# TATHASTU ICS

## DAILY CURRENT AFFAIRS

**SEPTEMBER 15, 2023**

## AYUSHMAN BHAV CAMPAIGN

**SOURCE: THE HINDU**

**WHY IN NEWS?**

➢ The President of India has inaugurated the **Ayushman Bhav campaign** and **online portal** remotely from the Raj Bhavan.

➢ This event signifies a major step forward in the **pursuit of Universal Health Coverage (UHC)** and the goal of providing healthcare to all.

**ABOUT THE CAMPAIGN:**

➢ The **'Ayushman Bhav' campaign** is an all-encompassing healthcare endeavour on a national scale, implemented by **the Ministry of Health and Family Welfare.**

➢ It was launched with the objective of **ensuring universal healthcare coverage** that extends to every village and town across the nation.

➢ This pioneering effort not only continues the **achievements of the Ayushman Bharat program** but also represents a **fundamental change** in the **provision of healthcare services.**

➢ **VISION:**
   • Aligns with the **goal of 'Healthy Villages' and 'Healthy Gram Panchayats.'**
   • Panchayats achieving success in healthcare initiatives will earn titles like **'Ayushman Gram Panchayat' or 'Ayushman Urban Ward**

➢ **The objectives of the campaign encompass:**
   • Simplifying the process of obtaining **Ayushman cards.**
   • Creating **ABHA IDs.**
   • Promoting **awareness r**egarding **vital healthcare initiatives** and health conditions like **non-communicable diseases, tuberculosis, and sickle cell disease**.
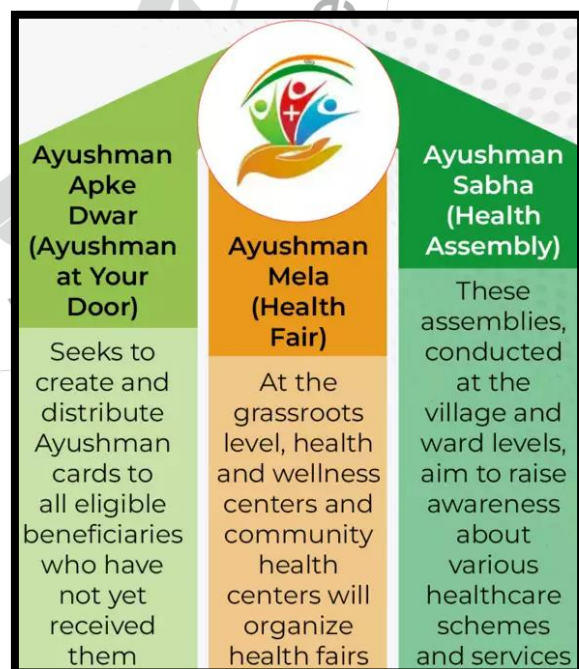
➢ **Main components of the campaign:**
   • **Ayushman Apke Dwar (Ayushman at your door)**
   • **Ayushman Mela (Health Fair)**



*Figure 1Main components of the program*

- **Ayushman Sabha (Health Assembly)**

## SIGNIFICANCE OF UNIVERSAL COVERAGE:

- **Ensuring better healthcare access:**
  - UHC can bridge the **gap in healthcare** access between urban and rural areas.
  - According to **the National Family Health Survey (NFHS-5),** urban areas have better access to healthcare than rural regions.
- **Improving health infrastructure:**
  - **Brazil's Universal Health Care program** improved access to healthcare services through the construction of new facilities.
- **Improved health outcomes:**
  - **Kerala's robust healthcare system** contributes to **India's lowest maternal mortality** rates in the state.
- **Affordable health care services:**
  - Every year, healthcare costs in India force more **than 63 million people into poverty,** as reported by the **World Bank.**
- **Improving economic productivity:**
  - Research conducted by **the International Labour Organization (ILO)** indicates that allocating resources to healthcare can lead to a potential **20% boost in labour productivity.**
- **Attaining sustainable development goals**:
  - The main focus of health-related Sustainable Development Goals (SDGs) is encapsulated in **Goal 3**, titled "**Achieving Good Health and Well-being."**

## CHALLENGES IN THE IMPLEMENTATION OF UNIVERSAL HEALTH COVERAGE:

- **Inadequate healthcare infrastructure:**
  - UHC implementation is hindered by insufficient healthcare infrastructure, particularly in rural regions.
- **Low public expenditure:**
  - India's allocation of GDP for public health expenditure is notably modest, standing at approximately 1.28% (**National Health Profile 2019).**
- **Shortage of human resources in healthcare:**
  - India grapples with a significant deficit of healthcare professionals, encompassing doctors and nurses.
- **Healthcare inequality and high healthcare expenses:**
  - Over **60% of healthcare expenses** in India are **out-of-pocket payments** (**National Health Accounts 2017-18**).

