



News Analysis (17 Mar, 2020)

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ICMR to test for Community Transmission of COVID-19

Why in News

The Indian Council of Medical Research (ICMR) has announced that it would start testing influenza patients **without any travel history or contact with novel coronavirus disease (COVID-19) for signs of community transmission.**

Four Stages of Transmission of COVID-19

- **Stage 1-Imported Transmission**
 - It is reported among the travellers **entering the country** via the **borders and airports.**
 - These can be controlled through thermal screening and quarantine.
 - To prevent imported transmissions, India has suspended visas to foreign nationals and the facility of visa-free travel to **Overseas Citizen of India (OCI) card-holders.**
- **Stage 2-Local Transmission**

The **World Health Organisation (WHO)** defines it as the transmission through **direct contact with an infected person within the country.**
- **Stage 3-Community Transmission**
 - It signifies that a virus is circulating in the community and can affect people with no history of travel to affected areas or of contact with an infected person.
 - India's current emphasis on social distancing and discouragement of public gatherings is aimed at checking community transmission.
 - Once community transmission begins, it is more difficult to trace contacts. As one unknown source of infection can infect many people unknowingly.
 - Among the countries where community transmission seems to have begun are China, Italy and South Korea.
- **Stage 4- Epidemic**
 - An **epidemic** is a large outbreak, one that spreads among a population or region.
 - It is less severe than pandemic due to a limited area of spread.

Level of Transmission in India

- So far, most of the cases in India have had a history of travel abroad or have contracted the disease from somebody around them.

- However, some of the cases in the country had neither any history of foreign travel nor had they come directly in contact with an infected person.
- **Currently, India is at Stage 2 of Local Transmission** and precautions are being taken to prevent it from entering Stage 3 of Community Transmission.

India's Current Strategy to tackle COVID-19

- **Social Distancing and Cluster Containment:**
 - The cluster containment strategy intends to contain the disease within a defined geographic area by early detection, breaking the chain of transmission and thus preventing its spread to new areas.
 - It includes geographic quarantine, social distancing measures, enhanced active surveillance, testing all suspected cases, isolation of cases, home quarantine of contacts, social mobilization to follow preventive public health measures.
- **Possible Involvement of the Private Sector:**
 - The government is working with private hospitals to develop standard operating procedures for treatment and isolation of patients.
 - The involvement of the private sector may face some issues like **the possibility of profiteering, affordability issues, crowding of people at a large number of places, etc.**

Global Scenario

- **Italy** followed a **model of lockdown** whereas **South Korea** has observed a **model of free testing**. **India** has been following the **Italian model of lockdown**.
- **China** has adopted a **graded approach**, and the number of new cases are gradually declining. It has locked down Hubei, the epicentre. Elsewhere, it enforced social distancing measures.

Indian Council of Medical Research

- Indian Council of Medical Research (ICMR) is the **apex body in India for the formulation, coordination and promotion of biomedical research**.
- Its mandate is to conduct, coordinate and implement medical research for the benefit of the Society; translating medical innovations into products/processes and introducing them into the public health system.
- It is **funded by** the Government of India through the Department of Health Research, **Ministry of Health & Family Welfare**.

Source: IE

Maharashtra: Top Performer in Organ Donation

Why in News

Recently, **Maharashtra surpassed** Tamil Nadu and Telangana and became the top performer in the field of **organ donation**.

Sensitisation drives and the meticulous efforts of **Regional Organ and Tissue Transplant Organisation – State Organ and Tissue Transplant Organisation (ROTTTO-SOTTO)** along with four Zonal Transplant Coordination Centres (ZTCCs) are important contributing factors behind this achievement.

ROTTTO-SOTTO

- The **Ministry of Health and Family welfare** has established **National Organ and Tissue Transplant Organisation (NOTTO)** at National level, **State Organ and Tissue Transplant Organisation (SOTTO)** in States and **Regional Organ and Tissue Transplant Organisation (ROTTTO)** at regional level.
- National Network division of NOTTO functions as apex centre for coordinating all activities and networking for procurement and distribution of organs and tissues and maintaining registry of organs and tissues donation and transplantation in the country.

