

DIRECT-TO-MOBILE (D2M) TECHNOLOGY

Indian telecom operators have asked the government to auction the spectrum that will be used for direct-to-mobile (D2M) technology services.



About Direct-to-mobile (D2M) technology:

- The science behind D2M is similar to **that of an FM radio**, where a receiver within the device can tap into different radio frequencies.
- This new-age technology is a **combination of broadband and broadcast** that uses mobile phones to capture territorial digital TV signals.
- Using D2M, multimedia content, including live TV matches, can be streamed to phones directly without using the internet.
- D2M can ensure-
 - Emergency alerts are delivered directly, **reliably and without dependence** on internet/cellular networks.
 - **Disaster Management audio content** is delivered directly and authentically in a targeted manner.
 - With D2M, governments can broadcast citizen-centric information.
 - This approach benefits consumers by reducing their reliance on internet data consumption for staying informed and entertained.
- **Challenges involved**
 - It is still in the **development stage**.
 - The biggest challenge in front of the government is to bring different stakeholders, including telecommunications, on board in launching D2M tech on a wide scale.

WHAT IS KARMAN LINE?

The Kármán line lacks a specific national demarcation, resembling the concept of international waters.



About Karman Line:

- Located at **100 km (62 miles)** above sea level, it is an **imaginary line that demarcates the earth's atmosphere from space.**
- It was **established** in the 1960s by a record-keeping body called the **Fédération Aéronautique Internationale (FAI).**
- It was named after aerospace pioneer Theodore von Kármán.
- Though **not all scientists and spacefarers accept it** (for example, the Federal Aviation Administration, NASA, and the U.S. military place the line between outer space and the atmosphere at 80 km (50 miles) above the Earth's surface), **a majority of countries and space organisations recognise** this boundary between earthsky and space.
- It is based on physical reality in the sense that it **roughly marks the altitude where traditional aircraft can no longer effectively fly.**
- **Anything traveling above the Kármán line needs a propulsion system** that doesn't rely on lift generated by Earth's atmosphere—the air is simply too thin that high up.
- In other words, the Kármán line is **where the physical laws governing a craft's ability to fly shift.**
- **Anyone who crosses this line qualifies as an astronaut.**

Why do we need a Kármán line?

- The **1967 Outer Space Treaty** says that **space should be accessible to all countries** and can be freely and scientifically investigated.
- **Defining a legal boundary** of what and where space can **help avoid disputes** and keep track of space activities and human space travel.

POOR, MIDDLE-CLASS, WEALTHY — MORE INDIANS THAN EVER BEFORE ARE LEAVING THE COUNTRY

- The recent surge in the **migration of Indians to foreign countries** has sparked **concerns and reflections on the situation within India.**

- **The issue transcends economic dimensions**, encompassing the perspectives of the poor, professionals, and the wealthy.
- This is **crucial to reflect on the underlying causes of this exodus**, its indicators across different socio-economic strata, and the implications it holds for India's future.

A Historical Context of Migration

- **Indentured Labour in Colonial India**
 - It begins with the **indentured labourers of British India** who were lured by **promises of a better life**, and later they found themselves trapped in slavery and harsh labour conditions.
 - **Despite the challenges, most chose to remain overseas** after being offered **Indian citizenship in 1947**, particularly in places like Mauritius and Jamaica where their circumstances gradually improved.
- **Gulf Migration in the 1970s and 1980s**
 - During the 1970s and 1980s, **seeking employment opportunities and higher incomes, migrants faced inhumane conditions** in non-democratic, feudal kingdoms.
 - Similar to the historical trend, the working class in the Gulf region, **rather than returning home, advocated for improved conditions and demanded dual citizenship** and voting rights.

Motivations Behind the Migration of Wealthy People

- **Fear of Harassment and Bureaucratic Challenges**
 - The fear of harassment by government agencies is a **significant factor propelling the rich class to consider migration**.
 - **This issue reflects apprehensions related to political and bureaucratic challenges** at home and highlights a broader societal unease with governance issues.

