



# Yojna IAS

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## AUGUST 2023

### WEEKLY CURRENT AFFAIRS

**YOJNA IAS WEEKLY CURRENT AFFAIRS**

**21/8/2023 TO 27/8/2023**

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# CURRENT AFFAIRS

AUGUST 2023

## AYUSH SECTOR'S ECONOMIC VALUE

*This article covers "Daily Current Affairs" and the topic details "AYUSH Sector's Economic Value". The topic "AYUSH Sector's Economic Value" has relevance in the Economy section of the UPSC CSE exam.*

### FOR PRELIMS:

About the AYUSH Sector?

### FOR MAINS:

GS 3: Economy

Growth of the AYUSH Sector?

Schemes Related to AYUSH?

The WHO Global Traditional Medicine Summit?

### WHY IN THE NEWS:

The AYUSH sector is experiencing an impressive trajectory of growth, and this upward trend is expected to persist.

Amidst this promising scenario, the Ayush sector is positioned to assume a prominent role at the forthcoming World Health Organization (WHO) Global Traditional Medicine Summit.

### AYUSH SECTOR

The AYUSH sector is a cornerstone of India's traditional healthcare systems, reflecting the rich heritage of healing practices deeply ingrained in the country's culture. These systems provide a diverse range of accessible and affordable healthcare options that enjoy broad public acceptance, serving as vital healthcare providers. The AYUSH sector's economic value is on the rise, offering crucial services to a significant portion of the population.

### DIVERSE DISCIPLINES UNDER AYUSH

The AYUSH sector encompasses a variety of disciplines, each with its unique approach to holistic well-being and healing:

- **Ayurveda:** An ancient system that emphasizes holistic wellness through a balanced approach to life and natural remedies.
- **Yoga:** A holistic discipline that unites the body, mind, and spirit through physical postures, meditation, and breath control.
- **Naturopathy:** A natural healing practice that utilizes elements like water, air, sunlight, and diet to

stimulate the body's inherent healing abilities.

- **Unani:** Based on the balance of bodily humors, Unani medicine uses herbal medicines and therapeutic techniques to restore equilibrium.
- **Siddha:** Rooted in traditional Tamil medicine, Siddha focuses on the harmonious balance of the five elements and bodily humors.
- **Homeopathy:** Characterized by the use of highly diluted substances to trigger self-healing responses in the body.

## GROWTH OF THE AYUSH SECTOR

### Exponential Financial Surge:

- The production of AYUSH medicines and supplements has seen remarkable growth in recent years. Its revenue has surged from 3 billion USD in 2014 to an impressive 18 billion USD in 2020.
- Anticipated growth of 24 billion USD by 2023 underscores its substantial financial impact.

### Integration in Healthcare:

- AYUSH-based health and wellness centers have garnered a significant response. Currently, there are around 7,000 operational centers, providing services to approximately 8.42 crore patients as of 2022.
- The sector's integration into modern healthcare systems is on the rise, showcasing its relevance in contemporary medical practices.

## SCHEMES RELATED TO AYUSH

Several schemes have been launched to bolster the AYUSH sector's growth and reach:

Initiative	Description
National Ayush Mission	A program aimed at promoting AYUSH healthcare through various strategic initiatives.
AYUSH Entrepreneurship Program	An initiative fostering innovation and entrepreneurship within the AYUSH sector.
Ayush Wellness Centers	Centers established to offer holistic health and wellness services, focusing on preventive and curative approaches.
ACCR Portal (Assessment of AYUSH Centers for Continuity and Reinforcement) and Ayush Sanjivani App	Digital tools designed to improve healthcare quality and monitoring.

## AYUSH POTENTIAL:

- **Pluralistic Approach:** AYUSH represents a diverse and integrative scheme of health services, capable of contributing significantly to healthcare in India.
- **Realizing 'New India's' Vision:** AYUSH can play a crucial role in achieving the vision of a 'New India' by offering quality healthcare and medical services, while also promoting wellness.
- **Addressing Doctor Shortage:** With only 80 doctors per lakh population, AYUSH provides a solution to the severe shortage of medical professionals, expanding healthcare access.
- **Medical Pluralism:** AYUSH's emphasis on prevention alongside curative aspects aligns well with the evolving healthcare paradigm, making it a valuable addition.
- **Boosting Medical Tourism:** The rising popularity of AYUSH and alternative medicine positions India to tap into medical tourism, attracting health seekers worldwide.



## THE WHO GLOBAL TRADITIONAL MEDICINE SUMMIT:

### Overview:

The WHO Global Traditional Medicine Summit is a crucial gathering that underscores the importance of traditional medicine within the global healthcare arena.

- The summit provides a platform for experts, policymakers, researchers, and stakeholders to shape the future of traditional medicine.
- The inaugural **WHO Traditional Medicine Global Summit is set to take place in Gandhinagar, Gujarat, India**. This summit is a collaborative effort between the WHO and the Indian Government, with India holding the G20 presidency in 2023.
- The summit boasts participation from more than 90 countries. It serves as a gathering of diverse stakeholders representing various sectors of the global healthcare community.

### OBJECTIVES AND FOCUS AREAS

The WHO Global Traditional Medicine Summit serves multiple objectives:

- **Sharing Best Practices:** The event aims to facilitate the sharing of best practices, evidence, data, and innovations in the field of traditional medicine.
- **Role in Health and Development:** Discussions will center around the role of traditional medicine in promoting health and contributing to sustainable development.

### SOURCE:

<https://indianexpress.com/article/india/ayush-sector-set-to-grow-to-24-billion-this-year-ayush-secretary-rajesh-kotecha-8893988/#:~:text=The%20production%20of%20Ayurveda%2C%20Yoga,Government%20of%20India%2C%20told%20The>

### Q.1 The inaugural WHO Traditional Medicine Global Summit is set to take place:

- (a) Delhi
- (b) Ahmedabad
- (c) Gandhinagar
- (d) Mumbai

**ANSWER: C**

### Q.2 Consider the following statement regarding National Ayush Mission:

1. It is a mission under Ministry of Health and Family Welfare
2. Its aim is limited to generating awareness about traditional systems of medicine.
3. Naturopathy is not considered as a system of medicine under AYUSH.

**How many of the above statement/s is/are correct?**

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

**ANSWER: D**

**Q.3 Discuss the significance of the AYUSH sector in India's healthcare landscape. Highlight the diverse disciplines under AYUSH and their contributions to holistic well-being. Analyze the growth of the AYUSH sector, including its economic impact and integration into modern healthcare systems**

# MINAMATA CONVENTION

*This article covers “Daily Current Affairs” and the topic details “Minamata Convention”. The topic “Minamata Convention” has relevance in the Environment section of the UPSC CSE exam.*

## FOR PRELIMS:

About the Minamata Convention?

