



AGRI-FOOD SYSTEM - GS III MAINS

Q. What are the challenges prevailing in agri-food systems in India and enumerate the measures that need to be taken to ensure a vibrant agri-food system in India. (15 marks, 250 words)

News: *New government must fix India's food systems*

What's in the news?

- A recent article emphasizes the critical need for future governments to prioritize boosting agricultural productivity, expanding processing and retailing activities, and encouraging the adoption of new technologies.

Challenges in Ensuring Adequate Agri-Food Systems in India:

1. Overexploitation of Water Resources:

- Marginal cost of water usage leading to water-intensive crops in low-rainfall areas.
- Emergence of monoculture in various regions, disregarding agro-climatic suitability.

2. Disregard for Nature and Loss of Crop Diversity:

- Policy bias favoring certain crops leading to distortions in crop patterns.
- Sharp decline in crop diversity due to technological and policy biases.

3. Low Efficiency and Price Led Growth:

- Lower productivity levels compared to major agricultural countries.
- Slow modernization and lack of significant improvement in agricultural practices.

4. Imbalances and Regional Disparities:

- Growing imbalances between demand and domestic production.
- Rising surplus of certain crops and deficit in others, leading to economic costs.

5. Wasteful Investment:

- Large investments in irrigation infrastructure with stagnant or declining results.
- Delayed completion of irrigation projects due to various obstacles.

6. Technology Generation and Dissemination:

- Increasing complexity of agricultural problems requiring capital-intensive research.
- Shrinking scope for spillover from research in the developed world, complicating technology transfer.

7. Viability of Smallholders:

- Dominance of small land holdings in agriculture, limiting income generation.
- Lack of economies of scale and institutional support for smallholders.



8. Nutrition, Food Safety, and Health:

- Low nutrition and child health indicators despite agricultural productivity.
- Need for nutritional security alongside food security.

9. Mismatch between Structural Changes in Output and Workforce:

- Declining share of agriculture in national income and employment, but at different rates.
- Disparity in per worker income between agriculture and non-agriculture sectors.

Steps to Improve Agricultural Productivity:

1. Raising Total Factor Productivity:

- Increased investment in agri-R&D, innovations, and extension services.

2. Creating Climate Resilient Agriculture:

- Investment in seeds and practices resilient to extreme weather events.

3. Building Efficient Value Chains:

- Revolutionizing logistics for food movement from rural to urban areas.

4. Promoting Farmer Producer Organisations (FPOs) or Cooperatives:

- Bringing smallholders together for collective bargaining power.

5. Moving Beyond Simple Food Security to Nutritional Security:

- Fortifying staples with micro-nutrients and addressing malnutrition.

6. Public-Private Partnership:

- Creating a conducive policy framework for private sector investment.

7. Shift from Growth to Efficient-Growth:

- Upgrading agricultural technology and reducing input wastages.

8. Surplus Management:

- Shifting food policy focus from shortage to surplus management.

Role of Technology in Improving Food Systems and Agricultural Productivity:

1. Enhancing Productivity:

- Precision farming, mechanization, and biotechnology for higher yields.

2. Improving Resource Management:

- Water and soil management through technology for efficient resource use.

3. Facilitating Market Access:

- Digital platforms for direct farmer-consumer interactions and supply chain management.



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4. Promoting Sustainability:

- Empowering smallholder farmers through access to information and renewable energy use.

5. Data-driven Decision Making:

- Utilizing data analytics for proactive farming strategies and sustainable practices.

In conclusion, addressing these challenges and implementing suggested steps with the integration of technology will pave the way for a modern and vibrant agriculture sector, contributing significantly to the goal of a new India.

