

NEWS TODAY

Russia's President has approved a revised Nuclear Doctrine (ND)

Russia updates its **2020 ND**, reaffirming nuclear weapon's role in deterring enemies and defining potential use scenarios.

➤ **Nuclear Doctrine:** It defines the **purpose, development, and deployment** of nuclear weapons, as well as their **intended use**.

Russia's Revised Nuclear Doctrine (ND)

- **Expanded definition of nuclear attack:** Any aggression against Russia **by a non-nuclear state**, supported by a nuclear state, is treated as a **joint attack**, justifying nuclear retaliation.
 - ⊕ It explicitly targets countries allowing their territories to be used for aggression against Russia.
- **Lowering nuclear response threshold:** Russian ND expanded from **defending state's existence to protecting sovereignty and territorial integrity**.
 - ⊕ **Belarus** formally placed under **Russia's nuclear umbrella**.
- **New risks triggering potential nuclear response include:** Expansion of military coalitions & Large-scale military exercises near Russian borders; Positioning of enemy military infrastructure closer to Russian borders.

Potential Impact of Russia's revised ND

- **Increased Nuclear escalation:** The revised ND increases the chance of using Tactical Nuclear warfare.
- **Weakening the Non-Proliferation Regime:** The revised doctrine may enhance difficulty in persuading states to abandon nuclear weapons programs.
- **Increasing distrust:** Russia's lowered nuclear threshold and expanded definition of "extreme circumstances" could exacerbate distrust between Russia and the US. circumstances & quot; could exacerbate distrust between Russia and the US.

India's nuclear doctrine (2003):

- **No First Use:** India will not use nuclear weapons first.
- **Credible Minimum Deterrence:** India will maintain a minimum nuclear arsenal to deter potential aggressors.
- **Massive Retaliation:** In the event of a nuclear attack, India will retaliate with a massive nuclear strike.
- **Civilian Control:** The civilian leadership, through the Nuclear Command Authority (NCA), has ultimate authority over nuclear weapons.
- **Non-use Against Non-Nuclear States:** India will not use nuclear weapons against non-nuclear states.

World Health Organization's (WHO) report on Climate change and Health released at CoP-29

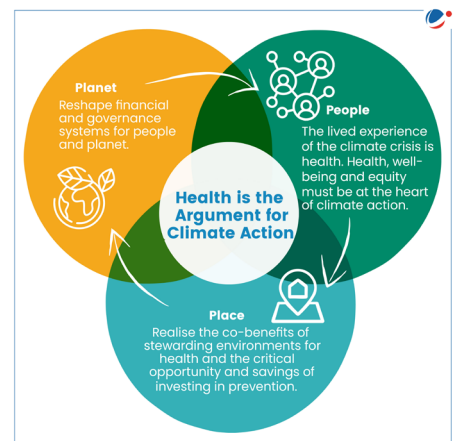
Report emphasizes **health as the argument for climate action across people, place and planet** (refer to the image).

Impact of climate change on health

- **Direct impact:**
 - ⊕ **Noncommunicable diseases (NCD):** Climate change and air pollution causes **85% of NCD deaths**.
 - ⊕ **Heat stress:** People faced **50 more days of health threatening heat** in 2023, due to climate change.
 - ⊕ **Maternal & reproductive health:** **Preterm birth**, low birth weight, maternal death, **decreased fertility** etc.
- **Indirect impact:** Increased **poverty and marginalization**; threat to **food & water security**; rise in **conflicts and migration** etc.
 - ⊕ In 2023, **20.3 million people were internally displaced** due to weather-related disasters.

Key Recommendations

- **Apply a One Health approach** to address the links between human, animal, and ecosystem health.
- **Transition** from extractive economic systems towards circular economy.
- **Ensure New Collective Quantified Goal (NCQG)** on climate finance and Loss and Damage Fund arrangements are substantially funded.
- **Integrate health into national climate action.** E.g., Nationally Determined Contributions (NDCs), National Action Plans (NAPs) etc.