## STEPS TAKEN FOR UNIVERSAL HEALTH COVERAGE IN INDIA:

| INITIATIVE | OBJECTIVE |
|---|---|
| National Health Mission | Enhancing healthcare infrastructure in both rural and urban regions to support Reproductive, Maternal, Neonatal, Child, and Adolescent Health (RMNCH+A), as well as addressing both Communicable and Non-Communicable Diseases. |
| Ayushman Bharat | The initiative extends Rs 5 lakh yearly health coverage to 12 crore low-income families for hospitalization. |

| Ayushman Bharat Digital Mission | This will be achieved by assigning a distinct Digital Health ID to each individual, linked to their medical records. |
|---|---|
| National Health Policy 2017 | It aims to incrementally raise the allocation of GDP to public health expenditure to 2.5%. |
| Intensified Mission Indradanush | To enhance immunization coverage in the country. |

**WAY FORWARD:**

➢ **Health insurance:**
- Health insurance serves as a vital safety cushion, safeguarding individuals from unforeseen and frequently substantial medical expenses.

➢ **Promote preventive healthcare:**
- The government should advocate for preventive healthcare strategies, including vaccination initiatives, health education efforts, and lifestyle interventions.

➢ **Improve Primary Healthcare:**
- Primary healthcare reduces health disparities, providing equal access to all.

➢ **Public-Private Partnership:**
- Private sector involvement frequently introduces healthcare innovations and technological progress, enhancing care quality and extending healthcare access, particularly in remote regions.

# PRADHAN MANTRI MATSYA SAMPADA YOJANA

## WHY IN NEWS?

➢ Shri Parshottam Rupala expressed his appreciation to Prime Minister Shri Narendra Modi for the approval of the Pradhan Mantri Matsya Sampada Yojana, which **allocates a budget of Rs. 20,050 crores** to promote the **sustainable growth of the fisheries and aquaculture sector.**

➢ This decision has paved the way for the initiation of a project by ICAR-CIBA, titled **"Genetic improvement program of Penaeus indicus (Indian white shrimp)-Phase-I,"** with a budget of Rs. 25 crores under the Pradhan Mantri Matsya Sampada Yojana (PMMSY).

## ABOUT THE SCHEME:

➢ The goal is to drive the **Blue Revolution** by promoting the sustainable and accountable growth of **India's fisheries sector.**

➢ PMMSY was introduced as a component of the **'Atma Nirbhar Bharat'** package, featuring a **substantial investment of Rs. 20,050 crores**, marking the largest-ever allocation to this sector.

➢ This program is being **executed across all Indian states and union territories** for a **duration of 5 years**, spanning from the fiscal year **2020-21 to 2024-25**.

➢ This initiative operates under the umbrella of a comprehensive scheme consisting of two distinct segments:

- **Central Sector Scheme**: The Central government will fully fund the project expenses.
- **Centrally Sponsored Scheme**: States/Union Territories will oversee the implementation of various sub-components/activities, with costs shared between the Central government and the respective state governments.

➢ **ACHIEVEMENT OF THE SCHEME:**

- As of 2023, within the PMMSY framework, **projects totalling Rs. 14,654.67 crore have received approval spanning from 2020-21 to 2022-23.**

- **India**, being the **third-largest fish producer and the second-largest aquaculture producer on a global scale,** acknowledges the immense importance of the fisheries and aquaculture sector.

- In the **fiscal year 2021-22, fish production reached an unprecedented level of 16.25 million metric tons (MMT),** accompanied by **marine exports reaching an impressive Rs. 57,586 crores.**



#AatmaNirbharDesh

**Rs 20,000 Crores for Pradhan Mantri Matsya Sampada Yojana (1/2)**

PMMSY to be launched for integrated, sustainable, inclusive development of marine and inland fisheries

Rs. 11,000 Cr for activities in marine, inland fisheries & aquaculture

Rs. 9000 Cr for Infrastructure- Fishing Harbors, Cold Chain, Markets etc.

Key Activities will be cage culture, seaweed farming, ornamental fisheries & new fishing vessels, traceability, lab network etc.

