Chapter 7

Factors of Production

Chapter Notes:

Introduction

- **Production Process**
  - Every product (clothes, shoes, phone, computer, etc.) goes through a **production process**.
  - **Production process** = using resources/inputs to produce final goods.
  - These resources are called **Factors of Production**.
- **Example: Ratna's Restaurant – Pause Point**
  - Location (land) chosen.
  - Money arranged for rent and equipment (capital).
  - Hired staff (labour).
  - Bought ingredients (resources).
  - Managed business (entrepreneurship).
- **Business**
  - **Definition**: A firm, shop, or factory that **produces/sells goods** or **provides services.**
  - Businesses create opportunities for people to engage in **economic activities**.
- **Types of Factors of Production**
  1. **Land** – natural resources.
  2. **Labour** – human effort.
  3. **Capital** – money, machines, tools.
  4. **Entrepreneurship** – risk-taking & management.

Technology: A facilitator that helps produce more goods with fewer resources.

Factors of Production

1. Land (Natural Resources)

- **Land** in economics = **all natural resources**, not just soil/area.
- **Examples**: soil, forests, water, air, sunlight, minerals, oil, natural gas.
- Nature gives us these resources, and we use them for production.
- Businesses either **buy land or pay rent** to use it.

2. Labour (Human Resources)

- **Meaning**
  - Labour = **physical** + **mental effort** in production.
  - Examples: farmers, carpenters, doctors, teachers, scientists.
  - **People as a resource**: Apply knowledge, skills, decision-making to create goods & services.
  - **Human Capital** = skills, knowledge, training, health → quality & efficiency of labour.

- **Facilitators of Human Capital**
  - **i. Education & Training**
    - Builds knowledge from basic literacy to expertise.
    - Prepares individuals for real-world problem-solving.
  - **ii. Healthcare**
    - Good health → better learning, creativity, productivity.
    - Healthy workers = fewer absences, more efficiency.
  - **iii. Social & Cultural Influences**
    - Japan: Kaizen → continuous improvement.
    - Germany: punctuality, quality, discipline → strong industrial output.
- **Challenges in India**
  - Literacy: 85% males, 70% females (2023).
  - Skills mismatch with modern jobs.
  - Dropouts due to poverty.
- **Opportunities – Demographic Dividend**
  - 65% of population < 35 years (2024).
  - Young workforce can boost economy if given **education, health, and skill training.**
- **India's Ancient Skill Heritage**
  - Work = devotion + perfection.
  - **Shilpa Shastras**: ancient texts with guidelines for sculpture, paintings, buildings, jewellery.
  - **Temple sculptors**: worked for generations with dedication.
  - **Stitched shipbuilding** (2000+ years old): ships made with stitched planks for maritime trade.

3. Capital

- **Meaning**
  - **Capital** = Money + man-made resources used in production.
  - Examples: **machinery**, **tools, vehicles, shops, factories, computers, office buildings, equipment.**
  - Essential for both **manufacturing units** and **service enterprises**.
- **Sources of Capital**
  - **Personal savings, family, friends –** first source of funds (e.g., Ratna's restaurant).
  - **Bank loans –** borrowed money to be repaid with interest.
  - **Stock market –** large companies raise money by selling shares.
    - **Interest**: Extra money paid on loans.
    - **Dividend**: Profit shared with shareholders.

4. Entrepreneurship

- **Meaning**
  - **Entrepreneurship** = starting a business or creating something new to solve a problem.
  - **Entrepreneur** = person who:

- Has an **idea**.
- **Takes risks.**
- Uses **land**, **labour**, and **capital**.
- **Works hard** to make the idea successful.

◆ **Role of an Entrepreneur**

- Brings **new products/services** for society.
- Creates **jobs** and supports livelihoods.
- Feels satisfied by serving people and fulfilling dreams.

