



23 January, 2024

## Pradhan Mantri Suryodaya Yojana

**Context:** On Monday, January 22, Prime Minister Narendra Modi unveiled the 'Pradhan Mantri Suryodaya Yojana,' a government initiative set to provide rooftop solar power systems to one crore households.

### Pradhan Mantri Suryodaya Yojana Overview:

- The Pradhan Mantri Suryodaya Yojana is a new initiative in India aimed at promoting rooftop solar power systems.
- The objective is to install solar power systems on 1 crore (10 million) houses across the country.
- Prime Minister Modi announced the scheme during the auspicious occasion of the consecration of life in Ayodhya.
- The scheme intends to not only reduce electricity bills for the poor and middle class but also contribute to India's goal of achieving energy self-reliance.

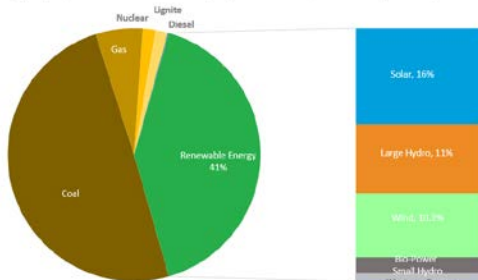
### India's Current Solar Capacity:

- As of August 2023, India's total solar power capacity has reached around 70.10 GW.
- The installed capacity for rooftop solar is approximately 10.4 GW as of November 2023.
- Solar power holds a significant share in India's overall renewable energy capacity, which stands at approximately 180 GW.

India - Cumulative Installed Power Capacity Mix (%)

MERCOM  
INDIA RESEARCH

renewables (including Large Hydro) comprise ~41% of India's total installed capacity, with solar accounting for ~13.6%. Among renewables, solar accounts for ~32% of the installed capacity



Data from CEA, Mercom India Solar Project Tracker (Installed Capacity as on 31 Mar 2023)

Source: Mercom India Research

### Importance of Expanding Solar Energy in India:

- India is expected to witness the largest energy demand growth globally over the next 30 years.
- To meet this demand and diversify the energy mix, India aims to achieve 500 GW of renewable energy capacity by 2030.
- Solar power capacity in the country has witnessed substantial growth, increasing from less than 10 MW in 2010 to 70.10 GW in 2023.

### Rooftop Solar Programme:

- Launched in 2014, the Rooftop Solar Programme focuses on expanding rooftop solar capacity in the residential sector.
- The program provides Central Financial Assistance and incentives to distribution companies (DISCOMs).
- The goal of the program is to increase rooftop solar installed capacity to 40 GW by March 2026.
- Currently in its second phase, the program has contributed to the growth from 1.8 GW in March 2019 to 10.4 GW in November 2023.

- Consumers can participate through DISCOM tendered projects or the National Portal ([www.solarrooftop.gov.in](http://www.solarrooftop.gov.in)).
- Consumers have the flexibility to choose vendors and equipment quality/efficiency.
- DISCOMs play a limited role, focusing on technical feasibility approval, net-meter installation, and system inspection.
- Subsidies are directly transferred to consumers' bank accounts after the installation and inspection of the solar power systems.
- Surplus solar power generated can be exported to the grid, and consumers receive monetary benefits based on prevailing regulations set by State Electricity Regulatory Commissions/Joint Electricity Regulatory Commission.

## BHISHM Cube

**Context:** The BHISHM Cube of Project Arogya Maitri, a cutting-edge mobile hospital deployed in Ayodhya, played a crucial role in saving the life of a 65-year-old individual through timely medical intervention.

### Project BHISHM:

- "Project BHISHM" stands for Bharat Health Initiative for Sahyog, Hita, and Maitri.
- It is a comprehensive initiative designed to provide rapid and comprehensive care for up to 200 casualties during emergencies.

### Arogya Maitri Disaster Management Cube:

- The Arogya Maitri Disaster Management Cube is a key component of Project BHISHM.
- It incorporates cutting-edge technology, including Artificial Intelligence (AI) and data analytics, for effective coordination and real-time monitoring.



