

# JULY 3RD WEEK CA COMPILATION

## 1. NITI Aayog's Analysis of Implications of US Tariff on India Trade

- » The recent imposition of reciprocal tariffs by the United States on countries such as China, Mexico, and Canada has generated both challenges and opportunities in the global trade landscape. Although **India was not directly targeted**, **NITI Aayog's analysis highlights significant implications for India's trade policy and export competitiveness.**
- » According to NITI Aayog, **the direct impact of U.S. tariffs on India is limited**, owing to India's relatively **lower dependence on the U.S. for imports and exports**. However, India stands to benefit from the **trade diversion effect**, as higher tariffs on competing nations open up space for Indian goods in the U.S. market.
- » India has gained a competitive edge in over **22 of the top 30 HS-2 product categories**, including **pharmaceuticals, textiles, electronics, automobile components**. These sectors are poised to capture greater market share as global companies seek to **diversify supply chains under the China+1 strategy**.
- » At the same time, **concerns persist in agriculture**. Exports of rice could face higher duties, **impacting India's farm-based exports**.
- » In response, NITI Aayog has proposed a **dual-track strategy: lowering tariffs on select U.S. farm imports while securing better access for Indian exports**.
- » This strategic window offers India an opportunity to **strengthen its export ecosystem, enhance bilateral ties with the U.S., and align with broader goals of Atmanirbhar Bharat**.
- » However, realizing these **benefits requires agile trade negotiations and supportive domestic reforms to boost manufacturing and competitiveness**.



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## 2. Need to Increase the Setup Rate of Global Capability Centers (GCCs) in India

### What are GCC

GCCs are a cornerstone of India's evolving **knowledge-based economy**. They:

- » Create **high-value employment** opportunities for skilled youth,
- » Facilitate **technology transfer** and innovation,
- » Develop **digital capabilities** in emerging sectors like **AI, machine learning, cloud computing, and cybersecurity**,
- » Help **retain top talent** within the country, thereby reducing brain drain.



### Impact of GCC

It is a strategic step toward building a **resilient, innovation-driven economy**. It aligns with national visions such as **Digital India, Startup India, and Viksit Bharat@2047**, and can ensure **inclusive, sustainable, and tech-led development**.



### Strategic Opportunity Under 'China+1'

With growing global concerns about **supply chain vulnerabilities** and over-reliance on China, India is well-positioned to benefit from the **"China+1" diversification strategy**. By increasing the rate of GCC setups, India can become a **preferred hub** for high-end services and innovation across sectors such as:

- » **Fintech**
- » **Biotechnology and healthcare**
- » **Semiconductor design**
- » **Green technologies**



This strategic shift can embed India more deeply into global corporate and innovation ecosystems.

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## Regional Growth and Balanced Development

States like **Telangana, Karnataka, and Tamil Nadu** have successfully attracted GCCs by offering:

- » Robust **infrastructure**,
- » Progressive **industrial policies**, and
- » A rich **talent pool**.

Expanding this success to **Tier-2 and Tier-3 cities** will help:

- » Reduce **regional disparities**,
- » Decongest metro cities, and
- » Drive **inclusive and balanced growth**.

## Challenges to Address

Despite its advantages, India faces key obstacles that need urgent attention:

- » **Policy uncertainty** and regulatory red tape,
- » **Digital infrastructure gaps**, especially in non-metro regions,
- » **Talent-skill mismatches**,
- » Delays in **land acquisition** and approvals.



## 3.UN- 2025 SDGR

The **UN SDG Report 2025**, released by the Sustainable Development Solutions Network (SDSN), offers a mid-term appraisal of global and regional progress towards inclusive development that “**leaves no one behind**.”

## Global Progress: Uneven and Alarming

The 2025 SDG Report paints a sobering picture. While notable progress has been made in areas like **access to electricity, clean cooking, and internet connectivity**, overall performance remains off-track. Only **17% of SDG targets** are likely to be achieved by 2030. A staggering **half of the targets** are progressing too slowly, while **18% are regressing**, especially those related to **hunger, education, gender equality, and climate action**.



