

SOCIETY-POVERTY AND DEVELOPMENTAL ISSUES [GS-I]

Impact of Methodological Changes on Poverty Data in India's 2022-23 Household Consumption Expenditure Survey

This article discusses the recent **Household Consumption Expenditure Survey (HCES)** in India, focusing on how poverty rates are calculated and the debate over whether poverty reduction was more effective under the NDA or UPA government. It highlights changes in survey methods and questions their impact on poverty data comparability.

What changes were made in the recent Household Consumption Expenditure Survey in India?

1. Use of MMRP: Since the inception of HCES, the NSSO has employed a 30-day recall period, known as the **Uniform Reference Period (URP)**. But now the latest survey shifted to the **Modified Mixed Reference Period (MMRP)** for better data accuracy, incorporating seven-day, 30-day, and 365-day recall periods.

2. Multiple Questionnaires: Unlike earlier surveys that used a **single questionnaire**, the **2022-23 survey employed three distinct questionnaires** for food items, consumables and services items, and durable goods.

3. Multiple Visits for Data Collection: Previously, data collection involved a single visit, but the latest survey adopted a multiple-visits approach, aimed at improving the quality of responses.

4. Impact on Non-Food Reporting: This led to a sharp increase in reported non-food items consumption in 2022-23 due to improved reporting.

How are poverty rates calculated?

- Initially, poverty rates were calculated based on calorie intake, but dissatisfaction with this method led to new guidelines by the **Tendulkar Committee**, which didn't focus solely on calories.
- In 2012, the Planning Commission, guided by the **Rangarajan Committee**, suggested a broader approach, including food, clothing, and other essential needs to define the poverty line.
- Use of Price Indexes: Consumer Price Index** is used to update the base year poverty line across studies, ensuring adjustments for inflation.

What does the data show about poverty reduction under different governments?

- UPA Period (2004-2011):** Poverty decreased from 37.2% to 21.9%, averaging an annual decline of 2.2 percentage points.
- NDA Period (2011-2022):** Poverty fell from 21.9% to about 6%, with an average annual reduction of 1.6 percentage points.

Why is it hard to determine which government reduced poverty more?

- Temporal Misalignment:** Data collection periods do not coincide exactly with the terms of UPA or NDA, making direct comparisons difficult.
- Changing Survey Methods:** Differences in survey methodologies, such as the shift to MMRP and multiple-questionnaire use, affect data comparability.
- Impact Delay:** Anti-poverty measures take time to show results, so effects may not align with the government's tenure.
- Near-Poverty Reduction Challenges:** As poverty rates decline, reducing them further becomes more difficult, complicating percentage comparisons.
- Inflation Adjustments:** Different approaches to updating poverty lines with the Consumer Price Index can lead to varied estimates, influencing perceived effectiveness.

GOVERNANCE-LAWS, INSTITUTIONS AND BODIES CONSTITUTED FOR THE PROTECTION OF VULNERABLE SECTIONS [GS-II]

Issue with juvenile detention in India

The article discusses how children accused of crimes are sometimes wrongly held in adult prisons in India. It mentions cases where children were not treated according to juvenile justice laws, highlighting systemic flaws in the system that fail to protect these children adequately.

What is the issue with juvenile detention in India?

Improper Detention: Children accused of crimes are often held in adult prisons, violating juvenile justice laws.

Study Findings: Between 2016 and 2021, a study by iProbono found that 9,681 children were transferred from adult prisons to child-care institutions.

Legal Framework: The 2015 juvenile justice act prohibits detaining children in adult prisons, requiring placement in observation homes or places of safety.

Continued Violations: From 2017 to 2019, 75 juveniles were found in adult prisons in Haryana, Punjab, and Karnataka.

Systemic Issues: Police often misrepresent children's ages, fail to inform them of their rights, and delay legal representation, leading to wrongful detention.

What are the gaps in the legal system?

Lack of Legal Representation: Many children meet their lawyers only weeks after being imprisoned, undermining their defense.

Procedural Gaps: There are no clear guidelines for ensuring a lawyer is present during police questioning.

