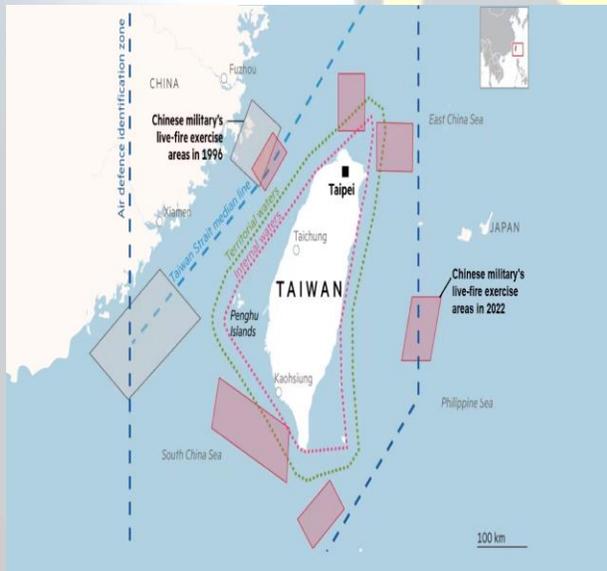


China – Taiwan

- On January 13, Taiwan concluded its democratic elections.
- Lai Chingde of the Democratic Progressive Party (DPP), who was the Vice President under Tsai Ing-wen, whom China has called the “troublemaker”, is the newly elected President of Taiwan.



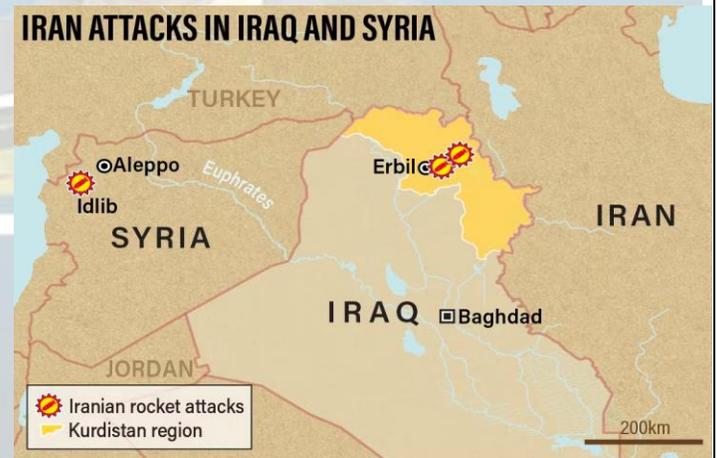
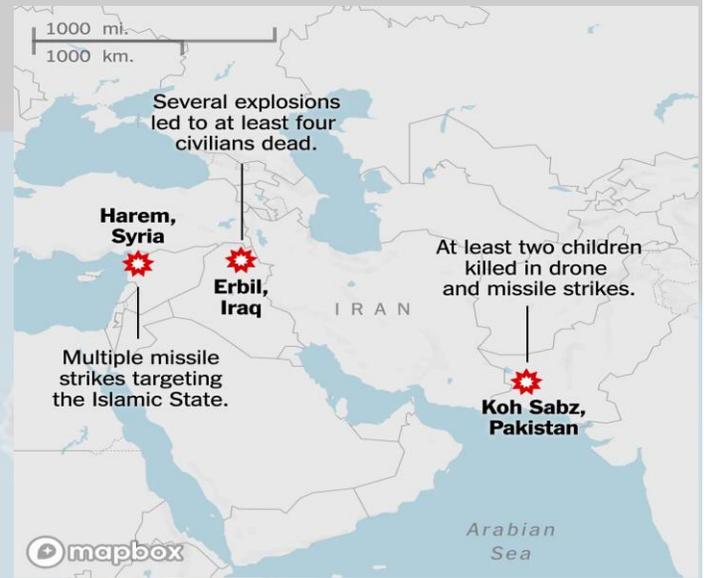
What is the status of China-Taiwan ties?