- This fear plays a pivotal role in shaping migration decisions, **acting as a push factor compelling individuals and families to seek stability abroad.**
- **Search for Better Opportunities for Wealth Creation:** The allure of overseas destinations is increasingly attractive to the wealthy, **indicating a perception that opportunities for wealth creation and overall prosperity may be more readily available outside India.**
- **Rising Golden Visa Trends**
 - The London-based global citizenship and residence advisory firm, Henley & Partners, reported in **2022 that 7,500 High Net Worth Individuals(HNIs) had left India for residence and citizenship in foreign countries.**
 - A key reason behind this migration is **rising golden visa offered by many countries for wealthy people.**
 - This trend suggests a **proactive approach by the wealthy in securing alternative residency options.**
- **Global Investment and Citizenship Trends**
 - The data from Morgan Stanley, **estimates that between 2014 and 2018, as many as 23,000 Indian millionaires moved their principal homes out of India.**
 - This data provides **insights into the scale of wealthy migration during this period,** indicating a notable trend of the affluent class seeking opportunities beyond Indian borders.
 - **Popular destinations are Dubai, Singapore, London, Lisbon, and the Cayman Islands** which exemplifies the diverse range of locations attracting India's wealthy elite.

Conclusion

- There is a multifaceted nature of the Indian exodus and **this migration has far-reaching implications on Indian society, family structure and India's economic landscape.**
- The challenges faced by the poor, professionals, and the wealthy **underscore the urgency for comprehensive policy measures to address the root causes and ensure a sustainable and inclusive future for India.**

WORLD'S LARGEST RADIO TELESCOPE PROJECT

Why in News?

- Scientists in India will now also be part of the international mega-science project, the **Square Kilometer Array Observatory (SKAO)**, that will function as the world's largest radio telescope.
- India's **Giant Metrewave Radio Telescope (GMRT)** is amongst the world's six large telescopes.

What is a Radio Telescope?

- Radio telescopes detect and amplify radio waves from space, turning them into signals that astronomers use to enhance our understanding of the Universe.
- Stars, galaxies and gas clouds in space emit visible light as well as light from other parts of the electromagnetic spectrum in the form of radio waves, gamma rays, X-rays, and infrared radiation.
- In its simplest form a radio telescope has **three basic components**:
 - One or more antennas pointed to the sky, to collect the radio waves
 - A receiver and amplifier to boost the very weak radio signal to a measurable level, and
 - A recorder to keep a record of the signal.
- Radio telescopes can be used both night and day.

About Giant Metrewave Radio Telescope (GMRT):

- The Giant Metrewave Radio Telescope (GMRT), located near **Narayangaon, Pune**, is an array of 30 fully steerable parabolic radio telescopes of 45 metre diameter, observing at metre wavelengths.
- It is a **low-frequency radio telescope** that helps investigate various radio astrophysical problems ranging from nearby solar systems to the edge of the observable universe.
- The telescope is operated by the **National Centre of Radio Astrophysics (NCRA)**. It became **operational in the year 2000**.
 - NCRA is a part of the Tata Institute of Fundamental Research (TIFR), Mumbai.

THE CITIZENSHIP (AMENDMENT) ACT (CAA): GOVT READY WITH RULES FOR CAA

Why in News?

- According to the government sources, Rules for the Citizenship (Amendment) Act 2019 will be notified much before the announcement of the Lok Sabha elections.

The Citizenship (Amendment) Act (CAA) 2019:

- **About:**
 - The Act seeks to amend the definition of **illegal immigrant** for Hindu, Sikh, Parsi, Buddhist, Jains and Christian (but not Muslim) immigrants from Pakistan, Afghanistan and Bangladesh, who have lived in India without documentation.
 - They will be **granted fast track Indian citizenship in 5 years** (11 years earlier).
 - The Act (which amends the Citizenship Act 1955) also **provides for cancellation of Overseas Citizen of India (OCI) registration** where the OCI card-holder has violated any provision of the Citizenship Act or any other law in force.
- **Who is eligible?**
 - The CAA 2019 applies to those **who were forced or compelled to seek shelter in India** due to **persecution on the ground of religion**. It aims to protect such people from proceedings of illegal migration.
 - The cut-off date for citizenship is **December 31, 2014**, which means the applicant should have entered India on or before that date.
 - The act **will not apply to areas** covered by the Constitution's **sixth schedule**, which deals with autonomous tribal-dominated regions in Assam, Meghalaya, Tripura, and Mizoram.
 - Additionally, the act will not apply to states that have an **inner-line permit regime** (Arunachal Pradesh, Nagaland and Mizoram).
- **Implementation of the law:** The rules for implementation of the Act were never notified (and that is why the law can't be implemented) and the government sought repeated extensions for framing the rules.