◆ **Example – J.R.D. Tata**

- Famous Indian entrepreneur (1904–1993).
- Head of **Tata Group** (steel, cars, power, chemicals).
- Started **India's first airline** – Tata Airlines (later Air India).
- Believed businesses should also **help society**, not just earn profit.
- Cared for workers → provided good working conditions.
- Known for vision, honesty, and hard work.
- Awarded **Bharat Ratna** in 1992.

Technology – An Enabler of Production

◆ **Meaning**

- **Technology** = use of scientific knowledge in work and production.
- Example: Camera uses science to create digital images.
- Every production activity uses some form of technology.

◆ **Role of Technology**

- Makes work **faster, easier, and cheaper.**
- Old technologies → still useful (pulleys, wheelbarrows).
- New technologies → replace older methods (emails instead of letters).

◆ **Examples in Daily Life**

- **UPI →** easy online payments.
- **Weather updates →** help farmers.
- **GPS →** shortest transport routes.
- **Robotics**, **online learning →** new skills and jobs.

◆ **Technology in Learning & Jobs**

- **SWAYAM platform (MOOCs) –** free online courses (robotics, aquaculture, textile printing, etc.).
- **National Career Service (NCS) –** helps people find jobs in different fields.
- **Removes geographical barriers –** learn anytime, anywhere.

How Factors are Connected

- **Combination of Factors**
  - **Land, Labour, Capital, Entrepreneurship, Technology** all work **together** to produce goods & services.
  - The use of each factor depends on the product:
    - **Labour-intensive →** farming, construction, handicrafts.
    - **Capital-intensive →** satellites, semiconductor chips, heavy machinery.
- **Interdependence**
  - If one factor is missing/misused → production becomes inefficient or stops.
  - New techniques can change the role of factors (e.g., machines reduce farm labour, 3-D printing helps textile industry).
- **Geographic Connection**
  - Inputs (land, labour, raw materials) come from **different places**.
  - Businesses bring them together to produce goods.
  - **Example**: **Supply chain** = network of people, resources, and activities in production.
    - If disrupted (like during **COVID-19)**, production halts.
- **Example – Mobile Phone Manufacturing**
  - **Steps**:
    - Research & design (engineers, experts).
    - Acquire land, machinery, workers (capital + labour).
    - Assemble components, test, package.
    - Entrepreneur manages decisions.
    - Distributed to markets.
  - Shows how all factors fit like **puzzle pieces**.

Responsibilities towards Factors of Production

- **Towards Natural Resources**
  - Land, water, minerals are **limited** → must be used **carefully**.
  - **Problems**:
    - Leather factories → pollute rivers & soil.
    - E-waste (old phones) → harmful chemicals leak into ground.
  - **Solution**:
    - Reduce waste.
    - Recycle materials.
    - Avoid pollution.
    - Adopt **sustainable practices** for future generations.
- **Towards Workers/Employees**
  - **Fair wages & safe working conditions.**
  - **Skill development & training** to improve productivity.

- **Workplace rights –** no discrimination, health care, paid leave, fair treatment.

🔹 **Corporate Social Responsibility (CSR)**

- Companies must care for **society & environment.**
- Activities: reduce pollution, support communities, respect employees & customers.
- **India's CSR Law (2014)**: Companies must spend **2% of their 3-year average profit on CSR activities.**

The Big Questions (Page 163)

Q1. What are the factors of production?

Answer: The factors of production are the resources used to produce goods and services. They are:

1. Land – natural resources (soil, water, forests, minerals, etc.).
2. Labour – human effort (physical and mental).
3. Capital – money and man-made resources (machines, tools, buildings).
4. Entrepreneurship – a person's ability to take risks, organise resources, and run a business.

👉 Technology is a facilitator that makes production faster and easier.

Q2. How are these factors interconnected?

Answer: All factors (land, labour, capital, entrepreneurship, technology) work **together like puzzle pieces.**

- **Example**: Agriculture depends more on labour, while industries like satellites depend more on capital and machines.
- If one factor is missing or misused, production may **slow down or stop.**
- Supply chains connect resources from different places, showing global interdependence.

