



India Developing Early Warning Systems in Partner Nations

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Why in News?

India is taking proactive steps to assist neighbouring countries and [small island nations](#) in developing early warning systems to mitigate the impact of extreme weather events.

- This initiative aims to reduce the loss of life and property, aligning with the [United Nations' 'Early Warnings for All' initiative](#).

How does India Plan to Help Partner Countries?

- **About:**
 - Since, many countries **lack the capacity** to establish early warning systems, particularly those that are poor, least developed, or small island nations like **Maldives and Seychelles**.
 - Therefore India aims to play a crucial role in helping countries like Nepal, Maldives, Sri Lanka, Bangladesh, and Mauritius.
- **Role of India in Developing Early Warning System (EWS):**
 - India is providing technical expertise and financial aid to five partner countries, utilising [public-private partnerships](#) for financial support, with technical assistance from India and other contributing nations.
 - India will assist in setting up **meteorological observatories** in partner countries.
 - Partner nations will have access to India's **numerical models** to enhance their forecasting capabilities.
 - India will aid in creating **decision support systems** to facilitate timely responses to extreme weather events.
 - Ministries of communication in respective nations will collaborate to **establish data exchange** and **warning dissemination systems**.

What are the Trends Related to the Extreme Weather Events?

- **Global Trends:**
 - A report by the [World Meteorological Organization \(WMO\)](#) highlights that [natural disasters](#) have **surged** over **five times** between 1970 and 2019, with water-related disasters becoming the most prevalent globally.
- **Impact on Asia:**
 - **Asia** has been **significantly affected**, with over 146,000 deaths and more than 911 million people directly affected by disasters from 2013 to 2022.
 - **Economic damages** in 2022 alone surpassed USD 36 billion, primarily attributed to [flooding](#) and [storms](#).
- **Human and Economic Toll:**
 - From 1970 to 2021, nearly 12,000 weather, climate, or water-related disasters occurred, resulting in over two million deaths and economic losses exceeding USD 4.3 trillion.
- **The Role of Climate Change:**
 - [Climate change](#) exacerbates the frequency and intensity of disasters, making them more

likely and more challenging to manage effectively.

- **Future Projections:**

- By 2030, it is estimated that the world could face 560 medium- to large-scale disasters annually.

- **India As a Key Player:**

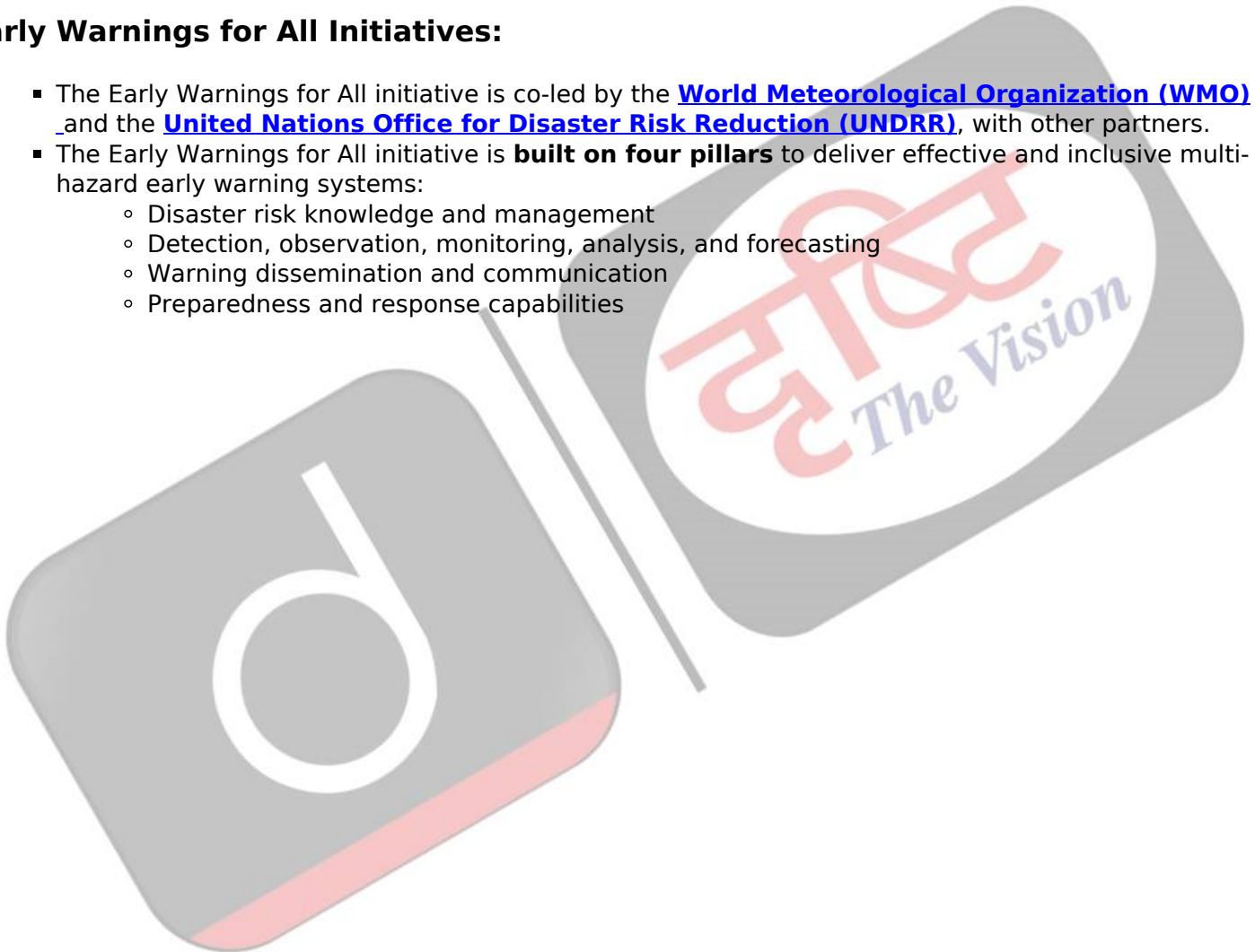
- India's initiative to bolster [early warning systems](#) underscores the importance of international cooperation in addressing the growing threat of natural disasters and climate change.