8    20 LAKH CRORE FOR 2020    Dated: 15 MAY, 2020

## SIGNIFICANCE OF AQUACULTURE:

➢ **High export potential:**
- The aquaculture sector in India holds a prominent position in the international seafood export market, consistently ranking as one of the leading seafood-exporting nations worldwide.

➢ **Employment opportunities**:
- Aquaculture generates jobs for farmers, laborers, and processing industry workers. West Bengal, particularly Haldia, has witnessed increased rural employment in fish farming and processing.

➢ **Food security:**
- Seafood, encompassing fish and shrimp, serves as a crucial protein source for millions in India.
- Rising per capita fish consumption underscores aquaculture's affordability in protein supply.

➢ **Economic development:**
- The aquaculture industry makes a substantial contribution to India's GDP.
- In 2021, fisheries and aquaculture comprised about 7.28% of the agricultural GDP.
- Andhra Pradesh is the leading shrimp producer in the country and it adds significantly to its economic growth.

## CHALLENGES FACED BY THE AQUACULTURE SECTOR IN INDIA:

➢ **Environmental pollution:**
- Inadequate management practices and pollution can result in subpar water quality, triggering disease outbreaks and diminishing harvests.
- For instance, states like **Andhra Pradesh** have experienced substantial losses due to diseases such as the **White Spot Syndrome Virus (WSSV)** in shrimp farming.

➢ **Export regulations:**
- Stringent testing and certification requirements in the European Union have affected Indian shrimp exports in the name of sanitary and Phytosanitary standards.

➢ **Unsustainable practices:**
- Sustainable aquaculture faces hurdles due to the overexploitation and depletion of native fish populations.

➢ **Lack of modern infrastructure:**
- Lack of cold storages and post-harvest infrastructure facilities hinders the capabilities for processing.

## WAY FORWARD:

➢ **Promote sustainable practices:**
Encourage the adoption of sustainable aquaculture practices such as integrated farming systems, organic farming, and eco-friendly feeds.

➢ **Invest in research and development:**
Allocate resources for research on disease management, selective breeding, and innovative technologies to enhance productivity and reduce risks.

➢ **Market diversification:**
Expand into fresh markets and broaden the range of seafood exports beyond shrimp to reduce reliance on a single commodity.
Enhance processing and packaging infrastructure to align with global quality norms.

**PRELIMS SPECIFIC**

**GENETIC IMPROVEMENT PROGRAM OF PENAEUS INDICUS:**

**India's**
**Item-wise Export of Marine Products**
*In US $ terms, during 2020-21*

Frozen Shrimp: 74.31%

Frozen Fish: 6.75%

Frozen Cuttle Fish: 3.73%

Frozen Squid: 4.59%

Dried Items: 2.63%

Live Items: 0.55%

Chilled Items: 1.09%

Others: 6.35%

Source: Marine Products Export Development Authority

❖ **The ICAR-CIBA has taken up the genetic enhancement program for Penaeus indicus, commonly known as the Indian white shrimp, as a critical national endeavour under the Make in India campaign.**

❖ **The program's necessity arises from the fact that the shrimp farming industry heavily relies on a single exotic variety, the Pacific white shrimp (Penaeus vannamei), which needs to be free from specific pathogens**

❖ **Recognizing the vulnerability associated with relying on a single species, the government has prioritized the genetic improvement program for the Indian white shrimp (P. indicus) at the national level.**

❖ **This initiative aims to reduce dependence on a single species and promote the use of local shrimp species in aquaculture.**
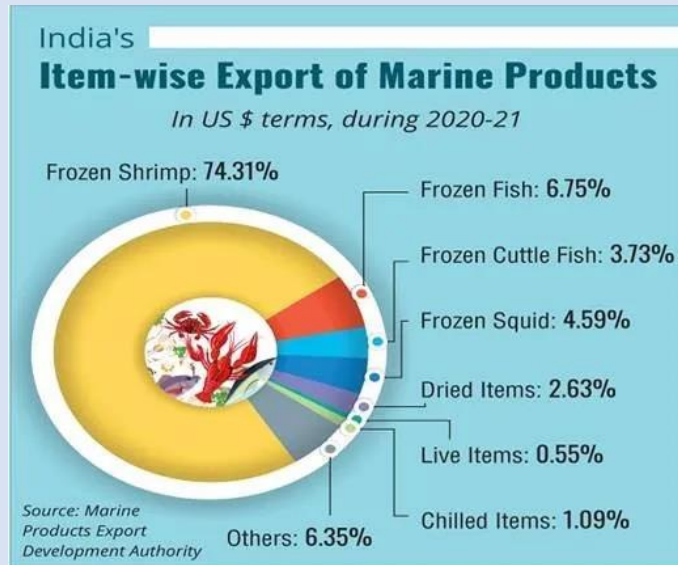
# NATIONAL QUANTUM MISSION: A BOOST TO INDIA'S QUANTUM ENDEAVOURS

**SOURCE:** SCIENCE REPORTER

## WHY IN NEWS?

**National Quantum Mission** (NQM) received the union cabinet approval at a total cost of **Rs. 6000 crores**, a significant step towards positioning India as a leading player in the field of quantum technologies.

