Global Commerce Agriculture

India's agricultural sector is a cornerstone of global food security, contributing over 1.5 billion tonnes of food grains annually and positioning the country as a key exporter of rice, wheat, spices, and organic products. With total food grain production reaching a record 332.98 million tonnes in 2023-24, India supports domestic needs while exporting to over 200 countries, fostering strong supply chains and economic stability that indirectly promotes global peace by reducing resource-based conflicts. The 36 administrative divisions—comprising 28 states and 8 Union Territories (UTs)—host diverse agro-climatic zones, enabling a wide range of crops. As per discussion with different government ministry, industry organisations, agriculture research groups & data from state and central government departments. (Agriculture Ministry, Commerce & Industry Ministry)

Below is a summarized table of major crops grown and produced in each division, focusing on food grains, cash crops, oilseeds, and horticulture. Production figures are approximate annual outputs (in million metric tonnes or as noted) based on 2023-24 data where available; states/UTs with limited arable land (e.g., hill regions) emphasize horticulture or niche crops. This diversity strengthens export potential (e.g., basmati rice from Punjab, spices from Kerala) and resilient supply chains.

Administrative Division	Major Crops Grown	Key Production Highlights (2023-24 Est.)
States		
Andhra Pradesh	Rice, Maize, Chilli, Sugarcane, Cotton, Groundnut, Turmeric	Rice: 13.5 MMT; Sugarcane: 25 MMT; Leading in chilli (0.5 MMT)
Arunachal Pradesh	Rice, Maize, Millets, Ginger, Pineapple	Rice: 0.1 MMT; Focus on organic fruits (pineapple: 0.05 MMT)
Assam	Rice, Tea, Jute, Mustard	Rice: 5.5 MMT; Tea: 0.7 MMT (world's largest producer)
Bihar	Rice, Wheat, Maize, Pulses, Sugarcane	Rice: 7.5 MMT; Wheat: 6 MMT; Pulses: 1.2 MMT
Chhattisgarh	Rice, Millets, Pulses, Oilseeds	Rice: 7.8 MMT; Leading in kodo and kutki millets
Goa	Rice, Cashew, Coconut, Vegetables	Cashew: 0.05 MMT; Limited scale due to terrain
Gujarat	Cotton, Groundnut, Wheat, Oilseeds (Castor)	Cotton: 3 MMT; Groundnut: 2.5 MMT; Castor: 1.2 MMT
Haryana	Wheat, Rice, Sugarcane, Cotton	Wheat: 12 MMT; Rice: 4.5 MMT
Himachal Pradesh	Wheat, Maize, Apples, Off-season Vegetables	Apples: 0.4 MMT; Horticulture dominant
Jharkhand	Rice, Maize, Pulses, Lac	Rice: 3.5 MMT; Pulses: 0.4 MMT
Karnataka	Maize, Sugarcane, Coffee, Ragi, Cotton	Maize: 4 MMT; Coffee: 0.4 MMT; Sugarcane: 40 MMT
Kerala	Rubber, Coconut, Spices (Pepper, Cardamom), Cashew	Coconut: 5 billion nuts; Rubber: 0.8 MMT; Pepper: 0.05 MMT
Madhya Pradesh	Wheat, Soybean, Pulses, Oilseeds	Wheat: 20 MMT; Pulses: 5 MMT; Soybean: 12 MMT
Maharashtra	Sugarcane, Cotton, Soybean, Pulses, Grapes	Sugarcane: 90 MMT (largest producer); Cotton: 4 MMT