Initiatives taken: **National Programme on Climate Change and Human Health** (Ministry of Health & Family Welfare), **The Network on Climate Change & Health** (a program of the Department of Science & Technology), etc.

Climate and Clean Air Coalition (CCAC) and FAO published Global Nitrous Oxide (N₂O) Assessment report

Launched at UN COP29 in Baku, Azerbaijan, it is the **first international report focused solely on N₂O** in more than a decade.

Key finding of report

- ▶ If N₂O emissions **continue to increase at their current rate (current share 0.1° C)**, there is no plausible pathway to limiting global warming to 1.5° Celsius.
- ▶ Anthropogenic emissions of N₂O have **increased globally by 40% since 1980** with approximately 75% originating from agricultural use of synthetic fertilisers and manure.
- ▶ N₂O is leading **ozone-depleting substance**, increasing harmful UV exposure and raising **risks of cataracts (0.2–0.8%) and skin cancer (2–10%)**.

Measures suggested to abate N₂O emission

- ▶ **Agriculture:** Abating N₂O emissions by using enhanced-efficiency fertilizers, nitrification inhibitors, slow-release formulations, etc.
- ▶ **Industry:** Thermal destruction or catalytic processes can achieve 90-99% efficiency in treating emissions from adipic acid (used in synthetic fibers, foam) and nitric acid (used in fertilizer production).
- ▶ **Fossil fuel reduction:** Switching to use of renewable resources in transportation, energy production sector.
- ▶ **Manure management:** By balancing nutrient inputs in animal feed, reducing grazing intensity, anaerobic digestion of manure etc.
- ▶ **Multilateral options: like Gothenburg Protocol targets** on ammonia and nitrogen oxides under Convention on Long Range Transboundary Air Pollution.

About N₂O

- ▶ It is a **long-lived greenhouse gas** approximately **270 times more powerful than CO₂**.
- ▶ It has a long **atmospheric lifetime** of about **114 years**.
- ▶ **Sources:** Natural (microbial activity in soils and oceans) and Anthropogenic (fertilizers, wastewater etc.).
- ▶ **Other key facts:** **Inorganic gas** commonly known as '**laughing gas**'; clear, colourless and odourless gas; soluble in water and its vapors are heavier than air.

About CCAC

- ▶ Founded in 2012, and convened within UNEP, CCAC is a voluntary partnership of more than 160 governments, intergovernmental organizations, and NGOs. **India joined CCAC in 2019**.
- ▶ It works to reduce powerful but short-lived climate pollutants that drive both climate change and air pollution.

India, Maldives ink pact for cross-border transactions in local currencies

Reserve Bank of India (RBI) & Maldives Monetary Authority (MMA) have signed a Memorandum of Understanding to establish a framework for promoting the use of **local currencies** for **cross-border transactions**.

- ▶ India has been promoting use of **local currencies** as part of its efforts to **internationalize the rupee** and **reduce US dollar dependency**.

About Internationalisation of Currency (Rupee):

- ▶ **Currency internationalisation** is described as the **international extension of a national currency's basic functions of serving as a unit of account, medium of exchange and store of value**.
 - ⊕ **E.g., Involves Promotion of the rupee** for current account transactions and foreign trade.

Significance of Internationalisation of Rupee

- ▶ **Counter trade risk:** Internationalisation of Rupee enables domestic firms to invoice and settle international trade in local currency, reducing exchange rate risks.
- ▶ **Broader financial Access:** Domestic entities can tap international markets as IR reduces cost of capital & expands financing options.
- ▶ **Reserve Management:** Reduces need for maintaining large foreign exchange reserves, lowering associated costs and external vulnerabilities.

Challenges in Internationalisation of Rupee

- ▶ Initial stages may see **significant currency fluctuations**
- ▶ **Global currency supply obligations** would conflict with **domestic monetary control needs** (Triffin Dilemma)
- ▶ Increased **exposure to international shocks** through **unrestricted cross-border capital flows**.

