



drishti

News Analysis (28 Feb, 2020)

[drishtias.com/current-affairs-news-analysis-editorials/news-analysis/28-02-2020/print](https://www.drishtias.com/current-affairs-news-analysis-editorials/news-analysis/28-02-2020/print)

India and Myanmar Ink Various Pacts

Why in News

India and Myanmar signed **10 agreements with a focus on socio-economic development of Myanmar**, during Myanmar President U Win Myint's visit to India.

Myanmar stands at the confluence of India's **Neighbourhood First** and **Act East Policy** and **India-Myanmar partnership** is at the heart of India's vision to create a connected and cooperative neighbourhood.

Key Points



- **Connectivity:**
 - The two countries will start a coordinated bus service between **Manipur's Imphal** and **Myanmar's Mandalay** from April 2020.
 - India will assist Myanmar in the construction of **Integrated Check Point at Tamu, Myanmar, bordering Manipur.**
 - The two countries signed the **Land Border Crossing Agreement in 2018**, which allowed bona fide travellers with valid documents to cross the border at two **international points of entry/exit- Moreh-Tamu and Zokhawathar-Rih.**
- **Rakhine State Development Programme:**
 - More projects will be added to this programme.
 - India signed a development programme for Rakhine State in Myanmar in late 2017 which was designed to assist the Myanmar government in Rakhine State to build housing infrastructure for displaced Rohingyas.
 - India had committed **\$25 million grant assistance to Myanmar** and phase-I involved completion of 250 prefabricated houses in Rakhine State.
- **Infrastructure Development:**
 - India will also **support the establishment of Myanmar's diplomatic academy**, and **extend the National Knowledge Network** to Myanmar.
 - Both countries have decided to extend the **Quick Impact Project schemes to Myanmar.**
 - Under this, India will take up capacity development work in the form of small projects which yield quick beneficial results for the local people.
- **International Cooperation:**
 - Both sides agreed to work together to promote principles of openness, inclusiveness, transparency, respect for international law and **Association of Southeast Asian Nations (ASEAN)** centrality in **Indo-Pacific.**
- **Cooperation under other sectors:**
 - India will offer **medical radiation equipment Bhabhatron II** for the treatment of cancer patients and **strengthen cooperation in the health sector.**
 - Both countries agreed to have **government-to-government cooperation in petroleum**, including in refinery, stockpiling, blending and retail.
 - In governance, India will help Myanmar with the **project of e-ID cards**, which is modelled after the Aadhaar project.
 - The two sides showed commitment to continue negotiations on pending treaties like **Mutual Legal Assistance Treaty (MLAT)** and **Extradition Treaty.**
 - An MoU has also been signed on '**Cooperation for Prevention of Trafficking in Persons; Rescue, Recovery, Repatriation and Re-Integration of Victims of Trafficking**' between the two countries.

Mutual Legal Assistance Treaties

These are agreements between governments allowing for the exchange of evidence and information in criminal and related matters between the signing countries.

Extradition Treaty

- This is an agreement or arrangement made by India with a Foreign State, relating to the Extradition of fugitive criminals.
- Extradition treaties are traditionally **bilateral in character**.

Source: IE

Initiatives for Tribal Communities

Why in News

The **Ministry of Tribal Affairs** has launched the “Programme for Capacity Building of Scheduled Tribe Representatives in Local Self Governments” along with “1000 Springs Initiatives”.

An online portal on GIS-based Spring Atlas has also been launched.

Capacity Building Initiative

- It is aimed at **empowering tribal Panchayati Raj Institution (PRI) representatives** by enhancing their decision making capabilities at local government level.
- Apart from tribal development, it also focuses on **constitutional and legal provisions** that protect and promote the rights and welfare of the tribal population.

1000 Springs Initiative

- The initiative aims at improving **access to safe and adequate water for the tribal communities** living in difficult and inaccessible parts of rural areas in the country.
- The initiative will help in **harnessing the potential of perennial springs’ water** to address natural scarcity of water in tribal areas.
 - Springs are **natural sources of groundwater discharge** and have been used extensively in the mountainous regions across the world, including India.
 - 60% of the Indian Himalayan region residents depend on springs, though, 50% of the springs in the Indian Himalayan region have already dried up.
 - However, in the central and eastern Indian belt with more than 75% tribal population, springs remain largely unrecognized and under-utilized.

- It includes provision of infrastructure for piped water supply for drinking; provision of water for irrigation; community-led total sanitation initiatives; and provision for water for backyard nutrition gardens, generating sustainable livelihood opportunities for the tribal people.

