

DAILY PT POINTERS

20 September, 2024



The Hindu –Science and Tech(GSIII)-Page 22

How Kerala reduced mortality from amoebic meningoencephalitis

Primary amoebic meningoencephalitis is caused by infection with *Naegleria fowleri*, a microscopic amoeba commonly called a "brain-eating amoeba". This infection destroys brain tissue, causing severe brain swelling and death in most cases. PAM is rare and usually occurs in healthy children, teens, and young adults, and has a high fatality rate.

Mess Children frolicking in neighbourhood ponds in the summer months is a common sight in Kerala, a State that has abundance of water bodies. The reason this year, however, took all the parents out of the water games for children when many young children fell ill to a rare but lethal infection of the central nervous system, amoebic meningoencephalitis, caused by a living amoeba (PAM) found in streams, lakes, and rivers. Reassurance from public health experts that the infection was sporadic and nothing to cause public anxiety came of the frequency with which acute meningoencephalitis was being reported in the State from various parts. Most of the affected were young children from 5-15. This picture changed abruptly in the month of August...



A pond in Kerala. Kids took to it, which was closed after a 50-year-old boy who swam from there developed acute amoebic meningoencephalitis early in a year.

diagnosis and treatment of amoebic meningoencephalitis.

What is PAM? Primary amoebic meningoencephalitis (PAM) is a disease caused usually by infection with *Naegleria fowleri*, a microscopic, amoeba commonly called a "brain-eating amoeba". This infection destroys brain tissue, causing severe brain swelling and death in most cases. PAM is rare and usually occurs in otherwise healthy children, teens, and young adults, and has a high fatality rate because of rapid onset and delayed diagnosis.

Only 11 survivors of confirmed *N. fowleri* PAM have been reported in medical literature until now. There is not much in the literature on amoebic meningoencephalitis caused by *N. fowleri*, other than *N. fowleri*. Kerala has reported amoebic infections caused by *N. fowleri*, *Veramoeba vermiformis* as well as *Acanthamoeba*. Though we do not have the genetic sequencing information on all cases, and are yet to confirm if all these cases of PAM were caused by *N. fowleri*, we just added 14 more persons to the list of survivors," Dr. Anand says.

Unusual cases and case clusters Kerala also reported an unusual case cluster of amoebic meningoencephalitis from Athirappuzha gram panchayat in Neyyattinkara taluk in Thiruvananthapuram. A detailed outbreak investigation, however revealed that it was not mere exposure to a nearby green algae-filled pond in the night localised, but risky behaviour on the part of a group of youth that banded them all in the medical college hospital with the life-threatening amoebic meningoencephalitis. Two weeks after the death of a youth from the locality following encephalitis, with a history of

Only 11 survivors of *N. fowleri* PAM have been reported in medical literature. Though we do not have the complete genomic sequencing information on all cases we have added 14 more to the list of survivors.

A JAYARAM Assistant Director, Government Medical College Hospital, Thiruvananthapuram

a second case turned up from the same area, the health department was alerted to the unusual possibility that there could be a clustering of PAM cases. Health officials reported that youngsters in the locality were swimming by the pond, drinking tobacco, snuff, and other addictive substances with the water from the pond and then inhaling it using hand-made containers — almost akin to snorting. This was a particularly risky behaviour as it provides a direct entry for amoebae into the brain. With the help of the local body members, health officials managed to track all the youth in the locality who were known to be using snuff in this way. They were all asked to get admitted to the MCH as soon as they developed symptoms. Seven youths were thus picked up early and their CSF samples tested positive for amoebic meningoencephalitis. Clinicians also got to deal with a lone case wherein the patient was an urban dweller, with no contact with ponds or water bodies. The patient's history revealed that in his house, water from the well was pumped into the overhead tank and then redirected to the pipe system. The overhead tank had not been cleaned in ages, and that it was possible that the water harboured amoebae. The patient also had a past history of a head injury,

may not have been intact, adding the quick entry of amoebae into the brain during head ablation.