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**Multiple global shocks have contributed to this slowdown:**

- » **COVID-19 pandemic** disrupted healthcare and education systems.
- » **Geopolitical conflicts** (e.g., Ukraine war, Gaza crisis) strained multilateral cooperation.
- » **Climate change** led to increased disasters, food insecurity, and displacement.
- » **Rising debt burdens** in low- and middle-income countries constrained development finance.



## India's Performance: A Mixed Yet Promising Outlook

India, home to nearly one-sixth of humanity, plays a critical role in the global SDG journey. According to the 2025 report:

- » India has climbed to the **99th rank out of 167 countries**, marking its **first entry into the top 100**.
- » Its SDG score improved to **67/100**, reflecting steady efforts across health, energy, and employment sectors.
- » **Strong performance** is seen in SDG 3 (Health), SDG 6 (Water and Sanitation), SDG 7 (Clean Energy), and SDG 8 (Decent Work).
- » However, **nine out of the sixteen tracked SDGs** show stagnation or regression—particularly in SDG 2 (Zero Hunger), SDG 4 (Quality Education), SDG 10 (Reduced Inequalities), and SDG 13 (Climate Action).



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## 4. 10 Years of Skill India Mission: Building a Skilled and Empowered Bharat

- » The **Skill India Mission** was envisioned as a transformational initiative to harness India's **demographic dividend** by empowering the youth with employable skills.
- » As the mission completes a decade in 2025, it is time to reflect on its achievements, challenges, and way forward in shaping an **Atmanirbhar Bharat** and achieving the goals of **Viksit Bharat @2047**.

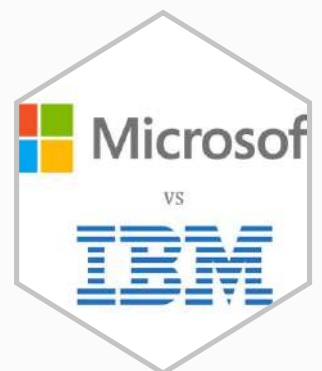
### Vision and Objectives of Skill India

The Skill India Mission was launched with the motto "**Kaushal Bharat, Kushal Bharat**", with the goal of training over **40 crore people** by 2022 across various sectors. Its core components include:

- » **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)**
- » **National Skill Development Mission (NSDM)**
- » **Skill Loan Scheme**
- » **Recognition of Prior Learning (RPL)**
- » Formation of **Sector Skill Councils (SSCs)** and alignment with **industry needs**

### Achievements Over the Decade of the Skill India Mission

- » Trained over **1.4 crore youth** under PMKVY across 37 sectors.
- » Issued nearly **60 lakh certifications** through Recognition of Prior Learning (RPL).
- » Established **12,000+ training centers** and **300+ Jan Shikshan Sansthan**s nationwide.
- » Increased **women's participation** to over 40% in short-term training programs.
- » Included marginalized groups like **SC/STs, minorities, and PwDs**.
- » Set up **Skill India International Centres** for global workforce readiness.
- » Launched **Skill Hubs** under PM SHRI schools and Samagra Shiksha Abhiyan.
- » Vocational training emphasized from **Grade 6** as per National Education Policy 2020.
- » Rolled out digital initiatives like **Skill India Digital Platform** and partnered with **Coursera, Microsoft, IBM**.
- » Introduced training in future skills such as **AI, robotics, drones, and cybersecurity**.