Online portal on GIS-based Spring Atlas

- It has been developed to make the **data about hydrological and chemical properties of the Springs** easily accessible from an online platform.
- As of now, data of more than 170 springs have been uploaded on the Spring Atlas.

Source: PIB

National Science Day 2020

Why in News

National Science Day (NSD) is celebrated every year on 28th February to commemorate the discovery of the '**Raman Effect**'. The first NSD was celebrated on 28th February, 1987.

Key Points

- **Basic Objective:** To propagate the message of the **importance of science and its application among the people.**
- **Theme:** On this occasion, theme-based science communication activities are carried out all over the country. The theme of NSD 2020: '**Women In Science**'
- **Nodal Agency to Support Celebration: National Council for Science & Technology Communication (NCSTC)** of Ministry of Science and Technology.
- **Awards:** On the occasion of the NSD-2020, 5 women scientists received awards under two categories – **SERB Women excellence awards** and National Award for Young Woman Showing Excellence through Application of Technology for Societal Benefits.

Women in Science

- Women represent only about **a fifth of senior authors in all published research.**
- A study, published in the journal PLOS One in 2018, assessed 293,557 research articles from 54 journals and found that only 29.8% of all research authors were women.
- Another study by the UK's Intellectual Property Office (IPO) noted that women inventors account for just under **13% of patent applications globally.**

- In India, out of the 560 awardees of **Shanti Swarup Bhatnagar Prize** for Science and Technology, **only 18 recipients have been women**. The prize is one of the highest multidisciplinary science awards in India.

Raman Effect

- The Raman Effect is a phenomenon in spectroscopy **discovered by the eminent physicist Sir Chandrasekhara Venkata Raman** in 1928.
- In 1930, he got a Nobel **Prize** for this remarkable discovery and this was the **first Nobel Prize for India in the field of Science**.
- The Raman Effect is a **change in the wavelength of light that occurs when a light beam is deflected by molecules**. When a beam of light traverses a dust-free, transparent sample of a chemical compound, a small fraction of the light emerges in directions other than that of the incident (incoming) beam. Most of this scattered light is of unchanged wavelength. A small part, however, has wavelengths different from that of the incident light; its presence is a result of the Raman Effect.

Source: PIB

Biofuel from Microorganisms

Why in News

Researchers at the **International Centre for Genetic Engineering and Biotechnology (ICGEB)** are developing a method to improve the growth rate and **sugar content** of a **marine cyanobacterium** called **Synechococcus sp. PCC 7002**.

Key Points

- **Biofuel** production is dependent on the availability of low-cost and sustainable supply of sugars and a nitrogen source. The **sugars typically come from plants**.
- However, **some bacteria**, such as the cyanobacteria (also known as blue-green algae), too can perform photosynthesis and **produce sugar** by fixing the carbon dioxide in the atmosphere.
- The yield of sugars from cyanobacteria could potentially be much higher than that of land-based crops unlike plant-based sugars.
- Cyanobacterial biomass provides a nitrogen source in the form of proteins.
- Use of marine cyanobacteria has been preferred as freshwater is increasingly getting scarce.

Cyanobacteria

- Cyanobacteria, also called blue-green algae, are **microscopic organisms found naturally in all types of water.**
- These **single-celled organisms** live in fresh, brackish (combined salt and freshwater), and marine water.
- These organisms use sunlight to **make their own food.**
- In **warm, nutrient-rich** (high in phosphorus and nitrogen) environments, cyanobacteria can multiply quickly.

Biofuels

- Biofuels are the **fuels that can be produced from organic matter**, or biomass, such as corn or sugar, vegetable oils or waste feedstocks. **Example:** Bioethanol, Biodiesel
- As biofuels emit less carbon dioxide (CO₂) than conventional fuels (eg:- Petrol) they can be blended with existing fuels as an effective way of reducing CO₂ emissions in the transport sector.
- The use of biofuels have grown over the past decade, driven largely by the introduction of new energy policies in Europe, the USA and Brazil that call for more renewable, lower-carbon fuels for transport. Today **biofuels represent around 3% of road transport fuels in use around the world.**
- In **India**, the National Policy on Biofuels, released by the Government of India in 2018, envisages production of biofuel from Used Cooking Oil (UCO). Also, the Policy has the objective of reaching 20% ethanol-blending and 5% biodiesel-blending by the year 2030.

National Policy on Biofuels 2018

Salient features



An indicative target of **20%** blending of ethanol in petrol and **5%** blending of biodiesel in diesel is proposed by 2030.