About Mercury Pollution?

## FOR MAINS:

GS 3: Environment

Source of Mercury Pollution?

Way Forward?

## WHY IN THE NEWS:

Recently, it was the sixth anniversary of the Minamata Convention

## ABOUT MINAMATA CONVENTION:

The Minamata Convention on Mercury is an international treaty designed to protect human health and the environment **from the adverse effects of mercury exposure**. It was adopted on **October 10, 2013, and entered into force on August 16, 2017**. The convention is named after the city of **Minamata in Japan**, which experienced one of the most severe cases of mercury pollution in history due to industrial wastewater discharges. **India is a signatory to the Minamata Convention and has also ratified it.**

## KEY OBJECTIVES OF THE MINAMATA CONVENTION INCLUDE:

- **Mercury Supply and Trade:** The convention aims to control the supply and trade of mercury, including its primary mining, export, and import.
- **Mercury Use and Emissions:** The convention encourages the use of best available technologies and practices to reduce mercury emissions and releases from various sources, including industries such as mining, energy production, and waste incineration.
- **Artisanal and Small-Scale Gold Mining:** The convention addresses the significant use of mercury in artisanal and small-scale gold mining, aiming to reduce the exposure of miners and their communities to mercury.
- **Mercury-Added Products:** The convention promotes the phase-out and reduction of mercury use in various products and processes, such as batteries, fluorescent lamps, cosmetics, and medical devices.
- **Mercury Waste Management:** The convention provides guidelines for the proper management and disposal of mercury-containing waste to prevent its release into the environment.

## MERCURY POLLUTION: A MENACE

### Mercury's Nature and Concern:

Mercury is a **naturally occurring element present in the Earth's crust**. It has been classified by the World Health Organization (WHO) as one of the ten most worrisome chemicals or chemical groups in terms of public health.

## MERCURY'S VARIED APPLICATIONS:

- **Thermometers and Barometers:** Mercury's high thermal expansion coefficient and excellent

visibility render it suitable for traditional thermometer and barometer use.

- **Chemical and Mining Processes:** Mercury has found applications in diverse chemical and mining operations, including gold mining and chlorine production.
- **Electronics and Electrical Switches:** Mercury-wetted switches serve in electrical applications due to its conductivity, creating reliable electrical connections.

## SOURCE OF MERCURY POLLUTION

### NATURAL AND ANTHROPOGENIC SOURCES

- **Natural Sources:** Volcanic eruptions and erosion can release trace amounts of mercury into the environment.
- **Anthropogenic Sources:** Mercury pollution stems from activities like Artisanal and Small-Scale Gold Mining (ASGM), industrial processes, and improper e-waste disposal.

### IMPACT AND ASSOCIATED RISKS:

Mercury accumulates in aquatic organisms, such as fish, mainly as methylmercury. Consumption of contaminated fish exposes individuals to this compound, which poses health risks including Minamata disease. This disorder was first observed in Minamata Bay, Japan, where industrial waste contamination led to mercury accumulation in the fish.



## WAY FORWARD

### Innovative Solutions

- **Mercury-Removing Filters:** Novel filters could selectively capture and adsorb mercury particles from air, water, and consumer products, aiding in emission reduction.
- **Phytoremediation:** Utilizing phytoremediation, plants absorb mercury from soil and water, enabling its removal from the environment.

### planetGOLD Program Implementation

- The global implementation of the planetGOLD program, driven by the UNEP, aims to eliminate mercury usage in artisanal gold mining, ensuring safer work environments. The program, aligned with the Minamata Convention, operates under the Global Environment Facility's support.
- Noteworthy is the mercury-free processing plant in Burkina Faso, a model for transitioning away

from mercury use.

### IN CONCLUSION

The Minamata Convention stands as a crucial global endeavor to mitigate mercury's adverse effects on health and the environment. With innovative solutions and committed initiatives like the planetGOLD program, the world strives to curtail mercury pollution, ensuring a safer and more sustainable future.

**Source:**

<https://www.unep.org/news-and-stories/story/ending-toxic-trail-small-scale-gold-mining>

#### Q.1 Consider the following statements regarding Minamata Convention :

1. It deals with the problem of Arsenic pollution.
2. India has signed the Minamata Convention but is yet to ratify it.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**ANSWER: D**

#### Q.2 The UNEP 'planetGOLD' program is related to which of the following polluting substances:

- (a) Gold
- (b) Cadmium
- (c) Arsenic
- (d) Mercury

**ANSWER: D**

#### Q.3 "Discuss the sources, effects, and global efforts to mitigate mercury pollution, emphasizing the significance of the Minamata Convention in addressing this environmental and public health challenge."

## DEBT-FOSSIL FUEL TRAP REPORT

*This article covers "Daily Current Affairs" and the topic details "Debt-Fossil Fuel Trap Report". The topic "Debt-Fossil Fuel Trap Report" has relevance in the "Economy" section of the UPSC CSE exam.*

### FOR PRELIMS:

*What is Debt-Fossil Fuel Trap Report?*

### FOR MAINS:

*GS3: Economy*

### WHY IN THE NEWS?

Recently, the report named "The Debt-Fossil Fuel Trap" was released by Debt Justice, a group advocat-



ing against debt, in collaboration with partners situated in the nations impacted by this issue.

### DEBT-FOSSIL FUEL TRAP REPORT

- The report not only investigates this connection but also puts forth several potential solutions aimed at alleviating the burden of high debt. These solutions are intended to contribute to the broader goal of phasing out fossil fuel usage.
- It presents substantial evidence highlighting a troubling cycle in which countries become trapped in a cycle in which fossil fuel revenues are used to repay debts.
- However, the projected revenues from these fossil fuels are frequently inflated and demand significant investments to achieve the expected returns.
- This situation leads to further accumulation of debt, undermining the prospects for long-term development and causing severe negative impacts on both the environment and human well-being.

### WHAT IS DEBT-FOSSIL FUEL TRAP?

The term “Debt-Fossil Fuel Trap” refers to a complex and concerning situation wherein countries, particularly those in the global south (developing, less developed, and underdeveloped nations in regions like Africa, Latin America, and Asia), become entangled in a cycle where their debt burdens are intimately linked to the production and reliance on fossil fuels.

- **Climate Crisis Spending Disparity:** Countries in the global south allocate five times more funds to servicing debt than to addressing the repercussions of the climate crisis.
- **Sharp Surge in External Debt Payments:** Between 2011 and 2023, external debt payments of these nations, acquired from wealthier countries, World Bank, IMF, or private lenders, have risen by 150%, marking a 25-year peak.
- **Exacerbation of Debt Situation:** The situation worsens due to severe weather events, compelling these nations to secure additional loans owing to inadequate resources for climate adaptation, mitigation, and damage control.
- **Fossil Fuel Extraction as Response:** To address mounting debts, these countries resort to intensified fossil fuel extraction.
- **Fossil Fuel Projects for Debt Relief:** Argentina’s adoption of fracking initiatives in the Vaca Muerta oil and gas field is aimed at generating revenue to alleviate its debt crisis. Remarkably, even the IMF has endorsed these endeavors.
- **Impact of Natural Calamities on Debt:** For instance, Dominica’s debt as a portion of its GDP increased from 68% to 78% following Hurricane Maria’s devastation in 2017.