Delayed Justice: Regular inspections by the Juvenile Justice Board are not consistently conducted, allowing violations to persist unnoticed.

Way forward

Pre-trial safeguards are essential. Laws need to clearly outline how the right to legal representation should be implemented. This will help prevent children from being wrongfully detained in adult prisons.

DISASTER MANAGEMENT [GS-III]

Urban Heat Island effect makes cities like Chennai hotter than rural areas

The article discusses how the Urban Heat Island effect makes cities like Chennai hotter than rural areas. It highlights the importance of increasing green spaces, using energy-efficient air conditioning, and adopting other measures to reduce heat and improve city living conditions.

What is the Urban Heat Island (UHI) effect?

The Urban Heat Island (UHI) effect refers to the phenomenon where urban areas are significantly warmer than their rural surroundings due to human activities. Here are key points about the UHI effect:

Urban areas like Chennai experience higher temperatures, by about 2° to 4°C, compared to nearby rural areas.

Structures such as concrete buildings and tarmac roads absorb and retain heat, exacerbating the temperature rise.

The lack of green spaces and the heat from air conditioners and vehicles add to the UHI effect.

Nighttime in cities can be especially hotter, trapping heat within the urban environment.

What are the initiatives taken by the Government to overcome this?

1. India has national, state, and district-level Heat Action Plans to reduce heatwave impacts.
2. These include early warnings, staggered work hours, shaded areas, and provision of drinking water and oral rehydration salts.
3. **Urban Planning:** The Chennai Metropolitan Development Authority (CMDA) is commissioning detailed heat maps for better planning and intervention strategies. These actions aim to mitigate heat effects and improve urban liveability while moving towards sustainable development goals.

What should be done to reduce UHI?

1. **Increase Green Cover:** Expanding urban forests, parks, and green spaces, which cool the environment through evaporation and provide shade.
2. **Energy-Efficient Air Conditioning:** Encouraging the use of energy-efficient air conditioners that produce less waste heat.
3. **Improve Building Design:** Constructing buildings with materials and designs that naturally keep interiors cool.
4. **Reflective Surfaces:** Applying reflective paint on roofs, walls, and streets to reflect sunlight and reduce heat absorption.
5. **Enhance Public Transport:** Reducing reliance on personal vehicles by improving public transport systems, including electric buses.
6. **Permeable Pavements:** Installing permeable pavements that absorb less heat and allow water to permeate, cooling the environment.

SALIENT FEATURES OF THE REPRESENTATION OF PEOPLE'S ACT [GS-II]

Need for One Nation Many Election

The Prime Minister has proposed the idea of "one nation, one election" as an antidote to the prolonged election process. The Home Minister has assured the public that this system will be introduced by the new Parliament.

The article provides arguments against the adoption of a one nation one election system. Instead, it stresses the significance of creating a consensus for more effective Panchayati Raj and limiting the number of phases in national elections.

What are the issues with India's Long Election Process?

- 1) India's lengthy general election campaign is tedious and exhausting.
- 2) Lack of opinion polls prior to the election resulted in speculative discussions and fluctuations in the stock markets.
- 3) The enforcement of model code of conduct for a prolonged period limits policymaking and legislation significantly and doesn't effectively control powerful campaigners from using too much rhetoric.

What are the arguments against the adoption of One Nation, One Election system?

- 1) Multiple levels of government and elections are more effective in addressing different governance issues and extracting accountability from their representatives. Voters should have issues to vote on and representatives who can address those issues locally.
- 2) Voters have no problems with the option to vote differently for state assemblies and Parliament, understanding the distinct skills and policy needs. A single election would remove this ability to send specific messages about policy preferences.
- 3) It will deprive the voters the right to assess the state governments based on their individual performance. The state government should not be viewed merely as an extension of the ruling party at the national level.
- 4) The democratic process provides a platform for people to express their various identities, such as locality, caste, religion, language, and nationhood. Multiple elections at different levels of government allow for the full expression of these identities, contributing to peace and unity.

