

# Collegedunia NCERT Notes

NCERT Notes for Class 12 KTPI (2026-27 Syllabus)

## Chapter 6: Agriculture

These Agriculture Class 12 KTPI notes trace Indian farming from early settlements to organised rural society.

Also see for this chapter: [NCERT Solutions](#)

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## 1 Agriculture through Time

Indian agriculture grew through close observation of land, water, plants and animals. Archaeology and texts preserve this long record.

### 1.1 Natural Setting and Agricultural Base

India offers rocky, alluvial, sandy and wet lands. Monsoon rain and perennial rivers supported many farming systems.

**Official practice anchor:** Related anchor, CBSE KTPI Sample Paper 2021-22 Term 1, Q32 on India's diverse water structures.

- **Soil diversity:** Different crops suited different local conditions.
- **Monsoon:** Seasonal rain remained the main water source.

- **Rivers:** Floodplains supplied fertile alluvium and dependable water.

### A Complete Farming Tradition

Indian practice covered seed choice, irrigation, manure, crop protection, storage, livestock and fishing.

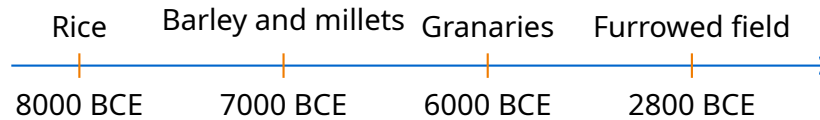
### Farming and Landscape

Crop patterns still change with rainfall, soil depth and access to irrigation.

## 1.2 Prehistoric Beginnings

Rice grew in parts of the Ganges Valley by the eighth millennium BCE. Barley and millets appeared at Mehrgarh by the seventh millennium BCE.

**Official practice anchor:** CBSE KTPI Board Paper 2026, Q2 on the Kalibangan field dated about 2800 BCE and intercropping.



### Early Evidence

Ancient cultivation was not a single event. Crops appeared in different regions over long periods.

### Timeline Clue

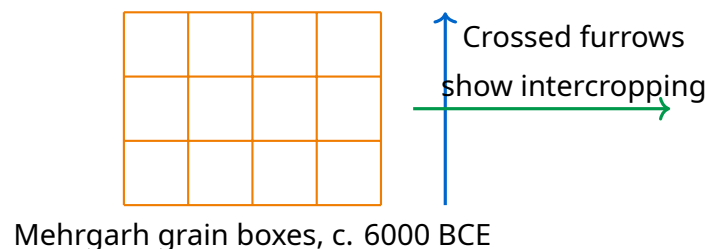
Remember the order: rice, barley and millets, Mehrgarh granaries, then the Kalibangan field.

### 1.3 Mehrgarh Storage and Harappan Farming

Harappan communities cultivated cereals, cotton and other crops. They also kept cattle, sheep, goats, pigs and fowl.

**Official practice anchor:** CBSE KTPI Board Paper 2026, Q2 on Harappan plough-based farming and Kalibangan's crossed furrows.

- **Mehrgarh evidence:** Clay-lined grain boxes dated about 6000 BCE protected stored grain from dampness.
- A Banawali model shows a ploughshare.
- Perpendicular furrows at Kalibangan suggest intercropping.



#### Do Not Oversimplify

The furrows suggest intercropping. They do not identify the exact crops with certainty.

## 1.4 Written Sources

Specialised texts add detail that archaeology cannot supply. They discuss agriculture, gardens, trees, livestock and biodiversity.

**Official practice anchor:** CBSE KTPI Sample Paper 2021-22 Term 1, Q4 on texts that discuss agriculture.

| Source            | Main value                                     |
|-------------------|------------------------------------------------|
| Kṛṣiparāśara      | Ploughs, rainfall, field operations and manure |
| Arthaśāstra       | Water management, officials and cattle         |
| Bṛhatsamhitā      | Rain prediction, trees and grafting            |
| Vṛkṣāyurveda      | Arboriculture, plant care and treatments       |
| Sangam literature | Landscapes, crops and regional life            |

### Source Memory

Think “Farm, State, Sky, Trees, Tamil”: Kṛṣiparāśara, Arthaśāstra, Bṛhatsamhitā, Vṛkṣāyurveda and Sangam works.

## 2 Land, Rain and Water

Ancient classification linked farming decisions to soil, terrain and water. Water storage reduced the risk of irregular monsoons.