Manipur	Rice, Maize, Pineapple, Ginger	Rice: 0.4 MMT; Pineapple: 0.1 MMT
Meghalaya	Rice, Maize, Ginger, Turmeric	Ginger: 0.02 MMT; Organic focus
Mizoram	Rice, Maize, Ginger, Vegetables	Rice: 0.1 MMT; Hill-based horticulture
Nagaland	Rice, Maize, Millets, Pineapple	Rice: 0.2 MMT; Organic millets
Odisha	Rice, Pulses, Coconut, Turmeric	Rice: 10 MMT; Turmeric: 0.2 MMT
Punjab	Wheat, Rice (Basmati), Cotton, Sugarcane	Wheat: 18 MMT; Rice: 13 MMT (export leader)
Rajasthan	Millets (Bajra), Pulses, Oilseeds (Mustard), Wheat	Millets: 3 MMT; Mustard: 2 MMT
Sikkim	Maize, Ginger, Cardamom, Buckwheat	Cardamom: 0.005 MMT (100% organic state)
Tamil Nadu	Rice, Sugarcane, Millets, Coconut, Spices	Rice: 7 MMT; Sugarcane: 30 MMT; Coconut: 4 billion nuts
Telangana	Rice, Cotton, Maize, Chillies	Rice: 7 MMT; Cotton: 2 MMT
Tripura	Rice, Rubber, Pineapple, Jackfruit	Rice: 0.5 MMT; Rubber: 0.04 MMT
Uttar Pradesh	Wheat, Rice, Sugarcane, Pulses, Potato	Wheat: 35 MMT (largest); Food grains: 60 MMT total
Uttarakhand	Wheat, Rice, Pulses, Apples	Apples: 0.1 MMT; Hill crops dominant
West Bengal	Rice, Jute, Potato, Tea	Rice: 16 MMT (largest); Jute: 0.7 MMT
Union Territories		
Andaman & Nicobar Islands	Rice, Coconut, Spices (Nutmeg, Clove)	Coconut: 0.1 MMT; Organic spices
Chandigarh	Wheat, Rice, Vegetables	Limited (0.01 MMT food grains); Urban horticulture
Dadra & Nagar Haveli and Daman & Diu	Rice, Ragi, Pulses	Rice: 0.02 MMT; Small-scale
Delhi	Vegetables, Fruits, Flowers	Vegetables: 0.2 MMT; Peri-urban farming
Jammu & Kashmir	Rice, Apples, Saffron, Maize	Apples: 1.5 MMT (largest); Saffron: 0.005 MMT
Ladakh	Barley, Millets, Apricots	Barley: 0.02 MMT; Cold-arid horticulture
Lakshadweep	Coconut, Arecanut	Coconut: 0.01 MMT; Island-specific
Puducherry	Rice, Sugarcane, Groundnut	Rice: 0.1 MMT; Sugarcane: 0.3 MMT

This data underscores India's potential for export-led growth (e.g., $50 billion agri-exports in FY24), enhancing global supply chains for staples like rice (export share: 40% globally) and diversifying to organics for sustainable commerce.

Detailed Step-by-Step Plan for Agriculture and Farming Sector Green Commerce Promotion Across All 36 Administrative Divisions

This comprehensive, phased plan promotes "green commerce" in agriculture—emphasizing sustainable, organic, and climate-resilient practices—to boost exports, fortify supply chains, and enhance global food security. It is designed for uniform implementation across all 36 divisions, with adaptations for local agro-climatic zones (e.g., flood-prone Assam vs. arid Rajasthan). The plan integrates strategies to reduce farmer suicides (which declined 50% under recent policies but remain ~10,000 annually) by addressing debt, income volatility, and mental health, while building resilience against natural calamities (e.g., droughts affecting 60% of arable land). Total investment: ~₹5 lakh crore over 5 years, funded via government schemes like PM-KISAN, NABARD, and APEDA.

Phase 1: Assessment and Capacity Building (Months 1 to 3)

1. **Conduct Division-Wise Agro-Mapping**: Use GIS tools and satellite data (via ISRO) to map soil, water, and climate risks in each division. Identify high-potential green crops (e.g., organic millets in Rajasthan, GI-tagged basmati in Punjab). Involve 1,000+ Farmer Producer Organizations (FPOs) per division for input. *Goal*: Tailor crop calendars to reduce calamity impacts by 20%.
2. **Farmer Training on Green Practices**: Launch 10,000 village-level workshops via Krishi Vigyan Kendras (KVKs), training 50 million farmers on organic farming, drip irrigation, and zero-budget natural farming. Certify 1 million as organic producers. *Suicide Prevention Tie-In*: Integrate mental health modules (e.g., stress counseling via toll-free helplines) to address depression from crop failures.
3. **Establish Calamity Risk Baselines**: In each division, survey 20% of farmers on past losses (e.g., floods in Bihar). Enroll 100% in Pradhan Mantri Fasal Bima Yojana (PMFBY) for crop insurance, subsidizing premiums to 50% coverage. *Strategy*: Parametric insurance for quick payouts (within 15 days) to prevent debt traps leading to suicides.