Steps taken towards Internationalisation of Rupee

- ▶ RBI has allowed **invoicing and payments** for international trade in Indian Rupee.
- ▶ **Special Rupee Vostro Account system** to promote Rupee as an international currency.
- ▶ India has signed currency swap agreements with countries like **Japan, Sri Lanka, and Bhutan**.

Ministry of Fisheries, Animal Husbandry & Dairying (MoFAH&D) celebrated World Fisheries Day (WFD) 2024

WFD 2024 Theme is India's Blue Transformation: Strengthening Small-Scale and Sustainable Fisheries.

Key Initiatives Launched

- **5th Marine Fisheries Census** for data-driven policymaking.
- **National Plan of Action on Sharks** for sustainable shark management.
- **India's endorsement to the Regional Plan of Action on IUU (Illegal, Unreported and Unregulated) Fishing** to prevent IUU fishing in Bay of Bengal Region jointly in cooperation with Sri Lanka, Bangladesh and Maldives.
- International Maritime Organisation-Food and Agricultural Organisation (IMO-FAO) GloLitter Partnership Project to combat marine plastic litter.
- **Standard Operating Procedures for retrofitted LPG kits to promote energy-efficient, low-cost marine fishing fuels.**
- **New Single Window System by Coastal Aquaculture Authority** to enable online registration of coastal aquaculture farms.
- Kerala received the award for **Best Marine State**, while **Telangana** was recognized as **Best Inland State**.

Significance of fisheries sector

- **Provides Livelihood:** To approximately 3 crore fishers and fish farmers while generating significant employment opportunities across value chain.
- **Nutrition :** Fish being an **affordable and rich source of animal protein**, is one of the **healthiest options to mitigate hunger and nutrient deficiency**.
- **Economic growth:** Fish production contributes around 1% to India's GDP and over 5% to agricultural GDP (FAO, 2018).

About India's Fisheries Sector

- **World's second-largest fish producer**, contributing **8% to global output**, ranks **second in aquaculture production**, leads in shrimp production and export.
- One of the **largest producer in capture fisheries**.

Other initiatives to promote fisheries sector

- Pradhan Mantri Matsya Sampada Yojana (PMSSY)
- Pradhan Mantri Matsya Kisan Samridhi Sah- Yojana (PMKSY)
- National Fisheries Development Board was established in 2006 as an autonomous organization under MoFAH&D.
- Fisheries Infrastructure Development Fund (FIDF).

Work from Home (WFH) in Indian Context: CII and FMS joint study released

The study, explores the **cost-benefit analysis** of WFH in Indian context.

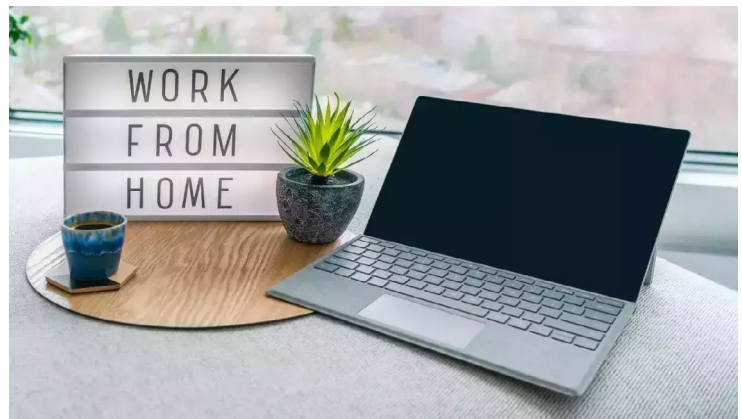
Benefits of WFH

- **Organizational level:**
 - ⊕ **Savings: More than 25%** in office rental cost, meeting with clients, employees etc.
 - ⊕ **Productivity:** Reduced commutation stress, led to higher employee productivity and energy level etc.
- **Macro-environment: Reduction** in company's **carbon footprint, meeting its ESG (Environment, Social and Governance) goals**, hiring of spatially distant employees etc.
- **Employee level:**
 - ⊕ **Savings:** Reduction in commuting time & costs, flexibility to live in more affordable peripheral areas.
 - ⊕ **Family relationship:** Stronger kinship ties, beneficial for parents with young children and caregivers, improved work life balance etc.