Aggressive treatment The State set up a special medical board, and the patients were treated as per the protocol with a cocktail of antibiotics. What turned the tide in favour of the patients was the introduction of the drug, miltefosine into the antibiotic cocktail. Miltefosine is an antiparasitic agent, but its use is rare now, and usually is only limited. Amphotericin B has been the mainstay of PAM treatment, but miltefosine was one of the cocktail of drugs that seemed to give good results, and all the well-documented PAM survivors across the globe have received it as part of their treatment regimen. It was proactive case-finding by clinicians — checking for the presence of amoebae in CSF samples whenever acute encephalitis syndrome (AES) cases were encountered — which turned up more cases. This high degree of clinical suspicion of encountering unusual cases of AES is being maintained by all clinicians in the State since its first Nipah encounter in 2018.

New findings and precautions With more amoebic meningoencephalitis cases reported from multiple locations, one should assume that amoebae is present in most water bodies except in chlorinated water and that the increased environmental factors may be adding the increase in its concentration. The focus of the State health department is now on creating bill campaigns for the public, to increase the possible risks and how preventing the new findings that emerged from this latest encounter with amoebic meningoencephalitis.

The present case also specify that no one should be heading into water bodies and that it is safer to use nasal plugs while swimming. Persons who have had head injuries or nasal surgery in the past should absolutely stay away from entering stagnant water bodies. Under circumstances should one swim, never enter the water while washing one's face or when swimming in ponds. Those in the habit of using irrigate should use sterilised water and not tap water. The current directive to all clinicians is to take a close look at the CSF for the presence of amoebae in all cases of meningoencephalitis, irrespective of whether the patient has had direct or indirect contact with water bodies. This is because early diagnosis and treatment might be life-saving in an infection which is almost always fatal, a learning experience that has been unique to Kerala.

THE GIST

Most of the affected were children. This changed drastically in August when, in all adult case clusters of amoebic meningoencephalitis — reported from multiple locations, one should assume that amoebae is present in most water bodies except in chlorinated water and that the increased environmental factors may be adding the increase in its concentration.

There was a lone case of an urban dweller, with no contact with water bodies. Water at his house was sourced from an overhead tank which had not been cleaned and probably harboured amoebae. The patient also had a previous head injury, adding the entry of amoebae during nasal ablation.

With more cases reported from multiple locations, one should assume that amoebae is present in most water bodies except in chlorinated water and that the increased environmental factors may be adding the increase in its concentration.

- Amoebic encephalitis is a rare but lethal central nervous system infection caused by free-living amoebae found in freshwater, lakes, and rivers.
- There are two types of amoebic encephalitis, namely primary amoebic meningoencephalitis (PAM) and granulomatous amoebic encephalitis (GAE). Primary amoebic meningoencephalitis (PAM) is a disease caused usually by infection with *Naegleria fowleri*, a microscopic amoeba commonly called a "brain-eating amoeba." This infection destroys brain tissue, causing severe brain swelling and death in most cases. PAM is rare and usually occurs in otherwise healthy children, teens and young adults. The initial symptoms of PAM are indistinguishable from bacterial meningitis, while the symptoms of GAE can mimic a brain abscess, encephalitis, or meningitis. These infections are almost uniformly fatal with only few reported survivors globally

The Hindu-Economy(GSIII)-Page 16

White Revolution 2.0 to empower women, fight malnutrition: Amit Shah

The Hindu Bureau
NEW DELHI

Union Home and Cooperation Minister Amit Shah on Thursday launched the standard operating procedure for 'White Revolution 2.0' stating that milk dairies will aid empowerment of women and the fight against malnutrition.

Mr. Shah said that according to the western concept, a woman is considered unemployed even though she does all the work at home, but he disagreed with it. He said White Revolution 2.0 will help the inclusion of women engaged in procurement of milk in formal employment as the money will be deposited in their bank accounts. The



Amit Shah

procurement led by cooperatives from the present 660 lakh litres per day to 1,000 lakh litres. Union Minister for Fisheries, Animal Husbandry and Dairying, and Panchayati Raj, Rajiv Ranjan Singh was also present at the launch.