### 2.1 Twelve Land Types

The Amarakoṣa describes twelve types using fertility, moisture and physical features.

**Official practice anchor:** CBSE KTPI Board Paper 2025, Q9 on Amarakoṣa's twelve land types and their classification basis.

| Term         | Meaning                  |
|--------------|--------------------------|
| ūrvara       | fertile                  |
| ūṣara        | barren                   |
| māru         | desert                   |
| aprahata     | fallow                   |
| śadvala      | grassy                   |
| pankikala    | muddy                    |
| jalaprāya    | watery                   |
| kaccha       | beside water             |
| sharkara     | pebbly or limestone-rich |
| sharkarāvati | sandy                    |
| nadīmātṛka   | river-watered            |
| devamātṛka   | rain-watered             |

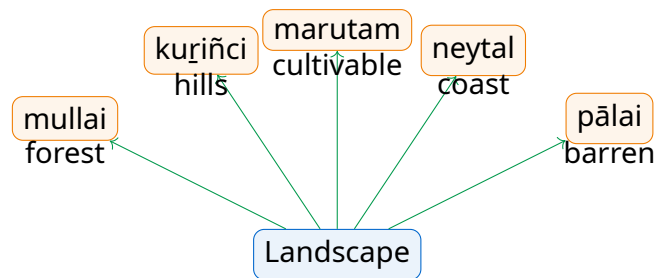
#### Classification Key

Group the terms by productivity, surface condition and source of water.

## 2.2 Five Tamil Landscapes

The Tolkāppiyam presents five landscapes. Each links environment with a way of life.

**Official practice anchor:** CBSE KTPI Sample Paper 2021-22 Term 1, Q1 on Tolkāppiyam's fivefold land division.



### Regional Knowledge

Land classification was practical. It connected ecology with crops, occupations and settlement.

## 2.3 Rain Prediction

Seasonal rain shaped sowing and harvest decisions. Parāśara used positions of the Sun and Moon, while Varāhamihira considered nakṣatras.

**Official practice anchor:** CBSE KTPI Sample Paper 2024-25, Q31(i) on farmers' dependence on traditional monsoon prediction.

- Observation built a seasonal calendar.
- Predictions guided field operations.
- Present forecasts use instruments, satellites and numerical models.

### Modern Rainfall Measure

$$\text{Rainfall depth} = \frac{\text{collected water volume}}{\text{collection area}}$$

Rainfall is commonly reported in millimetres.

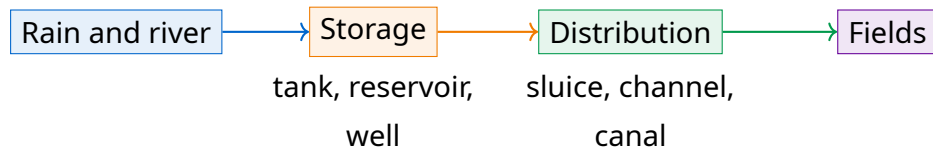
### Evidence and Belief

Historical prediction methods reveal observation traditions. They should not be treated as modern meteorological models.

## 2.4 Irrigation and Water Harvesting

Canals, channels, wells and tanks supplied crops. Reservoirs stored monsoon water for dry months.

**Official practice anchor:** CBSE KTPI Sample Paper 2024-25, Q27 on ancient water conservation; 2021-22 Term 1, Q9 and Q32.



### Grand Anicut

The Kallanai diverted Kāveri water into streams and supported irrigation across the delta.

### 3 Field Practice and Crop Care

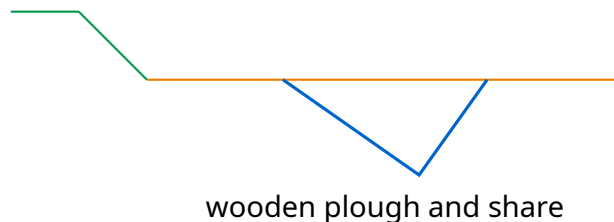
Farming joined tools, good seed, soil nourishment and crop protection. Each stage affected the final yield.

#### 3.1 Implements and Field Preparation

The Ṛgveda describes a wooden plough drawn by bullocks. A metal ploughshare opened the soil.

**Official practice anchor:** CBSE KTPI Board Paper 2026, Q2 on plough-based farming and the Kalibangan furrow pattern.

- **Preparation:** plough, harrow, axe and hoe.
- **Sowing:** seed drill.
- **Harvest:** sickle.
- **Processing:** sūpa for winnowing and udara for measuring grain.