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## 5. Babies Born After Mitochondrial Donation Treatment

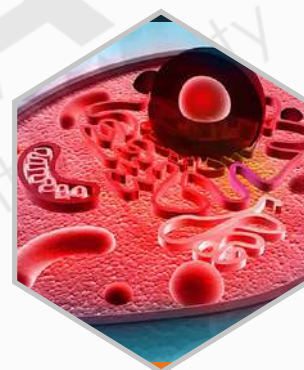
- » The birth of babies through mitochondrial donation treatment (MDT), also popularly known as “three-parent babies.”
- » This advanced in-vitro fertilization (IVF) technique has allowed women with severe mitochondrial diseases to bear healthy, genetically related children.
- » While the technology promises relief to countless families, it also raises complex ethical, legal, and societal questions.
- » As science advances faster than regulation and ethics can adapt, MDT sits at the crossroads of hope and controversy.



### What is Mitochondrial Donation Treatment

Mitochondrial DNA (mtDNA) is inherited exclusively from the mother and plays a vital role in cellular energy production. Mutations in mtDNA can lead to devastating diseases affecting organs like the brain, heart, and muscles.

Mitochondrial donation involves replacing the faulty mitochondria in an egg or embryo with healthy mitochondria from a donor woman. This results in a child with nuclear DNA from both parents and mitochondrial DNA from a third person. Techniques include:



- » **Spindle transfer (before fertilization)**
- » **Pronuclear transfer (after fertilization)**

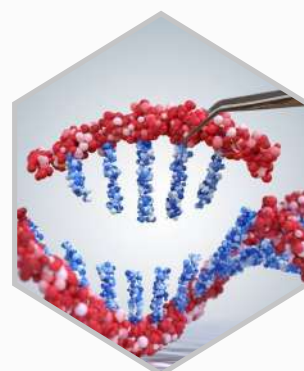
### Ethical Dimensions and Controversy

#### 1. “Three-Parent” Genetics: Identity and Ancestry

While the donor contributes only ~0.1% of total DNA, the concept of a child having three genetic contributors challenges conventional definitions of parenthood, lineage, and identity.

#### 2. Germline Modification

Since mitochondrial changes are heritable, any modification affects not just the child but future generations. This opens the door to **germline engineering**, raising concerns about long-term consequences and the slippery slope toward designer babies.



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## 3. Consent and Autonomy

It challenges principles of autonomy and the ethics of imposing permanent genetic changes.

### India's Position: Challenges and Opportunities

India, with its significant burden of genetic diseases, must:

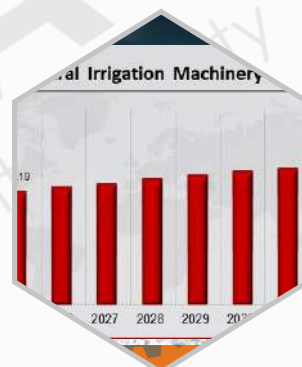
- » **Develop a robust legal and ethical framework**
- » **Invest in genomic medicine and IVF infrastructure**
- » **Create awareness** among patients and providers
- » **Balance innovation with bioethics**

Given India's cultural sensitivity and ethical diversity, any move toward MDT must be backed by public dialogue and expert consensus.



## 6. Agriculture Outlook Report 2025

- » The **OECD-FAO Agricultural Outlook 2025–2034** offers a **comprehensive medium-term forecast of global agricultural, fish, and biofuel markets.**
- » The report serves as a critical policy tool guiding strategic planning in agriculture and food systems globally.



### Key Findings of The Report

#### 1. Global Demand and Consumption Trends

Global consumption of agriculture and fish products is expected to increase by **13% by 2034**, with growth concentrated in **low- and middle-income countries.**

#### 2. Production Potential and Regional Shifts

**Global agricultural and fish production** will grow by **14%**, largely due to **productivity gains** and moderate expansion of farmland and livestock. **Asia-Pacific**, especially **India** along with **Southeast Asia, Latin America, and Sub-Saharan Africa**, will lead output growth. In contrast, **North America** and **Europe** will see slower expansion due to resource limits and regulations



#### 3. Crops, Biofuels, and Livestock Trends

**Cereal output** will grow by 1.1% annually, driven by yield improvements and minimal land expansion. Livestock and fish production/consumption will increase, particularly in India,

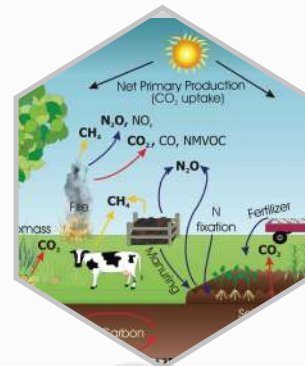


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**Southeast Asia**, and **Africa**, due to dietary transitions toward more protein-rich foods.