However, replacing frequent elections with one could worsen identity clashes, turning politics into an all-or-nothing contest, which is not in anyone's interest.

way forward

Need for Strengthening Local Governance-There is a need to enhance the significance of local elections in India to align them with the standards observed in other nations.

A) There should be more devolution of powers to local bodies by the state governments.

B) A more perfect democracy requires an active third layer of governance with regular, meaningful local elections.

C) If public services like roads and drainage fail, citizens should be able to vote out the person in charge at the local level. Calls for a single election are understandable after a long and tedious campaign. However, the new Parliament should not be distracted by unnecessary and counterproductive changes to the electoral system.

PRELIM FACT

1. Monsoon Croaks Project

Monsoon Croaks Bioblitz 2024, a citizen science programme aimed at documenting the frogs of Kerala during the monsoon is being organised.

Kerala host over 200 frog species. About Monsoon Croaks Project

Monsoon Croaks Project is a community-driven four month long science project which will start from June 1 till September 30 dedicated to documenting and studying amphibian diversity and distribution across Kerala.

- Aim: To address the knowledge gap regarding the identification of key habitats of frogs by documenting the frogs of Kerala during the monsoon to ultimately protect them.
- People Participation: People of all ages can participate in this project by uploading photographs of frogs and their sounds on the iNaturalist app.
- A volunteer frog mapper: He/She will learn to identify various frog species, document their calls, observe their behaviour, and record essential ecological data.
- Collaboration: All the scientific observations made available during the bioblitz will become part of the Global Biodiversity Information Facility (GBIF), a biodiversity open source database.
- This information can be used for biodiversity awareness, habitat conservation, climate change research and policy making.
- 41% of the world's frogs are on the IUCN Red List of endangered species.

2. Cryonics Practice for Freezing Human Body

Recently, a cryonics company in Australia has frozen its first client, with the hope of reviving him in the future.

About Cryonics

1. The practice of freezing an individual who has died, to revive them in the future, is known as cryonics.

2. The word cryonics is derived from the Greek word "krýos," meaning "icy cold."

3. Objective: Cryonics aims to save lives by preserving individuals at extremely low temperatures until future medical technologies can restore them to full health.

4. Individuals in this state are referred to as "cryopreserved patients," as Cryonicists do not consider them truly dead.

5. Process: The process of Cryonic preservation involves the following process:

- a) Cryonic preservation can only be performed after an individual has been legally declared dead. The process begins shortly after death, with the body being packed in ice and transported to a cryonics facility.
 - b) At the facility, blood is drained and replaced with antifreeze and organ-preserving compounds known as cryoprotective agents.
 - c) In this vitrified state, the body is placed in a chamber filled with liquid nitrogen and preserved at -196 °C.
6. Currently, a few hundred bodies have been frozen through cryonics.

3. Recombinant Proteins

Researchers at the Department of Biochemistry, Indian Institute of Science have devised an innovative method for producing recombinant proteins.

1. Recombinant Proteins: They are proteins that are artificially produced by introducing specific genes (Recombinant DNA) into host organisms, such as bacteria or yeast. These genes instruct the host organisms to manufacture the desired protein.

2. Types of Recombinant Proteins: There are various types based on their applications and production methods. Some of the well know recombinant protein types are interferons, recombinant hormones, tumor necrosis factors, tumor necrosis factors, etc.

3. Examples: Examples of recombinant proteins include human insulin for diabetes, human growth factors for growth hormone deficiency, Factor VIII for hemophilia, and therapeutic monoclonal antibodies for treating cancer and viral infections like SARS-CoV-2.

4. Process of Production: Recombinant protein production involves inserting a modified gene into a suitable vector (like a plasmid) and transferring it into host cells (like bacteria or yeast). It involves:

- a) Insert Gene: A gene is modified and inserted into a vector.
- b) Transfer to Cells: The vector is introduced into host cells.
- c) Cell Growth: These cells are grown in a culture until they reach high concentration.
- d) Harvesting: After growing, the cells are harvested to obtain the recombinant protein.