### PERSISTENT FINANCING OF FOSSIL FUEL PROJECTS

Despite pledges to discontinue funding fossil fuel ventures in global south countries, affluent nations and international financial institutions continue to support such undertakings through loans. This practice augments debt burdens and perpetuates fossil fuel dependency.

- **Role of Resource Backed Loans (RBLs):**
  - One avenue for this phenomenon is the utilization of contracts like resource backed loans (RBLs).
  - Repayment within RBLs occurs either through natural resources (in-kind) such as minerals or oil, or via future income streams linked to resources.
  - Alternatively, repayment is secured by income streams tied to resources, or by using a natural resource asset as collateral.
- **Oil Revenue Entanglement in Suriname:**
  - The South American nation, Suriname, defaulted on its debt in late 2020 and 2021. In the even-

tual agreement, creditors gained entitlement to 30% of Suriname's oil earnings until 2050.

- This arrangement pushes Suriname in oil exploitation, incentivizing it to maximize oil-generated revenue.
- Consequently, not only do numerous fossil fuel ventures in global south nations lead to environmental and human harm, but they also lack economic viability.
- These initiatives leave countries in deeper financial turmoil, heightening indebtedness, and reinforcing reliance on fossil fuel extraction beyond their previous levels.



### RECOMMENDATIONS:

- The report emphasises the urgent need for comprehensive debt relief, encompassing all creditors, without imposing economic conditions, while stressing the importance of clean energy adoption.
- To enable this transition, wealthy governments and institutions must halt repayments derived from fossil fuel projects.
- Additionally, financial support from bilateral and multilateral sources should align with climate targets and fair share calculations, refraining from funding further fossil fuel ventures.
- By implementing these measures, global south countries can pave the way for sustainable development and a decisive shift away from the detrimental cycle of debt and fossil fuel dependency.

### Sources:

Rich countries force poor nations to rely on fossil fuels: What a new report says

### Q1. With reference to Debt-Fossil Fuel Trap, consider the following statements:

1. The Debt-Fossil Fuel Trap refers to the interconnection between high levels of external debt and the reliance on fossil fuel production in global south countries.
2. The Debt-Fossil Fuel Trap report argues that fossil fuel projects are the only solution to reducing debt burdens in affected countries.
3. The Debt-Fossil Fuel Trap report suggests that climate adaptation and mitigation efforts have been effectively financed through fossil fuel revenues.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only

- (c) 3 only  
(d) 1, 2 and 3

**Answer: (a)**

**Q2. How many of the countries mentioned below share a border with Suriname?**

1. Guyana
2. Venezuela
3. Brazil
4. Columbia

- (a) Only one  
(b) Only two  
(c) Only three  
(d) All Four

**Answer: (b)**

**Q3. The concept of “Debt-Fossil Fuel Trap” has significant implications for both environmental sustainability and economic development in global south countries. Discuss.**

## MENACE OF RAGGING

*This article covers “Daily Current Affairs” and the topic details “MENACE OF RAGGING”. The topic “MENACE OF RAGGING” has relevance in the Governance section of the UPSC CSE exam.*

### **FOR PRELIMS:**

*About Ragging?*

### **FOR MAINS:**

*GS 2: Governance*

*Raghavan Committee and UGC Guidelines?*

*Legal Consequences of Ragging?*

*Way Forward?*

### **WHY IN THE NEWS:**

The recurring problem of ragging, a consistently troublesome phenomenon in Indian educational institutions, has once more garnered widespread national focus following a recent occurrence at Jadavpur University.

### **DEFINING RAGGING: SUPREME COURT’S PERSPECTIVE:**

- In a 2001 case (Vishwa Jagriti Mission), the Supreme Court provided a clear definition of ragging, which includes any unruly behavior that involves teasing, treating, or handling fellow students with rudeness. It also covers actions causing annoyance, psychological harm, or fear among junior students.
- The court pointed out that ragging often happens because seniors seek sadistic pleasure, demonstrate their power, or assert authority over new students.

### KEY GUIDELINES ISSUED BY THE SUPREME COURT:

- The Supreme Court's guidelines stress the importance of establishing proctoral committees within educational institutions. These committees play a crucial role in preventing and addressing ragging incidents.
- The guidelines also emphasize that if ragging incidents become severe and unmanageable or they qualify as cognizable offenses, they can be reported to the police for legal action.

### RAGHAVAN COMMITTEE AND UGC GUIDELINES:

In the effort to address the serious issue of ragging in educational institutions, the Raghavan Committee and the subsequent guidelines issued by the University Grants Commission (UGC) have played a crucial role.

### FORMATION OF THE RAGHAVAN COMMITTEE:

- **Background:** In response to the persisting problem of ragging, the Supreme Court of India appointed a committee in 2009, led by RK Raghavan, a former Director of the Central Bureau of Investigation (CBI).
- **Comprehensive Review:** The Raghavan Committee was entrusted with the task of conducting a comprehensive review of the existing anti-ragging measures and formulating more effective strategies to prevent and combat ragging incidents.

### SOCIAL DISCRIMINATION IN RAGGING

#### WHAT FACTORS WERE INVOLVED

Caste	6.2
Region	15.6
Religion	5.0
Language	12.2
Gender	8.5
Looks/Appearance	20.7
Economic background	4.9
Rural/urban background	7.1
Public school background	4.2
Any other factor	3.6
None of these	46.7

*All figures in overall percentage. Calculations based on students who admitted to being mildly or severely ragged*

**ALL DATA FROM  
COMMITTEE'S REPORT**

### UGC GUIDELINES:

- **Adoption of Recommendations:** The recommendations made by the Raghavan Committee were subsequently adopted and adapted by the University Grants Commission (UGC), which is the apex regulatory body for higher education in India.



- **“Regulations on Curbing the Menace of Ragging”:** In 2009, the UGC issued a comprehensive set of guidelines titled “Regulations on Curbing the Menace of Ragging in Higher Educational Institutions.” These guidelines were aimed at providing a standardized framework for all universities and institutions to tackle the problem of ragging.