- One of the main reasons for China’s assertiveness is the refusal of Ms. Tsai to accept the ‘1992 consensus’.
- The 1992 consensus acknowledges that there is ‘one China’. It was agreed upon between the Kuomintang (KMT, pro statusquo party) and the Communist Party of China (CPC).
- However, Ms. Tsai has publicly said that this consensus goes against the ‘Taiwanese consensus’.
- There has also been a rise in ‘Taiwanisation’, where the younger generation of Taiwan do not feel any historical affinity with China.
- This generation recognises itself as Taiwanese and have grown up in a democratic political environment and do not feel any bond with the historical narratives of a united China.
- All these developments have intensified aggressiveness towards Taiwan under Chinese President Xi Jinping.
- Rejuvenation of the Chinese nation and reunification of Taiwan are two very prominent and essential goals for Mr. Xi.
- China had consistently made comments and indicated its

displeasure of the DPP, given its pro independence stance.

The Hindu

Iran attack Pakistan



Pakistan deadly airstrike



Current Affairs 18th January 2024 by Saurabh Pandey

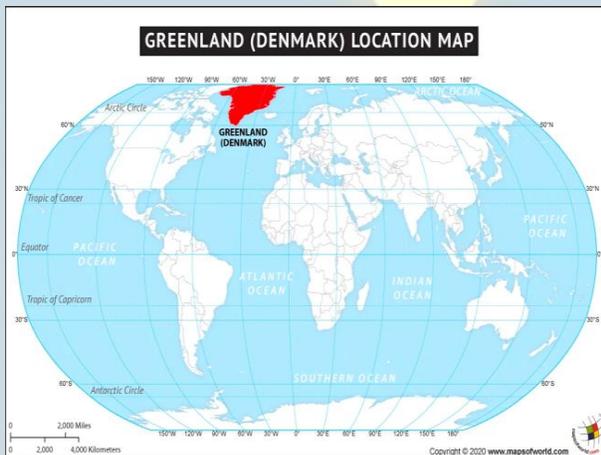
- on December 15, 2023, a police station in Rask in Iran's Sistan Baluchestan province, roughly 60 km from the Pakistani border, came under attack.
- At least 11 Iranian security personnel were killed in the attack, which was claimed by the Jaish al Adl (the Army of Justice).
- On January 3, 2024, a memorial event for Gen. Qassem Soleimani, the Quds Force commander who was assassinated by the U.S. in January 2020, in Kerman in southeastern Iran was hit by twin blasts, killing at least 94 people.
- The Islamic State Khorasan, the Afghanistan-based branch of the Islamic State terrorist group, claimed responsibility for the attack.
- All these attacks took place after the Gaza war between Israel and Hamas broke out on October 7, and Iran-backed militias in the region started attacking U.S. and Israeli troops as well as commercial vessels.
- Iran's retaliation On January 15, 2024, Iran claimed to have carried out retaliatory strikes against "the perpetrators" of all these attacks.
- First, it launched missiles and kamikaze drones into Erbil, the capital of Iraq's Kurdistan.
- The IRGC claimed that its attacks destroyed "an espionage center" of Mossad, Israel's external security agency.
- **Analysis**
- The crisis is spreading like wildfire across the region, with profound implications for Iran's security, both internal and external.
- By carrying out multiple strikes in three geographies, Iran seems to be flexing its military muscles.
- It wants to send a message, to both the Sunni militants and its conventional rivals that it would not hesitate to take military action against targets that it deems hostile if its security red lines are breached, even at the risk of a wider war.
- Iran also seeks to assure its people that the government can act assertively to ensure the security of the Islamic Republic and that the killing of its commanders would be avenged.
- Iran may also be thinking that Israel is stuck in Gaza and the U.S. is preoccupied with the Houthis.
- This gives Tehran some space to make relatively bolder military moves.
- But what's to be seen is whether the attacks would help Iran improve its internal and external security or

these would further worsen the security crisis in a region, which is already in a ring of fire.