5. Applications of Recombinant Proteins:

- a) Biomedical Research: It is used to understand health and disease mechanisms.
- b) Biotherapeutics: It is employed in the development of biotherapeutic products.
- c) Protein-Based Polymers: They are also utilized in drug delivery systems.
- d) Disease Treatment: It is used to produce antibodies and enzymes.
- e) Tissue Engineering: It provide protein scaffolds for tissue engineering applications.

1. About Protein

1. A protein is a large, complex molecule that is a key building block of life.
2. Role in Biological Systems:

- a) Facilitator: Proteins facilitate most biological processes in a cell, including gene expression, cell growth, proliferation, nutrient uptake, intercellular communication, and apoptosis.
- b) Synthesis Blueprint: The blueprint for protein synthesis is stored in DNA, which serves as a template for regulated transcriptional processes to produce messenger RNA (mRNA).

4. Canopy Bridges for Gibbons in Assam

The Northeast Frontier Railway (NFR) has allocated funds to build canopy bridges, allowing India's only ape to safely traverse a railway track that divides its primary habitat in eastern Assam.

Source: The Hindu

1. About: Northeast Frontier Railway (NFR) will construct canopy bridges in Assam's gibbon habitat.

2. Purpose: To facilitate the movement of Hoolock gibbons across a railway track that divides their prime habitat in Hollongapar Gibbon Sanctuary.

3. Designed by: Canopy bridges are designed by the Wildlife Institute of India (WII) in collaboration with NFR. The project involves NFR, Assam State Forest Department, WII, and other stakeholders.

4. These bridges will be installed at strategic points to ensure the safe movement of gibbons between the divided sections of the sanctuary.

5. High-grade fastening materials and techniques will be used to secure the bridges. Safety nets will be installed below the bridges as a fail-safe mechanism.

6. Lianas and creepers will be guided along the bridges to make them look natural.

7. Previous Efforts: Past efforts included an artificial canopy bridge by NFR and a natural canopy bridge by the Assam State Forest Department and Aaranyak. Gibbons preferred the natural bridge over the artificial one.

5. AMRUT Scheme

By 2047, over half of India's population will live in cities. The AMRUT scheme was launched to tackle the growing urban infrastructure demands.

AMRUT Scheme – Atal Mission for Rejuvenation and Urban Transformation

AMRUT Scheme is a Central Sponsored Scheme initiated by the Ministry of Housing and Urban Affairs on June 25, 2015.

- Purpose: Ensure universal access to water and sewerage, develop green spaces like parks for better city living and combat pollution with public and non-motorized transport.
- Components: The program includes capacity building, reform implementation, water supply, sewerage and septage management, stormwater drainage, urban transportation, and the establishment of green spaces and parks.
- Its objectives include improving citizen service delivery, reducing costs, enhancing financial sustainability, augmenting resources, and promoting transparency.
- Additionally, it involves replacing conventional street lights with LED lights.
- State Annual Action Plan (SAAP): AMRUT scheme ensures states are equal partners in planning and executing projects by having the Ministry of Housing and Urban Affairs approve the SAAP annually.
- States are responsible for sanctioning and approving projects locally, thereby promoting cooperative federalism.
- Supervision: The Mission is overseen by an Apex Committee (AC) chaired by the Secretary of MoHUA, including representatives from relevant Ministries and organizations.
- Total Outlay: The total outlay for AMRUT was Rs.50,000 crore for five years from FY 2015-16 to FY 2019-20.

AMRUT Scheme 2.0, launched in October 2021, extends over five years from the 2021-22 to 2025-26 fiscal years. It is an extension of the AMRUT mission initiated in June 2015.

- Objectives of AMRUT Scheme: The goal is to extend universal water supply coverage from the 500 cities included in the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) to all statutory towns nationwide.
- Ensuring comprehensive sewage and septage management in 500 AMRUT cities, with the aim of making these cities "self-reliant" and "water secure".
- The Mission aims to protect freshwater bodies from pollution to ensure the sustainability of natural resources.
- Budget: Total outlay is Rs.2,99,000 crore, with a central outlay of Rs.76,760 crore for five years, starting from October 1, 2021.



