

A Tribute to M.S. Swaminathan, ‘The Man Who Fed India’

The latest tribute to Dr. M.S. Swaminathan, known as “The Man Who Fed India,” has been marked by a significant series of events and high-profile recognitions in 2025, coinciding with his birth centenary on August 7.

Key highlights from the recent commemorations include:

- The M.S. Swaminathan Centenary International Conference held in New Delhi from August 7-9, 2025, inaugurated by Prime Minister Narendra Modi. The conference theme, “Evergreen Revolution – The Pathway to Biohappiness,” celebrated Swaminathan’s lifelong dedication to sustainable agriculture, food security, and rural development. It brought together scientists, policymakers, and other stakeholders to deliberate on advancing his vision in the context of current challenges such as climate change.
- During the inauguration, PM Modi paid tribute to Dr. Swaminathan as a visionary scientist who transformed India’s agriculture and food security, making the nation self-reliant. Modi highlighted Swaminathan’s role beyond science, framing it as a medium of public service with enduring impact on India’s policies for centuries.
- The Government of India released a commemorative stamp and coin to honor his legacy.
- Union Minister Rajnath Singh and others also paid heartfelt tributes describing him as the legendary force behind India’s Green Revolution and crediting him for uplifting farmers and transforming rural India. His legacy continues to inspire efforts toward inclusive and sustainable growth.
- The centenary celebrations included plans to establish fellowships, awards, and honors in Swaminathan’s name, including the launch of the M.S. Swaminathan Award for Food and Peace, recognizing contributions to food security and climate justice.
- The M.S. Swaminathan Research Foundation and allied organizations emphasized carrying forward his vision to tackle ongoing food security challenges and sustainable agricultural development, especially focusing on empowering women and marginalized communities in farming.
- Dr. M.S. Swaminathan’s contributions fundamentally changed India from a food-deficient country to a self-sufficient agricultural powerhouse, especially through the Green Revolution driven by his leadership in high-yield wheat and rice development. The 2025 centenary events reinforce the enduring relevance of his work in shaping

India's food security and agricultural science landscape for present and future generations.

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

- The central theme of M.S. Swaminathan's journey is that science is fundamentally a collaborative endeavour, not an isolated pursuit. His pivotal role in India's Green Revolution exemplifies how scientific progress thrives through open international exchange of ideas and teamwork.
- Swaminathan's collaboration with Nobel laureate Norman Borlaug in Mexico and his adaptation of foreign agricultural innovations to Indian conditions highlight the importance of global scientific networks for breakthrough achievements.
- His experience also reveals the limitations caused by bureaucratic delays and excessive administrative control, emphasizing that scientists need freedom to collaborate internationally and build personal networks.
- The Green Revolution's success hinged on political leadership that valued scientific expertise and was willing to take risks on innovative ideas while ensuring accountability.
- Furthermore, Swaminathan's vision extended beyond immediate agricultural productivity. He advocated the "Evergreen Revolution," which stresses sustainable agriculture that balances productivity with ecological health and social equity. His approach underscores scientifically informed leadership, inclusive decision-making, reduced bureaucratic barriers, and a strengthened research ecosystem as essential for future scientific and national progress.
- In summary, Swaminathan's journey teaches that national transformation through science requires collaborative research, enabling policies, courageous leadership, sustainability, and continuous innovation supported by both scientists and policymakers working in harmony.

Factors Contributed to Green Revolution's Success.

The success of the Green Revolution can be attributed to several key factors, including political leadership and scientific advancements. Below is an explanation focusing on those two aspects:

High-Yielding Varieties (HYVs) of Seeds:

The introduction of HYV seeds, mainly for wheat and rice, dramatically increased crop production. These seeds were dwarf varieties that yielded 2 to 3 times more than traditional varieties. However, they required adequate water, fertilizers, and pest control to perform well.

