DAILY CURRENT AFFAIRS 05-02-2024

GS-2

1. **Multidimensional poverty index**

2. **UNESCO 1970 convention**

GS-3

3. **H5N1**

4. **Ergosphere**

5. **Snow leopard Population assessment in India**

Multidimensional poverty index

Syllabus: GS-2: Social Justice – Poverty eradication.

Context:

➢ *25 cr Indians have been raised from poverty since 2013-14, says Govt. MPI uses indicators covering three main areas: health, education, and standard of living.*

What is the basis for this assessment?

➢ *Basis for assessment: Discussion paper titled* **"Multidimensional Poverty in India Since 2005-06"**
➢ **Published by***: NITI Aayog on Jan 15*
➢ **Authors:** *Ramesh Chand (Member, NITI Aayog) and Yogesh Suri (Senior Adviser, NITI Aayog)*
➢ **Technical inputs from***: United Nations Development Programme (UNDP) and Oxford Policy and Human Development Initiative (OPHI).*

Key findings:

➢ *Multidimensional poverty in India declined from 29.17% in 2013-14 to 11.28% in 2022-23.*
➢ *Approximately 24.82 crore people escaped poverty during this period.*
➢ *State-level impact: Uttar Pradesh had the highest number with 5.94 crore people escaping poverty, followed by Bihar at 3.77 crore and Madhya Pradesh at 2.30 crore.*

Escaped Multidimensional Poverty (2013-14-2022-23)

	Estimated in lakh
Bihar	377.09
Madhya Pradesh	230.00
Maharashtra	159.07
Odisha	102.78
Rajasthan	187.12
Uttar Pradesh	593.69
West Bengal	172.18
INDIA	**2,482.16**

About Multidimensional Poverty Index (MPI):

Traditional Poverty Measurement:

➢ *Typically based on income or expenditure levels.*
➢ *Poverty lines are minimum expenditure levels defining poverty.*

MPI Approach:

➢ *Globally, uses 10 indicators covering three main areas:*
  - *Health*
  - *Education*
  - *Standard of living*
➢ *Each dimension (health, education, standard of living) has one-third weight in the final index.*
➢ **Health Dimension (Examples):**
  - *Includes nutrition and child & adolescent mortality indicators.*
➢ **Education Dimension (Examples):**
  - *Includes years of schooling and school attendance indicators.*
➢ **Standard of Living Dimension (Examples):**
➢ *Encompasses household-specific indicators:*
  - *Housing*
  - *Household assets*
  - *Type of cooking fuel*
  - *Access to sanitation*

- o *Drinking water*
- o *Electricity*
- ➢ **Additional Indicators in Indian MPI:**
  - o *Maternal health (under health dimension)*
  - o *Bank accounts (under standard of living dimension).*
- ➢ **Rationale:**
  - o *Aligned with India's national priorities according to NITI Aayog.*

Calculation of Multidimensional Poverty Index (MPI):

Identification of MPI Poor:

- ➢ *If a person is deprived in a third or more of the 10 weighted indicators, they are considered "MPI poor."*

Three Separate Calculations:

Incidence of Multidimensional Poverty (H):

- o *Definition: Proportion of multidimensionally poor in the population.*
- o *Calculation: Number of multidimensionally poor persons divided by the total population.*
- ➢ **Answer to:** *How many are poor?*

Intensity of Poverty (A):

- ➢ **Definition:** *Average proportion of deprivation experienced by MPI poor individuals.*
- ➢ **Calculation:** *Sum of weighted deprivation scores of all MPI poor individuals divided by the total number of MPI poor people.*
- ➢ **Answer to:** *How poor are they?*

MPI Calculation:

- ➢ **Definition:** *The MPI value is obtained by multiplying the incidence of multidimensional poverty (H) and the intensity of poverty (A).*
- ➢ **Formula:** *MPI = H * A*
- ➢ **Answer to:** *Represents the share of weighted deprivations faced by MPI poor individuals divided by the total population.*