Q3. What is the role of human capital in production, and what are its facilitators?

Answer:

- **Human capital** = the knowledge, skills, health, and training of people that make labour more efficient.
- Role: Improves productivity, creates better goods and services, supports innovation.
- **Facilitators of human capital:**
  - **i. Education & Training –** build knowledge and skills.
  - **ii. Healthcare –** healthy people work better and faster.
  - **iii. Social & Cultural values –** hard work, discipline, and quality improve efficiency (e.g., Japan's Kaizen).

LET'S REMEMBER (Page 165)

Q1. Where do people get the money that they need for their business?

Answer: People usually get money from their personal savings, family or friends, or by taking loans from banks. Some also invest their profits back into the business.

Q2. Where did the hairdresser get trained?

Answer: The hairdresser got trained either by working under another expert (apprenticeship), joining a training institute, or through experience and practice.

Q3. Who taught the food vendors to cook?

Answer: Food vendors usually learn cooking from their family members, elders, or through practice and experience in kitchens.

Q4. What motivated the business owners to start their business?

Answer: Business owners are motivated by the need to earn money, use their skills, serve customers, and become independent. Some are also inspired by the dream of growing their business and improving their life.

LET'S EXPLORE (Page 166)

Q. Revisit the table in your report. Which of the items on your list can be labelled as 'land'?

Answer: Items that come from nature or natural resources are labelled as land.

From the table:

- Food grains, milk, bread (from farms and animals).
- Fresh vegetables and fruits (grown on land).
- Water, electricity (natural resources used in salons).
- Gas (natural fuel used in restaurants).

👉 These are all examples of **land (natural resources)** used in production.

THINK ABOUT IT (Page 168)

Q. How do infrastructure and healthcare systems like hospitals, primary healthcare centres, doctors, pharmacies, diagnostic labs, etc., contribute to developing human capital?

Answer:

- Good **healthcare systems** keep people **healthy and strong**, so they can work better and for longer.
- Hospitals and health centres help in **early treatment** of diseases, reducing absence from work or school.
- Doctors, pharmacies, and diagnostic labs improve people's **physical and mental well-being.**
- Healthy children can **attend school regularly** and learn more effectively.
- Healthy workers are **more productive, creative, and efficient.**

👉 Thus, healthcare and infrastructure improve the quality of human capital by making people healthier, skilled, and more capable.

LET'S EXPLORE (Page 169)

Q1. After asking 10 working adults about their workplace culture, what did you discover? What adjectives occur more frequently?

Answer: Most people described their workplace using adjectives like:

1. Hardworking	2. Disciplined	3. Punctual
4. Teamwork-oriented	5. Respectful	6. Supportive

👉 This shows that a positive workplace culture is built on hard work, cooperation, and respect.

Q2. What factors enabled the creators of Indian art and architecture to achieve such high levels of excellence?

Answer: The factors were-

1. **Skill and training** passed from one generation to another.
2. **Dedication and devotion –** they treated work as worship.
3. **Use of technology and tools** available at that time.

4. **Support from kings and patrons** who encouraged artists.
5. **Cultural values** of perfection, patience, and creativity.

👉 Together, these factors helped artists and architects achieve excellence and timeless beauty in their creations.

THINK ABOUT IT (Page 170)

Q1. Shivay, a student at Saraswati Vidyalaya in Grade 8, had to drop out of school two years back as his father lost his job. How do you think the loss of schooling years will affect Shivay when he grows up?

Answer:

- Loss of schooling means Shivay may not gain enough **knowledge and skills.**
- This can limit his **job opportunities** in the future.
- He may get only **low-paying jobs** and find it harder to compete with skilled workers.

👉 Education is important for building **human capital** and a better future.

Q2. What problems could businesses face when they do not find workers with the required skills?

Answer:

- Businesses may suffer from **low productivity**.
- The **quality of products and services** may decrease.
- They may need to spend more money on **training workers**.
- In the long run, it can cause **loss of customers and profits.**

👉 Skilled workers are essential for business success and growth.