Implications of WFH

- **Organizational level:** Less effective communication impacting teamwork, hindering the development and sustenance of organizational culture etc.
- **Employee level:** Frequent disruptions, lack of dedicated, undisturbed workspaces at home led to increased stress.
 - ⊕ **Family relationship:** Rise in domestic violence incidents, increased pressure on women etc.

Way ahead: Hybrid work practices, with employees expected to come to office for certain days in a week, whereby advantages of face-to-face working can be optimally combined with those of WFH.



Also In News



Phytoplankton Bloom

Recently, scientists found evidence that **desertification leads to large amounts of nutrient-rich dust landing in the Indian-Ocean**, south east of Madagascar, causing **phytoplankton (Algae) bloom**.

Phytoplanktons:

- Microscopic, **single-celled plants** that live in the ocean.
- They **regulate the carbon sink and food chain** (primary producers) in the ocean.

About Phytoplankton bloom:

- It's the **exponential growth of phytoplankton**.
- **Favorable conditions:** Warm Sea surface temperature, calm waters, availability of excessive nutrients etc.
- **Impact:** Produce **biotoxins** that can **bioaccumulate in the marine food web**; **depletes the oxygen level** in the ocean creating 'Dead Zone'.



Bharat NCX 2024

National Security Council Secretariat (NSCS) in collaboration with Rashtriya Raksha University (RRU) inaugurated **Bharat National Cyber Security Exercise (Bharat NCX 2024)**.

- NSCS serves as the apex body for all matters concerning internal and external security.

About Bharat NCX 2024

- It aims to **strengthen India's cybersecurity resilience** by training cybersecurity professionals and leaders to tackle evolving threats.
- It includes **immersive training, live-fire simulations**, and strategic **decision-making exercise** which will bring together senior management from across sectors to simulate decision-making in a national-level cyber crisis.



International Criminal Court (ICC)

Recently, ICC issued an arrest warrant against Israeli Prime Minister, Hamas leader for their alleged war crimes in the Gaza conflict.

About ICC:

- **First international permanent court** established to investigate, prosecute individuals accused of committing **war crime, genocide, crime against humanity and crime of aggression**.
- **Independent judicial body**, not part of the UN. However, **UN Security Council** can refer certain situations to the Prosecutor of the ICC.
- **Founding treaty:** Rome Statute, came into force in 2002 (negotiated within the UN framework).
- **Members:** 124 members. HQ: The Hague, Netherlands.
- ⊖ **India, Israel, the US, Russia and China are not members.**



ASEAN Defence Ministers' Meeting-Plus (ADMM- Plus)

Defense minister of India met the US Secretary of Defense on the sidelines of 11th ADMM-Plus at Vientiane, Lao PDR.

About ADMM-Plus

- It comprises of **10 ASEAN Member States and 8 Dialogue Partners** (Australia, China, India, Japan, New Zealand, Republic of Korea, Russia and US).
- Inaugural ADMM-Plus was convened in **Hanoi, Vietnam in 2010**.
- Since 2017, **ADMM-Plus Ministers meet annually** to further dialogue and cooperation amongst ASEAN and Plus Countries.
- Its **purpose** is to **strengthen security and defence cooperation** for maintenance of peace, stability, and development in the region.
- **Focuses on seven areas of practical cooperation:** Maritime Security, Counter-terrorism, HADR, Peacekeeping Operations, Military Medicine, Humanitarian Mine Action and Cyber Security.



VISION Portal

Union Minister of Science and Technology has inaugurated **Viksit Bharat Initiative for Student Innovation and Outreach Network (VISION) portal**.