Explanation:

- ➢ *The MPI value reflects the extent of multidimensional poverty in a given population. It considers both the proportion of the population that is multidimensionally poor (incidence) and the intensity of their poverty (average deprivation experienced).*

Data Collection for 2013-14 and 2022-23:

National Family Health Survey (NFHS):

➢ *Conducted every five years.Last round refers to the 2019-21 period.*
➢ *Health metrics, such as nutrition and child & adolescent mortality indicators, depend on NFHS data.*
➢ *NFHS data contributes to understanding the health dimension in the MPI calculation.*
➢ *Health metrics for the 2013-14 are based on the available data, possibly from NFHS rounds conducted before or during 2013-14.*
➢ *Health metrics for the year 2022-23 are based on the available data, possibly from NFHS rounds conducted before or during 2022-23.*

Technical Inputs:

➢ *The data analysis and calculations are likely to involve technical inputs from organizations like the United Nations Development Programme (UNDP) and the Oxford Policy and Human Development Initiative (OPHI), as mentioned in the discussion paper.*

Accuracy and Methodology:

➢ *The accuracy of the data relies on the methodologies used in data collection, ensuring consistency, and applying appropriate statistical techniques to draw valid conclusions.*

Calculation of MPI for 2012-13 and 2022-23:

➢ *The MPI for 2012-13 was calculated through interpolation of estimates for 2013-14.*
➢ *The MPI for 2022-23 was calculated through extrapolation of estimates for 2013-14.*
➢ *The comparison of these estimates offers insights into the impact of initiatives on poverty and deprivation during the previous decade.*

UNESCO 1970 convention

Syllabus: GS-2: International Relations – Conventions.

Context:

➢ *Recently, UNESCO 1970 convention was in news.*

About UNESCO 1970 convention:

➢ *Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property*

Purpose:

➢ *Combat the illegal trade in cultural artifacts and artworks.*
➢ *Encourage international cooperation in protecting cultural heritage.*

Key Points:

➢ **Adopted:** *November 14, 1970, by UNESCO.*
➢ **Entered into force:** *April 24, 1972.*
➢ **Signatories:** *Currently 148 countries.*
➢ **Core Principle:** *Prohibiting and preventing the illicit import, export, and transfer of cultural property.*
➢ *India is a party to the* **UNESCO 1970 Convention***. India ratified the convention on January 24, 1977.*

Additional protocols:

The Convention has been supplemented by two protocols:

➢ *1978 Protocol on the Illicit Import, Export and Transfer of Ownership of Cultural Property.*
➢ *1995 Protocol on Stolen or Illegally Exported Cultural Objects.*
➢ *UNESCO provides various resources and tools to support States Parties in implementing the Convention.*

Measures for States Parties:

Preventative measures:

➢ *Establish inventories of cultural property.*
➢ *Issue export certificates for authorized transfers.*
➢ *Control and approve art dealers and auction houses.*
➢ *Implement regulations and sanctions against illicit trafficking.*
➢ *Raise public awareness through education campaigns.*
➢ *Recovery and return of stolen or illegally exported cultural objects.*

International cooperation:

➢ *Share information about stolen or trafficked cultural objects.*
➢ *Provide mutual assistance in investigations and prosecutions.*
➢ *Support developing countries in protecting their cultural heritage.*

Impact:

➢ *Contributed significantly to the fight against illegal art trafficking.*

> ➢ *Established a global framework for international cooperation.*
> ➢ *Raised awareness about the importance of protecting cultural heritage.*

Challenges:

> ➢ *Difficulty in enforcing the Convention universally.*
> ➢ *Loopholes exploited by traffickers.*
> ➢ *Limited resources in developing countries.*

H5N1

Syllabus: GS-3; General Science, Disease

Context

> ➢ *One king penguin is suspected to have died from bird flu on South Georgia island in the Antarctic region. If confirmed, it will be the first of the species killed by the highly contagious H5N1 virus in the wild.*

