

## Daily Editorial Analysis 20 August 2025

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### A Tribute to M.S. Swaminathan, 'The Man Who Fed India'

#### Context

- **The vision of Viksit Bharat**, a developed India, **rests heavily on building robust scientific capabilities**, especially in the rapidly expanding digital economy.
- Achieving this aspiration will require **self-reliance (aatmanirbharta) in key sectors, just as India achieved food self-sufficiency during the Green Revolution** of the 1960s.
- At the heart of that transformative moment stood M.S. Swaminathan, **a scientist whose work changed India's destiny**.
- As Priyambada Jayakumar's recent biography, M.S. Swaminathan: **The Man Who Fed India**, highlights, **his career offers timeless lessons not only for agriculture but also for the future of scientific advancement in India**.

#### The Central Theme of Swaminathan's Journey: Science as a Collaborative Endeavour

- A central insight from Swaminathan's journey is that **science thrives on collaboration, not isolation**.
- The breakthrough that launched the **Green Revolution did not come solely from laboratory research** but from openness to international exchange of ideas.
- **Swaminathan's engagement with Norman Borlaug in Mexico**, and his willingness to adapt foreign innovations to Indian conditions, **exemplify how progress emerges from global scientific networks**.
- However, **his struggles with bureaucratic delays in securing Borlaug's visit to India also expose the pitfalls** of excessive administrative control.
- If the Green Revolution had begun even two years earlier, **India could have avoided deeper food crises**.
- The **lesson for Viksit Bharat is clear: Indian scientists must have greater freedom to interact internationally**, attend conferences, and build personal collaborations without being hampered by red tape.

#### Factors Contributed to Green Revolution's Success

- **Political Leadership and Scientific Listening**
  - Another crucial factor in the Green Revolution's success was **political leadership that valued scientific expertise**.

- Leaders like **Lal Bahadur Shastri and C. Subramaniam** created the **enabling environment** for Swaminathan's work.
- **Subramaniam, with his own scientific training, recognised the importance of providing resources for field trials** when bureaucrats were hesitant.
- This highlights a broader principle: **in complex technical domains, politicians must listen directly to scientists** rather than relying solely on bureaucratic intermediaries.
- Countries such as China, where many ministers are technically trained, illustrate **the value of scientifically literate leadership**.
- For India to achieve Viksit Bharat, **it must cultivate decision-makers who understand and prioritise science**, both at the central and state levels.

## • **Balancing Innovation with Scepticism**

- The **rollout of the Green Revolution required bold political decisions** amidst scepticism.
- The **massive import of 18,000 tonnes of seeds was opposed by the Finance Ministry**, the Planning Commission, and ideological critics wary of U.S. influence.
- **Shastri resolved these conflicts not by waiting for consensus** but by personally examining the scientific evidence.
- This underlines the **importance of leadership willing to take risks on innovative ideas** while ensuring accountability through independent monitoring.
- The **eventual success of the Green Revolution** demonstrated how decisive backing of new technologies can yield **transformative outcomes**.

## **Sustainability and Future Challenges**

- While the Green Revolution solved India's food crisis, it **also produced unintended consequences**, overuse of water, fertilizers, and environmental degradation.
- **Swaminathan himself warned of these risks** and advocated for evergreen revolution approaches to make agriculture sustainable.
- Unfortunately, **many of these corrective measures remain unimplemented**. Today, the challenge of climate change threatens to reverse gains in agricultural productivity.
- **Science, once again, will be central to solutions**, but India lags in agricultural research. While China has eight institutions among the world's top ten, India has none in the top 200.
- **Inadequate funding, limited institutional autonomy**, and weak governance structures **undermine India's research capacity**.
- **Bridging these gaps is essential** if India is to confront the agricultural challenges of the future.

## **The Broader Relevance of Swaminathan's Story: Extending the Lessons Beyond Agriculture**

- **Reduced bureaucratic barriers** so that scientists can collaborate globally.
- **Scientifically informed leadership** that listens to experts and supports research with resources.

- **Courageous decision-making** that embraces innovation despite risks, coupled with mechanisms for accountability.
- **Sustainable practices** that balance short-term gains with long-term resilience.
- **Strengthening research ecosystems** through funding, autonomy, and recognition of merit.

## Conclusion

- **S. Swaminathan's life reminds us that science, politics, and leadership must work hand in hand** to achieve national transformation.
- Just as his vision of food self-sufficiency reshaped India's destiny in the 1960s, **today's vision of Viksit Bharat will depend on harbouring a culture of scientific excellence, collaboration,** and sustainability.
- **Honouring Swaminathan's legacy means more than celebrating his past achievements,** it means applying his lessons to secure India's future.

## A Tribute to M.S. Swaminathan, 'The Man Who Fed India' FAQs

**Q1.** What was the key factor behind the success of the Green Revolution in India?

**Ans.** The success of the Green Revolution came from scientific collaboration, particularly M.S. Swaminathan's engagement with Norman Borlaug and the adaptation of Mexican wheat varieties to Indian conditions.

**Q2.** How did political leadership contribute to the Green Revolution?

**Ans.** Leaders like Lal Bahadur Shastri and C. Subramaniam supported scientific ideas, provided resources, and made bold decisions despite bureaucratic resistance.

**Q3.** What lesson does Swaminathan's experience teach about bureaucracy?

**Ans.** It shows that excessive bureaucratic control delays progress, and scientists need greater freedom to collaborate internationally.