Phase 2: Infrastructure and Input Support (Months 4 to 6, 6 to 16)

4. **Build Resilient Supply Chains**: Develop 500 cold-chain hubs per division (total 18,000 nationwide) with solar-powered storage for perishables (e.g., potatoes in UP). Link to e-NAM for digital trading, reducing post-harvest losses by 30%. *Export Focus*: Prioritize GI-tagged products (e.g., Alphonso mangoes from Maharashtra) for EU/US markets.
5. **Promote Green Inputs and Credit**: Subsidize bio-fertilizers and seeds (₹10,000/farmer via DBT) for 80% adoption. Launch "Green Kisan Credit Cards" with 7% interest for sustainable tech (e.g., rainwater harvesting in drought-prone Telangana). *Suicide Reduction*: Debt waiver for calamity-hit farmers (up to ₹2 lakh) and micro-insurance bundles covering health/family support.
6. **Disaster Management Networks**: Create division-specific Early Warning Systems (EWS) via NDMA, integrating apps for flood/drought alerts. Stockpile contingency seeds (e.g., short-duration rice in Odisha) for 50% crop replanting within 30 days. *Calamity Handling*: Train 5,000 "Disaster Response Teams" per division for on-ground aid, reducing income loss by 40% and suicide risk from despair.

Phase 3: Market Linkage and Export Acceleration (Months 17-36)

7. **Green Certification and Branding**: Certify 50% of produce as organic/NPOP-compliant via APEDA labs in each division. Launch "India Green Agri" brand for exports, targeting $100 billion by 2030 (e.g., quinoa from Ladakh to Europe). *Commerce Boost*: Tie-ups with e-commerce (Amazon/Flipkart) for direct farmer sales.
8. **Value Addition Hubs**: Set up 200 agro-processing units per division for products like millet-based foods in Chhattisgarh or spice extracts in Kerala. Provide 50% subsidies for women-led cooperatives. *Global Peace Link*: Export surpluses to food-insecure regions (e.g., Africa via WTO deals), stabilizing prices and reducing geopolitical tensions.
9. **Income Diversification Programs**: Promote agri-tourism and allied activities (e.g., beekeeping in Himachal) for 20% income uplift. *Suicide Prevention*: "Kisan Sahayata Kendras" in every block offering counseling, skill training (e.g., solar tech), and peer support groups—proven to cut suicide rates by 30% in pilot states like Maharashtra.

Phase 4: Monitoring, Resilience, and Scaling (Months 37-60)

10. **Digital Monitoring Dashboard**: Develop a national AI platform tracking yields, exports, and suicide metrics per division. Annual audits to adjust (e.g., more insurance in flood-prone West Bengal). *Calamity Strategy*: Integrate climate modeling for predictive sowing; expand National Agriculture Disaster Management Plan (NADMP) with blockchain for transparent aid.
11. **Policy Incentives and Evaluation**: Offer MSP guarantees for 25 green crops; tax rebates for exporters. Evaluate via KPIs: 15% export growth, 25% suicide reduction, 50% calamity recovery rate. *Holistic Impact*: Mental health integration via NIMHANS programs, focusing on male farmers (80% of cases).
12. **Community Resilience Building**: Form "Farmer Resilience Collectives" (10,000 nationwide) for shared resources (e.g., community irrigation in Gujarat). Celebrate successes via annual "Green Agri Awards" to boost morale.

Integrated Strategies for Reducing Farmer Suicides and Handling Natural Calamities

- **Calamity Handling (Target: 40% Loss Reduction)**: Proactive via NADMP—contingency planning (e.g., drought-resistant varieties in 60% rainfed areas), input subsidies post-disaster (₹50,000/farmer), and structural measures. Quick finance (e.g., ₹10,000 emergency loans) prevents despair; microbial tech for soil resilience cuts risks.
- **Reducind Suicide (Target: 50% Decline by 2030)**: Root causes (debt, crop failure) addressed via PMFBY (covering 5 crore farmers, payouts ₹1.5 lakh crore since 2016), income support (PM-KISAN to 11 crore farmers ₹6,000/year), and holistic interventions like counseling and debt restructuring. Economic mediation (e.g., drought-linked income buffers) prevents rise in male suicides.

This plan can transforms India's agriculture into a green powerhouse, ensuring equitable growth, robust exports, and farmer well-being for enduring global stability. Implementation cab be led by a National Task Force with state coordination.

This white paper is jointly created by senior members CII, FICCI, PHD Chamber of Commerce, Assocham. Detailed version is available for global government and industry organisations.

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