- **The Hindu**

Greenland ice melting

- **Climate change has caused Greenland's ice sheet to lose 20% more ice than previously thought, according to research published.**



- Previous studies have found that about 5,000 gigatons of ice has been lost from the surface of the Greenland ice sheet in the past two decades, a major contributor to rising sea levels.

- They found that over 1,000 gigatons (1 gigaton is equivalent to 1 billion tons), or 20%, of ice around the edges of Greenland had been lost over the past four decades and not been accounted for.

- “The Greenland ice sheet has lost appreciably more ice in recent decades than previously thought.

- Researchers found that the Greenland glaciers most susceptible to seasonal changes that expand in winter and retreating in summer are also the ones most sensitive to the impact of global warming and experienced the most significant retreat since 1985.

- The melting of Greenland's vast ice sheet the world's second-largest after Antarctica is estimated to have



contributed more than 20% to observed sea level rise since 2002.

Impact of meltwater on Greenland ice sheet flow: a novel view

In Greenland, ice flow is mainly controlled by the sliding of ice over its underlying bedrock and the modulation of it by surface melt water supplied to the base through vertical conduits called moulines. It is widely known that surface meltwater strongly controls ice flow velocities on a timescale of hours to years, but the extent with which meltwater controls the loss of ice-sheet mass over longer, climatic timescales remains uncertain.

In this study, the authors show that surface melt water causes major and long-term changes in the flow of Greenland. As opposed to commonly considered, however, these changes are not controlled by melt rates but by the terminal morphology of glaciers.

Marine terminating
sliding speed
drainage flow direction
hydropotential
In the future, marine-terminating glaciers will retreat to land as they lose mass in a warmer climate.

Land terminating
active drainage pathways
weakly connected drainage
Land-terminating glaciers are slower and flatter, which renders more difficult the removal of lubricating basal water, making them more slippery.

This new insight suggests unforeseen dynamic changes which increase mass loss are likely to occur as marine terminating glaciers retreat into the future.

Reference: Meyer, M., Gilbert, F. & Gillot-Chaulet, F. Threshold response to melt drives large-scale bed weakening in Greenland. *Nature* 607, 714–720 (2022). <https://doi.org/10.1038/s41586-022-04927-3>



DISAPPEARING ARCTIC SEA ICE: THE GLOBAL CLIMATE IMPACTS

The rapid disappearance of Arctic sea ice is having profound regional climatic impacts and is beginning to affect the global climate. This graphic illustrates those repercussions as the Arctic Ocean heads for a largely ice-free state in summer, which some scientists say could occur in as little as five years.

- 1 ALBEDO EFFECT**
The melting of Arctic Ocean ice is turning the top of the world from white to blue. Since dark surfaces absorb far more heat than white ones, the loss of ice and snow on sea and land is increasing regional and global temperatures.
- 2 METHANE RELEASE**
The retreat of Arctic sea ice, and the resulting warming, is beginning to thaw offshore permafrost that contains large amounts of frozen methane, a potent greenhouse gas. Continued Arctic Ocean ice loss and rising temperatures could cause massive methane releases.
- 3 MELTING THE GREENLAND ICE SHEET**
Rising Arctic air temperatures, in part caused by the disappearance of sea ice, are leading to widespread surface melting of Greenland's massive ice sheet. This melt is adding some 72 cubic miles of water to the ocean annually, leading to sea level increases.
- 4 INCREASE IN WATER VAPOR**
Warmer air holds more moisture, so rising Arctic air temperatures mean that the once-frigid polar atmosphere is holding more water vapor. Water vapor is itself a greenhouse gas, trapping outgoing long-wave radiation, so this further heats up the Arctic.
- 5 WARMING RIVERS**
As snow cover disappears, causing Arctic terrestrial regions to absorb more heat, the runoff and snowmelt from waterways flow through warmer land, increasing the temperature of large, north-flowing rivers in Siberia and Canada. These warmer rivers inject even more heat into the Arctic Ocean.