#### KEY ASPECTS OF UGC GUIDELINES:

- **Definition and Types:** The guidelines clearly defined various forms of ragging, including psychological harm, physical harm, financial extortion, and more. This comprehensive definition helped institutions recognize and address different manifestations of ragging.
- **Public Declaration:** The UGC mandated that each educational institution publicly declare its commitment to curbing ragging. This declaration signified a zero-tolerance approach and set the tone for anti-ragging efforts.
- **Undertakings:** Students and parents were required to sign undertakings that they would not engage in or support any form of ragging. This created a sense of responsibility and accountability among students and their guardians.
- **Establishment of Committees:** Universities were instructed to establish committees dedicated to preventing and addressing ragging incidents. These committees typically consisted of faculty members, senior students, course-in-charges, and student advisors.
- **Monitoring and Regulation:** The committees were tasked with monitoring interactions between senior and junior students to ensure a healthy and respectful environment. They were responsible for creating awareness, conducting orientation programs, and promptly addressing reported incidents.
- **Legal Action:** The guidelines highlighted the possibility of reporting severe ragging incidents to law enforcement authorities if they escalated to a level of cognizable offenses.
- **Gender and Sexual Orientation:** The UGC recognized that ragging could also be directed towards individuals based on their gender identity and sexual orientation. These grounds were included in the guidelines, emphasizing an inclusive approach.

#### LEGAL CONSEQUENCES OF RAGGING:

- While ragging itself is not a distinct offense, it can lead to legal consequences under various sections of the Indian Penal Code (IPC).
- For instance, actions like wrongful restraint, defined in Section 339 of the IPC, can result in imprisonment for up to one month or a fine of up to five hundred rupees, or both.
- Wrongful confinement, covered under Section 340 of the IPC, can lead to imprisonment for up to a year or a fine of up to one thousand rupees, or both.

#### RELATED STATE-LEVEL LEGISLATION:

- Various states in India have introduced specific laws to combat ragging within their jurisdictions. Examples include the Kerala Prohibition of Ragging Act, Andhra Pradesh Prohibition of Ragging Act, Assam Prohibition of Ragging Act, and Maharashtra Prohibition of Ragging Act.

#### WAY FORWARD:

- **Strengthening Anti-Ragging Measures:** To enhance efforts against ragging, collaborative audits involving experts, students, and faculty members should be conducted. These audits can identify weaknesses, areas for improvement, and successful strategies, leading to proactive prevention measures.
- **Strengthen Reporting Mechanisms:** Develop user-friendly reporting platforms, including mo-

ble apps, where students can report ragging incidents anonymously. Ensure that the reporting process is well-publicized and easily accessible.

- **Gender and LGBTQ+ Sensitivity:** Recognize and address ragging incidents related to gender identity and sexual orientation. Create safe spaces for LGBTQ+ students and ensure their inclusion in anti-ragging efforts.
- **Community Engagement Events:** Organizing regular community events involving volunteer work, community service, and social outreach can instill a sense of responsibility and unity among students. This approach can reduce the inclination towards engaging in ragging behavior.

**SOURCE:**

<https://indianexpress.com/article/explained/explained-law/jadavpur-university-law-ragging-8900245/>

**Q.1 Which committee was appointed by the Supreme Court of India to comprehensively review and address the issue of ragging in educational institutions ?**

1. A) Kasturirangan Committee
2. B) Swaminathan Committee
3. C) Raghavan Committee
4. D) Narasimham Committee

**ANSWER: C**

**Q.2 Ragging remains a persistent concern in educational institutions, affecting students' physical and mental well-being. Analyze the role of legal frameworks, such as Supreme Court directives and University Grants Commission (UGC) guidelines, in curbing ragging.**

**C. R. RAO**

*This article covers "Daily Current Affairs" and the topic details "C. R. Rao". The topic "C. R. Rao" has relevance in the "Science and Technology" section of the UPSC CSE exam.*

**For Prelims:**

Who is C. R. Rao?

What are his significant works?

**For Mains:**

GS3: Science and Technology

Achievement of Indians in Science and Technology

**WHY IN THE NEWS?**

C. R. Rao (Calyampudi Radhakrishna Rao), renowned as one of India's finest mathematicians and statisticians, passed away in the United States on the morning of August 23, just a couple of weeks prior to his 103rd birthday.

**WHO IS C R RAO?**

- Addressed as Dr. Rao by both his peers and students, the esteemed individual who had previously

served as the director of the Indian Statistical Institute (ISI) gained widespread attention earlier this year. This attention was a result of his recognition with the International Prize in Statistics 2023, an accolade often likened to the prestigious Nobel Prize.

- C R Rao is an esteemed Indian-American mathematician and statistician whose achievements are widely recognized.
- He holds the position of professor emeritus at Pennsylvania State University and serves as a Research Professor at the University at Buffalo. Rao's contributions have garnered numerous accolades, including colloquia, honorary degrees, and festschrifts. Notably, he was bestowed the US National Medal of Science in 2002.
- The American Statistical Association aptly characterizes him as a "living legend" whose profound impact extends across disciplines like economics, genetics, anthropology, and medicine, among others.
- Rao's standing as one of India's preeminent scientists is evident, as The Times of India acknowledges him as one of the top 10 Indian scientists of all time.

### SEMINAL RESEARCH OF C R RAO

- In 1945, C R Rao authored a seminal research paper titled "Information and accuracy attainable in the estimation of statistical parameters," which found its place in the Bulletin of the Calcutta Mathematical Society.
- This paper introduced a fundamental concept—the lower limit on the variance of an unbiased estimate for a finite sample.
- This concept has since become a cornerstone of mathematical statistics and a touchstone for subsequent research.

### KEY CONTRIBUTIONS OF HIS RESEARCH RAO'S 1945 PAPER DELIVERS THREE PIVOTAL OUTCOMES:

- **Cramer-Rao Bound**
  - The first breakthrough, now recognized as the Cramer-Rao lower bound, provides a way to determine the point at which an estimation method for a quantity becomes as good as any possible method.
- **Rao-Blackwell Theorem**
  - The second discovery, named the Rao-Blackwell Theorem (credited to prominent statistician David Blackwell due to its independent discovery), offers a method to enhance an estimate into a better, or more precisely, an optimal one.
  - Together, these discoveries lay the foundation for a significant part of the field of statistics.
- **Information Geometry**
  - The third revelation introduces insights that have pioneered an emerging interdisciplinary domain known as "information geometry." These combined findings empower researchers to effectively extract information from data.
- **Impact of his work**
  - The reach of the Rao-Blackwell process extends across diverse domains including stereology, particle filtering, and computational econometrics.
  - Simultaneously, the significance of the Cramer-Rao lower bound spans a broad spectrum of fields such as signal processing, spectroscopy, radar systems, risk analysis, multiple image radiography, and even quantum physics.
  - The applicability of information geometry has notably contributed to enhancing the understanding and optimization of measurements in the realm of the Higgs boson at the renowned Large

Hadron Collider.