Mr. Shah said that in the past 70 years, necessary changes in cooperatives were not made due to which the bodies became

States and were left to the mercy of State governments in others. He said the government has prepared a joint proposal of two lakh primary agriculture cooperative societies (PACS), dairy and fishery cooperatives, and sent it across the country, and all the States have accepted it. He said that once these PACS are registered, there will not be a single panchayat without a PACS, dairy or fisheries cooperative society.

The Minister said once this happens, co-operatives will be able to reach the whole country, which will lead to the creation of cooperative institutions at tehsil and district levels, and State institutions will gain strength and

- Union Home and Cooperation Minister Amit Shah on Thursday launched the standard operating procedure for 'White Revolution 2.0' stating that milk dairies will aid empowerment of women and the fight against malnutrition.
- Mr. Shah said that according to the western concept, a woman is considered unemployed even though she does all the work at home, but he disagreed with it.
- He said White Revolution 2.0 will help the inclusion of women engaged in procurement of milk in formal employment as the money will be deposited in their bank accounts. The scheme aims at increasing procurement led by cooperatives from the present 660 lakh litres per day to 1,000 lakh litres. Union Minister for Fisheries, Animal Husbandry and Dairying, and Panchayati Raj, Rajiv Ranjan Singh was also present at the launch.

The Hindu-History(GSI)-Page15

Harappan civilisation: enigma remains even after 100 years of exploration

F.S. Subramanian

Exactly 100 years ago, on September 20, 1924, *The Illustrated London News* published an article containing explosive news which has reverberated down the decades and continues to cast a long shadow in South Asia even a century later. Headlined "First Light on a Long-forgotten Civilisation: New Discoveries of an Unknown Prehistoric Past", the article authored by John Marshall, then Director General of the Archaeological Survey of India (ASI), announced the discovery of what he called the "civilisation of the Indus Valley".

A century later, this Bronze Age civilisation is called the Harappan civilisation, named after Harappa, now in Pakistan, which was the first site to be discovered in the area. For the past 100 years, the Harappan civilisation has mesmerised and baffled town planners, epigraphists, metallurgists, hydrologists, specialists in ceramics, mathematicians, astronomers, and others. Its enigmas have intrigued them.

At the apogee of its prosperity, it was a "technological powerhouse" that ex-

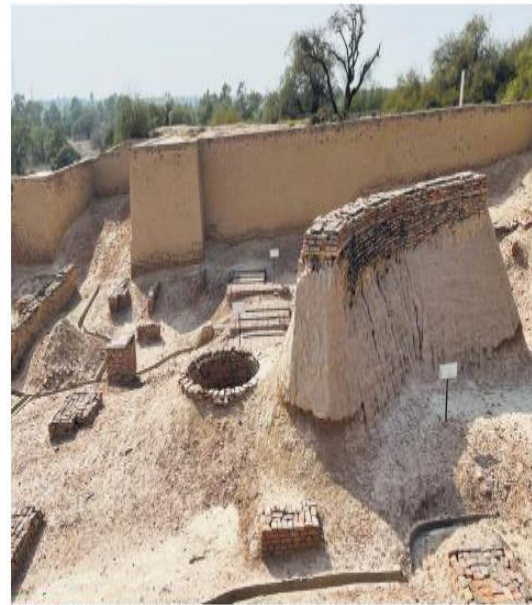
harvesting water, building reservoirs, stadia, warehouses, underground siltage systems, massive fortification walls and building seafaring boats, fabricating bronze and copper artefacts, and in making beads, exquisite painted pottery, and terracotta products. Its craftsmen made seals of steatite and carved them with realistic human and animal motifs and a script within a cramped space of two cm by 1.5 cm.

