India’s Resilient Production Systems in Agriculture

Mains: *GS-III – Economy | Agriculture*

Why in News?

India’s agriculture and allied sectors have grown at an average annual rate of 4.4% (constant prices) over the past five years, driven by better farm practices, technological integration, and resilient production systems.

What is India’s agricultural production performance?

- **Socio-economic footprint** – Agriculture and allied activities account for *nearly 20% of country’s gross value added*, employ approximately 46.1% of the workforce, and support close to 55% of the population.
- **Foodgrains (2024-25) –** Output of 357.73 MMT (up by 25.43 MMT from the previous year).
- **Key drivers** – Rice, wheat, maize, and coarse cereals (millets/Shree Anna), reflects productivity gains, better input use, and stronger institutional support.
- **Horticulture –** Output of 362.08 MT in 2024–25 (surpassing foodgrains) & long-term growth from 280.70 MT in 2013–14 to 367.72 MT in 2024–25.
- **Composition** – Fruits, Vegetables & Other crops.

Global Agricultural Markets

- India’s agricultural exports have *grown steadily* in recent years.
- **Agri export earnings** – Increased from USD 34.5 billion in FY20 to USD 51.1 billion in FY25, *reflecting a CAGR of 8.2%.*
- **Agri-food exports (FY25)** – Including processed food products, amounted to USD 49.43 billion, accounting for *about 11.2% of total exports*.
- **Processed food share** – It *risen consistently*, from 14.9% in FY18 to 20.4% in FY25, indicating a progressive shift within the agricultural export basket.

What is India’s position in the world when it comes to cereals, pulses, millets, horticulture & various cash crops?

Commodity	Global Rank	Major Producing States
Rice	Second	UP, Telangana, West Bengal
Wheat	Second	UP, MP, Punjab
Pulses	First	MP, Maharashtra, and Rajasthan

Millets	First	Rajasthan, Maharashtra, Karnataka.
Fruits	Second	AP, Maharashtra, UP, Gujarat, Karnataka, TN.
Vegetables	Second	UP, West Bengal, MP, Bihar, Gujarat.
Dry Onions	First (nearly 25% of total world output.)	Maharashtra, MP, Gujarat.
Sugarcane	Second	UP, Maharashtra
Cotton	Second	Karnataka, Maharashtra, Gujarat
Tea	Second	Assam, West Bengal, TN, Kerala, Karnataka
Spices	First	MP, Gujarat, AP.
Coconut	First (steady international demand)	Karnataka, TN, Kerala
Coffee	Seventh	Karnataka, Kerala, TN

What are the key policy initiatives aimed at ensuring resilient agricultural growth?

- **Increased budget allocation** – Increased from Rs. 21,933.50 crore to Rs. 1,27,290.16 crore in 2025-26, representing a *six-fold increase* in allocation over 13 years.
- **Policy Priorities** in Union Budget 2026–27 – Focuses on promotion of high value crops includes
  - Coastal regions - Coconut, Sandalwood, Cocoa, Cashew
  - North Eastern states - Agar trees
  - Hilly areas - Almonds, Walnuts, Pine nuts
- **National Food Security and Nutrition Mission (NFSNM)** – A centrally sponsored scheme to increase the production of rice, wheat, pulses, and nutri-cereals/coarse cereals in the country.
- **Mission for Aatmanirbharta in Pulses (2025–31)** – Aims to achieve self-sufficiency in pulses by enhancing domestic production reduce import dependence & paved the way for an “Aatmanirbhar Bharat” in pulses.
- **National Mission on Edible Oils (NMEO)** – Including the Oil Palm & Oilseeds initiatives, aims to achieve self-reliance in edible oil production by 2030-31.
  - **Oilseed mission** – Recorded over 18% increase in oilseed area, nearly 55% in production, and *about 31% in productivity* between 2014-15 and 2024-25.
- **Sub-Mission on Seeds and Planting Materials (SMSP) initiative** – A centrally sponsored scheme under the *"Green Revolution - Krishonnati Yojana".*
- Approximately 6.85 lakh Seed Villages have been established, resulting in the production of 1,649.26 lakh quintals of quality seeds.
- **Soil Health Card Scheme** – Approximately 25.55 crore Soil Health Card have been issued (as of Nov 2025) to promote balanced and site-specific nutrient management.
  - **Parameters tested (12)** – Nitrogen, Phosphorus, Potassium, Sulphur, Zinc, Iron, Copper, Manganese, Boron, pH, Electrical Conductivity, Organic Carbon.
- **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)** – Gross irrigated area share has increased to 55.8% (2025), aims to improve on farm water efficiency by promoting drip and sprinkler irrigation systems.

What are the measures related to Credit, Mechanisation, Technology and health?

- **Ground-level agri-credit disbursement** (FY 2024–25) – Rs.28.67 lakh crore reflecting the structural expansion of institutional finance to the farm sector.
- **Kisan Credit Cards (KCC)** – 7.72 crore operative accounts (as of March 2025).
- **Custom Hiring Centres (CHCs)** – 27,554 established (2014–15 to 2025–26) to enhance smallholder access to farm mechanisation services.
    - **CHC** – It is a unit comprising a set of farm machinery, implements, and equipment meant for hiring by farmers.
- **Livestock Technology & Health**
- **Vaccinations (since 2020)** – Approximately 125 crore against Foot and Mouth Disease (FMD).
- **Artificial inseminations** (2024–25) - 88.32 million.
- **Impact -** Boosts livestock productivity, disease resistance, and genetic improvement.