THINK ABOUT IT (Page 170)

Q. Are some jobs more important than others? What would happen if nobody cleaned the streets, collected the trash, farmers stopped cultivating the crops, doctors were not available to treat patients, and so on?

Answer:

- All jobs are important because each one serves society in different ways.
- If street cleaners and trash collectors stop working → cities will become dirty and unhealthy.
- If farmers stop cultivating → there will be shortage of food.
- If doctors are not available → people will suffer without treatment.

👉 Every job has value, and society cannot function smoothly without the contribution of all kinds of workers.

LET'S EXPLORE (Page 172)

Q1. Why do you think the use of indigenous techniques has declined?

Answer: Indigenous (traditional) techniques declined because of:

- Arrival of **modern machines and technology**.
- **Mass production** methods which are faster and cheaper.
- Lack of **government or market support** for traditional workers.
- People preferring **modern products** over handmade items.

👉 As a result, many old skills and crafts slowly disappeared.

Q2. Find out some techniques and products from your region that showcase human effort and skill. Explain briefly.

Answer (example-based, can be changed as per region):

- **Handloom weaving –** making sarees and cloth by hand.
- **Pottery –** clay pots and decorative items shaped by hand.
- **Wood carving –** furniture and temple doors carved with designs.
- **Madhubani / Warli paintings –** traditional art with natural colours.

👉 These products show **creativity**, **patience**, and **hard work** of local artisans.

LET'S EXPLORE (Page 173)

Q. Identify a factory in your region. Find out how much capital may have been invested in the construction of the factory. What kinds of equipment does the factory use to create its finished products?

Answer (Example: Sugar Factory):

- In my region, there is a **sugar factory**.
- About **₹50–60** crore may have been invested in land, buildings, and machinery.
- The factory uses equipment like:
  - **Crushers** to extract juice from sugarcane.
  - **Boilers** to process and purify the juice.
  - **Centrifugal machines** to separate sugar crystals.
  - **Packaging machines** to pack the final sugar.

👉 This shows that a large amount of **capital** and **modern equipment** is needed for production.

THINK ABOUT IT (Page 175)

Q1. What could be the lessons for young entrepreneurs that you can gather from the above case?

Answer: Young entrepreneurs can learn to be honest, hardworking, and visionary, like J.R.D. Tata. They should focus not only on earning profit but also on helping society, caring for their workers, and providing good working conditions. They must be ready to take risks, innovate, and contribute to the nation's progress.

Q2. Does the existing knowledge of the entrepreneur help in finding solutions to the problem at hand? Or do they need to seek other sources?

Answer: Yes, existing knowledge helps in solving problems.

But entrepreneurs may also need to seek advice, learn new skills, and use expert help to find better solutions.

Q3. Is profit the only motivation for an entrepreneur? Why or why not?

Answer: No, profit is not the only motivation.

Entrepreneurs also want to solve problems, create jobs, innovate, and serve society.

Example: J.R.D. Tata believed in helping society, not just earning money.

Q4. What are the other personality traits required to be a successful entrepreneur?

Answer:

- Creativity and innovation
- Hard work and discipline

- Leadership and decision-making
- Risk-taking ability
- Honesty and social responsibility

LET'S EXPLORE (Page 178)

Q1. Can you think of some technological advancements that have impacted the lives of people and communities around you?

Answer:

- **Mobile phones & internet –** make communication faster and easier.
- **UPI / Online payments –** help people pay bills and shop without cash.
- **Tractors & machines in farming –** save time and increase crop production.
- **Online learning platforms –** allow students to study from home.

👉 Elders say life has become **more comfortable, faster, and convenient** because of technology.

Q2. Think of an invention that you would like to make to solve a problem. Write its related information.

