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Current affairs summary for prelims

12 November 2024

$1.3 Trillion Hidden Cost of India's Agri-Food Systems

Context: A new report by the Food and Agriculture Organization (FAO) of the United Nations, State of Food and Agriculture 2024, reveals that the hidden costs of India's agri-food systems total $1.3 trillion annually, largely driven by unhealthy dietary patterns. These costs include health risks, environmental damage, and social inequality. India ranks third globally for hidden costs, after China ($1.8 trillion) and the United States ($1.4 trillion).

What Are Hidden Costs?

- **Definition:** Hidden costs refer to negative impacts that are not reflected in market prices. They include:
  - **Health Costs:** Expenses arising from diet-related diseases (e.g., heart disease, stroke, diabetes).
  - **Environmental Costs:** Damage caused by food production, including land degradation, greenhouse gas emissions, and water pollution.
- These costs are not borne by consumers directly but by society at large in the form of healthcare expenses, lost productivity, and environmental damage.

Key Drivers of India's Hidden Costs:

- **Dietary Risks and Unhealthy Patterns:**
  - High consumption of processed foods, sugars, salt, and unhealthy fats leads to non-communicable diseases (NCDs).
  - These diseases are a major burden on public health systems and contribute significantly to hidden costs.
- **Unhealthy diet:**
  - Overconsumption of Processed Foods: $128 billion annually (using 2020 purchasing power parity).
  - Low Consumption of Whole Plant Foods and Beneficial Fats: $846 billion annually, linked to inadequate intake of fruits, vegetables, and omega-3 fats.
- **Environmental Costs:**
  - Greenhouse gas emissions, nitrogen runoff, and land degradation resulting from fertilizer use and industrial food production practices.
  - Emissions from food and fertilizer production significantly contribute to hidden costs.

India's Hidden Costs Compared to Global Figures:

- **China:** $1.8 trillion
- **United States:** $1.4 trillion
- **India:** $1.3 trillion
- **Global Hidden Costs:** Total hidden costs of global agrifood systems are approximately $12 trillion annually, with 70% of these costs linked to unhealthy dietary patterns.

Recommendations for Policy and Action

To mitigate these staggering hidden costs, the FAO report recommends several key actions:

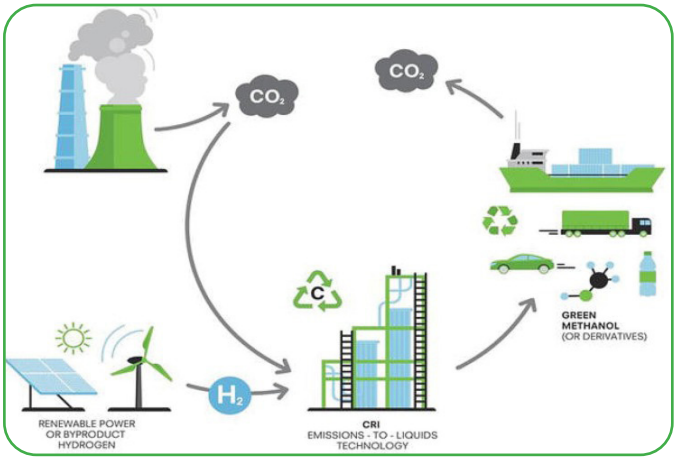
- **Value-Driven Transformation:** Agrifood systems need a transformation to become more sustainable, inclusive, and efficient. This requires incorporating true cost accounting to account for the broader societal and environmental impacts of food systems.
- **Incentives for Sustainable Practices:** Governments should offer financial and regulatory incentives to encourage the adoption of sustainable food production practices, such as reducing fertilizer overuse, promoting energy efficiency, and conserving resources.
- **Promotion of Healthier Diets:** Implement policies to make nutritious foods more affordable and accessible. Possible measures include:
  - Subsidies for healthy foods.
  - Taxes on sugary, processed foods.
  - Public health campaigns to raise awareness about the benefits of a plant-based diet.