## 4. Environmental Impacts: Climate and Emissions

**Agricultural GHG emissions** will increase by **6%**, despite improved carbon efficiency, due to larger herds and more cropping land. Achieving **zero undernourishment** and **7% emission reduction** would require a **10% rise in production** and **15% productivity boost**, along with adoption of **climate-smart practices** like precision farming and intercropping.



## 5. Trade, Prices, and Economic Implications

**Commodity prices** are projected to **decline slightly** in real terms, pressuring **smallholder farmers**, who will need better **technology access, credit**, and insurance to stay viable.

## Challenges and Policy Imperatives

- » **Nutritional gaps** remain severe in low-income regions, threatening SDG goals.
- » Policies must promote **climate-smart agriculture** and support **low-productivity regions** in scaling sustainable methods.
- » A strong, **rules-based global trade system** is critical for balancing surpluses, stabilizing prices, and ensuring **food security**.



## 7. Global Wetland Outlook 2025

The *Global Wetland Outlook 2025*, released by the Secretariat of the Ramsar Convention, offers a comprehensive assessment of the status, trajectory, and value of wetlands globally.

### Status and Trends of Global Wetlands

• **411 million hectares (22%)** of wetlands lost since 1970.

• Wetlands are declining at **0.52% annually**, making them the **fastest-shrinking ecosystem**.

• **25% of remaining wetlands** are in **poor ecological health**, especially in **Africa, Latin America, Caribbean**.

• Degradation is also **accelerating in Europe, North America, and Oceania**.



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## II. Ecosystem Services and Economic Value

- » Wetlands cover only **6% of Earth's surface** but provide **USD 39 trillion in ecosystem services—7.5% of global GDP**.
- » **African wetlands** alone contribute **USD 826 billion** biannually to regional economies.
- » Services include **flood control, water purification, climate regulation, and biodiversity support**.



## III. Drivers of Wetland Loss and Degradation

- » **Main causes:** land-use change due to **agriculture, urbanization, and infrastructure**.
- » **Region-specific threats:**
  - o **Invasive species** in North America and Oceania.
  - o **Drought and climate variability** in Europe.
- » **Climate change impacts:** sea-level rise, flooding, coral bleaching, and shifting hydrology affect sensitive ecosystems like **Arctic and mountain wetlands**.

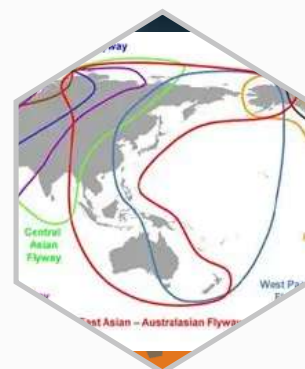


## IV. Wetlands and Climate Interactions

- » **Mangroves** sequester carbon **55 times faster** than tropical forests.
- » **Peatlands**, only **3% of land area**, store **~30% of terrestrial carbon**.
- » However, wetlands emit **20–30% of global methane**, making them a **key climate variable**.

## V. Global and Regional Case Studies

- » **Zambia's Kafue Flats:** Restoration funding grew from **USD 300,000 to USD 1 million/year**, sustaining communities and biodiversity.
- » **East Asian–Australasian Flyway:** **USD 3 billion** invested to restore **140+ wetlands**, benefiting **~200 million people** and migratory birds.



