdiction:** Civil cases on environmental issues and rights
- ③ **Suo Motu Powers:** Granted since 2021
- ③ **Roles:** Adjudicatory, preventative, and remedial
- ③ **Procedures:** Follows Principles of natural justice
 - Not bound by the CPC, 1908 or Indian Evidence Act, 1872
- ③ **Principles:** Sustainable Development; Precautionary; Polluter pays
- ③ **Orders:** Executable as civil court decrees; offers relief and compensation (**decisions are binding**)
- ③ **Appeals:** Tribunal can review its decisions.
 - If decision fails - Appeal to the SC to be filed within 90 days

NGT deals with Civil Cases under

- ③ Water (Prevention and Control of Pollution) Act, 1974
- ③ Water (Prevention and Control of Pollution) Cess Act, 1977
- ③ Forest (Conservation) Act, 1980
- ③ Air (Prevention and Control of Pollution) Act, 1981
- ③ Environment (Protection) Act, 1986
- ③ Public Liability Insurance Act, 1991
- ③ Biological Diversity Act, 2002



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