With a thrust on **Advanced Biofuels**, the Policy indicates a viability gap funding scheme for **2G ethanol Bio refineries of Rs.5000 crore in 6 years** in addition to additional tax incentives, higher purchase price as compared to **1G biofuels**.



Categorization of Biofuels into **Basic Biofuels** - First generation(1G) Bioethanol & biodiesel and "**Advanced Biofuels**" - Second Generation(2G) ethanol, drop-in fuels, **algae based** Third Generation(3G) Biofuels.



Increase scope of raw material for ethanol procurement by encouraging Intermediate (**B-Molasses**), Sugarcane Juice, other Sugar containing materials and damaged as well as surplus food grains.



Develop **National Biomass repository** by conducting appraisal of biomass across the Country.



Bio diesel production to be encouraged from non edible oilseeds, **used cooking oil**, short gestation crops and development of supply chain mechanisms.



Thrust on **research, development and demonstration** in the field of **Biofuel feedstock** production, advanced conversion technologies from identified feedstock.



Setting up of National **Biofuel coordination committee (NBCC)** under **Ministry of Petroleum & Natural Gas** and Working Group on Biofuels.



International Centre for Genetic Engineering and Biotechnology

- It is a unique **intergovernmental organisation** initially established as a special project of the **United Nations Industrial Development Organization (UNIDO)**.
UNIDO is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability.
- Fully **autonomous since 1994**, it runs 46 state-of-the-art laboratories, in Trieste, Italy (also Headquarters of the Centre), New Delhi, India and Cape Town, South Africa and forms an interactive network with over 65 Member States.
- It plays a **key role in Biotechnology worldwide** for excellence in Research, Training and Technology Transfer to industry to contribute in concrete terms to the achievement of sustainable global development and operates within the United Nations System.

source : PIB

PMEGP and CGTMSE

Why in News

Ministry of Micro, Small & Medium Enterprises (MSMEs), Finance Ministry and senior **management of all banks** held a meeting to review some of the key schemes of Ministry of MSME which generate a large number of jobs with low capital investment.

- The focus of the meeting was on the **Prime Minister's Employment Generation Programme (PMEGP)** and **Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)**.
- It was also emphasised that there is a need for providing support to the MSMEs **by suitably restructuring the stressed loans at an early stage** with the help of the banks.

Prime Minister's Employment Generation Programme

- Launched in **2008-09**, it is a **credit-linked subsidy scheme** which promotes self-employment through setting up of micro-enterprises, where subsidy up to 35% is provided by the Government through Ministry of MSME for loans up to ₹25 lakhs in manufacturing and ₹10 lakhs in the service sector.
 - The balance amount of the total project cost will be provided by the banks in the form of term loan and working capital.
- It is a **flagship scheme** of the Ministry of MSME.
- **Implementation:**
 - **National Level-** Khadi and Village Industries Commission (KVIC) as the **nodal agency**.
 - **State Level-** State KVIC Directorates, State **Khadi and Village Industries Boards** (KVIBs), District Industries Centres (DICs) and banks.
- **Eligibility:**
 - Any individual above 18 years of age, Self Help Groups, Institutions registered under **Societies Registration Act 1860**, Production Co-operative Societies and Charitable Trusts are **eligible**.
 - Existing Units and the units that have already availed Government Subsidy under any other scheme of Government of India or State Government are **not eligible**.
 - Only new projects are considered for sanction under PMEGP.

- **Discussions on PMEGP in the meeting-**
 - Banks have supported setting up a large number of enterprises under PMEGP and it has particularly seen a two-fold increase in last Financial Year (2019-20) when more than 73,000 micro-enterprises were assisted.
 - Further, to boost the PMEGP, the target in the current year has been increased to support the establishments of 80,000 units.

Credit Guarantee Fund Scheme (CGS) for Micro and Small Enterprises

- It was launched in **2000** by the Government of India (GoI) to make available **collateral-free credit to the micro and small enterprise sector**.
 - Both the existing and the new enterprises are eligible to be covered under the scheme.
- The corpus of CGTMSE is being contributed by the **GoI and SIDBI** in the **ratio of 4:1 respectively**.
- The Ministry of MSMEs, GoI and **Small Industries Development Bank of India (SIDBI)** established a trust named **Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)** to implement the CGS.
- **Discussions on increasing the reach of CGTMSE in the meeting**
 - Government has set a target of increasing credit guarantee to ₹50,000 crores under this scheme, which is a jump of about 67% over the last year.