Answer (Sample Idea):

- **Invention name:** "CleanAir Mask".
- **What it does:** Purifies polluted air instantly for safe breathing.
- **How it works**: Small battery-powered filter fitted inside a light mask that removes dust, smoke, and harmful gases.
- **Usefulness**: Helps people in cities with high air pollution, protects from diseases like asthma and lung infection.

👉 Students can also draw a simple sketch to show how the mask looks.

THINK ABOUT IT (Page 180)

Q1. How are local communities and biodiversity affected by such activities?

Answer: Local communities are affected because polluted water, soil, and air harm people's health and reduce farming and clean drinking water. Biodiversity is also damaged as plants, animals, fish, and other living beings die or lose their natural habitats, disturbing the balance of nature.

Q2. Do you also know some places around you that have seen water and land degradation over time?

Answer: Yes, I have seen some places where water and land have degraded. For example, nearby ponds and rivers are polluted by plastic and waste. In some farming areas, too many chemical fertilizers have made the soil less fertile. In cities, groundwater levels have gone down because of overuse. These problems show that we must protect our water and land resources carefully.

Questions and activities (Page 182-183)

1. How are the factors of production different from each other? What are the difficulties you faced in classifying the factors of production in the exercise given in-text?

Answer: The factors of production are different because:

1. **Land** provides natural resources like soil, water, minerals, forests.
2. **Labour** is the physical and mental effort of people.

3. **Capital** includes money, machines, tools, and buildings.
4. **Entrepreneurship** is the ability to organise all factors, take risks, and manage the business.

The difficulty in classifying arises because sometimes one thing may fit into more than one factor. For example, a shop needs both land (space) and capital (shelves, furniture), and it can be confusing to decide which factor is more important..

2. How does human capital differ from physical capital?

Answer:

- **Human capital** refers to the knowledge, skills, education, training, health, and abilities of people that improve their productivity.
- **Physical capital** means man-made resources like machines, tools, buildings, money, and equipment used in production.

👉 Human capital is **inside people**, while physical capital is **outside and material things**. Both are necessary for production.

3. How do you think technology is changing how people develop their skills and knowledge?

Answer:

- Technology provides online **courses**, **apps**, **and digital tools** for learning.
- People can learn **anytime**, **anywhere** at low cost.
- Example: Platforms like **SWAYAM**, **MOOCs** help students learn new skills.

4. A skill is something you learn and practice to get better. It helps you do things well, like playing a sport, creative writing, solving math problems, cooking, or even communicating well with people. If you could learn one skill today, what would it be and why?

Answer: If I could learn one skill today, I would learn public speaking because it helps in expressing ideas clearly, building confidence, and inspiring others. This skill is useful in school, future jobs, and everyday life.

5. Do you think entrepreneurship is the 'driving force' of production? Why or why not?

Answer: Yes, entrepreneurship is the driving force because the entrepreneur organises land, labour, and capital and takes risks to start and run a business. Without entrepreneurship, production cannot begin.

6. Can technology replace other factors like labour? Is this good or bad? Support your answer with the help of an example.

Answer: Yes, technology can replace labour in many areas.

- **Good side:** It increases speed, reduces errors, and lowers costs.

  Example: Machines harvesting crops can finish the work much faster than human labour.
- **Bad side**: It can reduce employment opportunities for workers, leading to job loss.

  Example: Robots in factories can assemble cars quickly, but many workers may lose their jobs.

👉 So, technology is helpful, but it should be balanced with opportunities for people.

7. How do education and skill training affect human capital? Can they substitute for each other, or do they complement each other?

Answer: Education and skill training both make human capital stronger.

- **Education** gives knowledge, understanding, and the ability to think and solve problems.
- **Skill training** gives practical experience and hands-on ability to do specific tasks.

They cannot substitute each other, but they complement each other. For example, an engineer needs education to learn theories and skill training to apply them in real projects. Together, they improve the quality

and productivity of human capital.

8. Imagine you want to start a business that produces steel water bottles. What kind of inputs are needed? How would you obtain them? Suppose one of the factors is missing; what happens to your business operations?