Organ Donation

- **Organ donation** means giving part of the body (organ) to a person with end stage organ disease who needs a transplant.
- The organs that can be donated for transplantation include kidney, liver, heart, lungs, and small bowel and **tissues** such as corneas, heart valves, skin and bone.
Tissue means a group of cells performing a particular function in the human body such as bone, skin, cornea of the eye, heart valve, blood vessels, nerves and tendon etc.
- **There are two types of organ donation:**
 - **Living Donor Organ Donation:** A person during his life can donate one kidney, a portion of pancreas and a part of the liver.
 - **Deceased Donor Organ Donation:** A person can donate multiple organs and tissues after (brain-stem/cardiac) death.
- **Legal Framework:**
 - Organ Transplantation and Donation is permitted by law, and covered under the "**Transplantation of Human Organs Act 1994**", which has allowed organ donation by live & Brain-stem Dead donors.
 - In 2011, amendment of the Act also brought in donation of human tissues, thereby calling the Amended Act "Transplantation of Human Organs & Tissues Act 2011".
- The Government of India has also started a **National Organ and Transplant Program (NOTP)**, under which patients below the poverty line are supported for the cost of transplant as well as cost of immunosuppression after transplant for one year.

Source: IE

Superhydrophobic Coating on Metallic Surfaces

Why in News

- A team from the Indian Institute of Technology (Indian School of Mines), Dhanbad, and Ohio State University has created a superhydrophobic coating to save steel from rusting.
- The coating was made from **polyurethane and silicon dioxide nanoparticles**.

Superhydrophobic Surfaces

- The term hydrophobicity is derived from two greek words that are **hydro (water)** and **phobos (fear)**. It is the ability to **repel water**.
- Superhydrophobic coating is a nanoscopic surface layer that repels water.
- Adding a superhydrophobic coating makes a surface liquid and water repellent, easy to clean, and boosts its anti-icing performance (ability to delay the formation of ice for a certain period of time)
- Super-hydrophobic coatings are also found in nature; they appear on plant leaves, such as the Lotus leaf, and some insect wings.
- Apart from steel the coating can be done on **other metallic surfaces, such as aluminum, copper, brass**. The coatings have also been **developed for glass, cloth, paper and wood**.
- Developing an antimicrobial superhydrophobic coating for biomedical applications is also being worked on.
- Without this, the coating tends to easily peel off due to smoothness of steel.
- The spin coating was found to be more **advantageous and cost-effective** compared to immersion coating and spray coating.

Spin coating **dried quickly** and the thickness of the coat could be controlled easily

Silicon dioxide

- Silicon dioxide (SiO₂), also known as silica, is a natural compound made of two of the earth's most abundant materials: silicon (Si) and oxygen (O₂).
- Silicon dioxide is most often recognized in the form of quartz. It's found naturally in water, plants, animals, and the earth.

Polyurethane

- Polyurethane **is a polymer composed of organic units joined by urethane links**.
- It is a plastic material, which exists in various forms.
- They are used in a wide variety of applications to create all manner of consumer and industrial products that play a crucial role in making our lives more convenient, comfortable and environmentally friendly.

Properties of the Coating

- **Chemically Stability: Stable in both acidic (pH 5) and alkaline (pH 8)** conditions for more than six weeks.
- **Thermal Stability:** Stable up to 230 degree C.
- **Mechanical Stability:** Highly stable when tested with water jet, floating, bending, sand abrasion tests.
- **Self-cleaning**
 - When water droplets were made to fall on an uncoated surface they stuck to it and made a messy surface.
 - However, in the case of a coated sample, water droplets roll away while collecting dust from the surface.
- **Easy to make**
 - The chemicals used to make the coating are easily available and are also environmentally friendly.
 - The cost of coating will further reduce when mass-produced on commercial scale.

Source: TH

Classical Languages

Why in News

Recently, a Bill to grant the status of Central universities to three deemed Sanskrit universities was passed by the Rajya Sabha.

- The Central Sanskrit Universities Bill, 2019 gives Central status to the Rashtriya Sanskrit Sansthan and Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeeth in Delhi and the Rashtriya Sanskrit Vidyapeeth in Tirupati.
- The government has been accused of neglecting other classical languages in India.