Rules for the CAA:

- The rules are now ready and the online portal is also in place.
 - Once the rules are issued, the law can be implemented and those eligible can be granted Indian citizenship.
 - **The entire process will be online** and applicants can apply even from their mobile phones.
 - The applicants will have to declare the year when they entered India without travel documents. No document will be sought from the applicants.
 - Requests of the applicants, who had applied after 2014, will be converted as per the new rules.
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FREE MOVEMENT REGIME TO END AT MYANMAR BORDER

Why in news?

- As per the govt officials, the Union government is all set to scrap the Free Movement Regime (FMR) along the Myanmar border.
- People living in border areas, who could cross over to India, will soon require visas.

Indo-Myanmar border

- **About**
 - The Indo-Myanmar border runs for 1,643 km.
 - The States of Arunachal Pradesh (520 km), Nagaland (215 km), Manipur (398 km) and Mizoram (510 km) have common border with Myanmar.
- **Demarcation of Indo-Myanmar border**
 - Out of 1643 km, demarcation of 1472 km has been completed.
 - There are **only two un-demarcated portions** along Indo-Myanmar:
 - Lohit sub-sector of Arunachal Pradesh-136 km
 - Kabaw valley in Manipur – 35 km.

Free Movement Regime (FMR)

- **About**

- The Free Movement Regime is a pact between India and Myanmar that allows tribes living along the border on either side to **travel up to 16 km inside the other country without a visa.**
- The FMR was implemented in 2018 as part of the government's Act East policy at a time when diplomatic relations between India and Myanmar were on the upswing.
 - In fact, the FMR was to be put in place in 2017 itself, but was deferred due to the Rohingya refugee crisis that erupted that August.

- **Rationale behind FMR**

- The boundary between India and Myanmar was demarcated by the British in 1826.
- This effectively divided people of the same ethnicity and culture into two nations without seeking their opinion.
- Hence, need was felt to enable ethnically similar communities living across the borders to move freely without the need of a visa.
- The FMR was supposed to provide impetus to local trade and business.
 - However, it has been criticised for unintentionally aiding illegal immigration, drug trafficking, and gun-running.

- **Current status**

- However, the agreement has been defunct since 2020, first because of the Covid pandemic.
- After the military coup in Myanmar in 2021 and the continued escalation of its refugee crisis, **India suspended the FMR in September 2022.**
 - After the military coup, there was an influx of undocumented migrants.
 - Over 40,000 refugees took shelter in Mizoram, and around 4,000 refugees are said to have entered Manipur.
 - The migrants belonging to the Kuki-Chin-Zo ethnic group share ethnic ties with communities in Mizoram and Manipur.

WHAT IS THE NEW HIT-AND-RUN LAW?

The countrywide truckers' stir has been called off recently as the government assured that it would consult stakeholders before implementing a contentious law against hit-and-run.



About the new hit-and-run law:

- As per the Bharatiya Nyay Sanhita (BNS), which is a replacement for the British-era Indian Penal Code (IPC), if a driver causes a serious road accident due to careless driving and then leaves without informing the police or any official, they could be punished with up to 10 years in jail and a fine of Rs 7 lakh.
- BNS has established two distinct categories under the umbrella of "causing death by negligence."
 - The first category addresses causing death through any rash or negligent act that does not amount to culpable homicide.
 - Offenders in this category may face imprisonment for up to five years and a fine.
 - The second category deals with causing death through rash and negligent driving, not amounting to culpable homicide.
 - If the individual escapes without promptly reporting the incident to a police officer or magistrate, they could be subjected to up to 10 years of imprisonment and a fine.