### Rapid Deployment and Flexibility:

- The cube comprises 72 easily transportable components, allowing swift deployment within 12 minutes.
- It can be transported by hand, cycle, or drone, providing unparalleled flexibility.
- This capability is crucial for bridging the time gap from primary care to definitive care during emergencies.

### Features of the Aid Cube:

- Robust, waterproof, and lightweight design.
- Configurable for various emergency scenarios, from airdrops to ground transportation.

## Face to Face Centres

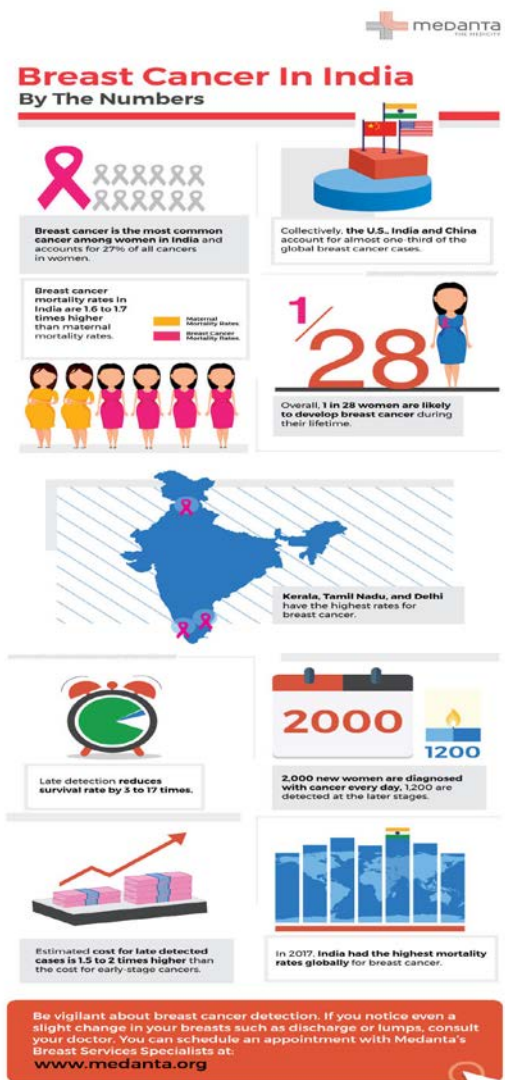




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- Advanced medical equipment RFID-tagged for efficient repacking and redeployment.
- Integration of state-of-the-art BHISHM software for quick item location and monitoring.
- **World's First Portable Disaster Hospital:**
  - Developed in India, the portable disaster hospital, comprising "mini-cubes," is hailed as the world's first.
  - Its readiness for global sharing is a significant milestone.
- **Lifesaving Capabilities:**
  - The portable hospital, part of Project BHISHMA, includes a fully equipped operation theatre, mini-ICUs, ventilators, blood-testing equipment, X-ray machine, and a cooking station for self-sufficiency.
  - Capable of handling various injuries, including bullet, burn, head, spinal, and chest injuries, fractures, and major bleeding.
- **Modular Setup:**
  - Life-saving equipment is packed in "mini-cubes" carried in an "Aarogya Maitri Cube Cage."
  - These cubes are used to set up a mobile hospital, offering flexibility in deployment based on space availability.
  - Two 'Aarogya Maitri' mother cubes combine to form a complete kit, ensuring water- and corrosion-proof storage.
- **Global Humanitarian Efforts:**
  - Under Project BHISHMA, India aims to provide critical medical supplies to developing countries facing natural disasters or humanitarian emergencies.
  - Deployments in Sri Lanka and Myanmar demonstrate India's commitment to global humanitarian efforts.
- **Future Considerations:** India is actively exploring deploying these mobile hospitals in remote tribal areas, showcasing the potential for broader applications in enhancing healthcare accessibility in challenging terrains.

- **National Cancer Registry Programme (NCRP):**
  - The data is derived from the National Cancer Registry Programme (NCRP), established by the Indian Council of Medical Research in 1981.
  - NCRP collects data through a network of 38 population-based cancer registries and 246 hospital-based cancer registries.
- **Largest Dataset on Childhood Cancers:**
  - The study, based on the largest dataset on childhood cancers in India, involves the analysis of 60,720 pediatric cancer cases.
  - Paediatric oncologists from various cancer facilities across the country contributed to data collation and analysis.



