



1st  
Edition



# INDIAN AGRICULTURE

## COVERS:

AGRICULTURE AND ALLIED SECTORS | MAJOR CORPING PATTERNS | IRRIGATION SYSTEMS

E-TECHNOLOGY TO AID FARMERS | TRANSPORT AND MARKETING OF AGRICULTURAL PRODUCE

PUBLIC DISTRIBUTION SYSTEMS | FOOD PROCESSING AND RELATED INDUSTRIES

FOR UPSC CSE & STATE PCS EXAMS

# From the Editorial Board

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Indian Agriculture book launched by Study IQ Publications aims to address the syllabus of Indian Agriculture holistically from the UPSC Civil Services Examinations perspective. The book has been updated as per the latest examination pattern. This book is especially designed for Prelims and mains appearing aspirants. The book has been prepared by experienced faculties and subject-matter experts, keeping in mind the challenges faced by the students while preparing for competitive exams.

## The book addresses all the major dimensions of the syllabus like:

- **Crops grown in India:** The book examines the wide variety of crops grown in India, their geographic distribution, methods of cultivation, and their importance to the agricultural sector. It offers valuable insights into food crops, cash crops, horticulture, and plantation crops.
- **Role of agriculture in India's GDP:** The book explores the importance of the agricultural sector in terms of employment creation, rural development, poverty alleviation, food security, and GDP contribution.
- **Agricultural Resources:** The book determine the status, utilization pattern, problems and development of different agricultural resources viz., land, labour; water, biodiversity, livestock and fisheries;
- **Agricultural Pricing:** The book explains the influence of agricultural prices on major macroeconomic variables; identify the objectives that should be considered in fixing agricultural prices. It explains the role of the Commission for Agricultural Costs and Prices in price fixation.
- **Agri Marketing:** The book explains various types of marketing institutions prevalent in India. The book also discusses the role and initiatives of the federal and state governments in controlling the marketing of agricultural products. It also explains the concept of the cooperative marketing system and its issues.
- **Procurement, Storage, Buffer stock, and Distribution:** In order to understand the difficulties faced by farmers and the agricultural supply chain, it is crucial to comprehend the complexities of procurement, storage, marketing, and distribution. In-depth study of these factors is provided in this book, which also discusses attempts to improve farmers' access to markets as well as public distribution systems, cold storage facilities, and agricultural marketing infrastructure. Research and technology transfer in Indian agriculture development.
- **Emerging issues:** The book also recognizes the emerging issues and trends in agriculture such as diversification, agriculture industry interface, trade, quality, gender and sustainability, WTO, Information and Communication Technology (ICT).

## Important Features of the Book:

- **Consolidated material on Indian Agriculture** will help students to find all in one book.
- **Info graphics** in the book will help the students to learn the topics in a simplified manner.
- **Previous Year Questions** are added for students to apply their knowledge and know the trends.
- **'Do You Know'** sections are added for making learning exciting.

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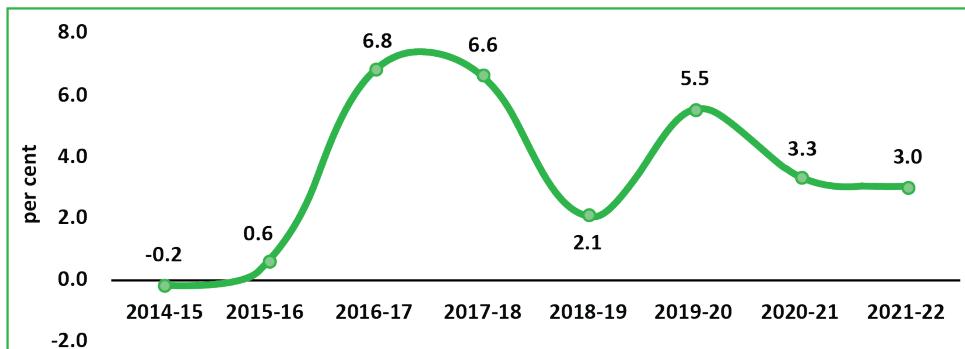
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**SAMPLE PAGES**

- **Seasonal pattern:** India has three major crop seasons
  - ◆ **Kharif season** starts with the onset of the monsoon season and continues till the beginning of winter. Major crops of this season are rice, maize, jowar, bajra, cotton, sesamum, groundnut and pulses such as moong, urad etc.
  - ◆ **Rabi season** starts at the beginning of the winter season and continues till the end of winter or beginning of summer season. Major crops of this season are wheat, barley, jowar, gram, pea and oilseeds like mustard, linseed and rapeseed.
  - ◆ **Zaid** is the summer cropping season between the rabi and kharif seasons and includes the cultivation of watermelon, muskmelon, vegetables, cucumber, fodder crops etc.