Uncanny similarity

Two ASI archaeologists were instrumental in the discovery, and were credited by Marshall in his article. Daya Ram Sahni first excavated Harappa in 1921-22, finding seals, painted pottery, and beads. Known as an "industrious, accurate and modest" man, Sahni later became the ASI's first Indian Director General. The other key player was Rakhal Das Banerji. In 1922, he started excavating Mohenjo-daro, also located in modern-day Pakistan, and found seals, pottery, copper products, and crucibles at that site.

In June 1924, Marshall summoned Sahni and Banerji to meet him in his office in Shimla with their finds. He was struck by the uncanny similarity in the

objects found at Harappa and Mohenjo-daro, though the two sites were 640 km apart. He interpreted the similarities and announced the discovery of the "civilisation of the Indus Valley" in the London newspaper.



Marks of a civilisation: Bathing platforms, a well, drains, and the remains of a curved drainage wall at Harappa. N. BAH

the Harappan civilisation can be divided into an early phase (3200 BC to 2600 BC), the mature period (2600 BC to 1900 BC)

and the late phase (1900 BC to 1500 BC), when it decayed and collapsed. Mohenjo-daro, Harappa, and Ganweriwala, all now in Pakistan, and Rakhigarhi and Dholavira, both in India, are the five of the biggest Harappan sites out of nearly 2,000 in the civilisation area, which is spread over 1.5 million sq km in India, Pakistan, and Afghanistan. There are 1,500

sites in northwestern India, including in Gujarat, Haryana, Jammu and Kashmir, Maharashtra, Rajasthan, and Uttar Pradesh. The village of Daimahad on the banks of the Godavari river in Maharashtra is the southernmost outpost of the Harappan civilisation. There are about 500 sites in Pakistan, and a few in Afghanistan. The civilisation

flourished on the banks of the Indus and Saraswati rivers, the latter of which is believed to have dried up around 1900 BC.

According to Indus civilisation scholar Asko Parpola, "its most characteristic features" were "the fully developed Indus script; finely carved stamp seals with writing and/or an animal or some other iconographic motif...; standardised measures, including

cubic weights made of chert carefully cut and polished, employing a combination of binary and decimal systems...; the large-scale use of burnt brick, standardised in size, with the ratio 1:2:4, the most effective for bonding; exquisite lapidary art, featuring highly developed micro-drilling of very long beads made of hard carnelian, decorated with chemically stained motifs." (From Parpola's *The Roots of Hinduism, The Early Aryans and the Indus Civilization*, 2015, Oxford University Press).

Filling the gap

Vasant Shinde, who has excavated several Harappan sites in India, noted that the civilisation's discovery was significant on two counts. First, most historians were of the opinion, before it was discovered, that settled life in this part of the world first occurred around the sixth century BCE, leaving a gap in South Asian history. Historian Vincent Smith had said India jumped from the Stone Age to the (Buddhist) stupas. "The discovery of the Harappan civilisation filled the so-called gap and pushed back in one stroke the antiquity of the settled life in this part of the world

by more than 3,000 years," Dr. Shinde said.

Second, the discovery added one more ancient civilisation in Asia, besides the Egyptian and the Mesopotamian, and unravelled the Harappan civilisation's maritime contacts with West Asia from 3000 BC.

Iravatham Mahadevan, who battled for 50 years to decipher the Indus script, had asserted that the civilisation was both pre-Aryan and non-Aryan. Mehrgarh, in Balochistan, is where it all began around 7000 BC.

"The roots of the Harappan civilisation lie in Mehrgarh, around eight millennium BC," asserted R.S. Bisht, who excavated Dholavira in Gujarat from 1989-90 to 2004-05.

The book *The Wonder that was Harappan Civilization*, brought out by *The Hindu*, has reproduced Marshall's story, first published in *The Illustrated London News*. On January 4, 1928, *The Hindu* had used a full page to publish a summary of his statement on the subject. Read the original report by John Marshall at bit.ly/harappastory (This article is based partly on extracts from *The Wonder that was Harappan Civilization*, curated by Mr. Subramanian).

