1.1 Food Production and Accessibility

Human food systems did not begin with agriculture. Long before people learned to cultivate crops or domesticate animals, they depended on what nature provided directly. Understanding this progression — from foraging to farming to herding — is essential to understanding why different regions of India (and the world) developed distinct food cultures. This chapter traces that journey and explains how each stage shaped the way humans accessed food.

1.2 Subsistence Foraging

Subsistence foraging (also called hunting-gathering) was the earliest and longest-lasting way humans obtained food, lasting for the vast majority of human history before agriculture emerged roughly 10,000–12,000 years ago.

Key features of foraging societies:

- Food was obtained directly from the wild: hunting animals, fishing, and gathering wild plants, fruits, roots, tubers, nuts, and honey.

- Groups were typically small, mobile, and nomadic, moving seasonally to follow food availability.

- Diet was highly diverse but unpredictable — dependent on season, climate, and local ecology.

- Division of labour existed, often along gender lines (commonly, though not universally, men hunted and women gathered), though this varied across cultures.

- Population density was low because foraging can support only a limited number of people per unit of land.

Significance for food habits:

- Foraging societies possessed deep ecological knowledge — which plants were edible, medicinal, or poisonous, and when and where food would be available.

- This knowledge base became the foundation for later plant domestication.

- Traces of foraging traditions survive today in the continued consumption of wild foods, forest produce (minor forest produce/NTFPs), and foraging-derived culinary practices in many indigenous and tribal communities of India (e.g., mahua flowers, wild tubers, forest greens).

1.3 Horticulture

Horticulture refers to small-scale cultivation of gardens — typically using simple hand tools (digging sticks, hoes) — as opposed to large-scale field agriculture using ploughs and draft animals.

Key features:

- Practiced in small plots, often near dwellings; commonly associated with shifting or "slash-and-burn" cultivation.

- Crops were often intermixed (polyculture) rather than grown as single-crop fields.

- Represents a transitional stage between foraging and full agriculture — it allowed partial food security while still permitting mobility.

- Horticultural societies could support larger and more settled populations than foragers, but were still less intensive than agriculturalists.

Relevance to India:

- Shifting cultivation (known regionally as *jhum*, *podu*, *bewar*, etc.) practiced by tribal communities in Northeast India and parts of central India is a living example of horticultural food production.

1.4 Agriculture

Agriculture is the systematic, intensive cultivation of domesticated plants and animals using tools, irrigation, and land management, over the same fixed plots of land year after year.

Key features:

- Involves domestication of both plants (cereals, pulses, vegetables) and animals (for draft power, milk, meat).

- Enabled the production of a food surplus, which allowed:

  - Permanent settlements (villages, towns)

  - Population growth

  - Occupational specialization (non-food-producing roles: artisans, priests, rulers, traders)

  - The rise of complex, stratified societies and eventually civilizations

- Agriculture requires more labour and land preparation (tillage) than foraging or horticulture but yields far more food per unit of land.

Significance:

Agriculture is considered one of the most transformative developments in human history — often called the "Neolithic Revolution" — because it fundamentally altered how humans related to land, food, and each other.

1.5 Pastoralization (Pastoralism)

Pastoralism is a food production strategy centered on the domestication and herding of animals (cattle, sheep, goats, camels, yaks) for food (milk, meat, blood in some cultures) and other products (wool, hide, dung as fuel).

Key features:

- Often practiced in regions unsuitable for crop agriculture — arid, semi-arid, mountainous, or grassland areas.

- Can be nomadic (continuous movement), transhumant (seasonal movement between fixed pastures, e.g., highland summer/lowland winter), or settled.

- Provides a renewable, self-replenishing food source (milk and blood can be obtained without killing the animal).

Relevance to India:

- Pastoral communities such as the Gujjars, Bakarwals, Rabaris, Dhangars, and Todas represent living pastoral traditions.

- Pastoralism strongly shaped dairy-based food traditions in India — an important link to Unit II's discussion of milk, butter, and ghee.

1.6 Origin of Agriculture and Accessibility of Food

The shift to agriculture changed food accessibility fundamentally:

Aspect	Foraging	Agriculture
Food source	Wild, unpredictable	Cultivated, more predictable
Mobility	High (nomadic)	Low (settled)
Population supported	Low density	High density
Labour pattern	Immediate-return	Delayed-return (planting to harvest)
Storage	Minimal	Surplus storage possible
Social structure	Egalitarian, small groups	Stratified, larger societies

The development of storage, surplus, and trade meant that, for the first time, food accessibility was no longer strictly tied to what a person or small group could personally find or produce on a given day. This laid the foundation for the complex food distribution and cultural food systems studied in later units.