- Moreover, this paradigm has found practical applications in contemporary research fields such as radars and antennas. It has also significantly influenced the advancements in artificial intelligence, data science, signal processing, as well as areas including shape classification and image segmentation.

C R Rao's exceptional contributions have left an indelible mark on the field of statistics, and his recognition with the prestigious International Prize further underscores his remarkable legacy.

### ABOUT INTERNATIONAL PRIZE IN STATISTICS

- The International Prize in Statistics is a **biennial award** granted through **collaboration among five prominent global statistics organizations**.
- This prize commends significant accomplishments within the realm of statistics, either by an individual or a team. It particularly recognizes those whose innovative ideas have translated into practical applications and groundbreaking advancements across diverse fields.
- Following the esteemed tradition of the Nobel Prizes, Abel Prize, Fields Medal, and Turing Award, the International Prize in Statistics holds a position of prestige.

### PREVIOUS AWARDEES

- The first award in 2017 was granted to David R. Cox for his creation of the Cox proportional hazards model. This model has fundamentally transformed the analysis of patient survival rates in complex studies.
- In **2019, Bradley Efron** claimed the honor for his pioneering work on the **bootstrap method**—a computational technique that astutely assesses uncertainty in applied statistics.
- In **2021, Nan Laird** was recognized for her instrumental role in developing robust methods that have enabled the **analysis of intricate longitudinal studies**.

**Sources:**

**Legendary statistical scientist CR Rao dies | India News – The Indian Express**

#### **Q1. With reference to C.R. Rao, consider the following statements:**

- C R Rao, one of India's finest statisticians, was recently awarded with the International Prize in Statistics 2023.
- International Prize in Statistics is a biennial award granted by the Royal Swedish Academy of Sciences.
- Dr. Rao was the recipient of the first-ever International Prize in Statistics.

Which of the statements given above is/are **NOT** correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) None

**Answer: (b)**

#### **Q2. Discuss the remarkable achievements and contributions of Dr. C. R. Rao in the realm of Mathematics and Statistics. How have his pioneering insights in statistics influenced various fields?**

**TAGS:**



## NATIONAL CURRICULUM FRAMEWORK (NCF)

*This article covers “Daily Current Affairs” and the topic details “National Curriculum Framework (NCF)”. The topic “National Curriculum Framework (NCF)” has relevance in the Governance section of the UPSC CSE exam.*

### **For Prelims:**

*About National Curriculum Framework (NCF)?*

### **For Mains:**

*GS 2: Governance*

*Key Aspects of the National Curriculum Framework (NCF)?*

### **Why in the News:**

The National Council of Educational Research and Training (NCERT) has recently unveiled the final version of the National Curriculum Framework (NCF), marking a significant step towards educational reform in accordance with the National Education Policy (NEP) 2020. These changes are specifically targeted at Grades 3 to 12 within the Central Board of Secondary Education (CBSE) system.

### **About National Curriculum Framework (NCF):**

The NCF forms a fundamental component of NEP 2020, contributing to the realization of transformative changes in the education system. It is deeply rooted in the principles, aims, and approach of NEP. This iteration of the NCF marks the fifth revision, following updates in 1975, 1988, 2000, and 2005.

### **Objective:**

- The primary goal of the NCF is to facilitate positive alterations in the curriculum and pedagogy, aligning with the transformative vision of NEP 2020.
- It strives to provide high-quality education to all students, in line with the ideals of equity, inclusivity, and pluralism enshrined in the Indian Constitution.

### **Key Aspects of the National Curriculum Framework (NCF):**

#### **Language Learning:**

- Students in Classes 9 and 10 will now be studying three languages, out of which at least two must be native Indian languages.
- As for Classes 11 and 12, the curriculum entails the study of two languages, one of which must be of Indian origin.
- The primary aim is to ensure that students attain a “literary level” of linguistic proficiency in at least one Indian language.

#### **Board Exams and Evaluation:**

- A noteworthy alteration pertains to the frequency of Board exams, where students will have the opportunity to appear for these exams at least twice within a single school year.
- Of these multiple attempts, only the highest score will be retained, promoting a more relaxed examination environment.

### **Alignment with NEP 2020:**

- The NCF closely aligns with the guidelines of NEP 2020 and plays a pivotal role in the creation of new textbooks for Grades 3 to 12 under the CBSE.
- The curriculum material for Classes 3-12 is carefully tailored to cater to the demands of the 21st century.
- While nurturing a sense of connection with the present, the NCF also encourages forward-looking perspectives.

### **Changes in Mandatory and Optional Subjects:**

- The composition of mandatory subjects has undergone a change. For Classes 9 and 10, students are now required to study seven mandatory subjects, while for Classes 11 and 12, the number is six. This marks an increase from the previous model where students had five mandatory subjects and the option to choose an additional one.

### **Optional Subjects:**

The concept of optional subjects is revamped and categorized into three groups:

- Group one: This includes art education, physical education, and vocational education.
- Group two: This incorporates subjects like Social Science, Humanities, and interdisciplinary areas.
- Group three: This encompasses Science, Mathematics, and computational thinking.

### **Flexibility and Choice for Students:**

- The redesigning of the “Secondary Stage” is aimed at providing students with a more flexible and customizable academic journey.
- This new approach dissolves the rigid boundaries between academic and vocational subjects, as well as between different academic streams such as Science, Social Science, Art, and Physical Education.
- With this transformation, students gain the liberty to select varied subject combinations for their School Leaving Certificates.

### **Environmental Education:**

A special emphasis is placed on cultivating environmental consciousness and nurturing sustainability.

- Environmental Education is now seamlessly integrated throughout all stages of schooling.
- Additionally, a distinct area of study dedicated to environmental education is introduced during the Secondary Stage.