India Meteorological Department (IMD):

- IMD was established in 1875.
- It is an agency of the **Ministry of Earth Sciences**.
- It is the principal agency responsible for meteorological observations, weather forecasting, and seismology.

Early Warnings for All Initiatives:

- The Early Warnings for All initiative is co-led by the [World Meteorological Organization \(WMO\)](#) and the [United Nations Office for Disaster Risk Reduction \(UNDRR\)](#), with other partners.
- The Early Warnings for All initiative is **built on four pillars** to deliver effective and inclusive multi-hazard early warning systems:
 - Disaster risk knowledge and management
 - Detection, observation, monitoring, analysis, and forecasting
 - Warning dissemination and communication
 - Preparedness and response capabilities



UN SPECIALISED AGENCIES

UNSAAs are 15 autonomous international organizations working with the UN

Part IV
WIPO, WMO
and IMO

WIPO

- Estd. - 1967 (joined UN in 1974)
- Headquarters - Geneva, Switzerland

*World Intellectual
Property Day - 26th April*

- Functions -
 - » Encourage creative activity, promote the protection of intellectual property (IP) throughout the world
 - » Shape balanced intl. IP rules
- Members - 193 (India joined in 1975)

- WIPO Treaties that India has ratified/acceded-
 - » Paris Convention (industrial property)
 - » Berne Convention (for Literary and Artistic Works)
 - » WIPO Performance and Phonograms Treaty
 - » Budapest Treaty
 - » Madrid Protocol for the International Registration of Marks
 - » Marrakesh Treaty (for Published Works by Visually Impaired Persons)
 - » WIPO Copyright Treaty
 - » Washington Treaty (IP for Integrated Circuits)
 - » Nairobi Treaty (for Olympic Symbol)
- Publication - Global Innovation Index



WMO

- Estd. - 1873 (originated from Intl. Meteorological Organization - Vienna International Meteorological Congress)
- » Became a UNSA by WMO Convention 1950

WMO is a UNSA for meteorology, operational hydrology & geophysical sciences

- Headquarters - Geneva, Switzerland

- Functions -
 - » Coordinate activities of National Meteorological/Hydrological Services in Member States
 - » Predictions concerning locust swarms, transport of pollutants (nuclear, toxic substances, volcanic ash)
- Member States - 193 (incl. India)

World Meteorological Day - 23rd March

IMO

- Estd. - 1948 (Convention on International Maritime Organization held in Geneva)
- Headquarters - London, United Kingdom
- Functions -
 - » Improve safety and security of intl. shipping
 - » Prevent pollution from ships
 - » Also involved in legal matters (liability, compensation issue)

- Member States - 174 (India joined in 1959)
- Important Treaties India has Ratified:
 - » MARPOL (1973) and its Protocols
 - » International Convention for the Safety of Life at Sea (SOLAS, 1974)

IMO lists India among the 10 states with the largest interest in intl. seaborne trade



UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims:

Q. The 2004 Tsunami made people realize that mangroves can serve as a reliable safety hedge against coastal calamities. How do mangroves function as a safety hedge? (2011)

- (a) The mangrove swamps separate the human settlements from the sea by a wide zone in which people neither live nor venture out
- (b) The mangroves provide both food and medicines which people are in need of after any natural disaster
- (c) The mangrove trees are tall with dense canopies and serve as an excellent shelter during a cyclone or tsunami
- (d) The mangrove trees do not get uprooted by storms and tides because of their extensive roots

Ans:(d)

Mains:

Q. Discuss about the vulnerability of India to earthquake related hazards. Give examples including the salient features of major disasters caused by earthquakes in different parts of India during the last three decades. **(2021)**

PDF Reference URL: <https://www.drishtias.com/printpdf/india-developing-early-warning-systems-in-partner-nations>