ANSWER WRITING

Q. Ahilya Bai Holkar's reign exemplified the principles of inclusive governance and social harmony (samajik samrasta). Discuss her contributions to the social, economic, and cultural development of her kingdom, and evaluate her legacy as a role model for contemporary leaders.

Ahilya Bai Holkar, who ruled the Malwa kingdom from 1767 to 1795, is remembered as one of the most illustrious and progressive rulers in Indian history. Her reign is often cited as an exemplary period of inclusive governance and social harmony, where the welfare of all sections of society was prioritised. Ahilya Bai's contributions to social, economic, and cultural development, along with her commitment to samajik samrasta (social harmony), make her a role model for contemporary leaders.

Exemplification of Inclusive Governance and Social Harmony:

- **Inclusivity in Governance:**
 - **Accessible Administration:** Ahilya Bai ensured her administration was **accessible to all**.
For example: She held **daily public audiences** where anyone could present their grievances and seek redress. This **open-door policy** made the government **approachable** for everyone, **regardless of their social status**.
 - **Hearing Marginalised Voices:** Her inclusive approach guaranteed that the voices of the marginalised and disadvantaged were heard and addressed.
This practice **promoted social harmony** by ensuring that even the most vulnerable individuals had a **platform to express their concerns and needs**.
- **Social Welfare Initiatives:**
 - **Support for Vulnerable Groups:** Ahilya Bai implemented numerous social welfare programmes, including **support for widows, orphans, and the economically disadvantaged**.
These initiatives **provided essential resources** and support to those in need, enhancing their **quality of life**.
 - **Ensuring Aid and Protection:** Her policies ensured that vulnerable sections of society received **necessary aid and protection**. This commitment to social welfare demonstrated her dedication to **creating a just and equitable society**.
- **Judicial Reforms:**
 - **Fair and Impartial System:** Ahilya Bai established a **fair and impartial judicial system**.
For example: Her courts were known for **prioritising justice** and **protecting individual rights**, ensuring all her subjects received equitable treatment under the law.
 - **Prioritising Justice:** By ensuring that her judicial system was **just and fair**, Ahilya Bai reinforced the **rule of law** and **promoted trust in the legal system**. This approach helped **maintain social order and fairness**.
- **Promotion of Education:**
 - **Advocacy for Education:** Ahilya Bai was a **strong advocate** for **education**, particularly for **women**. She recognised the transformative power of education in empowering individuals and advancing society.
 - **Establishing Schools:** She established schools and promoted **female education**, which was revolutionary at the time. Her efforts in education not only **improved literacy rates** but also paved the way for **social and economic development** by enabling more people to contribute effectively to society.

Contributions to Social, Economic, and Cultural Development:

- **Social Development:**
 - **Public Health:** She improved public health by **constructing wells, tanks, and rest-houses**, enhancing the living conditions of her subjects.
 - **Women's Empowerment:** Ahilya Bai championed **women's education and empowerment**, setting up schools and supporting educational initiatives for women.
- **Economic Development:**
 - **Infrastructure Projects:** Ahilya Bai undertook extensive **construction and renovation** projects, including **roads, forts, and temples**, which facilitated trade and communication.
 - **Agricultural Reforms:** She promoted agricultural development by building **irrigation systems** and **supporting farmers**, increasing **agricultural productivity**, and improving the economic conditions of her kingdom.
 - **Textile Industry:** She introduced the **Maheshwari saree weaving industry**, providing employment and fostering economic growth.
- **Cultural Development:**
 - **Patronage of Arts:** Ahilya Bai was a **great patron of the arts**, supporting **musicians, artists, and scholars**, creating a vibrant cultural environment.
 - **Religious Sites:** She renovated and built numerous temples and ghats, promoting **cultural heritage** and **attracting pilgrims**, thereby **boosting local economies**.
For example: Her renovation of the **Kashi Vishwanath Temple** in **Varanasi** stands as a testament to her dedication to cultural and religious heritage.