### **Distribution of Content for Social Science Curriculum (Classes 6-8):**

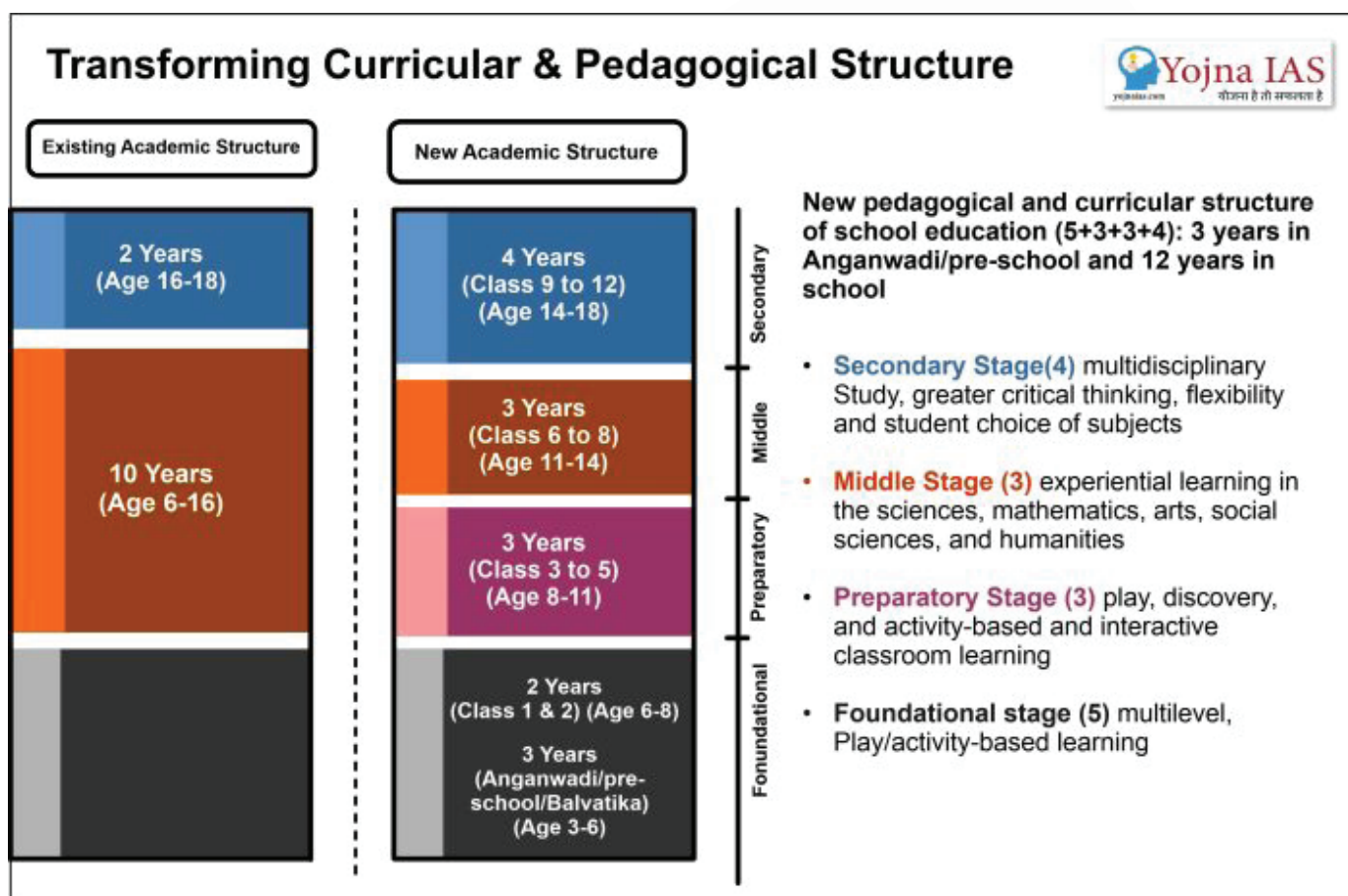
- The Social Science curriculum for Classes 6 to 8 sees a new approach to content distribution, with the following breakdown:
- 20% content is sourced from the local level.
- 30% content is drawn from the regional level.
- 30% content reflects the national level.
- The remaining 20% encompasses global perspectives.

### **What is the National Education Policy 2020?**

The National Education Policy (NEP) 2020 is an all-encompassing blueprint for educational reform in India. Approved in the year 2020, its fundamental purpose is to usher in significant transformations within the Indian education system. This policy seeks to achieve this by adopting a holistic and interdisciplinary approach to education, focusing on a diverse range of aspects.

### Key Features of the NEP 2020:

- **Universal Education:** The NEP 2020 aims to universalize education across different age groups, encompassing the span from preschool to the secondary level. This inclusive approach is geared towards ensuring that education is accessible to all.
- **Revamped Pedagogical and Curricular Structure:** A novel pedagogical and curricular framework is introduced, which is rooted in the cognitive and socio-emotional development of students. This shift in perspective seeks to create a more comprehensive and relevant educational experience.
- **Foundational Skills:** The policy places a heightened emphasis on fostering foundational literacy and numeracy skills during the primary education years. The objective is to provide students with a strong educational base upon which they can build further knowledge and skills.
- **Research and Development Focus:** The NEP 2020 places a greater focus on research and development within the field of education. This initiative is geared towards advancing the quality of education through well-informed strategies and practices.



**SOURCE:**

<https://www.thehindu.com/education/schools/board-exams-twice-a-year-class-11-12-students-to-study-2-languages-moes-new-curriculum-framework/article67226492.ece>

### Q.1 Consider the following statements National Curriculum Framework (NCF):

1. The NCF has undergone five revisions, with the most recent one being in 2005.
2. The primary objective of the NCF is to bring positive changes to curriculum and pedagogy, in line with the vision of National Education Policy (NEP) 2020.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**ANSWER: C**

**Q.2 Consider the following statements National Curriculum Framework (NCF):**

1. The NCF encourages students to study at least two native Indian languages in Classes 9 and 10.
2. The NCF emphasizes environmental education and sustainability across all schooling stages.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**ANSWER: C**

**Q.3 “National Curriculum Framework (NCF) and the National Education Policy (NEP) 2020 constitute crucial components of India’s educational landscape, working in tandem to bring about transformative changes.” Elucidate.**

## BHARAT NEW CAR ASSESSMENT PROGRAMME (BHARAT NCAP)

*This article covers “Daily Current Affairs” and the topic details “Bharat New Car Assessment Programme (BHARAT NCAP)”. The topic “Bharat New Car Assessment Programme (BHARAT NCAP)” has relevance in the “Economy” section of the UPSC CSE exam.*

**For Prelims:**

What is Bharat New Car Assessment Programme (BHARAT NCAP)?

What is the Global New Car Assessment Programme?

**For Mains:**

GS3: Economy

### WHY IN THE NEWS?

The Ministry of Road Transport and Highways has introduced a new indigenous star-rating system for evaluating the safety of vehicles involved in collisions.

#### Bharat New Car Assessment Programme (NCAP)

- The system, known as the Bharat New Car Assessment Programme (NCAP), aims to provide consumers with valuable safety information when purchasing cars.
- Scheduled to commence on October 1, 2023, this initiative is crafted to tackle the alarming road fatality rates in India.

### OBJECTIVES AND IMPACT OF BHARAT NCAP

- The primary objective of the Bharat NCAP is to empower consumers with safety-related information, enabling them to make informed decisions when purchasing vehicles.

- The program aims to create demand for safer cars, ultimately contributing to a reduction in road fatalities in India.
- The country currently experiences a high number of road crash-related deaths, accounting for 10% of global road crash fatalities despite having only 1% of the world's vehicles.
- This initiative is in alignment with global efforts to enhance road safety and has the potential to positively impact India's economy, considering that road crashes are estimated to incur a cost of 5 to 7% of GDP to the nation annually.