## ABOUT NATIONAL QUANTUM MISSION (NQM):

➢ **Aim:** Strengthening India's quantum research and development, building powerful quantum-based computers for complex problem-solving and security.

➢ **Implementing Agency: Department of Science and Technology (DST**) leads the mission with support from others.

➢ **Mission Period:** Planned from **2023-24 to 2030-31.**

➢ **Targets:** Developing intermediate-scale quantum computers (50-1000 physical qubits), satellite-based secure quantum communications within India and internationally, and inter-city quantum key distribution.

➢ **Application Areas:** High-sensitivity magnetometers, atomic clocks for precision timing and communications, design of quantum materials, single-photon sources/detectors, and entangled photon sources for quantum applications.

## FOUR THEMATIC HUBS (T-HUBS):

T-Hubs will be **established at leading academic** and **national research and development institutes**.

## KEY DEFINITIONS:

❖ **QUNTUM COMPUTING: -** Quantum computing is a computing paradigm that uses the principles of quantum mechanics to process and store data, offering the potential to solve complex problems significantly faster than classical computers.

❖ **SUPERPOSITION** refers to the state of qubits, where they can exist in multiple states simultaneously, expanding computational possibilities by representing complex problems differently within these states.

❖ **ENTANGLEMENT** is a quantum phenomenon that links the behaviour of two distinct entities, so altering one qubit

QUANTUM COMPUTING

QUANTUM SENSING AND METROLOGY

T-HUB DOMAINS

QUANTUM COMMUNICATION

QUANTUM MATERIALS AND DEVICES
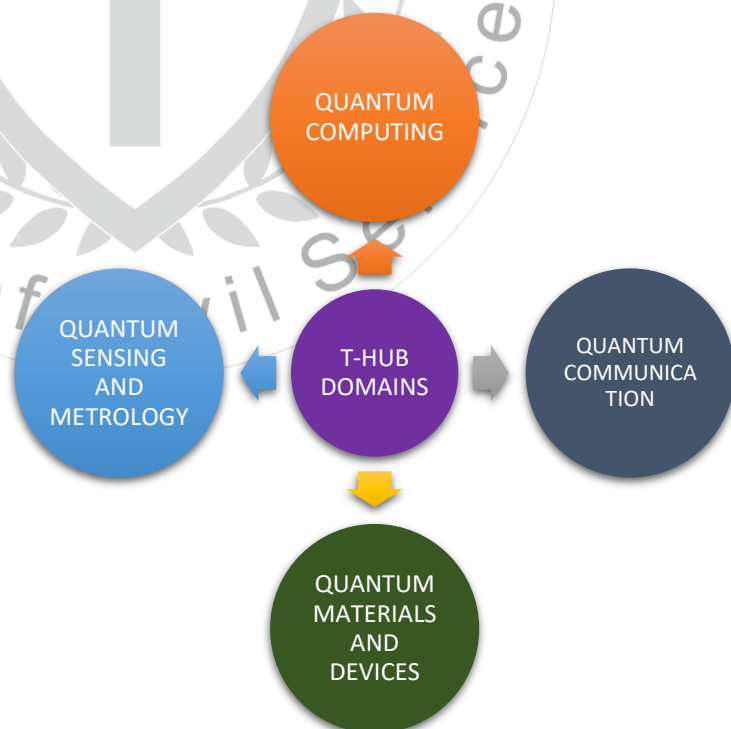
directly influences the other; quantum algorithms utilize these connections to solve intricate problems.

## CHALLENGES OF QUANTUM TECHNOLOGY:

1. **Costly:** Quantum tech demands specialized resources, rendering it more expensive than conventional tech.
2. **Limited Applications:** Currently, quantum tech suits only certain domains like cryptography and quantum computing.
3. **Skilled Workforce Needed:** Organizations must train and attract quantum computing experts.
4. **Environmental Sensitivity:** Quantum tech is sensitive to environmental factors like temperature and magnetic fields.
5. **Control Complexity:** Manipulating quantum tech is intricate, potentially leading to unintended consequences in quantum-powered AI.