World's First CO2-to- Methanol Conversion Plant

Context: Recently, NTPC Limited inaugurated the world's first CO_2-to-methanol conversion plant at its Vindhyachal power plant, located in Madhya Pradesh. This breakthrough project is a significant leap forward in both carbon management and sustainable fuel production, marking NTPC's commitment to addressing climate change and transitioning towards greener energy solutions.

A Global First in Carbon Capture and Fuel Production:

- The innovative plant at Vindhyachal is designed to capture carbon dioxide (CO_2) emitted from flue gases and convert it into methanol, a valuable fuel and industrial chemical. The process involves two key components:
  - **CO_2 Capture:** The plant captures 20 tonnes of CO_2 per day from the flue gases produced by the Vindhyachal power plant, which is India's largest coal-fired power station with a capacity of 4.8 GW.
  - **Hydrogen Production:** Using a proton exchange membrane (PEM) electrolyser, the plant generates hydrogen from water, which is essential for the conversion process.
  - **Methanol Synthesis:** The captured CO_2 is then combined with the hydrogen to produce 10 tonnes of methanol daily, which can be used as a sustainable fuel source for various applications, including in transportation, industry, and chemical production.



Contributing to India's Net-Zero Ambitions:

- NTPC's CO_2-to-methanol conversion initiative aligns with India's broader climate goals under the Paris Agreement and its ambition to reach net-zero greenhouse gas emissions by 2070. As a leading power producer, NTPC plays a crucial role in India's energy transition, and this project demonstrates the company's efforts to lead by example in green technology and carbon reduction.

About NTPC Limited:

- NTPC Limited, formerly known as National Thermal Power Corporation, is a state-owned public sector enterprise under the Ministry of Power of the Government of India. Established on November 7, 1975, NTPC has grown to become India's largest power generation company, playing a crucial role in the country's energy infrastructure and economic development.
- The company's headquarters are situated in New Delhi, and it operates with a mission to provide reliable and affordable power to support India's growth while addressing environmental sustainability.

NTPC's Role in India's Energy Transition:

- NTPC's focus on sustainability extends beyond its CO_2-to-methanol plant. The company is making major strides in renewable energy, with a 60 GW renewable capacity target by 2032, and it has made substantial progress in the hydrogen energy space.

The 1st Global Ministerial Conference on Ending Violence Against Children

Context: The 1st Global Ministerial Conference on Ending Violence Against Children was held from November 7 to 8, 2024, in Bogotá, Colombia, with a central aim to combat the widespread abuse children face globally. The conference focused on the alarming statistic that 1 billion children, or roughly half of all children, experience physical, emotional, or sexual abuse every year.

Hosts the Conference:

- Governments of Colombia and Sweden hosted the event, with support from key international organizations:
  - World Health Organization (WHO)
  - UNICEF
  - UN Special Representative of the Secretary-General on Ending Violence Against Children

Key Objectives of the Conference:

- **Revitalize Country Commitments:** Reinforce national commitments to end violence against children through frameworks like INSPIRE and the Pathfinding initiative.
- **Launch a Child/Youth-Led Movement:** Launch a child/youth-led movement to raise awareness and advocate for policies to prevent child violence.

- **Adopt a Political Declaration:** Adoption of a globally negotiated Political Declaration, committing governments to actions that prevent and respond to violence against children.

Indian Official Meets Afghan Defence Minister, Offers Use of Chabahar Port to Enhance Trade

Context: In a diplomatic and economic move, an Indian delegation, led by J P Singh, Joint Secretary for the Pakistan-Afghanistan-Iran division in the Ministry of External Affairs (MEA), met with Afghanistan's acting Defence Minister Mullah Mohammad Yaqoob and other senior Afghan leaders in Kabul.

