

Agriculture Scenario in India

These notes are your ultimate revision weapon to revise Agriculture Scenario in India. We've distilled years of previous exam questions (PYQs) into one powerful, concise resource. Everything you need to know, nothing you don't.

- **PYQs, Decoded:** All key concepts from past exams, organized and simplified.
- **Revise in Record Time:** Short, precise, and designed for last-minute review.
- **Focus on What Matters:** Master high-probability topics and boost your confidence.

Sustainable Agricultural Practices

Permaculture Farming



- **Definition:** A farming system based on three ethics: care for the earth, care for people, and fair share.
- **Key Features:**
 - Discourages monoculture (single-crop farming).
 - Promotes multi-cropping and integrated farming systems.
 - Relies on organic fertilizers, crop rotation, and mulching.
 - Does not cause an increase in soil salinity.
- **Limitation:** Not easily applicable in semi-arid or dry, arid regions.

Zero Tillage

- **Definition:** Planting seeds directly into the soil without prior land preparation or tilling.
- **Advantages:**
 - Allows sowing of wheat without burning the residue of the previous crop.

- Enables Direct Seeded Rice (DSR), eliminating the need for nurseries and transplanting, thus saving water.
- Promotes carbon sequestration (capturing carbon in the soil), reducing the greenhouse effect.

Eco-Friendly Practices in India

- **Crop Diversification:** Adding different crops suited to the local climate and water supply to the existing cropping pattern.
- **Legume Intensification:** Growing legumes, which fix nitrogen in the soil, improving fertility.
- **Tensiometer Use:** A tool that measures soil moisture, aiding in water conservation.
- **Vertical Farming:** Growing crops indoors in stacked layers, using less water and pesticides.

Fertigation

- **Definition:** Application of fertilizers through irrigation water, typically using a drip system.
- **Advantages:**
 - Allows for control of the alkalinity of irrigation water.
 - Increases nutrient availability to plants.
 - Reduces the leaching of chemical nutrients.
- **Limitation:** Not suitable for all phosphatic fertilizers like Rock Phosphate, as they can cause clogging.

Indian Agriculture: Context & History

History and Literature

- **Key Text:** 'The History of Indian Agriculture' was written by M.S. Randhawa.

Agricultural Institutions

- **First Agricultural University:** Govind Ballabh Pant University of Agriculture and Technology (GBPAU), Pantnagar, established in 1960.

Characteristics of Indian Agriculture

- **General Features:**
 - Over-dependence on nature.
 - Low level of productivity.
 - High diversity of crops.
 - Predominance of **small and fragmented land holdings** (not large farms).
- **Reasons for Low Productivity:** Overcrowding in agriculture, small land holdings, and traditional practices.
- **Dry Zones:** The dry zones of India have a predominantly agrarian economy and hold potential for a second Green Revolution with improved irrigation.



Land Use and Zoning

Land Use Classification in India (Approximate)

- **Net Area Sown:** ~47%
- **Forest Cover:** ~23%
- **Other Uses** (fallow land, uncultivable land, etc.): ~30%

Agro-Climatic and Agro-Ecological Zones

- **Agro-Climatic Regions:** India is divided into **15** agro-climatic regions (Planning Commission).
- **Agro-Ecological Regions:** India is divided into **20** agro-ecological regions (National Bureau of Soil Survey & Land Use Planning - NBSS&LUP).

- **Example:** The coverage area of the 'Western Himalaya cold arid' eco-region is **less than** the coverage area of the broader 'Western Himalaya' region.

Regional Variations

- **High Agricultural Land States:** Punjab, Haryana, Uttar Pradesh.
- **Low Agricultural Land State: Sikkim** (due to its hilly and forested terrain, less than 10% of land is net sown area).

Crop Management

Cropping Patterns

- **Double Cropping:** Raising two crops on the same land in a year, one after the other (e.g., wheat followed by soybeans).
- **Mixed Farming:** An agricultural system that involves both growing crops and rearing livestock on the same farm.
- **Intercropping:** Growing two or more crops simultaneously on the same field.

Seed Management

- **Seed Replacement Rate (SRR):** Enhancing SRR is crucial for future food production targets.
- **Constraint:** A major constraint is the demand-supply gap for quality seeds of **low-value and high-volume crops**. Private companies focus on high-value, low-volume seeds.
- **Policy:** A National Seeds Policy (2002) is already in place.

Post-Harvest Management

- **Safe Storage:** For safe storage of food grains, the moisture content at harvesting should not be higher than **14%**.

Agricultural Productivity & Challenges

Factors Influencing Productivity

- **Pathways to Increase Productivity:** No single factor is sufficient. A combination of **efficient irrigation, quality seeds, pesticides, and fertilizers** is required.
- **Reasons for Low Productivity:**
 - High population pressure on land.
 - Prevalence of disguised unemployment.
 - Prevalence of small land holdings.
- **Reason NOT causing Low Productivity:** **Cooperative farming** is actually a method to **improve** productivity, not a cause of low productivity.

Regional Productivity in India

- **High Productivity Region (South India):** The **Tamil Nadu coast** is an area of high agricultural productivity.
- **State with Largest Land Holdings:** **Rajasthan** has the largest average size of operational holdings in India.

Agricultural Inputs & Practices

Seeds

- **Seed Village Concept:** Aims to train farmers in **quality seed production** to make seeds available at the right time and affordable cost for the local area.

Fertilizers and Manure

- **Balanced Fertilizers:** Used to **increase production, improve fertilizer use efficiency, and maintain soil productivity.**
- **Top Consumers of Chemical Fertilizers:** **Uttar Pradesh and Andhra Pradesh** are among the largest consumers.
- **Green Manure Crops:**

- **For Arid Lands: Lobia (Cowpea)** is suitable for newly improved arid land.
- **Highest Nitrogen Content: Cowpea** has the highest nitrogen content (0.49%) among common green manure crops.

Modern Farming Concepts

- **Green Agriculture:** Involves **integrated pest management, integrated nutrient supply, and integrated natural resource management.**
- **Contract Farming Pioneer: Punjab** was the first state in India to introduce contract farming.

Agricultural Policies & Transformations

The Green Revolution

- **Role:** Played a crucial role in transforming **traditional agriculture into modern scientific agriculture.**
- **Costs:** This transformation involved significant **social and environmental costs**, contrary to the belief that it did not.

Globalization's Impact

- **Impacts include:** A shift in emphasis towards **cash crops**, growth in **income inequality**, and **reduction of subsidies.**
- **Not a Direct Impact: Climate change** is not primarily a result of globalization's impact on agriculture.

Characteristics of Indian Agriculture

Nature and Statistics

- **Primary Role:** Agriculture in India is primarily considered a **means of livelihood**, not just a profession, trade, or industry.
- **Pulse Cultivation:** A very high percentage (approx. 90%) of the area under **pulses is rainfed**, with minimal irrigation coverage.

Natural Resources

- **Groundwater Resources: Uttar Pradesh** has the highest replenishable groundwater resources in India.

Quality Standards

Certification

- **Agmark:** It is a **quality certification mark** (Mark of Standard Guarantee) for agricultural produce, governed by the Agricultural Produce (Grading and Marking) Act, 1937.

Know More About the Agriculture Scenario in India:

- [Agriculture Scenario in India – Old Year Questions](#)
- [Agriculture Scenario in India One Liner Questions & Answers](#)