MAP SOURCES: NATURAL EARTH; NATIONAL SNOW AND ICE DATA CENTER. ICE EXTENT AS OF SEPTEMBER 2016. environment360

The Hindu

Disruption of trade in Red Sea

- Trade disruptions a worry- The situation in the Red Sea is growing in complexity.
- While the impact on stability is immense, the impact on trade is a growing concern.
- What is of greater concern is the modern weaponry being used and the inability of nations, both allies and strategic partners, to work together as a team, despite the substantial presence of maritime forces.
- This also raises questions about the claim of a high degree of interoperability after years of joint defence exercises.
- The delayed international response had provided the pirates with time to adapt to modern technologies and adopt tactics such as hijacking ships and using them as motherships.
- This has facilitated mid-ocean attacks, which in turn has increased the 'High Risk Area', with attendant multiple impacts on maritime trade such as rerouting and insurance costs.
- Tepid response from allies Operation Prosperity Guardian launched by the U.S. which was intended to operate under the Combined Maritime Force's (CMF)

Combined Task Force 153 has seen a lackluster response from allies and strategic partners.



- India, which joined the CMF as an associate partner in 2022 and was upgraded to full member in November 2023, is also operating independently.

- This could be due to India-Iran relations despite the stoppage of oil imports based on U.S. insistence.

- Even the U.S.'s allies, Japan and Australia, are yet to join the operation.

The Hindu

Microbiome role in the human body

- Out of the nine nations mentioned initially as part of the operation, three North Atlantic Treaty Organization (NATO) allies of the U.S., i.e., France, Italy, and Spain, declined to be part of the operation, and are operating independently.

- Bahrain, which houses the U.S. Fifth Fleet headquarters, is the only West Asian nation to be a part of the operation.

- Saudi Arabia has not joined the operation, perhaps to avoid negative impacts on the Saudi-led negotiations on ending the ongoing war in Yemen, and the recent endeavours to improve relations with Iran.

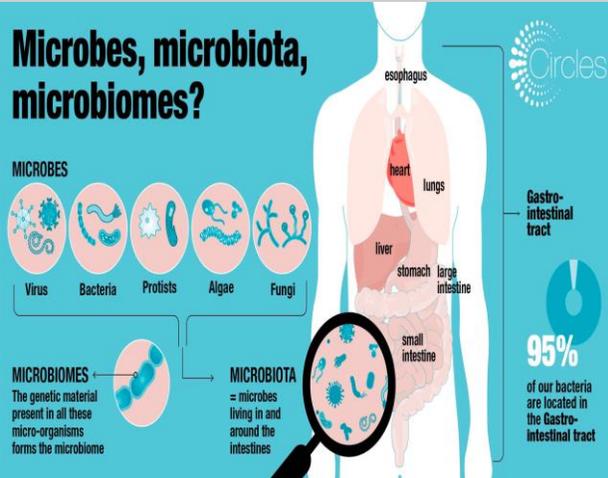
- Another major reason could be to avoid being seen as supporting Israel, an aspect which perhaps has also limited the United Arab Emirates from joining the operation.

- The human microbiome is a community of trillions of microorganisms that reside in our body, especially in the digestive tract.

- It is a dynamic community that plays a pivotal role in regulating our health and diseases.

