

Chapter 4 | Production, Work, and the Organization of Business

Idea for Comic strip: **production is more than making a product**. It also involves workers, resources, business decisions, environmental effects, and the sharing of income.

Production is the process of creating goods and services. It combines resources such as land, labor, tools, machinery, technology, and knowledge to produce something that people can use. Production takes many forms. Farmers grow rice and vegetables. Fishers catch and sell fish. Factories turn raw materials into food, clothing, electronics, and construction materials. Teachers, nurses, drivers, engineers, and software developers provide services.

The result of production is called an **output**. The resources used to create it are called **inputs**. A bakery, for example, uses flour, labor, ovens, electricity, recipes, and business knowledge to produce bread. A hospital uses health workers, medicines, equipment, buildings, and information to provide medical care. Production supports daily life and economic activity. It supplies food, housing, transportation, education, healthcare, communication, and other goods and services. It also creates jobs and income. Workers receive wages, landowners may receive rent, lenders receive interest, and business owners may earn profit.

Production can also create costs. Factories may pollute air and water. Mines may damage forests and watersheds. Farms may overuse soil, chemicals, or water. Workers may face low wages, insecure jobs, or unsafe conditions. These effects depend on production methods and the rules that govern them. Technology, business decisions, labor standards, environmental regulation, access to finance, and public infrastructure all influence how production takes place.

Key Idea: Production creates goods, services, jobs, and income. Its wider effects depend on how resources are owned, combined, regulated, and shared.

A. Types of Production Activities

Economists group production into three broad sectors: primary, secondary, and tertiary production. These sectors describe different stages of economic activity. They are closely connected. Raw materials from the primary sector often become inputs for manufacturing, while services help move, finance, market, and sell the final product.

1. Primary Production

Primary production obtains food and raw materials directly from nature. Farming, fishing, forestry, and mining belong to this sector. A rice farmer grows palay. A fisher catches tuna. A mining company extracts nickel ore.

Primary production depends heavily on land, water, weather, ecosystems, and access to natural resources. This makes the sector vulnerable to droughts, typhoons, declining fish stocks, soil damage, and changes in world commodity prices.

2. Secondary Production

Secondary production transforms raw materials into processed or finished goods. It includes manufacturing, food processing, construction, and assembly.

A mill turns palay into rice. A food company turns mangoes into dried fruit or juice. An electronics plant assembles imported and locally sourced components into products for export. Secondary production adds value by changing the form, usefulness, or quality of an input.

3. Tertiary Production

Tertiary production provides services. Transport companies move goods. Banks provide payment and credit services. Retailers connect producers with consumers. Schools, hospitals, call centers, hotels, and digital platforms also belong to the service sector. Some services directly support production. Warehousing protects goods from damage. Logistics firms coordinate shipping. Telecommunications allow businesses to manage orders and communicate with customers.

Case Study: From Guimaras Mangoes to Consumers

A mango sold in a supermarket passes through several stages of production. Farmers first grow and harvest the fruit. This is primary production. Some mangoes are sold fresh, while others are processed into dried mangoes, puree, juice, or preserves. Processing is secondary production. Traders, truckers, cold-storage operators, exporters, supermarkets, online sellers, banks, and marketing firms provide tertiary services.

Each stage adds value. Sorting improves quality. Packaging protects the fruit. Processing extends shelf life. Transport brings the product to distant markets. Branding can increase what consumers are willing to pay.

The example also shows how risks are distributed. Farmers face weather, pests, and uncertain farmgate prices. Processors face energy and equipment costs. Traders face transport and spoilage risks. Retailers may have more information about consumer demand than farmers do. The final selling price can therefore rise even when the farmer receives only a small share.

Policy can improve the value chain through farm-to-market roads, cold storage, crop insurance, quality standards, farmer cooperatives, access to credit, and support for local processing. These measures can reduce waste and help producers capture more value.

B. Production, Productivity, and Sustainability

Production can raise living standards when it creates useful goods, stable jobs, and higher incomes. The quantity of output alone does not show the full effect of production. Production methods can also affect workers, communities, public health, and the environment.

Productivity

Productivity measures how much output is produced from a given amount of input. A farm becomes more productive when it harvests more rice from the same land without damaging the soil. A clinic becomes more productive when better systems allow health workers to serve more patients while maintaining quality.