### SCOPE AND CRITERIA OF BHARAT NCAP

- The Bharat NCAP is applicable to passenger vehicles with a maximum of eight seats, excluding the driver's seat, and a gross vehicle weight not exceeding 3,500 kilograms.
- The program will evaluate vehicles by conducting crash tests according to the soon-to-be-published Automotive Industry Standard 197.
- The crash tests will focus on the base models of nominated car variants.

### THE SAFETY EVALUATION WILL BE BASED ON THREE KEY PARAMETERS:

- **Adult Occupant Protection:** This assesses how well a vehicle safeguards adult passengers during a collision.
  - **Child Occupant Protection:** This evaluates the protection provided to child passengers.
  - **Safety Assist Technologies:** This examines the presence and effectiveness of safety features in the vehicle.
  - **Crash Tests and Evaluation**
    - **Frontal Offset Test:** In this test, a vehicle is driven at 64 km/h with a 40% overlap into a deformable barrier, simulating a collision between two cars of similar weight.
    - **Side Impact Test:** This test simulates a side collision at 50 km/h.
    - **Pole-Side Impact Test:** A vehicle is crashed into a rigid pole sideways at 29 km/h.
- Based on the results of these tests, vehicles will receive a star rating ranging from one star to five stars. The higher the star rating, the better the vehicle's performance in terms of safety.

### VOLUNTARY PARTICIPATION AND EXCEPTIONS

- Participation in the Bharat NCAP is voluntary for automobile manufacturers. However, certain scenarios may necessitate mandatory testing:
  - Base model of a popular variant with a minimum sale of 30,000 units.
  - Recommendations from the Ministry of Road Transport and Highways based on market feedback or public safety concerns.

### GLOBAL NCAP

- The testing protocols of the Bharat NCAP are inspired by the Global NCAP, an initiative led by the U.K.-based NGO, Towards Zero Foundation.
- The Global NCAP serves as a collaborative platform for assessing vehicle safety across various countries.



Parameter	Bharat NCAP	Global NCAP
<b>Safety Rating Categories</b>	<ul style="list-style-type: none"> <li>Requires 27 points for 5-star rating in adult occupant protection.</li> <li>Requires 41 points for 5-star rating in child occupant protection.</li> </ul>	<ul style="list-style-type: none"> <li>Requires a minimum of 34 points for a 5-star safety rating in adult occupant protection.</li> <li>(16 points for front crash test, 16 for side impact, 2 for seatbelt reminders)</li> </ul>
<b>Types of Crash Testing</b>	<ul style="list-style-type: none"> <li>Uses three crash tests: offset deformable barrier frontal impact test, side impact test, and pole side impact test.</li> <li>Mandates additional safety features like six airbags, electronic stability control (ESC), improved emergency braking systems, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes similar crash testing protocols: offset deformable barrier frontal impact test, side impact test.</li> </ul>
<b>Top Speed for Crash Tests</b>	<ul style="list-style-type: none"> <li>Frontal crash test at 64 km/h.</li> <li>Side impact test at 50 km/h.</li> <li>Pole-side impact test at 29 km/h.</li> </ul>	<ul style="list-style-type: none"> <li>Speeds for frontal and side impact tests might vary but are generally around 64 km/h and 50 km/h, respectively.</li> </ul>
<b>Variety of Cars</b>	<ul style="list-style-type: none"> <li>Applies to CNG and EVs, rating them based on performance.</li> </ul>	<ul style="list-style-type: none"> <li>Primarily focused on conventional internal combustion engine vehicles.</li> </ul>
<b>Unified Rating</b>	<ul style="list-style-type: none"> <li>Provides a single unified rating for both adult and child occupant protection.</li> </ul>	<ul style="list-style-type: none"> <li>May have separate ratings for adult and child occupant protection.</li> </ul>

### LOOKING FORWARD:

- India needs to develop crash testing capabilities and knowledge for meaningful implementation of Bharat NCAP.
- A software system linked to dummies in cars is necessary for assessing injury nature and extent.
- As India strives to make its roads safer, adopting best practices from international counterparts like the U.S. NCAP and Japan's NCAP will contribute to a comprehensive and holistic approach to vehicular safety, safeguarding not only the passengers but also pedestrians and other road users.

**Sources:**

**Explained | What is the Bharat New Car Assessment Programme? – The Hindu**

### Q1. With reference to Bharat NCAP, consider the following statements:

- The Ministry of Heavy Industries has introduced the Bharat New Car Assessment Programme (NCAP) to ensure the safety of automobiles in the Indian market.
- The program aims to create a supply of safer cars through legal safeguards. .
- The testing procedures of the Bharat NCAP draw inspiration from the Global NCAP, which operates as a United Nations initiative.

Which of the statements given above is/are correct?

- 1 and 2 only
- 2 and 3 only
- 3 only
- None

**Answer: (d)**

### Q2. Consider the following statements:

- The Bharat NCAP program is designed to address the increasing pollution rates in India.
- The Bharat NCAP applies to passenger vehicles with a maximum of eight seats and a gross vehicle weight not exceeding 3,500 kilograms.
- The safety evaluation under the Bharat NCAP includes parameters like Engine Performance and Fuel Efficiency.

How many of the abovementioned statements are correct ?

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

**Answer: (a)**

**Q3. Discuss the significance of the Bharat New Car Assessment Programme (Bharat NCAP), especially in light of India's high road accident statistics, in addressing road safety concerns.**

## WORLD WATER WEEK IN LIGHT OF JAL JEEVAN MISSION

*This article covers "Daily Current Affairs" and the topic details "World Water Week in Light of Jal Jeevan Mission". The topic "World Water Week in Light of Jal Jeevan Mission" has relevance in the Social Justice section of the UPSC CSE exam.*

**For Prelims:**

*About the Jal Jeevan Mission?*

**For Mains:**

*GS 2: Social Justice*

*Current Water Resource Management Challenges in India?*

*Path Forward for Water Resource Management?*

**Why in the news:**

From August 20th to 24th, 2023, the annual global water forum known as World Water Week will be conducted by the Stockholm International Water Institute. The theme for this year is "Seeds of Change: Innovative Solutions for a Water-Wise World," which underscores the importance of innovation in addressing present water-related challenges.

Similarly, the Jal Jeevan Mission, initiated in 2019, has the vision of ensuring safe and sufficient drinking water to all rural households in India through individual tap connections by 2024. This ambitious endeavor is aimed at learning from past program limitations and rectifying their shortcomings.

**Shaping the Jal Jeevan Mission through Past Rural Water Supply Experiences and Challenges:**

**Historical Endeavors and Limitations:**

**Initial Steps (1950s-1960s):**

- The foundation of catering to rural water needs was laid in the first five-year plan (1951-56).
- However, this was primarily focused on easily accessible villages, leaving out many remote areas.