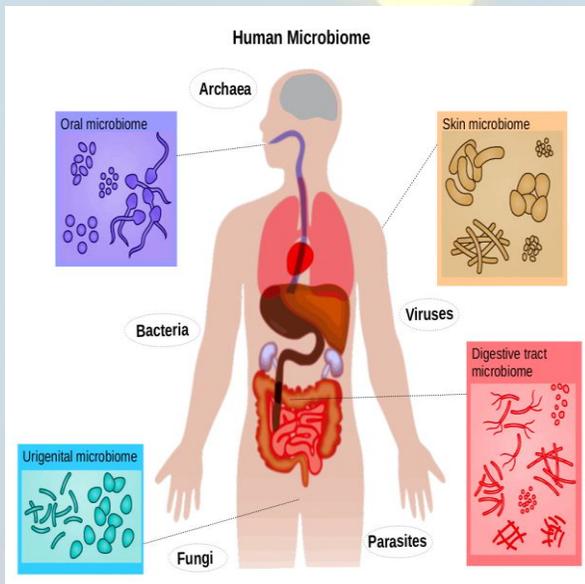
- These microbes influence various aspects of our well-being, including the way we digest food, absorb nutrients, metabolize key metabolites, develop immunity, and maintain good mental health.

- This is why scientists have been immensely interested in understanding the intricate relationship between the human genome and the body's microbial inhabitants.

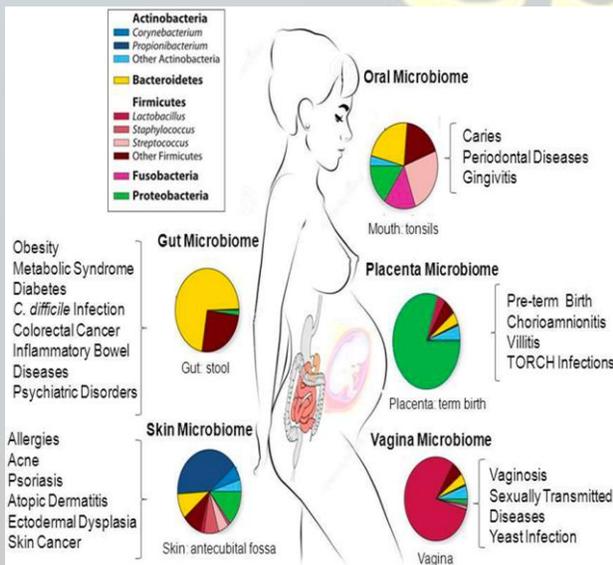


Role of Microbiome

The strong association of the ABO locus in the human genome and the gene cluster associated with the metabolism of Nacetylgalactosamine in specific microorganisms like in *Faecalibacterium prausnitzii* and *Collinsella aerofaciens*, which scientists have studied extensively in the context of cardiovascular risk suggests that the association of ABO and risk for cardiovascular disorders could in part be modulated through the microbiome.



	Group A	Group B	Group AB	Group O
Red blood cell type				
Antibodies in plasma			None	
Antigens in red blood cell				None



- The development of colorectal cancer could be mediated by a molecule called trans 3 indoleacrylic acid (IDA).
- That is, administering IDA or implanting the microbe *Peptostreptococcus anaerobius* in the gut of mice caused them to develop colorectal cancer.

- Evidence is also mounting that the human microbiome can be associated with how neurons ‘talk’ to each other. Gut microbes produce vitamin B12
- The vitamin could influence neuronal signalling by influencing the availability of free choline, a molecule neurons use to make a neurotransmitter called acetylcholine.
- The yellow color of urine comes from a pigment called urobilinogen.
- Urobilinogen is produced in the body when the body metabolises bilirubin.
- And bilirubin is produced when the body metabolises haemoglobin in the blood.
- This is why a high level of bilirubin seen in the yellowing of the eyes is associated with jaundice.
- Using biochemical analyses and comparative genomics, they identified a bacterial enzyme, called bilirubin reductase (BilR), to be responsible for reducing bilirubin to urobilinogen, a pivotal step in this process that has so far remained out of sight.
- Through genome sequencing, the researchers observed that microorganisms belonging to the species Firmicutes predominantly

encode the gene that teaches cells to make BilR.

The Hindu