#### Compare by Function

When comparing old and modern tools, discuss power source, speed, precision, cost and soil impact.

### 3.2 Seed Selection and Treatment

Farmers selected healthy seed from ripening crops. Seed adulteration was treated as a serious offence.

**Official practice anchor:** CBSE KTPI Sample Paper 2021-22 Term 1, Q31 on punishment for seed adulteration.

1. Select healthy, mature seed.
2. Coat or treat it with suitable materials.
3. Sow it at the right season and depth.
4. Protect the young crop from pests and disease.

#### Traditional Treatments

Rice flour, black gram, sesame, herbs and cow dung were used for different seed treatments.

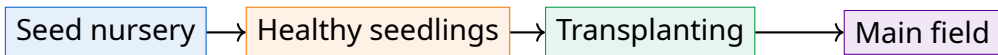
#### Four S Steps

Select, shield, sow and safeguard.

### 3.3 Rice Nurseries and Transplanting

Rice seed was raised in small nursery plots. Seedlings were later moved to prepared fields.

**Official practice anchor:** CBSE KTPI Board Paper 2020, Q1(a) source passage on rice nurseries and transplanting in the Godavari-Krishna deltas.



#### Historical Point

Rice transplanting was perfected in the Godavari and Krishna deltas by the first century CE.

#### Why Transplant?

Nurseries allow close care during early growth and help farmers place strong seedlings evenly.

### 3.4 Manures and Soil Nourishment

Parāśara linked manure with good yield. Kauṭilya mentioned cow dung, bones, fish and milk.

**Official practice anchor:** CBSE KTPI Sample Paper 2024-25, Q17 on kuṇapajala; 2021-22 Term 1, Q8 on panchagavya.

| Material              | Recorded use                           |
|-----------------------|----------------------------------------|
| Cow dung              | seed treatment and manure              |
| Animal bones and fish | nutrient sources                       |
| Kuṇapajala            | fermented liquid manure                |
| Panchagavya           | fermented mixture of five cow products |

#### Five Parts of Panchagavya

cow dung + urine + milk + curd + ghee

#### Organic Does Not Mean Instant

Fermentation, dilution and correct application matter. A traditional label alone does not ensure safe use.

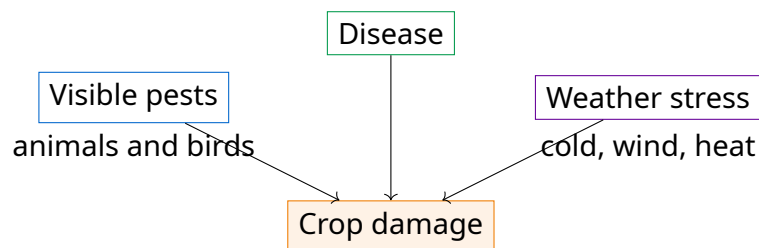
## 4 Protection, Animals and Allied Work

Agriculture extended beyond crops. Plant health, livestock, trees and fish formed a connected rural economy.

### 4.1 Pests and Plant Disorders

Parāśara distinguished visible pests from disease. Listed pests included goats, wild boars, pigs, deer, buffaloes and birds.

**Official practice anchor:** Related anchor, CBSE KTPI Sample Paper 2024-25, Q31(ii) on ancient crop-disease management.



#### Comprehension Answer

Classify damaging elements as animals, birds, disease agents and harsh weather.

## 4.2 Traditional Plant Protection

Surapāla described plant-care recipes and bio-indicators. Mustard paste and milk were among suggested treatments.

**Official practice anchor:** CBSE KTPI Sample Paper 2024-25, Q31(ii) on ancient management of crop diseases.

- Observe symptoms before treatment.
- Match crop and location with soil and water.
- Use plant materials with protective properties.
- Nourish weak trees and manage their surroundings.

### Arbori-horticulture

The term covers the care and cultivation of trees, shrubs, gardens and orchards.