Key points

- Currently there are **six languages** that enjoy the '**Classical**' status in India:
 - Tamil (declared in 2004), Sanskrit (2005), Kannada (2008), Telugu (2008), Malayalam (2013), and Odia (2014).
 - All the Classical Languages are **listed in the Eighth Schedule of the Constitution**.
- The **Ministry of Culture** provides the guidelines regarding Classical languages.
- **Guidelines for declaring a language as 'Classical' are:**
 - High antiquity of its early texts/recorded history over a period of 1500-2000 years;
 - A body of ancient literature/texts, which is considered a valuable heritage by generations of speakers;
 - The literary tradition be original and not borrowed from another speech community;
 - The classical language and literature being distinct from modern, there may also be a discontinuity between the classical language and its later forms or its offshoots.
- Once a language is notified as a Classical language, **the Human Resource and Development Ministry provides certain benefits to promote it:**
 - Two major annual international awards for scholars of eminence in classical Indian languages
 - A Centre of Excellence for studies in Classical Languages is set up
 - The University Grants Commission is requested to create, to start with at least in the Central Universities, a certain number of Professional Chairs for the Classical Languages so declared.

Source: TH

Unnat Bharat Abhiyan

Why in News

Recently, information related to the **Unnat Bharat Abhiyan (UBA)** was given by the Ministry for Human Resource Development (MHRD).

Key Points

- Unnat Bharat Abhiyan is a **flagship program of the Ministry for Human Resource Development (MHRD)**.
- It aims to **link the Higher Education Institutions with a set of at least (5) villages**, so that these institutions can contribute to the economic and social betterment of these village communities using their knowledge base.
- **Main Objectives:**
 - To engage the faculty and students of **Higher Educational Institutions (HEIs)** in identifying development issues in rural areas and finding sustainable solutions for the same.
 - **Identify & select** existing innovative technologies, enable customisation of technologies, or devise implementation methods for innovative solutions, as required by the people.
 - To allow HEIs to contribute to devising systems for smooth implementation of various Government programmes.
- **Unnat Bharat Abhiyan 2.0**
 - It is the **upgraded version of Unnat Bharat Abhiyan 1.0**. It was **launched in 2018**.
 - The scheme is extended to all educational institutes; however under **Unnat Bharat Abhiyan 2.0** participating institutes are selected based on the **fulfillment of certain criteria**.
- **Performance So Far**
 - Currently under the scheme, 13072 villages have been adopted by 2474 Institutes.
 - The **technological interventions** under the UBA cover different subjects broadly categorized like in the area of sustainable agriculture; water resource management; artisans, industries and livelihood; basic amenities (infrastructure & services) and rural energy system.
 - This has transformed the living conditions in villages and has been beneficial for rural India.

Source:PIB

Use of Waterways for Reducing Transportation Cost

Why in News

Recently, the **Minister of State for Shipping** has informed in the Rajya Sabha that **significant savings** in the cost of transportation are expected **by using the Inland Water Transport (IWT) mode**.

- IWT mode is widely recognized as **environment-friendly** and **cost-effective** mode of transport.
- It **aims to create** for the shippers and logistic players, **an alternative** to the two dominant modes of transport viz. road and rail.

Key Points

As per **BITES Report of 2014** on **Integrated National Waterways Transportation Grid**, the cost comparison on the modes of surface transport is given below:

Mode	Highways	Railways	IWT
Freight (Rs./T.km)	2.50	1.36	1.06

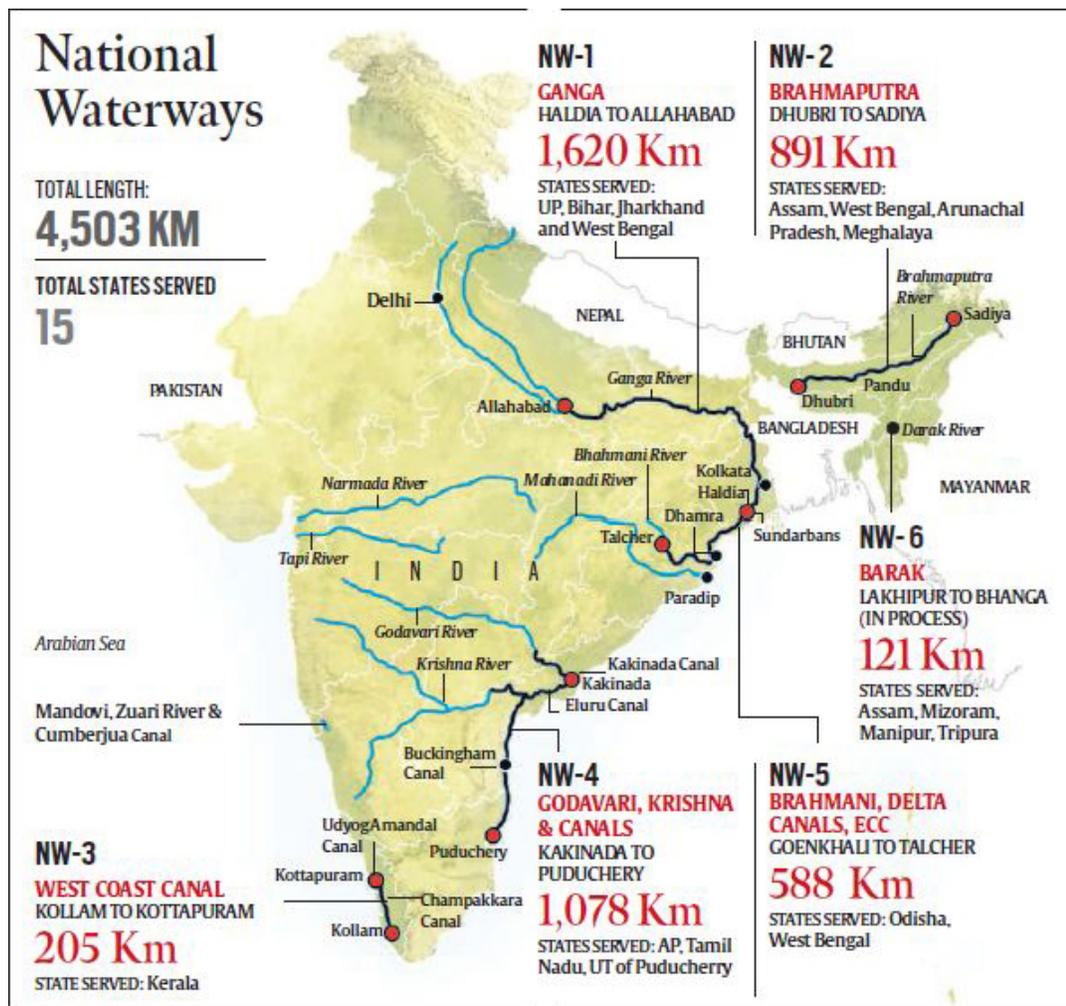
- India has about 14,500 km of navigable waterways which comprise of rivers, canals, backwaters, creeks, etc.
- About 55 million tonnes of cargo is being moved annually by IWT, a **fuel-efficient and environment-friendly mode**.
- As per the **National Waterways Act 2016, 111 waterways have been declared as National Waterways (NWS)**.

National Waterway-1 (Prayagraj-Haldia) with length 1620 km is the **longest National waterway in India**.

- The **Inland Waterways Authority of India (IWAI)** is implementing the **Jal Marg Vikas Project (JMVP)** at an estimated cost of ₹5369.18 crores for capacity augmentation of navigation on the **Haldia-Varanasi stretch of Ganga (part of NW-1)** with the technical and financial assistance of the **World Bank**.

Integrated National Waterways Transportation Grid

- It plans to **link many of the national waterways to each other and also to roads, railways and major ports**.
Setting up of a large number of ports/terminals, riverside jetties, godowns, boat building workshops, repairing yards and ancillary industries will spur investment opportunities.
- The capital cost is estimated at ₹22,763 crores to be used in **phase-I (2015-18)** and **phase- II (2018-23)**.



Inland Waterways Authority of India

- It came into **existence on 27th October 1986** for development and regulation of inland waterways for shipping and navigation.
- It primarily undertakes **projects for development and maintenance of IWT infrastructure** on national waterways through grants received from the **Ministry of Shipping**.
- It is **headquartered at Noida** with **regional offices** at Patna (Bihar), Kolkata (West Bengal), Guwahati (Assam) and Kochi (Kerala) and sub-offices at other places throughout India.