## 1.5 AGRICULTURE GROWTH AND SHARE IN GVA

- **Growth:** According to Economic Survey 2022-23, the Indian agriculture sector has been growing at an average annual growth rate of 4.6 per cent during the last six years. It grew by 3.0 per cent in 2021-22 compared to 3.3 per cent in 2020-21.



Source: MoSPI's Annual and Quarterly Estimates Of GDP at constant prices, 2011-12 series.

- **Gross Value Added (GVA) In Agriculture (At current prices):** As per second Advance Estimates of National Income, 2022-23, the share of the agriculture & allied sector in total GVA of the Indian economy has a long-term trend of around 18 per cent. Its share in total GVA improved to 20.3 per cent in the year 2020-21 and 19 per cent per cent in 2021-22. In 2022-23, its share was 18.3 per cent in total GVA.

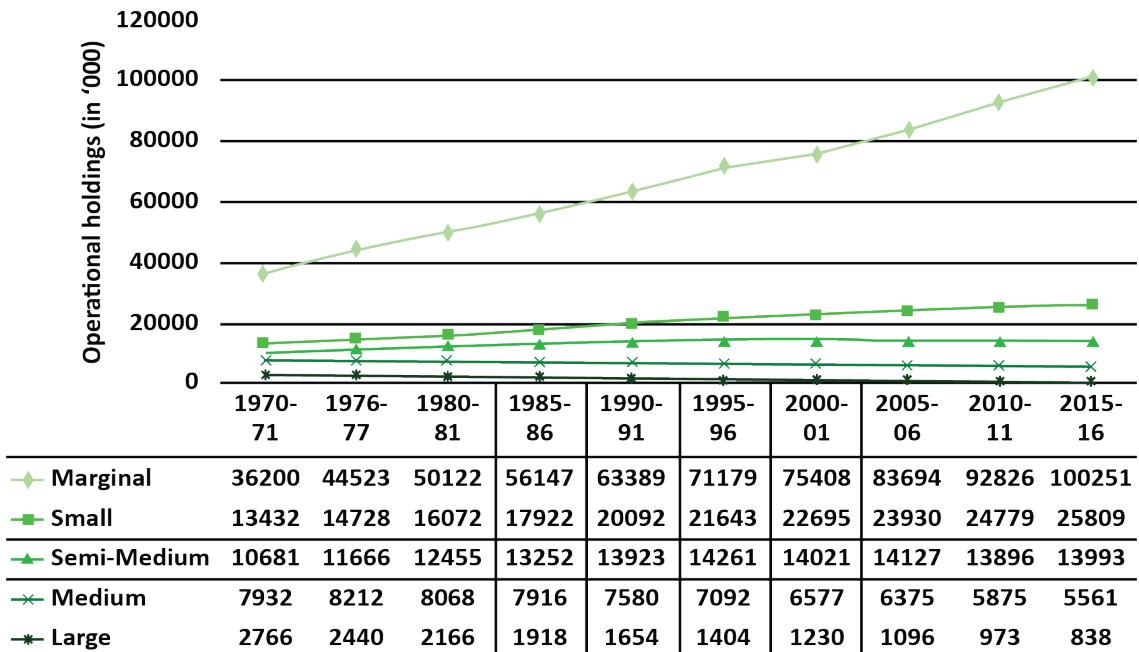
## 1.6 SIGNIFICANCE OF AGRICULTURE IN INDIAN ECONOMY

### EMPLOYMENT GENERATION

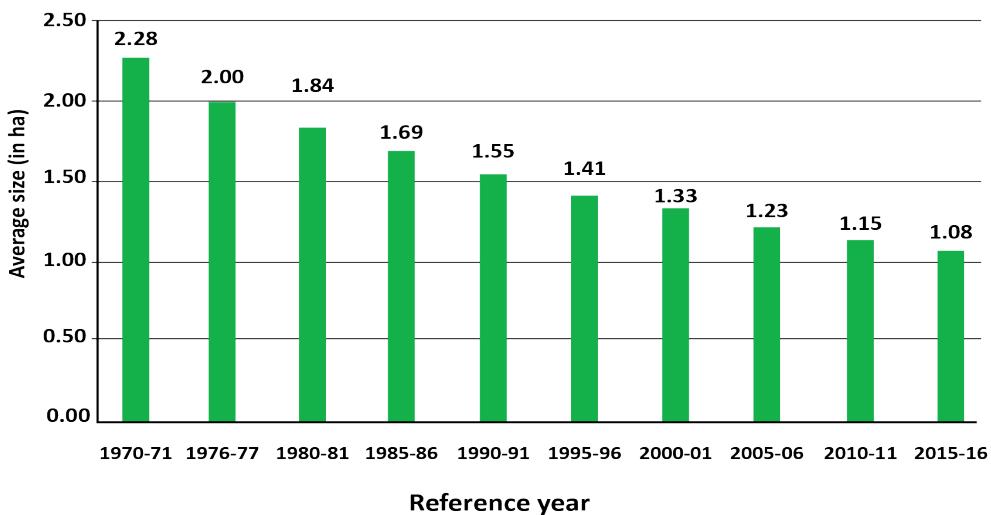
Agriculture is the largest employer in India but the share of the workforce engaged in agriculture has been declining over the years. As per census 2011, 54.6% of the total workforce is engaged in agriculture (including both cultivators and agricultural labourers). It was a decline from 2001 when 58.2% of the total workforce was engaged in agriculture.