About VISION portal

- It aimed at **nurturing education, skill development, and innovation** among underprivileged children.
- It can **act as a gateway** for those in remote areas to access mentorship and training.
- It is integral to realizing the country's aspirations under Vision India 2047.



Implementation Agreement for Gaganyaan

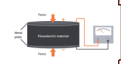
ISRO and Australian Space Agency (ASA) have signed an Implementation Agreement (IA) to enhance **collaboration on space activities** between India and Australia.

About IA

- It enables cooperation between both space agencies on **crew and crew module recovery for Gaganyaan missions**.
- It supports Australia's role in **search and rescue operations** and crew module recovery, particularly if an emergency abort during the ascent phase occurs near Australian waters.

About Gaganyaan mission

- It aims to demonstrate India's **human spaceflight capability by sending a three-member crew to Low Earth Orbit** for three days and safely returning them to Earth.



Piezoelectric Material

Indian researchers have developed peptide (**a short chain of amino acids**)-based adjustable piezoresponsive nanomaterials that can help in energy harvesting and biodevice applications.

Piezoresponsive Nanomaterials (PN)

- PN can **change their physical properties, like electrical resistance, when subjected to mechanical stress**.
 - ⊖ This unique ability helps to **generate an electric charge** when subjected to pressure.
- Due to this ability, these materials are typically used in applications like **sensors, actuators, and energy harvesting devices**.
- When they are **composed of nanostructured materials, it enhances their sensitivity and responsiveness** to external forces.



Megalithic Culture

An archaeological discovery attributed to megalithic period has been made in Kerala's Kasaragod, featuring rock-cut carvings created with iron tools.

- These carvings include depictions of human figures representing both children and adults.

About Megalithic Culture

- **Period:** Belongs to **Iron Age (1500 BC–500 BC)**.
- **Megaliths:** Refer to **burials made of large stones in graveyards**.
 - ⊖ **Types:** **Polyolithic** (Dolmen, Cairn, Cromlekh, Cist) and **Monolithic** (Menhir).
- **Sites:** Adichanallur, Kodumanal (Tamilnadu); Thrissur and Kunnattur (Kerala) etc.
- **Characteristics:** Agricultural economy; pastoralism; metal, wood & ceramic industry & craft, religious practices - Animism.

Place in news

Antigua and Barbuda (capital: St. John's)

The Prime Minister met with the Prime Minister of Antigua and Barbuda on the sidelines of the 2nd India-CARICOM Summit in Georgetown, Guyana.

Political features

- Antigua and Barbuda is a Caribbean Island situated in the lesser Antilles in the eastern Caribbean Sea.
- **Maritime boundary:** Anguilla (United Kingdom) & Saint Barthélemy (France) to northwest, the Federation of Saint Kitts and Nevis to west, Montserrat (United Kingdom) southwest, and Guadeloupe (France) to the southeast.

Geographical features

- Antigua's coastline is intricate, with bays and headlands fringed with reefs and shoals.
- **Highest Peak:** Mount Obama.

About Caribbean islands (also known as the West Indies)

- Located in the Atlantic Ocean, south-east of Florida, east of Central America, and north of South America.
- The Caribbean contains the islands of the Greater Antilles in the north-west as well as the Lesser Antilles islands in the south-east.

Errata:

- In 'News Today' dated November 13, 2024, in the News titled '**NITI Ayog CEO pitched for India's membership in RCEP and CPTPP**', it was incorrectly mentioned that 'RCEP comprises of 10 **ASEAN Member States** and its six free trade agreement (FTA) partners viz. India, Australia, China, Japan, Korea and New Zealand.
- ⊖ Correct information is that RCEP comprises of **10 ASEAN Members** and its **five FTA partners viz. Australia, China, Japan, Korea and New Zealand**.
 - ◆ India initially joined negotiations but pulled out in 2019.
- In the same news, there is a typographical error, '**CPTT**' should be read as '**CPTPP**'.