Scientific Research and Innovation:

- The Green Revolution was grounded in strong scientific research—agronomists developed semi-dwarf wheat cultivars with higher nitrogen absorption and resistance to lodging.
- Norman Borlaug played a key role by breeding rust-resistant, high-yield wheat varieties. International institutions like CIMMYT supported breeding programs and distribution.
- Advanced fertilizers, pesticides, irrigation, and farm mechanization complemented these seed innovations, enhancing productivity.

Expansion of Irrigation and Input Supply:

- Expansion and improvement of irrigation facilities were vital to support water-demanding HYVs.
- The availability and supply of chemical fertilizers and pesticides increased substantially to meet the needs of these new varieties.

Credit and Financing Mechanisms:

- To enable farmers to access the expensive inputs like HYV seeds, fertilizers, and machinery, rural credit systems, including cooperative banks, provided necessary financing.
- This financial support was essential for the adoption of Green Revolution technology by farmers.

Role of Political Leadership

- Political leadership was crucial in both initiating and sustaining the Green Revolution.

- The Indian government actively promoted the Green Revolution by facilitating research, expanding irrigation, providing credit, and introducing price supports (Minimum Support Prices) for farmers.
- Strong state intervention helped overcome market failures and ensured that farmers received guaranteed prices for their produce, which incentivized adoption of new technology.
- Political commitment ensured infrastructure development through schemes like the Command Area Development Programme (CADP) in 1974 aimed at improving irrigation and rural infrastructure.
- The Green Revolution also had political effects internally. Farmers who prospered politically gained more power and influence, creating a positive feedback loop supporting the agricultural advancements.

Role of Scientific Listening

- Scientists paid attention to the specific needs of the country's agriculture, adapting research to Indian conditions.
- Collaboration between international scientists (like Borlaug) and Indian agricultural universities and institutions enabled local adaptation.
- Continuous research and modification of high-yield varieties to resist biotic (pests, diseases) and abiotic (drought, flooding) stresses showed that scientific listening to environmental and farmer realities was key for sustainable success.

In summary, the Green Revolution's success rested on the synergistic combination of scientific innovations—especially the development of high-yielding seed varieties and associated inputs—and strong political leadership that created enabling conditions, such as infrastructure, financing, price guarantees, and institutional support. Scientific responsiveness to local conditions and needs further ensured the effective implementation of this agricultural transformation.

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

Dr. M.S. Swaminathan's story holds broader relevance beyond agriculture, extending important lessons applicable to various fields and societal challenges. Here are key broader lessons from Swaminathan's journey:

Science and Innovation as Catalysts for Social Change



Swaminathan demonstrated how scientific research and innovation can drive transformative social progress. His work in developing high-yielding and disease-resistant varieties of crops not only averted famines but also ensured food security for millions. This underscores the critical role of science in addressing pressing human needs beyond agriculture, including health, environment, and energy.

Sustainable and Inclusive Development



The Green Revolution under Swaminathan emphasized sustainable agricultural practices and empowerment of small farmers. The lesson here applies to all development fields—economic growth must be inclusive and environmentally sustainable to be truly effective in improving livelihoods over the long term.

Persistence and Visionary Leadership



Swaminathan's perseverance in the face of challenges and his long-term vision emphasize the importance of leadership committed to societal welfare. This leadership model inspires approaches in governance, education, and community development, where visionary commitment can bring systemic change.

Technology Diffusion and Capacity Building



His focus on transferring technology to farmers and building their capacities highlights the need for effective knowledge dissemination mechanisms in any sector. Bridging gaps between innovation and end-users is vital for maximizing impact in health care, education, and social services.

Multidisciplinary Collaboration



Swaminathan's success was also rooted in collaborating with scientists, governments, farmers, and international organizations. This interdisciplinary, multi-stakeholder approach is a valuable lesson for solving complex problems like climate change, public health crises, and poverty alleviation.

Ethics and Social Responsibility in Science



His emphasis on scientific responsibility towards society sets a precedent for ethical considerations in scientific pursuits, urging all fields to prioritize societal well-being, equity, and justice in their endeavors.

In sum, Swaminathan's story transcends agriculture, offering a blueprint for leveraging innovation, leadership, and ethical commitment to foster sustainable, inclusive progress in diverse areas of human development.