Source: PIB

Google Subsidiary Verily

Why in News

The company **Verily** has gone live with its **Project Baseline website for COVID-19 testing**.

The website helps in determining whether a coronavirus screening test is required for a person living in the United States.

Key Points

- Verily is the **life sciences and healthcare subsidiary owned by Google's parent company Alphabet**.
- **Launched in 2015**, Verily claims its mission is to "make the world's health data useful so that people enjoy healthier lives".
- **Project Baseline was launched by Verily in 2017** with the goal of bridging the gap between research and care. A clear agenda is to create a detailed baseline of what a healthy human being should be using anonymised data from hundreds of users.
- **Verily also owns Calico** — acronym for "California Life Company" — researching into aging and related diseases.

Steps Taken by Technology Giants to Deal With COVID-19

- **Google**
 - An "**SOS Alert**" on coronavirus searches across the world, giving prominence to posts from mainstream news publications and health authorities.
SOS Alerts aim to make emergency information more accessible during a natural or human-caused crisis.
 - It has also **banned ads for face masks as well as monetisation on YouTube videos** related to COVID-19. This seeks to disincentivise creation of fake videos promoting alternative treatments for the virus.
- **Microsoft**
Microsoft Bing team has launched a **web portal for tracking COVID-19 infections worldwide**.

Source: TH

Sundarban National Park

- The Sundarban National Park is located in the south-east of Calcutta in the District of **West Bengal** and **forms part of the Gangetic Delta**.
- The Sundarbans mangrove forest, one of the **largest such forests in the world**, lies across **India and Bangladesh** on the delta of the Ganges, Brahmaputra and Meghna rivers on the Bay of Bengal.
- It is adjacent to the border of India's Sundarbans **World Heritage site** inscribed in **1987**.
- The site is intersected by a complex network of tidal waterways, mudflats and small islands of salt-tolerant mangrove forests, and presents an excellent example of ongoing ecological processes.
- The area is known for its wide range of fauna, including 260 bird species, the **Bengal tiger** and other threatened species such as the **estuarine crocodile** and the **Indian python**.

It is home to many rare and globally threatened wildlife species such as the estuarine crocodile, Royal Bengal Tiger, Water monitor lizard, **Gangetic dolphin**, and **olive ridley turtles**.

Sheikh Mujibur Rehman

Why in News

The **100th Birth Anniversary celebrations** of 'Jatir Pita' Bangabandhu, **Sheikh Mujibur Rahman**, is being celebrated on **17th March 2020** in **Bangladesh**.



Key Points

- Mujibur Rahman was **born on 17th March 1920** in **Tungipara, India (now in Bangladesh)** and **passed away on 15th August 1975** in **Dhaka, Bangladesh**.
- He was a Bengali leader who became the **first prime minister of Bangladesh (1972–75)** and later became the **president of the same in 1975**.
- He began his formal **political career in 1949** as a **co-founder of the Awami League**.
- He played a **crucial role in advocating political autonomy for East Pakistan**, the detached eastern part of Pakistan (now Bangladesh).
- **Sheikh Hasina Wazed**, the **current prime minister of Bangladesh**, is the **daughter** of Sheikh Mujibur Rahman.

Source: PIB

Boko Haram

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- Boko Haram is the **militant group in northern Nigeria** that has killed tens of thousands of people

and displaced more than 3 million people.



- Boko Haram militants mainly inhabit areas in the northern states of Nigeria, specifically Yobe, Kano, Bauchi, Borno and Kaduna.
 - Boko Haram means "**Western education is forbidden.**" The group was **founded in 2002.**
 - The group also refers to itself as Jama'atu Ahlis Sunna Lidda'awati Wal-Jihad, meaning "People Committed to the Propagation of the Prophet's Teachings and Jihad."
 - The group's initial proclaimed intent was to uproot the corruption and injustice in Nigeria, which it blamed on Western influences, and to impose Sharī'ah, or Islamic law.
 - In 2015, the **group pledged allegiance to the Islamic State in Iraq and the Levant (ISIL)** and took the name Islamic State (or State's) West African Province (ISWAP; also known as Islamic State in West Africa, or ISWA).
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