RAISINA DIALOGUE 2026

- It is **India's flagship conference on geopolitics and geo-economics,** committed to addressing the most challenging issues facing the international community.
- It is **modeled on the lines of the Munich Security Conference and Singapore's Shangri-La Dialogue.**
- It is **held annually since 2016** in **New Delhi.**
- It is structured as a **multi-stakeholder, cross-sectoral discussion,** involving **heads of state, cabinet ministers,** and local **government officials,** who are joined by thought leaders from the **private sector, media, and academia.**
- The conference is **hosted by the Observer Research Foundation (ORF)** in **partnership with the Ministry of External Affairs,** Government of India.
- This effort is supported by a number of institutions, organisations, and individuals who are committed to the mission of the conference.

Raisina Dialogue 2026:

- It is the **11th edition** of the dialogue.
- **Theme: "Saṁskāra – Assertion, Accommodation, Advancement".**
- Around **2700 participants from 110 countries** will be joining the dialogue in person.
- Over the course of three days, decision makers and thought leaders of the world will engage each other across conversations in various formats over **six thematic pillars:**
    - Contested Frontiers: Power, Polarity, and Periphery;
    - Repairing the Commons: New Groups, New Guardians, New Avenues;
    - White Whale: The Pursuit of Agenda 2030;
    - The Eleventh Hour: Climate, Conflict, and the Cost of Delay;
    - Tomorrowland: Towards a Tech-topia;
    - Trade in the Time of Tariffs: Recovery, Resilience, Reinvention.

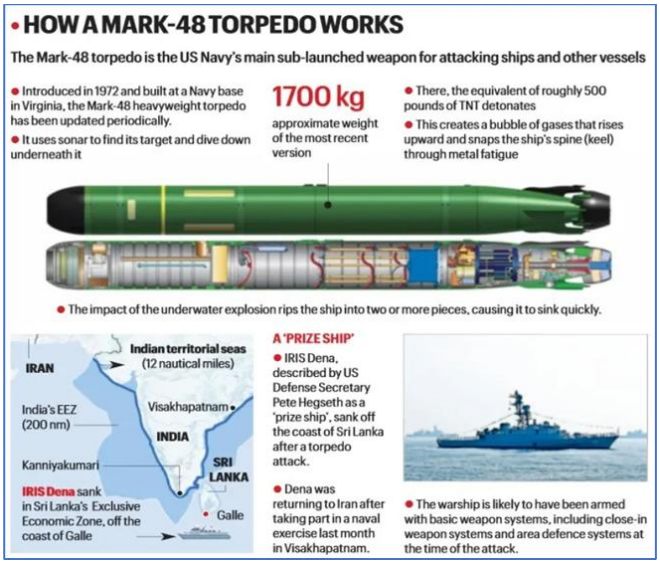
MARITIME LAW AND WARFARE: RULES GOVERNING NAVAL CONFLICT

A US submarine torpedoed the Iranian warship **IRIS Dena** off the coast of Sri Lanka, outside its territorial waters. The ship was returning after participating in the International Fleet Review and MILAN-2026 naval exercise hosted by India near Visakhapatnam.

The attack resulted in the death of at least 80 sailors and expanded the US-Israel–Iran conflict beyond West Asia into the Indian Ocean region.

The incident has also sparked a debate in India over maritime security, especially given India's strong naval presence in the Indian Ocean.

Experts noted that ships sailing in international waters cannot be protected by another country from hostile action. Once outside a nation's territorial boundaries, ships are subject mainly to **international maritime law and conventions**, which govern conduct during naval conflicts.



Legal Framework Governing Maritime Conflict

- International maritime law is mainly governed by the United Nations Convention on the Law of the Sea (UNCLOS), although the United States is not a signatory.
- UNCLOS primarily deals with peacetime maritime governance and does not clearly regulate the conduct of parties during armed conflicts.

- **Law of Naval Warfare**
  - During conflicts, the law of naval warfare operates alongside UNCLOS.
  - Under these rules, warships belonging to a belligerent state can be considered legitimate military targets, regardless of whether they are directly engaged in combat.

- **Provisions Under the UN Charter**
  - The UN Charter regulates the use of force in international waters.
  - Article 2(4) generally prohibits the use of force, but Article 51 allows states to act in self-defence if they face an armed attack.
  - Military action may also be authorised by the UN Security Council under **Chapter VII** of the UN Charter.
  - However, such approval requires a majority vote and no veto from any permanent member, making it difficult to obtain in many situations.

US Sanctions on the Iranian Warship

- The Iranian warship IRIS Dena was sanctioned by the US Treasury in February 2023, along with executives of the Iranian drone company Paravar Pars.
  - The sanctions were linked to Iran's alleged supply of UAVs to Russia for attacks on infrastructure in Ukraine.