What are the measures for sustainable agriculture, extension, and mission mode initiatives?

- **Natural farming** – Expanded to 17,632 clusters covering 6.39 lakh hectares, with 15.79 lakh farmers enrolled, promotes low-input, eco-friendly farming practices.
- **Kisan Call Centres** – Handled 30.65 lakh farmer queries in 2024-25
- **Ethanol blending** – India saved over Rs.1.44 lakh crore in foreign exchange as of August 2025, reflects a shift towards technology-driven, resource-efficient, and improved production systems.
- **Integrated Support for Farmers** – Securing stable farm incomes, institutionalising risk mitigation mechanisms, and strengthening cooperative networks.

What are the Price and Income Support & Crop Insurance Protection measures taken?

- **Minimum Support Price (MSP)** – Announced for 22 mandated crops and *fixed at least 1.5 times the cost of production*, with upward revisions for the Kharif & Rabi Marketing Season to ensures remunerative prices, stabilizes farm incomes.
- **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)** – A Central Sector Scheme, over Rs.4.27 lakh crore has been disbursed in 22 instalments (as on 17th March 2026), providing direct income support to farmers.
- **Pradhan Mantri Kisan Maandhan Yojana (PMKMY)** – Aims to provide social security net for the Small and Marginal Farmers (SMF) by way of pension,
- Enrolled 24.95 lakh farmers as of 2nd Feb 2026, extending social security coverage to small and marginal cultivators.

- **Pradhan Mantri Fasal Bima Yojana (PMFBY)** – A crop insurance scheme aiming to provide financial protection to farmers against crop loss due to natural disasters (hail, drought, famine), pests, and diseases.
- Insured 4.19 crore farmers during 2024-25, covering 6.2 crore hectares.
- **Applications** (2016–17 to 2025) – 86 crore+ were processed with claims exceeding Rs.1.90 lakh crore disbursed.
- **Growth** – Coverage expanded by 32% compared to 2022–23.

What are the few measures for strengthening Cooperatives & Collective Systems?

- **PACS Computerisation** – Of 67,930 Primary Agricultural Credit Societies (PACS) under computerisation,54,150 have been onboarded onto Enterprise Resource Planning (ERP) platforms, with 43,658 operational.
- **New Multipurpose Cooperatives** – 18,183 registered (by March 2025).
- **Decentralised Grain Storage Programme** – Operational in 11 PACS, with 500 new godowns announced in 2024 to enhance local storage capacity.
- **Institutional Reforms**
  - National Cooperation Policy → governance strengthening.
  - Tribhuvan Sahkari University → cooperative capacity-building.

What are the measures taken for market reforms, value-chain modernisation, and public food distribution?

- **Storage projects** (as of 28 Feb 2026) – 49,796 storage projects had received financial assistance amounting to Rs.4,832.70 crore.
- **Marketing infrastructure projects** – 25,009 marketing infrastructure projects had received subsidies totalling Rs.2,193.17 crore.
- **e-National Agriculture Market (e-NAM)** – Expanded its outreach to 1.8 crore farmers, 2.72 lakh traders & 4,724 Farmer-Producer Organisations (FPOs) across 1,656 mandis in 23 States and 4 UTs, enhancing digital price discovery and inter-market trade.
- **Formation & Promotion Scheme** (2020–2026) – 10,000 FPOs registered (by 28 Feb 2026).
- **Fisheries sector** – 2,195 Farmers' Fisheries Producer Organisations (FFPOs) formed.
- **Kisan Credit Card** – Benefits extended to 4.39 lakh fishers.
- **Food Processing Sector** – It accounts for 12.91% of organised manufacturing employment.
- **Pradhan Mantri Kisan Sampada Yojana (PMKSY)** – 1,185 projects had been completed, strengthening modern processing and cold-chain infrastructure.
- **PLI Scheme for the Food Processing Industry (PLISFI)** – Aims to modernise food processing, boost competitiveness, and promote high-growth product categories.
- Approved 169 applications, mobilising investments of Rs.9,207 crore, with incentives amounting to Rs.2,162.55 crore disbursed by 31 December 2025.
- **One Nation One Ration Card (ONORC)** – Achieved 99.8% Aadhaar seeding of ration cards, it has been operational in all 36 States & UTs.
- **Fair Price Shops (FPS)** – Over 99% of the 5.43 lakh FPS are equipped with electronic point-of-sale (ePoS) devices, facilitating the digitisation of *more than 98% of transactions* and strengthening transparency in distribution.
- **Direct Benefit Transfer (FY24)** – Rs.267.6 crore was transferred through DBT to over 10 lakh beneficiaries, improving targeting efficiency and accountability.
- **SDGs Linkages** – India's agricultural reforms align national priorities with global sustainability commitments, reinforcing resilience and inclusivity.
  - SDG 2 (Zero Hunger)
  - SDG 12 (Responsible Consumption & Production)
  - SDG 13 (Climate Action)

- SDG 9 (Industry, Innovation & Infrastructure)

What lies ahead?

- India’s agricultural transformation reflects a balanced approach that combines strong production growth, expanding global market presence, and targeted policy interventions across the farm-to-market value chain.
- As resilient production systems continue to evolve, the expanding role of agriculture provides a strong foundation for deeper integration with allied activities, further supporting rural livelihoods, value addition, and long-term economic stability.

Reference

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