Answer: To start a business producing steel water bottles, the inputs needed are:

- Land – a factory or workshop space.
- Labour – skilled workers to design and manufacture bottles.
- Capital – money, machines, raw steel, tools, and transport.
- Entrepreneurship – planning, management, and risk-taking.
- Technology – modern machines and designs for efficient production.

How to obtain them:

- Land can be rented or purchased.
- Labour can be hired through job advertisements or agencies.
- Capital can come from savings, loans, or investors.
- Technology can be bought or licensed.
- Entrepreneur provides the vision and leadership.

If one factor is missing:

Production will be affected or may even stop. For example, without capital, machines and raw materials cannot be purchased; without labour, bottles cannot be produced. Each factor is essential for smooth operations.

9. Interview an entrepreneur or founder to understand their motivation to start a business and the opportunities and challenges they saw. You can work in pairs to create a questionnaire to collect the information and share what you have learned in a report.

Answer: Sample Questionnaire:

1. What motivated you to start your business?
2. How did you arrange the initial capital (money) to start?
3. What opportunities did you see in the market?
4. What were the biggest challenges you faced in the beginning?
5. How do you manage land, labour, capital, and technology for your business?
6. How do you balance profit with social responsibility?
7. What advice would you give to young entrepreneurs?

Sample Report (Based on Interview with a Local Bakery Owner):

I interviewed **Mr. Arjun,** who runs Sweet Bite Bakery in our locality.

- He was motivated to start his business because he loved baking and noticed a demand for fresh cakes and snacks.
- He arranged money through personal savings and a small loan from the bank.
- The opportunity he saw was the lack of quality bakeries in the neighbourhood.
- His main challenges were finding trained staff and attracting customers in the beginning.
- He uses land (shop space), labour (bakers and helpers), capital (ovens, machines), and technology (online delivery apps).

- He believes businesses should also care for the community by providing fresh and hygienic food.
- His advice: "Work hard, be honest, and never be afraid of taking risks."

10. Think like an economist. Let's explore what happens when things change. If you were Ratna, what would you do in the following situations? Discuss with your classmates.

I. Suppose the rent for your space suddenly doubles:

- **Will you raise the price of the food served to cover the costs?**

Answer: I may need to slightly raise the price of food to cover the extra costs, but not too much or customers may stop coming.

- **Will you look for a cheaper location?**

Answer: At the same time, I would look for a cheaper location if the rent becomes too high compared to my earnings.

- **How does this affect your business?**

Answer: This situation will increase expenses and reduce profits. If not managed well, it could make the business less sustainable.

👉 So, I would carefully compare the cost of staying in the same location (with higher rent) and the benefits of shifting to a new, cheaper place before making a decision.

II. Imagine one of your helpers quits suddenly:

- **Can the remaining workers manage the same amount of work?**

Answer: The remaining workers may manage the work for a short time, but the quality or speed may suffer.

- **Will you need to offer a higher salary to attract a new worker?**

Answer: To hire a new worker quickly, I may need to offer a slightly higher salary or better benefits.

III. You receive a small loan to invest in better technology for your restaurant:

- **Will this increase the production or improve quality?**

Answer: Yes, this will increase production and improve quality (for example, faster cooking or fresher food).

- **Will it help you reach more customers?**

Answer: Better technology can also help reach more customers, such as online delivery apps or digital payments.

IV. Suppose another restaurant opens in the neighbourhood:

- **How will you attract and keep your customers?**

Answer: I will attract and keep customers by maintaining good taste, cleanliness, and friendly service.

- **Will you improve your service, reduce prices, or offer something new?**

Answer: I may improve my service, give discounts, or offer something new like special dishes to stand out.

V. What government laws or rules should be changed to improve the ease of doing business?

Answer: The government could-

- Simplify licenses and paperwork for small businesses.
- Provide low-interest loans for startups.
- Ensure fair electricity, water, and internet supply.
- Support training for workers and entrepreneurs.