- On September 20, 1924, *The Illustrated London News* published an article by John Marshall, Director-General of the Archaeological Survey of India (ASI), announcing the discovery of the Harappan civilization, a significant Bronze Age society in South Asia. This civilization, named after Harappa in modern-day Pakistan, has fascinated various scholars for its advanced urban planning, water management, and craftsmanship.
- Key figures in the discovery included Daya Ram Sahni, who excavated Harappa, and Rakhal Das Banerji, who uncovered Mohenjo-daro. Marshall noted the striking similarities in artifacts from both sites, leading to the recognition of the broader Indus Valley Civilization.
- The Harappan civilization is divided into three phases: early (3200-2600 BC), mature (2600-1900 BC), and late (1900-1500 BC). Key sites include Harappa, Mohenjo-daro, and others spread across India, Pakistan, and Afghanistan. The civilization is characterized by its developed script, standardized weights, and advanced brick construction.

Indian Express-Environment(GSIII)-Page10

Ahead of Amur falcon's arrival, Manipur dist bans their hunting

JIMMY LEIVON
IMPHAL, SEPTEMBER 19

AS MANIPUR'S Tamenglong district gears up to welcome its winged guests, Amur falcon (*Falco Amurensis*), the district administration on Wednesday imposed a ban on hunting, catching, killing and selling of the bird, locally known as 'Kahuaipuina', with immediate effect.

Thousands of migratory birds arrive in parts of Tamenglong and bordering areas from their breeding grounds in Northern China, Eastern Mongolia and far East Russia in the first half of October and roost until November-end, before resuming their journey for the wintering grounds in South Africa. An order issued by the District Magistrate directed the owners of air guns to deposit their hunting weapons at the offices of



Amur falcon (*Falco Amurensis*), *Brajesh Khoyunthem*

respective village authorities.

"Poaching and destruction of wildlife (including migratory birds Amur falcon) in any way for food or possession or otherwise is a punishable offence under Wildlife Protection Act, 1972, sections 50

and 51" the DM order said.

"As the period is considered crucial in the life cycle of Amur falcons, the authorities should keep the air guns in their custody until the last flock leaves their roosting place or until November 30. The collection of the air guns' report must be submitted by September 30," the DM said, while cautioning that people found violating the prohibitory orders shall be liable to face consequences as per law.

Tamenglong Divisional Forest Officer Kh Hitler said the state kicked off the conservation programme in 2016 by tagging two birds with radio transmitters to track their migration route.

Besides regular patrolling and awareness programmes, the district administration also organises 'Amur Falcon' festival annually. The authorities are planning to tag two more birds to study their migration, said the DFO.

- As Manipur's Tamenglong district gears up to welcome its winged guests, Amur falcon (*Falco Amurensis*), the district administration on Wednesday imposed a ban on hunting, catching, killing and selling of the bird, locally known as 'Kahuaipuina', with immediate effect.
- Thousands of migratory birds arrive in parts of Tamenglong and bordering areas from their breeding grounds in Northern China, Eastern Mongolia and far East Russia in the first half of October and roost until November-end, before resuming their journey for the wintering grounds in South Africa. An order issued by the District Magistrate directed the owners of air guns to deposit their hunting weapons at the offices of respective village authorities.
"Poaching and destruction of wildlife (including migratory birds Amur falcon) in any way for food or possession or otherwise is a punishable offence under Wildlife Protection Act, 1972, sections 50 and 51.

Indian Express-Economy(GSIII)-Page

WORLD FOOD INDIA 2024

PM: Food-processing sector saw wide-ranging reforms in 10 years

EXPRESS NEWS SERVICE
NEW DELHI, SEPTEMBER 19

PRIME MINISTER Narendra Modi Thursday said India has introduced "wide-ranging" reforms to transform the food-processing sector in the last 10 years.