Key Details of the Meeting:

- **Offer of Chabahar Port:**
  - » India offered Afghan businesses access to Chabahar Port, a strategically important deep-water port in Iran, developed and operated by India.
  - » Chabahar Port is a key gateway for trade between India, Afghanistan, and Central Asia, bypassing Pakistan, thereby enhancing Afghanistan's access to global markets and facilitating imports and exports.
- **Focus on Humanitarian Assistance:**
  - » India's ongoing humanitarian assistance will continue to Afghanistan, despite the political challenges presented by the Taliban.
  - » India has consistently provided wheat, medicines, and medical supplies to Afghan people.

India's Diplomatic Stance:

- India does not recognize the Taliban regime, which took control of Afghanistan in August 2021. However, it has maintained a functional diplomatic presence in Kabul.
- India's embassy in Kabul remains operational, and a technical team has been stationed since June 2022 to manage humanitarian efforts effectively.

Chabahar Port's Importance to Afghanistan:

- Chabahar Port, located in Iran's Sistan-Baluchestan province, is central to India's strategy to strengthen ties with Afghanistan and Central Asia.
- Developed by India as part of a $500 million investment, Chabahar provides Afghanistan with an alternative route to the sea, bypassing Pakistan.
- It enables the transportation of Afghan goods to international markets, including exports like minerals, agricultural products, and handicrafts. It is also vital for energy supplies to Afghanistan and Central Asia.

Diplomatic Relations between India and Afghanistan:

- **Historical Context:**
  - » India recognized the Soviet-backed Democratic Republic of Afghanistan in the 1980s and maintained diplomatic ties.
  - » Relations weakened during the 1990s Afghan civil war and the Taliban government.
- **Post-2001 Developments:**
  - » After the US-led invasion of Afghanistan in 2001, India established diplomatic relations with the newly formed democratic government.
  - » India provided aid and reconstruction support to Afghanistan in the years following.

Recent Developments in India-Afghanistan Relations:

- **Embassy Reopening:** In 2022, India reopened its embassy in Kabul, which had been closed following the

Taliban takeover in August 2021.

- **Humanitarian Aid:** India has continued its humanitarian efforts, providing 500,000 Covid vaccine doses and 2,500 MT of wheat to help Afghanistan during the crisis.
- **Infrastructure Development:** India has been involved in several infrastructure projects in Afghanistan, including the construction of:
  - » Salma Dam
  - » Afghan Parliament building
  - » These projects are part of India's ongoing support for Afghanistan's reconstruction and development.
- **Economic Cooperation:** To facilitate bilateral trade, India and Afghanistan have established two air corridors to enhance economic ties and ensure the smooth transport of goods between the two countries.

Power Packed News

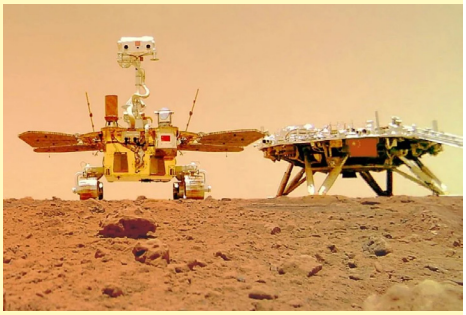
Justice Sanjiv Khanna sworn in as the 51st Chief Justice of India

- Justice Sanjiv Khanna was recently sworn in as the 51st Chief Justice of India at Rashtrapati Bhavan.
- President Draupadi Murmu presided over the swearing-in ceremony, officially administering the oath of office to Justice Khanna, who succeeded Justice Dhananjaya Yashwant Chandrachud. Justice Chandrachud concluded his tenure on November 10, following a distinguished career on the Supreme Court bench.

- Justice Khanna's appointment as Chief Justice was confirmed by a formal notification from the Government of India, and he will hold the position for a term of six months.
- Justice Khanna began his legal career in 1983 as an advocate registered with the Delhi Bar Council. His judicial journey continued with his appointment as an additional judge of the Delhi High Court in 2005, where he was made a permanent judge by 2006. In January 2019, he was elevated to the Supreme Court, where he served until his current appointment.