Source: PIB

INCOIS launches Products

Why in News

The Indian National Centre for Ocean Information Services (INCOIS) has launched a trio of products to better cater to its diverse users. The Products are

- Small Vessel Advisory and Forecast Services System,
- Swell Surge Forecast System and
- Algal Bloom Information Service

Small Vessel Advisory and Forecast Services System

- It is an innovative impact-based advisory and forecast service system for small vessels operating in Indian coastal waters.
- It warns users about potential zones where **vessel overturning** can take place.

- The warning system is based on the '**Boat Safety Index**' (**BSI**) derived from wave model forecast outputs such as significant wave height, wave steepness, directional spread and the rapid development of wind at sea which is boat-specific.

Swell Surge Forecast System

Swell surge forecast system is an innovative system designed for the prediction of Kallakkadal/Swell Surge that occurs along the Indian coast, particularly the west coast.

Kallakadal

- Kallakadal/Swell surge are **flash-flood events** that take place without any noticeable advance change in local winds or any other apparent signature in the coastal environment.
- Kallakkadal is a colloquial term used by Kerala fishermen to refer to the freaky flooding episodes and in 2012 **UNESCO** formally accepted this term for scientific use. They are caused by **meteorological conditions** in the **Southern Ocean**, south of 30°S.
- During Kallakkadal events, the sea surges into the land and inundates vast areas.

Algal Bloom Information Service

- ABIS provides timely information on harmful algal blooms, which are detrimental to coastal fisheries, water quality and also tend to induce respiratory problems within the coastal population from time to time.
- The **target users**- fishermen, marine fishery resource managers, researchers, ecologists and environmentalists.
- INCOIS-ABIS will provide **near-real time information** on **spatio-temporal occurrence** and **spread of phytoplankton blooms** over the **North Indian Ocean**.
- Four regions have been identified as bloom hotspots-
 - North Eastern Arabian Sea
 - coastal waters off Kerala
 - Gulf of Mannar
 - coastal waters of Gopalpur.

Algal bloom

- An algal bloom or marine bloom or water bloom is a rapid increase in the population of algae in an aquatic system. They may occur in freshwater as well as marine environments.
- Harmful Algal Blooms, or HABs, occur when colonies of algae grow out of control and produce toxic or harmful effects on people, fish, shellfish, marine mammals and birds.

- Harmful Algal Blooms can:
 - Produce extremely dangerous toxins that can sicken or kill people and animals.
 - Create dead zones in the water.
 - Raise treatment costs for drinking water.
 - Hurt industries that depend on clean water.

Indian National Centre for Ocean Information Services

- INCOIS is an **autonomous organization** under the **Ministry of Earth Sciences (MoES)**.
- It is located in **Hyderabad &** was established in **1999**. It is a unit of the **Earth System Science Organization (ESSO)**, New Delhi.

The ESSO operates as an executive arm of the Ministry of Earth Sciences (MoES) for its policies and programmes.
- It is mandated to provide the best possible ocean information and advisory services to society, industry, government agencies and the scientific community through sustained ocean observations and constant improvement through systematic and focused research.

Source: PIB

2020 CD3: Mini-moon

- In Arizona (USA), the astronomers of the **National Aeronautics and Space Administration (NASA)-funded Catalina Sky Survey (CSS)** have observed a small object orbiting Earth. It is actually an **asteroid** with a **diameter of about 1.9-3.5 m**.
- It has been named **2020 CD3**. It is also called **“mini-moon”** or the planet’s **“second moon”**. It is orbiting at a distance farther from Earth.

Unlike earth’s permanent Moon, the mini-moon is **temporary**.
- When an asteroid’s orbit crosses Earth’s orbit, it can sometimes be captured into the latter orbit. Such an asteroid is called a **Temporarily Captured Object (TCO)**.
 - The **orbit of such objects is unstable**.
 - They have to contend with the gravitational influence of the existing permanent natural satellite (Moon in earth’s case) as well as that of the Sun.
 - Once caught in a planet’s orbit, such objects usually remain for a few years before they break free and go into an independent orbit around the Sun.
- According to the researchers, 2020 CD3 was captured into Earth’s orbit over three years ago. CSS previously discovered **2006 RH120**, which orbited Earth for some time in 2006 and escaped its orbit in 2007.

Catalina Sky Survey

- It is a **NASA funded project** to **discover and track near-Earth objects (NEOs)**. It is based in **Arizona** in the United States of America.
- NEOs are **asteroids or comets** with sizes ranging from metres to tens of kilometres that orbit the Sun and whose orbits come close to that of Earth's.

Source: IE