## ADVANTAGES OF QUANTUM TECHNOLOGY:

1. **Enhanced Computing Power:** Quantum computers are significantly faster and tackle complex problems currently out of reach.
2. **Heightened Security:** Quantum encryption methods offer superior security compared to traditional ones.
3. **Swift, Secure Communication:** Quantum networks promise ultra-fast and unhackable data transmission.
4. **Improved AI:** Quantum machine learning enhances AI training efficiency and accuracy.
5. **Precise Sensing:** Quantum sensors detect subtle environmental changes for various applications.
6. **Large-Scale Simulations:** Quantum computing aids massive-scale problem-solving.



*Figure 2: Quantum Computer vs. Classical Computer*

7. **Economic Contribution:** Quantum tech adoption can boost India's economy by $280-310 billion.
8. **Government Scheme Enhancement:** It aligns with key national priorities, including Digital India, Make in India, Skill India, and Sustainable Development Goals.
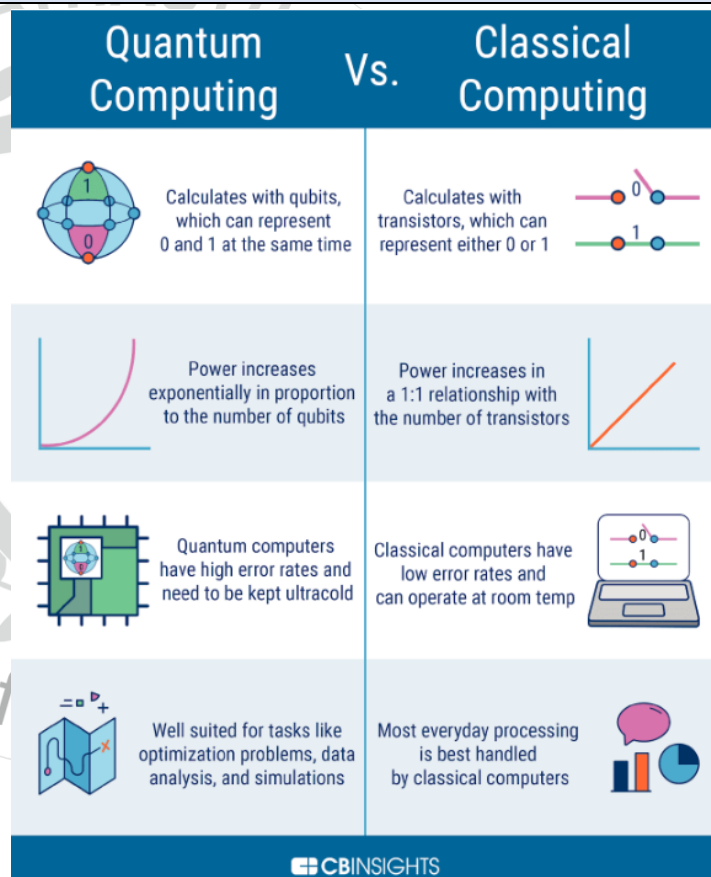
| KEY INDIAN INITIATIVES: | |
|---|---|
| **Initiative** | **Description** |
| **National Mission on Quantum Technologies** | The Indian government introduced a National Mission dedicated to the study of quantum technologies, allocating ₹8,000 crore for its implementation. |
| **Quantum Research Facilities** | The Indian Army inaugurated a quantum research facility in Madhya Pradesh, while another facility was jointly launched by the Department of Science and Technology in Pune. |
| **QuEST Initiative** | The Department of Science and Technology initiated the Quantum-Enabled Science and Technology (QuEST) project, committing ₹80 crores to establish infrastructure and support research in quantum technologies. |
| **Quantum Computer Simulator (QSim) Toolkit** | The QSim Toolkit was introduced to offer the first quantum development environment for academics, industry professionals, students, and the scientific community in India. |

**WAY FORWARD:**

1. **International Collaboration:** India should collaborate with the private sector and friendly nations to address quantum computing challenges, like Tech **Mahindra's QNxT center in Finland.**

2. **Approval of NM-QTA:** Swift approval and implementation of the NM-QTA initiative, announced in 2020, is essential.

3. **Support for Education:** Ensure adequate support and timely completion of quantum computing educational programs, such as **MTech programs at institutions like DIAT in Pune. Partnerships with companies like IBM and Microsoft can enhance access and education.**

4. **Increased Funding:** India should boost funding for quantum technology, considering the substantial investments made by China and the European Union.