Zhurong Rover

- China's Zhurong rover, part of the Tianwen-1 mission, has provided evidence that Mars once harbored an ocean billions of years ago. The rover, which landed in Mars' Utopia Planitia in 2021, discovered geological features such as sediment channels, troughs, and mud volcanoes, suggesting the presence of an ancient coastline.



- Combined with data from NASA's Mars Reconnaissance Orbiter, the findings point to an ocean existing around 3.68 billion years ago, which likely froze in its later stages.
- The study supports the theory of varying marine environments on early Mars, raising the possibility that microbial life could have existed. The ocean is believed to have vanished by approximately 3.42 billion years ago, as Mars transitioned from a potentially habitable planet to a cold, dry world.
- This discovery offers new insights into Mars' water history and its potential for past life. It also deepens the mystery of what happened to the planet's water, with other studies suggesting large reservoirs of liquid water may still exist deep beneath the Martian surface.

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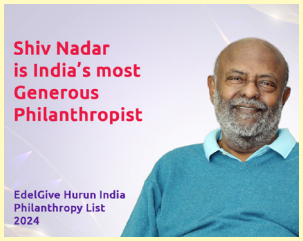
Shiv Nadar topped the Hurun India Philanthropy List 2024

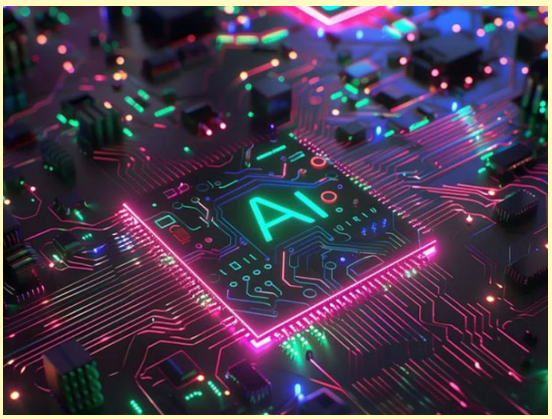
- Shiv Nadar, the founder of HCL Technologies, has topped the Hurun India Philanthropy List 2024 with a remarkable ₹2,153 crore donation. The list, which recognizes India's most generous philanthropists, places Mukesh Ambani and his family in second place with a contribution of ₹407 crore. The Bajaj family follows closely in third, donating ₹352 crore.



- Krishna Chivukula, a new entrant, has become the most generous individual on the list, with a donation of ₹228 crore. The Adani Group rounds out the top five, with a philanthropic contribution of ₹330 crore.
- Among women philanthropists, Rohini Nilekani leads the top 10 with a donation of ₹154 crore. Additionally, Nikhil Kamath, co-founder of Zerodha, stands out as the youngest philanthropist, contributing ₹120 crore to the Rainmatter Foundation.
- The Hurun India Philanthropy List highlights the increasing trend of corporate and individual contributions toward societal welfare, underscoring the role of philanthropy in addressing India's pressing challenges.

Gujarat Becomes the First State in India with Dedicated Semiconductor Policy

- Gujarat has become the first state in India to implement a dedicated semiconductor policy with the introduction of the Gujarat Semiconductor Policy 2022-2027. The policy aims to establish Gujarat as a leader in semiconductor self-reliance, driving advancements in the sector.



- A key milestone in this initiative was the laying of the foundation stone for Micron's advanced semiconductor assembly, test, mark, and pack (ATMP) plant in Sanand, by Chief Minister Bhupendra Patel.
- Additionally, Tata Electronics, in collaboration with Taiwan's Powerchip Semiconductor Manufacturing Corporation (PSMC), is setting up India's first AI-enabled semiconductor fabrication facility in Dholera's 'Semicon City'.
- The policy includes significant incentives such as a 100% one-time refund on stamp duty and registration fees, a ₹2 per unit electricity subsidy, and a ₹12 per cubic metre water rate.
- Dholera, envisioned as India's first Greenfield Smart City, is also being developed with a 75% land acquisition subsidy for semiconductor units.