In his message at World Food India 2024, which began in New Delhi Thursday, the PM said, "During the last 10 years, we have introduced wide-ranging reforms to transform the food processing sector. Through multidimensional initiatives such as 100% FDI in food processing, Pradhan Mantri Kisan Sampada Yojana, formalisation of Micro Food Processing Enterprises, Production Linked Incentive scheme for food-processing industries; we are creating a strong ecosystem of modern infrastructure, robust supply chains and employment generation across the country."

"The participation of several nations showcases World Food India 2024 as a vibrant platform for the brightest minds from global food industry, academia and research to make the most of increasing opportunities, share and engage in a two-way



Union Ministers Pralhad Joshi, Chirag Paswan and MoS Ravnesh Singh Bittu at the inauguration of World Food India in New Delhi, Thursday. PTI

The PM observed India has a vibrant and diverse food culture.

"The backbone of the Indian food ecosystem is the farmer. It is farmers who have ensured the creation of nutritious and delicious traditions of culinary excellence. We are supporting their hard work with innovative policies and focused implementation," he said.

"In the modern era, through progressive agricultural practices, strong administrative

sure that India sets global benchmarks for innovation, sustainability and safety in the food sector," he added.

"At such a juncture, World Food India is an ideal platform for us to work with the world through B2B interactions and exhibitions, Reverse Buyer-Seller meets, and country, state and sector-specific sessions," the Prime Minister said.

"Further, I am sure that im-

based proteins to promote nutrition and sustainability, as well as the circular economy will be showcased," he added.

On the inaugural day, a high-level CEO roundtable under the co-chairpersonship of Minister of Commerce & Industry Piyush Goyal and Minister of Food Processing Industries Chirag Paswan was organised.

Addressing the gathering, Minister of Consumer Affairs, Food and Public Distribution Pralhad Joshi welcomed the global dignitaries and highlighted India's remarkable journey in achieving food security, sustainability, and innovation.

He reiterated the government's commitment to secure good quality food for domestic and global consumers, ensuring a hunger-free world. He emphasised ensuring welfare of farmers through initiatives aimed at boosting incomes, improving access to technology and providing fair prices for their produce.

Paswan said that the 3rd edition of World Food India marks a pivotal moment in India's journey as a global leader in the food processing industry, which has become a key contributor for

- Prime Minister Narendra Modi, in his message at World Food India 2024, praised India's progress in building a strong food processing ecosystem over the last decade. He highlighted the creation of modern infrastructure, robust supply chains, and employment opportunities across the country.
- PM Modi emphasized India's vibrant and diverse food culture, crediting farmers for their role in shaping the nation's culinary traditions. He also stressed the importance of innovative policies and cutting-edge technologies in helping India set global benchmarks for sustainability, safety, and innovation in the food sector.
- Key reforms such as 100% FDI in food processing, Pradhan Mantri Kisan Sampada Yojana, and the Production Linked Incentive scheme were mentioned as crucial initiatives for strengthening the food processing sector.

HEADLINES OF THE DAY

Air-Health(GSII)

Jordan Becomes First Leprosy Free- Nation



World Health Organization WHO today declared Jordan as the first country in the world to eliminate leprosy, marking a significant milestone in global public health efforts., Leprosy has afflicted humanity for millennia, but efforts have been made to stop its transmission and freeing individuals, families, and communities from its suffering and stigma country-by-country.

- WHO said that Jordan has not reported any autochthonous cases of leprosy for over two decades.. The disease continues to occur in more than 120 countries. More than two lakh new cases are reported every year.
- Leprosy is an age-old disease and is described in the literature of ancient civilizations. It is a chronic infectious disease which is caused by a type of bacteria called *Mycobacterium leprae*. The disease affects the skin, the peripheral nerves, mucosa of the upper respiratory tract, and the eyes. Leprosy is curable and treatment in the early stages can prevent disability. Apart from the physical deformity, persons affected by leprosy also face stigmatization and discrimination.