## Pediatric and Adolescent Cancer in India

**Context:** Leukemias dominated cancer cases in the 0-19 age group, as per a January 2024 study in the India Pediatric journal.

- **Cancer Cases in India (2012-2019):**
  - Between 2012 and 2019, India reported 1,332,207 cancer cases based on data from 96 hospital cancer registries.
  - 3.2% and 4.6% of these cases were in the age groups 0-14 years and 0-19 years, respectively.

**INDIA AMONG WORST HIT**

- In India, cancer is the **9th most common cause** for deaths among children between 5 & 14 years of age
- Over **82%** of children with cancer globally live in poorest countries
- Survival rate in low and middle income countries (LMIC) is around **35-40%**, against **80%** in high income countries
- Over **90%** of children at risk of having cancer live in LMIC
- Globally, in **2017**, about **11.5 million** years of healthy life was lost due to childhood cancer

Cancer in children around

**5%**

of total cancer burden in India

Globally,

**700**

children are diagnosed with cancer every day

- **Prevalence of Leukemias:**
  - Leukemias were the most prevalent type of cancer in the 0-19 age group, constituting nearly half of all cancers in the 0-4 and 5-9 year age groups.
  - Lymphoid leukemia, including acute lymphoblastic leukemia, was the most common type among children.

## Face to Face Centres





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- **Leading Cancers in 0-19 Age Group:** Among the 0-19 age group, the four leading cancers were leukemia (36%), lymphoma (12%), bone (11%), and central nervous system tumors (10%).
- **Gender Disparities:**
  - More males were diagnosed with lymphomas (15% vs. 8%), while more females were diagnosed with carcinomas (5% vs. 7%) and germ cells (2% vs. 4%).
  - The higher proportion of male children diagnosed with cancer in India is attributed to gender preferences and societal factors.
- **Global Disparities and CNS Tumors:**
  - Disparities in the distribution of CNS tumors were observed internationally, possibly due to differences in hospital referral practices and registry criteria.
  - Non-Hodgkin lymphomas increased with age, particularly in males, influenced by hormonal and biological changes.
- **Clinical Trials and Research Initiatives:**
  - The Indian Pediatric Oncology Group (InPOG) was established in 2015 to develop multicenter childhood cancer clinical trials.
  - In 2021, InPOG evolved into the Indian Pediatric Hematology Oncology Group (INPHOG) Research Foundation, aiming to increase access to multicenter clinical research.
- **Challenges in Pediatric Cancer Research:**
  - Low- and middle-income countries (LMICs) report 90% of the global pediatric cancer burden but receive less than 0.1% funding for research.
  - In India, the concept of multi-center trials in childhood cancer is relatively new, with efforts to increase participation and access to research studies.

## NEWS IN BETWEEN THE LINES

### Parakram Diwas



Today, the Prime Minister of India will participate in Parakram Diwas celebrations at Red Fort which will commemorate the legacy of Netaji Subhas Chandra Bose and the Azad Hind Fauj.

#### About Parakram Diwas:

- Parakram Diwas, **also known as Bravery Day**, is a national day in India celebrated on January 23rd.
- It **marks the birth anniversary of Netaji Subhash Chandra Bose**, a freedom fighter.
- The Indian government **introduced the day in 2021**, just before Bose's **125th birthday**.
- The day is a celebration of Bose's legacy and his unwavering commitment to freedom.
- The theme for Parakram Diwas 2024 is "**Netaji: The Inspiration for a New India**".
- The theme of Parakram Diwas 2023 was **Netaji Subhash Chandra Bose and his contribution to the freedom struggle**.
- During the programme, Prime Minister will also **launch Bharat Parv**, which will be held from 23rd to 31st January.

### Synopsys



Union Minister of State for Electronics and IT, Skill Development and Entrepreneurship, and Jal Shakti, will inaugurate Synopsys' Chip Design Centre at DLF Tech Park in Noida today.