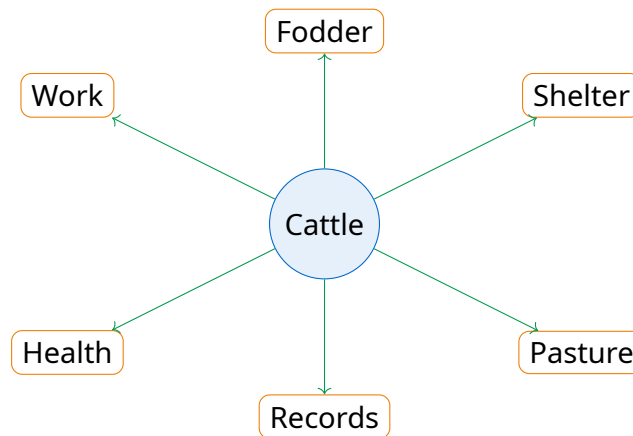
### Avoid Present-Day Claims

Historical recipes are evidence of practice. Their safety and effectiveness need modern testing.

### 4.3 Cattle Management

Cattle represented wealth and supported transport, ploughing, manure and food systems. Clean water, green fodder and tidy sheds mattered.

**Official practice anchor:** CBSE KTPI Sample Paper 2024-25, Q6 on Rigvedic cow protection and cattle management.



#### Superintendent of Cattle

The officer counted livestock, supervised rearing, arranged rations and supported proper classification and care.

#### Integrated Farming

Livestock can supply draught power, manure and income while using farm residues as fodder.

## 4.4 Veterinary Knowledge

Texts described livestock diseases and treatments. Lokopakāra mentions problems of horns, teeth and the mouth, along with bone care.

**Official practice anchor:** CBSE KTPI Board Paper 2020, Q1(a)(ii) on the significance and management of cattle.

- Sheds required cleanliness.
- Animals needed clean water and suitable fodder.
- Pastures around villages were encouraged.
- Different ages and uses required different rations.

### Basic Animal Care

Use the four Fs: feed, fresh water, floors and frequent checks.

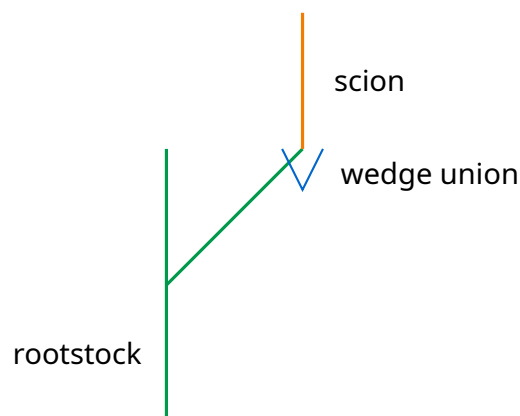
## 5 Gardens, Fishing and Rural Society

Trees, gardens, fish and festivals widened the meaning of agriculture. They linked production with culture and community.

### 5.1 Horticulture and Grafting

Harappans cultivated several fruits. Later texts mention many trees, shrubs and herbs. Surapāla also records organised garden planting, including square, line, cluster, arbour and combined layouts.

**Official practice anchor:** [Related anchor, CBSE KTPI Sample Paper 2024-25, Q31\(ii\) on the treatment of trees and crop disease.](#)



#### Wedge Grafting

A shaped scion is joined to a cut rootstock so their tissues unite and grow together.

#### Grafting Answer

Define the joining process, name scion and rootstock, then state its purpose. If garden layouts appear in a source-based passage, treat them as examples of planned arbori-horticulture.

**Allied fish-culture source note.** Harappan food evidence and later technical records add a short allied note to the rural-economy picture. Harappans used fishing nets and ate sea and freshwater fish. Pisciculture means breeding and rearing fish under managed conditions.

**Official practice anchor:** NCERT Chapter 6 exercise Q6 asks what pisciculture means and how it reached Bengal.

**Source focus:** The NCERT chapter names Someśvardeva's 1127 CE account of fish-culture methods and thirty-four kinds of fish.

- Manusmṛti names rohu and pathen as food fish.
- Fish culture probably began in China.
- It reached Bengal through Myanmar or Thailand.
- Someśvardeva described culture methods and many fish kinds.

### Farm Ponds

Managed ponds can store water, support fish and add income to a farm.

## 5.2 Festivals and Community

Harvest festivals joined work, belief and celebration. They also honoured cattle and strengthened local bonds.

**Official practice anchor:** CBSE KTPI Sample Paper 2024-25, Q9 on agricultural fairs, festivals and national integration.

| Festival                 | Region named in the chapter         |
|--------------------------|-------------------------------------|
| Lohri                    | Punjab and neighbouring states      |
| Magh Bihu                | Assam                               |
| Nabanna                  | Bengal                              |
| Onam                     | Kerala                              |
| Pongal                   | Tamil Nadu                          |
| Akshaya Tritiya and Holi | parts of western and northern India |

### Festival Recall

Move west to east, then south: Lohri, Nabanna, Bihu, Onam and Pongal.