▸ Source: Scientific Committee on Antarctic Research

A deadly strain of bird flu has hit gentoo penguins for the first time

About

> *H5N1 is a* **viral strain that causes bird flu**. *It's a highly* **pathogenic avian influenza virus of type A,** *and is enzootic in many bird populations, especially in South-East Asia.*
> *It has an exceptionally high fatality rate of more than 60%, which is in sharp contrast with the 2009 H1N1 influenza virus fatality rate of around 1%.*
> *It occurs* **naturally in wild waterfowl**, *but can spread easily to domestic poultry.*

Types

> **Low pathogenic H5N1 (LPAI H5N1)**
>> o *Also called "North American" H5N1, it commonly occurs in wild birds. In most cases, it causes minor sickness or no noticeable signs of disease in birds. It is not known to affect humans at all.*
> **HPAI A(H5N1)**
>> o *The causative agent, which has spread globally and resulted in the deaths of over 100 people and the slaughter of millions of chickens.*

Is it trasmitted to Humans?

> *The disease is transmitted to humans through contact with infected birds.*
> *H5N1 can pass from* **birds to humans** *and, very rarely, from* **person to person**.

Treatment

> **Antiviral medications** *can be used to treat avian influenza A(H5N1). It is important to take antiviral medications as early as possible, ideally within 48 hours of getting sick.*
> *In 2009, the FDA approved the* **AVantage A/H5N1 flu test**, *which can detect the presence of the virus in nose or throat swabs.*
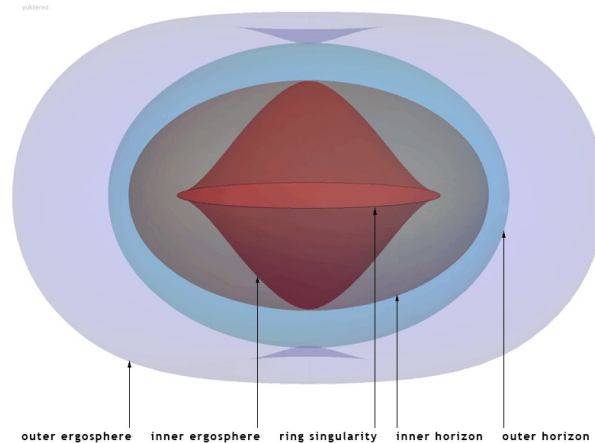
Ergosphere

Syllabus: GS-3: Science and Technology –Space.

Context:

> *Recently, Ergosphere was often in news related to blackhole.*

Ergosphere Definition:

- ➢ **Region outside** *a rotating black hole's outer event horizon.*
- ➢ *Proposed by* **Remo Ruffini and John Archibald Wheeler** *in 1971.*

outer ergosphere   inner ergosphere   ring singularity   inner horizon   outer horizon

Etymology:

- ➢ *Named from the Greek word ἔργον (ergon),* **meaning "work."**
- ➢ *Named for the theoretical potential to extract energy and mass from this region.*

Location and Shape:

- ➢ *Touches the event horizon at the poles of a rotating black hole.*
- ➢ *Extends to a greater radius at the equator.*
- ➢ *Shape varies based on the black hole's angular momentum.*
- ➢ **Modest angular momentum***: Oblate spheroid shape.*
- ➢ **Faster spins:** *Pumpkin-shaped ergosphere.*

Radius Characteristics:

- ➢ *Equatorial (maximal) radius is the Schwarzschild radius (radius of a non-rotating black hole).*
- ➢ *Polar (minimal) radius is also the polar (minimal) radius of the event horizon.*
- ➢ *Polar radius can be as little as half the Schwarzschild radius for a maximally rotating black hole.*

About Black Hole:

- ➢ *Region in spacetime with intense gravity, preventing anything, even light, from escaping.*