## VI. Pathways for Recovery & Policy Imperatives

1. **Value wetlands in policy:** Treat as **natural infrastructure**.
2. Recognize wetlands as **core to the water cycle**.

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**3.Link wetlands to green financing:** carbon markets, resilience bonds.

**4.Mobilize public-private investment** and empower **local communities**.

### VII. Investment Needs & Institutional Gaps

» **USD 275–550 billion/year** needed for effective wetland conservation and restoration.

» Current biodiversity funding is just **0.25% of global GDP**—grossly insufficient.



## 8. Urban Wind Stilling Effect

The **Urban Wind Stilling Effect** refers to a **significant decline in near-surface wind speeds** in urban areas over time. This phenomenon is observed due to urbanization altering surface roughness and thermal properties of the land.

### Causes of Wind Stilling in Urban Areas

#### 1.Increased Surface Roughness:

- o Skyscrapers, high-rise buildings, and dense construction obstruct wind flow.
- o Buildings act as physical barriers, slowing down **horizontal wind movement**.

#### 2.Urban Heat Island (UHI) Effect:

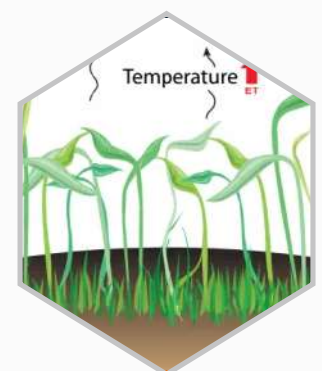
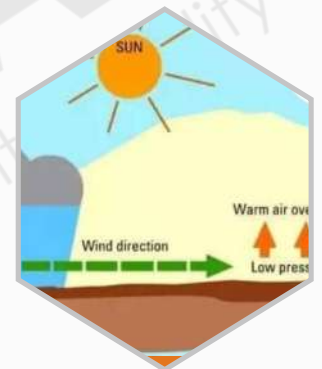
- o Higher surface temperatures in cities **reduce temperature gradients**, which in turn lowers the **pressure gradient force**, a key driver of wind.

#### 3.Loss of Vegetation and Open Spaces:

- o Trees and open land help maintain airflow and moisture cycles.
- o Their reduction leads to **lower evapotranspiration**, impacting local convection currents.

#### 4.Atmospheric Stability:

- o More stable atmospheric conditions in urban zones reduce **vertical air mixing**, further decreasing wind activity near the ground.



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## Impacts of Urban Wind Stilling

### 1. Air Pollution Accumulation:

- o Weaker winds **limit the dispersion of pollutants**, increasing the risk of smog and respiratory diseases.

### 2. Reduced Cooling Potential:

- o Lower wind speeds **reduce natural ventilation**, intensifying the **urban heat island** and increasing reliance on artificial cooling.

### 3. Energy Efficiency Issues:

- o Stagnant air increases **cooling energy demand**, affecting urban sustainability.

### 4. Impact on Renewable Energy:

- o Wind stilling **lowers the efficiency of wind turbines** in or near urban settings.

### 5. Microclimate Changes:

Alters local weather patterns, precipitation, and humidity levels.

## Global and Indian Context

- » Studies have shown a **global decline in terrestrial wind speeds** since the 1970s, attributed partly to urbanization.
- » Indian cities like **Delhi, Mumbai, and Bengaluru** also exhibit signs of wind stilling due to **rapid vertical urban growth**.

## Policy Relevance and Way Forward

### 1. Urban Planning Regulations:

- o Design **ventilation corridors** to allow air passage.
- o Limit uncontrolled vertical expansion and **encourage low-rise, dispersed layouts**.

### 2. Green Infrastructure:

- o Increase **urban green cover** and open spaces for better air circulation.

### 3. Monitoring and Modeling:

- o Integrate wind stilling data into **urban climate models and disaster management** plans.

### 4. Energy Policy Alignment:

- o Plan urban **wind and solar energy** projects accounting for reduced wind speeds.