Air-Environment(GSIII)

Govt To Reduce Fossil Fuel Imports Through Hydrogen Innovation



- Road Transport and Highways Minister Nitin Gadkari today said that the government is aiming to reduce the import of approximately 22 lakh crore fossil fuel to around four lakh crore in the coming years with the use of hydrogen. Speaking at an event in Delhi, the Minister said that government is progressing in the project of Mirai, a car which uses hydrogen as a fuel generated from wastes. He also added that biotechnology's use could allow the production of Hydrogen at cheaper rate and the ministry has taken the target to produce Hydrogen at a rate of one dollar per kilogram to make India an energy exporting nation. Mr. Gadkari also spoke about the importance of agriculture in nation building and the vision to make Kisans not only the annyadata but also Urja data, Indhan data and Hydrogen data with the use of stubble to generate bio ethanol. He also urged the private entities to focus on the rural and tribal areas. He expressed concern that too much emphasis on the metro cities is creating an economic disparity in the country.

HEADLINES OF THE DAY

Air-Economy(GSIII)

Modified Scheme Will Provide Remunerative Income To Farmers For Agro Residue



Pradhan
Mantri
JI-VAN
Yojana

- The Ministry of Petroleum and Natural Gas has taken several key decisions during the first 100 days of the third term of the NDA government.
- Recently the government approved the modified Pradhan Mantri Jaiv Indhan Vatavaran Anukool Fasal Awashesh Nivaran (PM-JI-VAN) Yojana.
- The scheme aims to provide remunerative income to farmers for their agricultural residue and address environmental pollution. They added that with the amendments in the scheme, financial assistance is available for advanced biofuels, and preference will be given to new technologies and innovation in project proposals. The scheme also helps create local employment opportunities and contributes to India's energy security and self-reliance

HEADLINES OF THE DAY



PIB-Internal Security(GSIII)

Ministry of Finance

FATF lauds India's efforts to implement measures to tackle illicit finance including money laundering and terror funding

Places India in "regular follow-up" which is the highest rating category by FATF

Posted On: 19 SEP 2024 7:06PM by PIB Delhi

- The Financial Action Task Force (FATF) has lauded India's efforts to implement measures to tackle illicit finance including money laundering and terror funding
- India has achieved a high-level of technical compliance across the FATF Recommendations. India has taken significant steps to implement measures to tackle illicit finance
- India has implemented an anti-money laundering and counter-terrorist financing (AML/CFT) framework that is achieving good results. Authorities make good use of financial intelligence and co-operate effectively, both domestically and internationally.
- India has been placed in "regular follow-up" which is the highest rating category by FATF. UK, France and Italy are among the only G-20 countries which have been placed in this category apart from India,
- India has made significant steps in financial inclusion, more than doubling the proportion of the population with bank accounts, encouraging greater reliance on digital payment systems. These efforts have supported financial transparency, which in turn contribute to AML/CFT efforts

HEADLINES OF THE DAY



PIB-Governance(GSII)

Ministry of Defence

ICG inks MoU with key environmental foundations to Combat Marine Pollution & Protect Biodiversity

Posted On: 19 SEP 2024 8:42PM by PIB Delhi

Indian Coast Guard (ICG) signed a Memorandum of Understanding (MoU) with 'The Habitats Trust' and 'HCL Foundation' to strengthen efforts in marine conservation on September 19, 2024, at ICG Headquarters, New Delhi. The strategic partnership aims to implement critical conservation initiatives and as part of the collaboration, the key efforts will include:

- **Ghost Net Removal:** Addressing the problem of discarded fishing nets, which significantly harm marine ecosystems.
- **Mapping and Classifying Ghost Gear Aggregation Areas:** Enhancing knowledge about regions most affected by ghost gear to prioritize clean-up efforts effectively.
- **Surveys in Ecologically Sensitive Regions:** Monitoring and protecting biodiversity, focusing on vulnerable marine habitats.
- **Community Involvement:** Engaging coastal communities in conservation activities to promote stewardship of marine ecosystems