2.1: Origin of Agriculture and Earliest Crops Grown

Chapter 1 traced the broad shift from foraging to farming. This chapter looks more closely at where and how agriculture actually began, and which crops were first domesticated — both globally and within the Indian subcontinent. This background is essential for understanding

why certain staple foods (rice, wheat, millets, pulses) came to dominate different regions of India.

2.2 The Neolithic Transition

The shift to agriculture is known as the Neolithic Revolution, beginning around 10,000–12,000 years ago (roughly 8000 BCE), independently in several parts of the world.

Conditions that favoured the origin of agriculture:

- End of the last Ice Age and a shift to a warmer, more stable climate (Holocene epoch), which made predictable seasonal cultivation possible.

- Availability of wild ancestors of cereals and pulses suitable for domestication in certain regions.

- Growing human population pressure, which made foraging alone insufficient to sustain communities.

- Accumulated ecological knowledge from generations of foraging, which allowed people to recognize and select useful plant traits.

2.3 Major Centres of Origin of Agriculture (Global)

Agriculture did not begin in one place — it arose independently in several "centres of origin," a concept most associated with the botanist Nikolai Vavilov.

Region	Approx. Period	Key Crops Domesticated
Fertile Crescent (Middle East)	~10,000 BCE	Wheat, barley, lentil, pea
China (Yangtze & Yellow River)	~9,000 BCE	Rice (Yangtze), millets (Yellow River)
Mesoamerica	~7,000 BCE	Maize, beans, squash
Andes (South America)	~7,000 BCE	Potato, quinoa
Indian subcontinent	~7,000–3,000 BCE	Rice, various millets, pulses, cotton
Sub-Saharan Africa	~5,000 BCE	Sorghum, African rice, yams

This independent, multi-centre origin explains why global food cultures diversified along different staple-crop lines — wheat-based in West Asia and Europe, rice-based in East and South Asia, maize-based in the Americas.

2.4 Origin of Agriculture in the Indian Subcontinent

India is itself recognized as an independent centre of plant domestication, with evidence from multiple regions:

Mehrgarh (present-day Balochistan, Pakistan) — one of the earliest known agricultural settlements in South Asia (c. 7000 BCE), showing early cultivation of wheat and barley, and domestication of animals such as cattle, sheep, and goats.

Indus Valley Civilization (c. 3300–1300 BCE) — a mature agricultural economy based on wheat, barley, and later, rice in eastern regions; supported by irrigation and granary/storage systems.

Ganga Valley and Eastern India — early and independent domestication of rice (*Oryza sativa*), with archaeological evidence from sites such as Lahuradewa suggesting rice cultivation dating back to around 7000–6000 BCE, among the earliest anywhere in the world.

Southern and Central India — independent domestication of millets (e.g., finger millet/ragi, foxtail millet, kodo millet) and pulses, particularly in the Deccan region, associated with Neolithic sites such as those in Karnataka.

2.5 Earliest Crops Grown in India

Crop Group	Examples	Region of Early Cultivation
Cereals	Wheat, barley	Northwest India (Mehrgarh, Indus Valley)
Cereals	Rice	Eastern India, Ganga Valley
Millets	Ragi, foxtail millet, kodo millet, little millet	Deccan Plateau, South India
Pulses	Moong, urad, horse gram	Across the subcontinent
Others	Cotton (fibre, not food)	Indus Valley

2.6 Significance of Early Crop Domestication for Food Habits

- The crop(s) that could be reliably grown in a region became the **dietary staple** of that region — wheat in the north/northwest, rice in the east and south, millets in drier central and southern zones.

- These staples, established thousands of years ago, still define regional Indian food identities today (e.g., wheat-based rotis in Punjab, rice in Bengal and Tamil Nadu, millets historically dominant in the Deccan).

- Domestication of pulses alongside cereals allowed the development of nutritionally complementary diets (cereal + pulse combinations), a pattern still central to Indian meals (e.g., dal-rice, dal-roti).

- Early crop choices were shaped by local agro-climatic conditions (rainfall, soil, temperature), a principle still relevant to sustainable and traditional food systems today.