



Mains Practice Question

Q. Despite being the largest cotton producer globally, India lags in productivity. Critically examine the key challenges in cotton productivity in India and evaluate the role of recently launched “Mission for Cotton Productivity” in addressing them. (250 words)

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Approach:

- Start by stating that India is the largest cotton producer in the world, but ranks lower in productivity.
- Critically examine the key challenges in cotton productivity in India.
- Evaluate the role of recently launched “Mission for Cotton Productivity” in addressing them.
- Conclude with a suitable way forward.

Introduction:

Despite being a **leading cotton producer**, **India's productivity** remains **low at 448 kg/ha**, well below global benchmarks. This yield gap, rooted in structural and agronomic challenges, is the focus of the “Mission for Cotton Productivity”, which aims to improve output through targeted, technology-led, and farmer-centric strategies.

Body :

The Key Challenges in Cotton Productivity in India:

- **Low Productivity:** India ranks 1st globally in cotton acreage, with 130.61 lakh hectares under cultivation, accounting for ~40% of the world's total cotton area (324.16 lakh hectares).
 - However, in terms of productivity, India stands 39th in the world, with an average yield of just 447 kg/ha.
- **Rising Dependence on Imports:** Cotton imports surged from USD 518.4 million in 2023-24 to USD 1.04 billion in 2024-25, while exports fell from USD 729.4 million to USD 660.5 million.
- **Stagnation after Success:** Despite the success of **Bt (Bacillus thuringiensis)** cotton and Bollgard-II technologies, India has not approved any new genetically modified (GM) cotton variants since 2006.
- **Infestation:** The decline in cotton production is mainly due to the increased infestation of the pink bollworm (PBW).
 - Initially, Bt cotton offered effective pest control, but over time, PBW developed resistance to Bt proteins.
- **Missed Opportunities in Global Markets:** Countries like the US and Brazil, with robust biotech adoption, are capturing the export space once dominated by India.

Role of the Mission for Cotton Productivity:

- It is a **five-year initiative** launched by the Government of India in the **Union Budget 2025-26** to significantly enhance cotton production in the country.

- It seeks to enhance cotton productivity by adopting advanced scientific methods and developing climate-smart, pest-resistant, and high-yielding varieties, including **Extra Long Staple (ELS) cotton**.
 - **The Agricultural Export Policy (2018)** highlights the need to boost export-oriented varieties like ELS cotton to strengthen India's role in global agri-markets.
- It will provide scientific and technological support to cotton farmers, aligning with the **Government's 5F vision- Farm to fibre, fibre to factory, factory to fashion, fashion to foreign for the textile sector**.
- **It will utilize** advanced breeding techniques and biotechnology tools to improve fibre quality.
 - **Digital Agriculture Mission 2021-25** advocates the use of emerging technologies in agriculture.
- It will equip farmers with cutting-edge technology to build resilience against climatic and pest-related challenges.
 - **The Ashok Dalwai Committee** recommends climate-resilient practices to address water stress.

Conclusion:

If implemented with urgency and scientific rigour, the **Mission for Cotton Productivity** can lift yields, cut import dependence, revive exports, raise farmer incomes, and green the cotton value chain, directly advancing **SDG-2 (Zero Hunger & productivity)**, **SDG-8 (Decent Work & growth)**, and **SDG-9 (Innovation)**.

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