Expert Views on the Incident

- **No Fixed War Zones at Sea** - Experts stated that there are **no defined war zones** in the maritime domain. The attack occurred after the Iranian ship left India, making it part of the wider conflict environment.
- **Incident Near Sri Lanka's EEZ** - The attack happened in Sri Lanka's Exclusive Economic Zone (EEZ). This proximity allowed authorities to begin search and rescue operations quickly. The location also suggests the ship may have been aware of potential threats.
- **Legal Concerns Over Use of Force** – Critics, however, argued that attacking a foreign warship on the high seas is generally **unlawful** unless justified as self-defence or within an ongoing armed conflict, as recognised under Article 51 of the UN Charter.
- **Escalation of the Conflict**
  - Analysts described the attack as a major escalation in the US-Israel-Iran conflict.
  - The ship was reportedly on a peaceful passage outside the conflict zone, which may have led to the crew being caught off guard despite defensive capabilities.

METABOLIC DISEASES BURDEN IN INDIA

- Metabolic diseases refer to a group of disorders that disrupt the body's normal metabolic processes, particularly the way energy from food is broken down, stored, and utilised.
- Common metabolic diseases include Type 2 diabetes mellitus, High blood pressure (hypertension), Obesity or high body mass index (BMI), High LDL cholesterol and Metabolically-dysfunction-associated steatotic liver disease (MASLD)
- These conditions are closely linked to lifestyle factors such as unhealthy diets, sedentary behaviour, and increasing urbanisation.

Findings of the Global Burden of Disease Study

- The study identified five major metabolic risk factors contributing to disease burden:
  - Type 2 diabetes mellitus
  - High systolic blood pressure
  - High BMI
  - High LDL cholesterol
  - Metabolically-dysfunction-associated steatotic liver disease (MASLD)
- The findings indicate that metabolic disorders have become one of the most serious health challenges in the Asia-Pacific region.

India's Metabolic Disease Burden

- According to the study, India has one of the highest absolute metabolic disease burdens in the Asia-Pacific region. In 2023, India recorded:
  - **~21 million DALYs linked to type 2 diabetes**
  - Around **5.8 lakh deaths due to diabetes**
- High systolic blood pressure was another major contributor to disease burden, accounting for nearly 3.8 crore DALYs and around 15.7 lakh deaths in the country.
- These numbers indicate that hypertension and diabetes remain among the leading health challenges facing India.

Rising Risk Factors in India

- One of the most significant trends is the **rising prevalence of obesity and high BMI**, which is growing at an annual rate of **about 2.7-2.9%**.
- High LDL cholesterol levels and fatty liver disease (MASLD) are also becoming increasingly common.
- These trends are largely driven by:
    - Rapid urbanisation
    - Sedentary lifestyles
    - Increasing consumption of ultra-processed foods
    - High intake of sugar, salt, and unhealthy fats

Implications for Public Health

- If current trends continue, these diseases could place enormous pressure on healthcare systems due to Increased hospitalisation, Long-term treatment costs and Reduced workforce productivity

Prevention and Policy Measures

- **Promoting healthier diets:** Governments should regulate ultra-processed foods and reduce excessive sugar, salt, and unhealthy fats in commonly consumed foods.
- **Nutrition labelling:** Clear front-of-pack nutrition labels can help consumers make informed dietary choices.
- **Urban design and physical activity:** Cities should be redesigned to encourage active lifestyles through safe walking spaces, cycling tracks, and public exercise facilities.
- **Screening and early detection:** Large-scale screening for diabetes, hypertension, obesity, and fatty liver disease should be integrated into primary healthcare systems.

RETHINKING INDIA'S RICE PRODUCTION AND EXPORT STRATEGY

India has been the world's **largest rice exporter** since 2011–12. In 2024–25, India exported about 21.69 million tonnes, far higher than Thailand (7.86 million tonnes) and Vietnam (8.06 million tonnes).

India also became the **largest rice producer** in the world in 2024–25, with an estimated 150 million tonnes of output, surpassing China's 145.28 million tonnes.

However, the key challenge ahead is maintaining this leadership while ensuring environmental sustainability and financial viability.

Environmental Costs of Paddy Cultivation

- Paddy is an extremely **water-intensive crop**. A single irrigation covering one acre to a depth of 2.5 cm requires about 1,01,171 litres of water.
- To control weeds, paddy fields are usually kept submerged under about 5 cm of water for long periods.
- Under the conventional system of transplanting with continuous flooding, about 25 irrigations at 5 cm depth can consume roughly 5 million litres of water per acre.
- **Water Footprint of Rice Production**
    - With an average yield of 2.5 tonnes of paddy per acre, producing one kilogram of paddy requires about 2,000 litres of water.
    - After milling (which gives about two-thirds recovery), one kilogram of rice requires nearly 3,000 litres of water.
    - This means that every kilogram of rice exported by India effectively represents the export of about **3,000 litres of water**, raising concerns about the environmental sustainability of large-scale rice exports.

Towards a Non-Basmati Phaseout Strategy

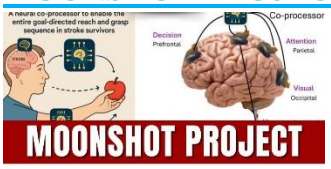
- India's basmati exports have increased sharply from 0.6–0.7 million tonnes in the early 2000s to 5–6 million tonnes in recent years.
- Export earnings have also risen from $400–450 million to about $5.8–5.9 billion.