The share of agriculture in employment has been rising since 2018. Also, After CoVID many workers have moved back to the Agriculture sector. As a result, Share of agriculture in overall employment is 45.6% in 2021-22. (**Periodic Labour Force Survey**).

### Number of operational holdings as per different Agriculture Censuses



### Average size of operational holdings as per different Agriculture Censuses



## CHAPTER

# 3

# Cropping Seasons and Crops

### 3.1 CROPPING SEASONS

India has **three cropping seasons- Rabi, Kharif and Zaid**. These cropping seasons are mainly found in northern and interior parts of the country due to significant changes in climatic conditions throughout the year.

#### RABI SEASON

Crops of this season are **sown in winter from October to December and harvested in summer from March to April**. The low temperature conditions during rabi season facilitates the cultivation of **temperate and subtropical crops** such as **Wheat, Mustard, Barley, Gram and Rapeseed**. Though these crops are grown in large parts of India, states from north and north-western parts such as Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir, Uttar Pradesh and Uttarakhand are important for the production of wheat and other rabi crops.

**Availability of precipitation during winter months due to western temperate cyclones** helps in the success of these crops. Also, **success of the green revolution** in the states of Punjab, Haryana, western Uttar Pradesh and parts of Rajasthan has been an important factor in the success of these crops.

#### KHARIF SEASON

Crops of this season are sown with the **onset of south-west monsoon** in different parts of the country i.e. June onwards and **harvested in September and October**. Important crops of this season are **tropical crops** like **paddy, maize, jowar, bajra, tur (arhar), urad, moong, cotton, jute, groundnut and soybean**.

#### ZAID SEASON

It is a **short duration summer season** between rabi and kharif seasons. It begins after harvesting of rabi crops in the month of April and crops are harvested before sowing of the kharif crops in the month of June. Some of the important crops of this season are **watermelon, muskmelon, cucumber, vegetables and fodder crops**. These crops are **grown on irrigated lands**, require **dry and warm weather** for growth and a **longer day length** is required for flowering.

**NOTE:-** This type of distinction in the cropping season **does not exist in southern parts of the country**. Here, the temperature is high enough to grow tropical crops during any period in the year provided the soil moisture is available. Therefore, in this region the same crops can be grown thrice in an agricultural year provided there is sufficient soil moisture.

Some of the important crops of the southern states include **rice, maize, ragi, groundnut, Jowar, vegetables and fodder**.

Type of Risks	Causes	Reasons for Severity	Suggested Solutions
Weather and Disaster related risks	High share of rainfed agriculture, Low irrigation coverage, drought, flooding, hailstorm and unseasonal rains	Production loss, Lower than potential production	Increase share of irrigated agriculture, Restore and expand irrigation, especially small projects, Adopt outcome measure of performance such as level of water table, water management
Price risks	Lower than remunerative price	Absence of marketing infrastructure, Presence of and excessive profiteering by middlemen	Build marketing infrastructure along the value chain, Regime based on selective timely interventions
Credit risks	Predominance of informal sources of credit, money lenders, Lack of capital for short term and long term loans	Absence of stable incomes/ profits lead to defaults/ indebtedness	Increase availability of formal credit and institutional credit to farmers
Market risks	Changes in demand/ supply domestic or international	Loses market/ market share	Allow long term contracts for purchase on pre-determined prices, Start direct purchase from farmers by exempting Government purchases by PSU, Defence, Paramilitary etc.
Policy risks	Uncertain policies, regulations	Impact of Government policies, APMC Act and other regulations	Trade or policy changes to be announced well before sowing and to stay till arrivals and procurement is over

## 11.2 ADVANTAGES OF CROP INSURANCE

- Income stability :** It secures farmers against crop failure. It is a recourse that assists farmers in managing yield and price risks.
- Technological advancement:** Insurance companies can also provide information on how to reduce losses, which can help farmers.
- New agricultural practices:** By protecting against loss, crop insurance assures economic interest and farmers can adopt new agricultural practices in return and can try new measures to protect their crops.

## 11.3 CROP INSURANCE SCHEMES IN INDIA

Crop insurance has been a top most priority area of the government due to the importance of agriculture in the Indian economy as well as the government's responsibility towards development of agriculture and welfare of farmers in India. Presently, 4 crop insurance schemes are operational in the country which include-

- Pradhan Mantri Fasal Bima Yojana
- Weather Based Crop Insurance Scheme