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## EDITORIAL

# Role of MS Swaminathan in India's self sufficiency in food production (GS PAPER-III)

### Why in News?

- Prime Minister Narendra Modi announced that the late Indian agricultural scientist Dr. MS Swaminathan, known for his pivotal role in the Green Revolution, would be conferred the highest civilian award Bharat Ratna.

### Role of MS Swaminathan in India's Self sufficiency in Food Security

- MS Swaminathan, called as the 'Father of the Green Revolution', played a major role in the set of changes introduced in farming in the 1960s and 70s that helped India achieve food security.
- He inclined towards agriculture at a time when he was expected to follow his father into the medical profession. He changed his field and went to the Agriculture College at Coimbatore, instead of going to a Medical College, because of the Bengal famine.
- He decided to go into agricultural research, and that too in genetics and breeding, for the simple reason that a good variety has the largest impact, so that a large number of farmers can benefit from a good strain of a crop.
- In 1954, he started working at Central Rice Research Institute, Cuttack, on transferring genes for fertilizers response from Japonica varieties. He described this as "the first attempt to develop high yielding varieties which can respond to good soil fertility and good water management.
- After his work on rice, he and other scientists would work on doing the same to enhance productivity for wheat crop. Thus, the basic strategic vision underpinning the Green Revolution in India came from Swaminathan.
- The search for an ideal variety led him to contact American scientist Orville Vogel. He played great role in developing a 'dwarf wheat' called Gaines, which had a high yield. It contained dwarfing genes from a dwarf wheat called the Norin-10.
- In 1965, Swaminathan set up thousands of demonstration and test plots in the northern region of India, showing small-scale producers that the new, genetically superior grain could thrive in their own fields. The first year's harvest tripled previous production levels. Not only did agricultural yields improve, but also scientific advances in agriculture were introduced and used by the producers themselves.
- Swaminathan's vision transformed India almost overnight. Raising the total crop yield of wheat from 12 million tons to 23 million tons in four crop seasons ended India's reliance on grain imports. Swaminathan later worked with Prime Minister Indira Gandhi to establish agricultural policies and programs that would maintain long-term self-sufficiency across the country.
- Swaminathan's direct work with farmers overcame the obstacles of illiteracy and lack of formal education and provided a generation of Indians with knowledge about the effectiveness of modern agriculture.



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## EDITORIAL

### Achievements and Awards

- Swaminathan became chair of numerous prestigious international conferences, including the 1974 United Nations World Food Congress in Rome. As an advocate of scientific collaboration, he influenced renowned organizations and research centers such as the International Union for the Conservation of Nature and Natural Resources, the International Crops Research Institute for the Semi-Arid Tropics, and the International Federation of Agricultural Research Systems for Development – serving as its Director General from 1972 to 1979.
- Swaminathan served as Principal Secretary of the Ministry of Agriculture in 1979 and 1980. He was in charge of agriculture and rural development in India's Planning Commission from 1980 to 1982. He became Director General of the International Rice Research Institute in the Philippines in 1982 – a position first held by Robert Chandler, the 1988 World Food Prize Laureate.
- Swaminathan was selected as the first World Food Prize Laureate, receiving the award in 1987. He used the funds he received from The World Food Prize to open a research center, the M.S. Swaminathan Research Foundation, in Chennai, India, in 1988. With distinguished contacts on every continent, he initiated dialogue among agricultural scientists, social scientists and field workers to – in his own words – “reach the unreached.”
- In 2002, Swaminathan was elected President of the Nobel Peace Prize-winning Pugwash Conferences on science and world affairs, which brings global leaders and thinkers together with the goals of reducing the danger of armed conflict and cooperatively solving global problems. He was the first citizen of a developing country to hold this post.
- Dr. Swaminathan joined the 2002 World Food Prize Laureate Dr. Pedro Sanchez as a Hunger Task Force coordinator for the United Nations Millennium Project, which in early 2005 developed clear targets and a practical plan for reducing poverty, hunger, disease, illiteracy, environmental degradation, and discrimination against women, to be achieved over the following decade.
- Swaminathan won numerous international awards such as the 1994 UNEP Sasakawa Environment Prize; the UNESCO Gandhi Gold Medal in 1999; the 1999 Indira Gandhi Prize for Peace, Disarmament, and Development; and the Franklin D. Roosevelt Four Freedoms Award in 2000. TIME Magazine honored him as one of the twenty most influential Asians of the 20th century.



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