Formation and Theory:

- ➢ **Einstein's general relativity** *suggests that a sufficiently compact mass can deform spacetime to create a black hole.*

Event Horizon:

➢ *Boundary of no escape around a black hole.*

Effects on Objects:

➢ *Black holes significantly impact objects crossing the event horizon.*
➢ *Locally, black holes lack detectable features based on general relativity.*
➢ *Behavior Similar to Ideal Black Body:*
➢ *Acts like an ideal black body, reflecting no light.*

Hawking Radiation:

➢ *Predicted by quantum field theory in curved spacetime.*
➢ *Event horizons* **emit Hawking radiation**, *resembling the spectrum of a black body.*
➢ *Temperature of this radiation is inversely proportional to the black hole's mass.*
➢ *Stellar black holes have a temperature on the order of billionths of a kelvin, making direct observation essentially impossible.*

Snow leopard Population assessment in India

Syllabus: GS-3: Wildlife conservation in India.

Context:

➢ *Union Minister Shri Bhupender Yadav released the report on the Status of Snow Leopards in India.*
➢ *The release occurred during the National Board for Wildlife meeting in New Delhi.*

Snow Leopard Population Assessment:

➢ *The* **SPAI Program is the first scientific exercise** *reporting a Snow leopard population of 718 individuals in India.*
➢ *The* **Wildlife Institute of India (WII)** *coordinated the SPAI with support from snow leopard range states and two conservation partners* **(Nature Conservation Foundation and WWF-India).**

Geographic Coverage:

➢ **SPAI covered over 70% of potential snow leopard range** *in India, including the trans-Himalayan region, UTs of Ladakh and J & K, and states like Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh.*

➢ *The exercise spanned approximately 120,000 km^2 of Snow leopard habitat from 2019 to 2023.*

Methodology:

➢ **SPAI used a two-step framework:** *evaluating spatial distribution through occupancy-based sampling and estimating abundance* **using camera traps in identified stratified regions.**

➢ *Total efforts included 13,450 km of surveyed trails, 1,971 camera trap locations, 180,000 trap nights, and photographing 241 unique Snow leopards.*

Population Estimates by State:

➢ *Ladakh: 477 Snow leopards>Uttarakhand: 124>Himachal Pradesh: 51>Arunachal Pradesh: 36>Sikkim: 21>Jammu and Kashmir: 9*

Future Recommendations:

➢ *Proposes establishing a dedicated Snow Leopard Cell at WII under the MoEFCC for long-term population monitoring.*

➢ *Recommends adopting a periodic population estimation approach (every 4th year) in the Snow leopard range for effective conservation strategies.*

About NCF & WWF - India

➢ *The* **Nature Conservation Foundation** *(NCF), located in Mysore, is a non-governmental organization dedicated to the conservation of India's wildlife and ecosystems.*

➢ *WWF-India, formed as a* **Charitable Trust on November 27, 1969,** *is a science-based organization focusing on key issues like species and habitat conservation, climate change, water management, and environmental education.*

➢ *The WWF-India Secretariat operates* **independently from New Delhi** *and is an integral part of the* **global WWF International network.**

About National Board for Wildlife (NBWL)

➢ *The* **National Board for Wildlife (NBWL)** *serves as the foremost authority in India for all issues related to wildlife.*

➢ *Established under* **Section 5A of the Wildlife (Protection) Act, 1972,** *NBWL is a statutory body with a mandate to* **provide guidance on policy decisions** *pertaining to wildlife conservation and preservation.*

➢ *The board,* **chaired by the Prime Minister***, plays a pivotal role in evaluating and approving projects within and around national parks and other protected areas.*

➢ *Comprising 47 members, including three Members of Parliament, five NGOs, and ten distinguished professionals in the fields of ecology, conservation, and*

environmentalism, the NBWL ensures a comprehensive and diverse approach to wildlife management.