Legacy as a Role Model:

Ahilya Bai Holkar's legacy is defined by her **inclusive governance** and commitment to social harmony. Her reign demonstrates the importance of **compassion, justice, and development in leadership**. Contemporary leaders can

learn **valuable lessons** from her example, particularly the significance of addressing the needs of all sections of society and promoting inclusive growth.

Conclusion:

Ahilya Bai Holkar's contributions to social, economic, and cultural development have left an indelible mark on history, making her a revered figure. Her leadership principles continue to **inspire modern governance**, offering a blueprint for **building just and harmonious societies**. By adopting such principles, contemporary leaders can effectively address the challenges of today and foster a more inclusive and prosperous world.

MCQS

1. Consider the following pairs:

Protected area	Well-known for
Bhitarkanika, Orissa	SaltWater Crocodile
Hollongapar, Assam	Hoolock Gibbon
Desert National Park, Rajasthan	Great Indian Bustard

How many pairs given above are correctly matched?

- a) **Only one pair** b) Only two pairs
c) All three pairs d) None
2. With reference to 'Monsoon Croaks Bioblitz 2024', consider the following statements:

- Monsoon Croaks Bioblitz 2024 will be organized by the Global Biodiversity Information Facility.
- It is a citizen science programme aimed at documenting the endangered frog population in the World.
- A bioblitz is an intensive survey conducted over a period of time to identify as many species as possible within a designated area.

How many of the statements given above is/are correct?

- a) **Only one** b) Only two
c) All three d) None

3. Consider the following statements:

- The Vivekananda Rock is a tiny rocky islet located some 500 meters from Kanyakumari's Vavathurai beach, the southern tip of mainland India.
- The Vivekananda memorial was formally inaugurated by the President V V Giri in 1970.

Select the incorrect answer using the codes given below:

- a) 1 only b) 2 only
c) Both 1 and 2 d) **None**

4. With reference to the recombinant proteins, consider the following statements:

- Vaccine antigens, insulin and monoclonal antibodies are examples of recombinant proteins.
- The novel method developed by Indian Institute of Science to manufacture recombinant proteins involves using the yeast *Pichia pastoris* (now called *Komagataella phaffii*) activated by methanol.

Select the incorrect answer using the codes given below:

- a) 1 only b) **2 only**
c) Both 1 and 2 d) None

5. Which one of the following best describes the 'Dark Web'?

- a) A part of the internet accessible through standard web browsers and search engines.

- b) **A network of websites that are intentionally hidden and accessible only with specific software, configurations, or authorization.**

- c) A section of the internet used solely for legal activities and research purposes.

- d) The entirety of the internet including all public and private networks.

6. Consider the following statements regarding Hoolock Gibbon:

- It is the only ape native to India.
- It swings through the rainforest canopy.
- The western hoolock is categorized as Vulnerable in IUCN List of Threatened Species.

Which of the statements given above are correct?

- a) **1 and 2 only** b) 2 and 3 only
c) 1 and 3 only d) 1, 2 and 3

7. The island country Samoa is located in which one of the following oceans?

- a) Atlantic Ocean b) Indian Ocean
c) Arctic Ocean d) **Pacific Ocean**

8. For which one of the following reasons, many governments maintain their gold reserves in foreign vaults, such as the Bank of England?

- a) Save storage fees
b) Enhance economic sovereignty
c) Reduce dependence on foreign entities
d) **Mitigate risks associated with geopolitical tensions**

9. Which one of the following is the primary objective of the 'eMigrate project'?

- a) Promote tourism in India.
b) **Automate the emigration process and protect Indian workers from exploitation.**
c) Facilitate international trade.
d) Enhance diplomatic relations with other countries.

10. Consider the following statements:

- Heat generated from air conditioners and other machinery adds to the Urban Heat Island (UHI) Effect.
- The World Health Organization considers a wet-bulb temperature of around 30°C to be near the limits of human survivability.
- In India, a heatwave in coastal areas is declared when the maximum temperature departure is 4.5°C or more from normal.

How many of the statements given above are correct?

- a) Only one b) **Only two**
c) All three d) None