- This growth is largely due to high-yielding basmati varieties developed by scientists at the Indian Agricultural Research Institute (IARI).
- **High-Yield Modern Basmati Varieties**
    - **Pusa Basmati-1509** yields about 2.5 tonnes of paddy per acre and matures in 115–120 days, compared with 1 tonne yield and 155–160 days maturity for traditional basmati varieties.
    - India's basmati GI region covers about 6.2 million hectares across Punjab, Haryana, western Uttar Pradesh, Uttarakhand, Jammu and Himachal Pradesh.
- **Policy Measures for Transition**
    - Experts suggest gradually reducing non-basmati rice cultivation in water-stressed regions like Punjab and Haryana.
    - The government could instead procure non-basmati paddy from eastern states such as Uttar Pradesh, Bihar, West Bengal and Assam, where groundwater stress is lower.
    - The government can set a floor price for basmati paddy in mandis to protect farmers from price crashes.

Advances in Rice Breeding Strategies

- IARI scientists introduced genes from wild rice and landraces into popular varieties such as Pusa Basmati-1509, 1121 and 1401 using marker-assisted selection.
- This led to disease-resistant varieties Pusa Basmati-1847, 1885 and 1886, which resist bacterial leaf blight and rice blast.
- Genetic resistance reduces the need for antibiotics and fungicides. Lower chemical use helps maintain basmati's premium quality in global markets.
- **Tackling Other Crop Threats**
    - Researchers are now identifying genes for resistance against diseases (bakanae, false smut, brown spot) and pests (stem borer, leaf folder, plant hoppers).
    - The focus is also on traits like drought, heat and salinity tolerance.

MOONSHOT PROJECT



- It is to **develop brain co-processors** that combine neuromorphic hardware and AI algorithms to enhance or restore brain function.
    - **Brain co-processors are an emerging technology** aimed at enhancing the human brain's natural abilities in ways relevant to real-life situations.
- The project aims **to build an AI-powered, closed-loop device** that connects to different parts of the brain in order to help **restore smooth, coordinated movement.**
- **Objective:** To develop **both implantable and non-invasive brain co-processors** that can decode brain **activity from neural recordings,** process it with an **AI algorithm,** and re-encode signals back into the **brain via neural stimulation or neurofeedback.**
- It will lay the foundation for a first-of-its-kind brain co-processor that **restores complex sensorimotor function after stroke.**
- The co-processors will be **deployed towards cognitive rehabilitation** of stroke survivors, to restore critical functions such as goal-directed reach and grasp abilities.

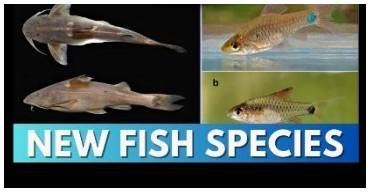
GPS SPOOFING

Recently, it was observed that GPS spoofing is creating a digital fog of war for aircraft flying near the UAE and Iran.

- GPS spoofing, also known as **GPS simulation,** refers to the practice of manipulating or tricking a GPS receiver by broadcasting false GPS signals.
- It involves **manipulating navigation data with malicious intent.**
- Unlike jamming, which blocks GPS signals, **spoofing involves transmitting fake satellite** signals to override genuine ones. The aircraft's navigation systems pick **up these counterfeit signals** and calculate wrong data for position, altitude, time and speed.
- The aim is for the **target to act on false navigation information**. The fake signals over-ride the genuine satellite signals using specialised hardware or software.

- Since GPS satellite signals are weaker, the receiver considers the amplified spoofed signals as authentic.
- It involves **sending a fake signal to aircraft** that the onboard computers believe is real. Instead of the navigation system failing, it **shows the pilot a completely false location.**
- **Spoofing is often reported in:**
    - Conflict zones like the Black Sea region
    - West Asia and the Middle East
    - Military action areas or electronic warfare zones

NEW FISH SPECIES



- They are **two new species of freshwater fish.**
- They were discovered during ichthyological surveys in **tributaries of the Brahmaputra River** in the Mokokchung district, **Nagaland**.

- **Glyptothorax sentimereni:**
    - It was discovered in the **rocky stretches of the Dikhu River.**
    - It belongs to a group of **torrent-dwelling catfishes** known for their **ability to cling to fast-flowing streams.**
    - It possesses a **specialised adhesive structure on its underside** that **helps it cling to rocks in strong currents.**
    - It also possesses serrations on its dorsal-fin spine and a plicate (folded) ventral surface on its pectoral and pelvic fins — features that separate it from closely related species across the Ganges–Brahmaputra–Meghna basin.
- **Oreichthys elianae:**
    - It was found in a **tributary of the Tsurang River.**
    - The fish is distinguished by its **bright red fins** and a **prominent black blotch at the base of its tail.**