#### About Synopsys:

- Established in **1986**, Synopsys widely commercialized logic synthesis, revolutionizing the creation of digital designs from language descriptions.
- It is the **second-largest design center in India**, with **27% of its global workforce**, emphasizes confidence in Indian design talent.
- It plays a pivotal global role, with its **Electronic Design Automation (EDA) and IP** solutions integral to the success of major semiconductor company
- It **contributes \$5.9 billion in revenue** and holds a leading position in EDA tools and IPs.
- Aligned with PM Modi's vision, Synopsys actively supports "**Design in India**" through initiatives like **SemiconIndia futureDESIGN** and Digital India Risk-V (**DIR-V**) Program.

### Kaziranga National Park and Tiger Reserve



Recently, a female rhino was poached in Kaziranga National Park and Tiger Reserve.

#### About Kaziranga National Park and Tiger Reserve:

- Kaziranga National Park and Tiger Reserve is situated in the **Golaghat and Nagaon** districts of the north-eastern state of **Assam**.
- It was formed in **1908** on the **recommendation of Mary Curzon** and **gained UNESCO World Heritage Site status in 1985**.
- It was declared a National Park in **1974**.
- It was declared as Tiger Reserve in **2006**.
- **Flora:** Kaziranga showcases four distinct types of vegetation due to variations in altitude, housing trees like **Kumbhi, Indian gooseberry**, cotton tree and **elephant apple**.
- **Fauna:** Besides the Indian rhinoceros, the park shelters **tigers, leopards, elephants, gibbons, sloth bears** and a multitude of migratory bird species.
- **River:** The **Diphlu River** also runs through the Kaziranga National Park in Assam.

## Face to Face Centres





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## Phytocannabinoids



Recently, the scientists at CSIR-Indian Institute of Integrative Medicine (IIIM), Jammu, have discovered that phytocannabinoids in the cannabis plant exhibit unexplored antibiotic properties.

### About Phytocannabinoids:

- Phytocannabinoids are **multi-ring phenolic compounds** that are structurally related to Tetrahydrocannabinol (THC).
- They can be found in other plants such as **rhododendron, licorice and liverwort**.
- They have the same mechanism of action as other cannabinoids, such as **Delta-9-tetrahydrocannabinol ( $\Delta^9$ -THC)**.
- However, they have a lower affinity for **CB1 receptors**, meaning that **much higher doses** are required to experience effects.
- Phytocannabinoids: Unraveling the **Complex Chemistry and Pharmacology of Cannabis Sativa** is a book that presents the current state of the art on phytocannabinoid chemistry and pharmacology.
- It was first published on January 24, 2017, and its editors include A. Douglas Kinghorn and Simon Gibbons.

## Place in News

### Zimbabwe

Recently, a research revealed that more than 160 elephants and countless other wildlife species died in Zimbabwe in the last two months of 2023 due to a climate change-induced drought that has hit the southern African region.



### Zimbabwe (Capital: Harare)

**Location:** Zimbabwe, a **landlocked** country is located in southern Africa.

**Boundaries:** Zimbabwe shares its border with **Mozambique (East)**, **Botswana (West and southwest)**, **Zambia (North)** and **South Africa (South)**.

### Physical Features:

- Victoria Falls**, one of the **world's largest waterfalls** on the **Zambezi River**, located on the border between Zambia and Zimbabwe.
- Zimbabwe has experienced two **major post-Gondwana erosion cycles** (known as **African** and **post-African**).
- Subtropical** type of climate is found in Zimbabwe.

## POINTS TO PONDER

- With which Union Ministry is the Serious Fraud Investigation Office (SFIO) associated, making recent headlines? - **Ministry of Corporate Affairs**
- Who authored the Tamil novel "Naanthaan Aurangzeb (Conversations with Aurangzeb)"? - **Charu Nivedita**
- Which country has recently signed an agreement with the United States for the purchase of Tomahawk missiles? - **Japan**
- Recently, which state initiated the 'My School-My Pride' campaign aimed at transforming education? - **Himachal Pradesh**
- In which state is the Sultanpur Bird Sanctuary, recently in the news, located? - **Haryana**

## Face to Face Centres