**National Rural Drinking Water Supply Programme (1969):**

- With UNICEF's support, borewells and piped water connections were established, but coverage was inconsistent.

**Changing Approaches (1970s-1980s):**

- Initiatives like Accelerated Rural Water Supply Scheme (ARWS) and Minimum Needs Programme were introduced, but implementation and coverage challenges persisted.

**Mission Evolution (1986-1996):**

- ARWS evolved into the National Drinking Water Mission and subsequently the Rajiv Gandhi National Drinking Water Mission (1991).
- Responsibility for water supply was delegated to Panchayati Raj Institutions.

#### **Shortcomings and Gaps (2002-2007):**

- A Comptroller and Auditor General of India (CAG) report revealed that between 2002 and 2007, existing schemes could cover only about 50% of the intended habitations.

#### **Har Ghar Jal Program (2017):**

- In 2017, the government launched the Har Ghar Jal initiative to provide piped water to every rural household.
- Nonetheless, by April 1, 2018, only 20% of rural households were connected to piped water, as reported by the Department of Drinking Water and Sanitation.



**Har Ghar Jal  
Jal Jeevan Mission**

#### **Previous Schemes Shortcomings:**

- **Unsustainable Water Source:** Over-reliance on groundwater led to its depletion, causing some initially covered areas to lose access over time.
- **Lack of Community Ownership:** Insufficient community ownership resulted in poor infrastructure maintenance and functionality.
- **Lack of Transparency:** Limited public awareness and participation hindered progress and awareness efforts.
- **Mismanagement of Funds:** Despite substantial investments, inefficient fund allocation and utilization persisted, leaving the water supply issue unresolved.

#### **Learnings for the Jal Jeevan Mission:**

- **Diverse Water Sources:** The Jal Jeevan Mission addresses this by incorporating both surface water and groundwater sources, while focusing on recharging and safeguarding them.
- **Community Engagement:** The mission emphasizes involving communities and implementing officials at all levels, fostering a sense of participation.
- **Information Sharing:** Progress data is shared through a central dashboard, promoting transparency, healthy competition, and prompt actions.
- **Holistic Approach:** The mission adopts a comprehensive strategy, including disaster readiness, technological advancements, bulk water transfers, and managing greywater. This approach aims to rectify the deficiencies observed in previous initiatives.

#### **Present Status of the Jal Jeevan Mission:**

##### **Mission Objective:**

- The Jal Jeevan Mission (Rural) aims to ensure that every rural household has access to 55 liters of water per person per day through Functional Household Tap Connections (FHTC) by 2024.
- It operates under the Ministry of Jal Shakti.
- Additionally, there is the Jal Jeevan Mission (Urban) which complements JJM (Rural) and strives

for universal water supply coverage in all 4,378 statutory towns across India.

### **Current Progress:**

- As of January 3, 2023, approximately 108.7 million rural households, accounting for 56.14%, have been provided with functional tapped water connections.
- The mission now faces the challenge of extending this coverage to an additional 76.3 million rural households (47.3%) within the upcoming two years.
- According to the program's dashboard, nine states and Union Territories have achieved the Har Ghar Jal status, ensuring tap water supply to all rural households. These are Haryana, Goa, Andaman and Nicobar Islands, Puducherry, Daman and Diu and Dadra Nagar Haveli, Telangana, Gujarat, Punjab, and Himachal Pradesh.

**NOTE:** The Government of India has also introduced the Jal Jeevan Mission (Urban), which works in harmony with JJM (Rural) and is designed to ensure comprehensive water supply coverage through functional taps in all of India's 4,378 statutory towns.

### **Current Water Resource Management Challenges in India:**

#### **Groundwater Depletion and Urbanization:**

- Groundwater depletion remains a significant concern, exacerbated by rapid urban growth.
- Urban expansion increases water demand, leading to excessive groundwater extraction.
- Urbanization also reduces groundwater recharge due to impervious surfaces in cities.

#### **Interstate Water Disputes and Federalism:**

- Conflicts over sharing water resources among states, like the Cauvery River dispute, underscore the balance between state autonomy and national interests.

#### **Water Quality and Health:**

- Water contamination from industrial discharge, agricultural runoff, and poor sanitation results in waterborne diseases, impacting public health, particularly in rural areas.

#### **Gender Dynamics and Water Collection:**

- Women and girls in rural areas often bear the burden of water collection, limiting their education and economic opportunities while exposing them to safety risks.

#### **Climate Change and Glacial Retreat:**

- Glacial retreat in the Himalayas, a major water source, threatens long-term water availability for irrigation and drinking purposes.

#### **Inefficient Wastewater Management:**

- Inadequate wastewater management reduces the economic potential of water resources.
- A recent report by the Central Pollution Control Board (March 2021) highlighted low water and sewage treatment capacities, hindering efficient water use.

### **Path Forward for Water Resource Management:**

#### **Localized Water Resource Management:**

- The Jal Jeevan Mission should address both water supply management and resource sustainability.
- Adopt effective watershed management at the local level and make rainwater harvesting mandatory for households.
- Ensuring harmony between water health and human health is essential for a prosperous society.

#### **Water Footprint Labeling:**

- Introduce a water footprint labeling system for products, akin to carbon footprint labels.
- Raise consumer awareness about the water used in production, fostering demand for water-effi-



cient goods.

**Water-Energy Nexus Management:**

- Integrate water and energy management strategies to optimize resource utilization.
- Examples include using treated wastewater for power plant cooling and repurposing industrial process heat for water purification.

**Hydro-Responsive Urban Planning:**

- Implement hydro-responsive urban planning that adapts cities to water availability.
- Incorporate adaptable infrastructure such as moveable flood barriers, flexible drainage systems, and modular buildings that adjust to changing water levels.

By pursuing these measures, India can better manage its water resources, enhance sustainability, mitigate challenges, and pave the way for a resilient and water-secure future.

**SOURCE:**

<https://www.downtoearth.org.in/news/water/world-water-week-2023-demand-and-pollution-of-the-precious-resource-are-increasing-which-is-not-a-good-sign-91220>

**Q.1 Consider the following statements regarding Jal Jeevan Mission:**

1. It is a mission under the Ministry of Rural Development.
2. It does not have an Urban component.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**ANSWER: D**

**Q.2 Regarding 'Water Credit,' please evaluate the following statements:**

1. This initiative utilizes microfinance strategies within the water and sanitation sector.
2. It is a worldwide effort initiated in collaboration with the World Health Organization and the World Bank.
3. The objective is to empower economically disadvantaged individuals to fulfill their water requirements autonomously, reducing reliance on subsidies.

**Which of the statements given above is/are correct?**

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

**ANSWER: C**

**Q.3 Propose steps to enhance water storage and irrigation systems to ensure prudent utilization amid the declining water resource scenario.**