**Q4.** What were some negative consequences of the Green Revolution?

**Ans.** Overuse of water and fertilizers led to environmental problems, highlighting the need for more sustainable farming practices.

**Q5.** Why is strengthening research institutions important for Viksit Bharat?

**Ans.** Stronger research institutions with adequate funding and autonomy are essential to develop scientific solutions for future challenges like climate change.

**Source:** [The Hindu](#)

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## India's Climate Taxonomy: From Policy to Practice

### Context:

- In May 2025, the Ministry of Finance released India's draft Climate Finance Taxonomy for consultation.

- The taxonomy aims to channel **climate-aligned investments**, **reduce greenwashing**, and **guide investors** on which sectors and technologies support mitigation, adaptation, or transition.
- It positions itself as a “living” framework, meant to evolve with India’s shifting priorities and global obligations.
- However, its effectiveness as a governance tool will depend on how well this adaptability is translated into practice.
- In this context, this article explores the need for a review architecture, the substantive aspects of ensuring legal and content clarity and institutional mechanisms for accountability.

## Review Architecture for India’s Climate Finance Taxonomy

- A structured review system is essential for India’s climate finance taxonomy to ensure investor confidence, legal clarity, and global alignment.
- Drawing inspiration from the **Paris Agreement’s Article 6.4 Supervisory Body**, the framework should function on two levels.
  - **Annual Reviews**
    - These would address **short-term implementation gaps**, evolving obligations, policy changes, and stakeholder feedback.
    - They must follow a predictable process with fixed timelines, documentation standards, and mandatory public consultations.
  - **Five-Year Reviews**
    - A deeper reassessment every five years would evaluate the taxonomy against global carbon market trends, evolving definitions of climate finance, and India’s sectoral transitions.
    - This aligns with India’s Nationally Determined Contributions (NDC) cycle and the global stocktake under the UNFCCC.
  - Together, these periodic and recurring reviews would make the taxonomy both responsive in the short term and resilient in the long run.

## Substantive Aspects of Reviewing India’s Climate Taxonomy

- A meaningful review of India’s climate finance taxonomy must focus on legal coherence and substantive clarity.
- **Legal Coherence**
  - The review should ensure alignment with Indian laws like the Energy Conservation Act, SEBI regulations, and the Carbon Credit Trading Scheme, while harmonising with international obligations.
  - It must address enforceability, remove redundancies, clarify overlaps, and synchronise with related fiscal tools such as green bonds, blended finance, and risk disclosures.
- **Content Clarity**
  - The taxonomy should remain clear, readable, and technically accurate.
  - Definitions must evolve with market standards and be accessible to both experts and non-experts.
  - Quantitative thresholds like emission reduction targets or efficiency benchmarks should be updated using data and stakeholder feedback.

- The review should also focus on inclusivity by ensuring accessibility for MSMEs, the informal sector, and vulnerable communities, with simplified entry points, phased compliance, and realistic expectations — particularly in agriculture and small manufacturing — to support India’s net-zero pathway.

## Institutionalising Accountability in India’s Climate Taxonomy

- To ensure effective and transparent reviews, the Ministry of Finance should establish a **dedicated unit** within the Department of Economic Affairs.
- **Public dashboards** can be introduced to collect inputs, record implementation challenges, and publish review reports, ensuring both predictability and transparency.
- Annual summaries and five-year revision proposals should be **made public** in a consolidated format to enhance investor confidence and accessibility.
- This will also enable better alignment with parallel frameworks like India’s carbon market, green bond mechanisms, and disclosure obligations.

## Conclusion

- The taxonomy rollout coincides with key shifts in India’s climate finance ecosystem.
- This includes – the **operationalisation of the Carbon Credit Trading Scheme, mainstreaming of green bonds**, and **rising demand to align public investments** with long-term climate goals.
- A weak or opaque taxonomy risks undermining these developments.
- Ultimately, the taxonomy must function as a true “living document” — kept relevant through active review, transparent revision, and structured engagement — if it is to succeed as a credible governance tool for India’s climate finance future.

## India’s Climate Taxonomy: From Policy to Practice FAQs

**Q1.** What is the primary objective of India’s draft Climate Finance Taxonomy?

**Ans.** The taxonomy aims to channel climate-aligned investments, prevent greenwashing, and guide investors on sectors and technologies supporting mitigation, adaptation, and transition.

**Q2.** How does the review architecture strengthen India’s climate taxonomy?

**Ans.** It introduces annual reviews for quick course correction and five-year reviews for deeper reassessment, ensuring both short-term responsiveness and long-term resilience.

**Q3.** Why is legal coherence important in reviewing the taxonomy?

**Ans.** Legal coherence ensures alignment with Indian laws, international obligations, and financial tools, avoiding redundancy and improving enforceability for climate finance instruments.

**Q4.** How does the taxonomy plan to address inclusivity concerns?

**Ans.** It proposes simplified entry points, staggered compliance timelines, and realistic expectations for MSMEs, the informal sector, and vulnerable communities, especially in agriculture and manufacturing.

**Q5.** Why is accountability critical for India's taxonomy to succeed?

**Ans.** Institutional mechanisms like a standing expert unit and public dashboards ensure transparent reviews, investor confidence, and alignment with carbon markets and green bonds.

**Source:** TH

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