## 6 Governance, Sustainability and Revision

Farming supported kingdoms, households and markets. Good governance protected water, livestock and cultivators.

### 6.1 Administration and Taxation

The Arthaśāstra records officers for cattle and rules for water structures. Rulers usually kept farm taxes modest.

**Official practice anchor:** CBSE KTPI Sample Paper 2021-22 Term 1, passage questions Q38 to Q40 on rulers, farm tax and farmers.

- Maintain shared waterworks.
- Record and supervise livestock.
- Protect productive land and pasture.
- Avoid excessive pressure on cultivators.

#### Traditional Tax Practice

The chapter describes a tradition of minimal tax on farmers, rarely exceeding one-sixth of the produce.

#### Read the Wording

“Rarely exceeding” is not the same as a fixed universal rate in every period and region.

## 6.2 High-Yield Revision Table

Use this table for a final chapter scan.

**Official practice anchor:** Revision set: CBSE KTPI Sample Paper 2024-25, Q6, Q9, Q17, Q27 and Q31; 2021-22 Term 1, Q1, Q4, Q8, Q9, Q31, Q32, Q33, Q36 and Q38 to Q40.

| Topic       | Core recall                                                    |
|-------------|----------------------------------------------------------------|
| Origins     | Rice in Ganges Valley; barley and millets at Mehrgarh          |
| Mehrgarh    | Clay-lined granaries dated about 6000 BCE                      |
| Harappans   | Plough-based farming, crossed furrows and domesticated animals |
| Land        | Twelve Amarakoṣa types and five Tamil landscapes               |
| Water       | Wells, tanks, canals, reservoirs and Kallanai                  |
| Seed        | Selection, treatment, nursery and transplanting                |
| Manure      | Cow dung, animal materials, kuṇapajala and panchagavya         |
| Protection  | Visible pests, disease and weather stress                      |
| Allied work | Cattle, horticulture, grafting and pisciculture                |
| Society     | Festivals, modest tax and community bonds                      |

### Answer Structure

For a five-mark answer, use a definition, four precise points and one named textual or archaeological example.

### 6.3 Practice Questions and Project Lens

Revision improves when facts are used in comparisons and field observations.

**Official practice anchor:** Use CBSE KTPI Sample Paper 2024-25, Q27 and Q31 as models for source-based analytical practice.

1. Compare ancient and modern agricultural implements.
2. Explain land classification using physical features.
3. Trace irrigation from water source to field.
4. Describe kuṇapajala and panchagavya.
5. Explain the cattle superintendent's duties.
6. Define pisciculture and trace its route to Bengal.
7. Plan a farmer interview on seed, manure, irrigation and marketing.
8. Map reuse and recycling on an integrated farm.

#### Project Method

Prepare questions first, record observations accurately, seek permission for photographs and separate evidence from opinion.

[Download the Full NCERT Solutions](#)

#### Related Collegedunia Resources

##### Same chapter, other resources:

- [NCERT Solutions](#)

##### Continue learning:

- [Class 12 Ktpi - All Chapters](#)

## 7 Quick Reference Summary

This summary gathers names, dates and relationships that commonly appear in short and long answers.

## 7.1 Dates, Places and Texts

**Official practice anchor:** Revision set: CBSE KTPI Sample Paper 2021-22 Term 1, Q1, Q4, Q8, Q9, Q31, Q32, Q33, Q36 and Q38 to Q40; CBSE KTPI Sample Paper 2024-25, Q6, Q9, Q17, Q27 and Q31.

| Anchor               | Recall                                            |
|----------------------|---------------------------------------------------|
| 8th millennium BCE   | Rice in parts of the Ganges Valley                |
| 7th millennium BCE   | Barley and millets at Mehrgarh                    |
| about 6000 BCE       | Mehrgarh granaries                                |
| about 2800 BCE       | Crossed furrows at Kalibangan                     |
| 1st century CE       | Rice transplanting in Godavari and Krishna deltas |
| about 1800 years ago | Early construction associated with Kallanai       |
| 1025 CE              | Lokopakāra                                        |
| 1127 CE              | Someśvardeva's account of fish culture            |

### One-Line Theme

Indian agriculture combined close observation, local adaptation, shared infrastructure and a strong culture of care.