Technology, skills, management, infrastructure, and reliable public services can improve productivity. Poor roads, unstable electricity, slow internet, weak training, and limited access to finance can reduce it.

Higher productivity can support higher wages and lower prices, but these outcomes do not happen automatically. Business owners may keep most of the gains. Competitive markets, labor rights, collective bargaining, taxation, and public policy influence how productivity gains are shared.

Case Study: Productivity, Wages, Profits, and Worker Bargaining Power in the Philippines

Where did the income from production go?

National accounts provide another way to examine how income is distributed. The Philippine Statistics Authority divides gross value added among three broad components:

- compensation of employees;
- gross operating surplus; and
- taxes less subsidies on production and imports.

Compensation of employees includes wages, salaries, and employer-paid benefits. **Gross operating surplus** includes returns to producers and owners of capital. It is broader than corporate profit because it may also contain depreciation, mixed income from household enterprises, and other business returns. It should therefore be treated as a measure of income going to producers and capital, not as a direct measure of net corporate profit.

Recent data show that compensation of employees accounted for only around one-third of total value added, while gross operating surplus accounted for more than half.

Sources: (PSA, 2022, 2023, 2024, 2025)

These figures do not show that all businesses earned excessive profits. They include several forms of producer income and do not reveal how income is distributed among large corporations, small businesses, self-employed workers, and households. They do show that the share going directly to employee compensation remained much smaller than the share classified as operating surplus.

From 2021 to 2024, the compensation share fell from 36.7 percent to 34.8 percent, while the operating-surplus share rose from 55.7 percent to 57.0 percent. Compensation recovered slightly to 35.4 percent in 2025 but remained below its 2021 share (PSA, 2022, 2023, 2024, 2025).



Sustainable production meets current needs while protecting the resources and systems needed in the future. It uses materials, energy, water, and labor responsibly. It also reduces waste, pollution, and avoidable harm.

A complete assessment includes the full social cost of production. This means counting costs imposed on workers, nearby communities, taxpayers, ecosystems, and future generations. A product may appear cheap because a company does not pay for pollution, illness, congestion, or waste that it creates.

Sustainable production may require cleaner technology, safer work practices, better waste management, resource-efficient design, and enforcement of environmental rules. These measures can raise short-term costs. They can also reduce health expenses, environmental damage, and future cleanup costs.

Key Idea: The factors of production create different forms of income. Land can earn rent, labor earns wages, capital can earn interest or returns, and entrepreneurship may earn profit. Ownership and bargaining power influence how this income is distributed.

Case Study: Extended Producer Responsibility for Plastic Packaging

Plastic packaging helps keep products clean, safe, and easy to transport. It is also lightweight and inexpensive. However, much of it is used only once and then thrown away. When plastic waste is not properly collected or recycled, it can clog drainage systems, pollute rivers and oceans, harm wildlife, and create health risks in communities.

For many years, households and local governments carried much of the responsibility for managing this waste. They paid for garbage collection, cleanup, transport, and disposal. Producers, however, made the decisions about how much packaging to use, what materials to choose, and whether the packaging could be reused or recycled.

Republic Act No. 11898 introduced extended producer responsibility, or EPR, for plastic packaging in the Philippines. Under this policy, covered enterprises must take greater responsibility for the plastic packaging they place in the market. They may do this by organizing collection and recovery programs, supporting recycling systems, reducing packaging, or working with waste collectors and recyclers.

EPR can influence how businesses produce and package their goods. A company may redesign a container so that it uses less plastic. It may replace difficult-to-recycle materials with recyclable ones. It may introduce refill systems, collect used packaging, or provide financial support for recycling facilities. These changes can reduce waste before it reaches landfills, waterways, or communities.

The policy does not mean that consumers and local governments no longer have responsibilities. Consumers still need to dispose of waste properly, while local governments continue to manage waste collection and local disposal systems. However, EPR shifts part of the cost toward producers because they have greater control over product design, materials, and packaging.

This case also shows that sustainable production is not only about cleaning up waste after it is created. It involves changing how goods are designed and produced so that less waste is generated in the first place.

Key Idea

Plastic waste creates costs for society. Communities pay for collection and cleanup, while pollution can damage health, livelihoods, and the environment. When producers do not bear these costs, they may use more packaging than is socially efficient.

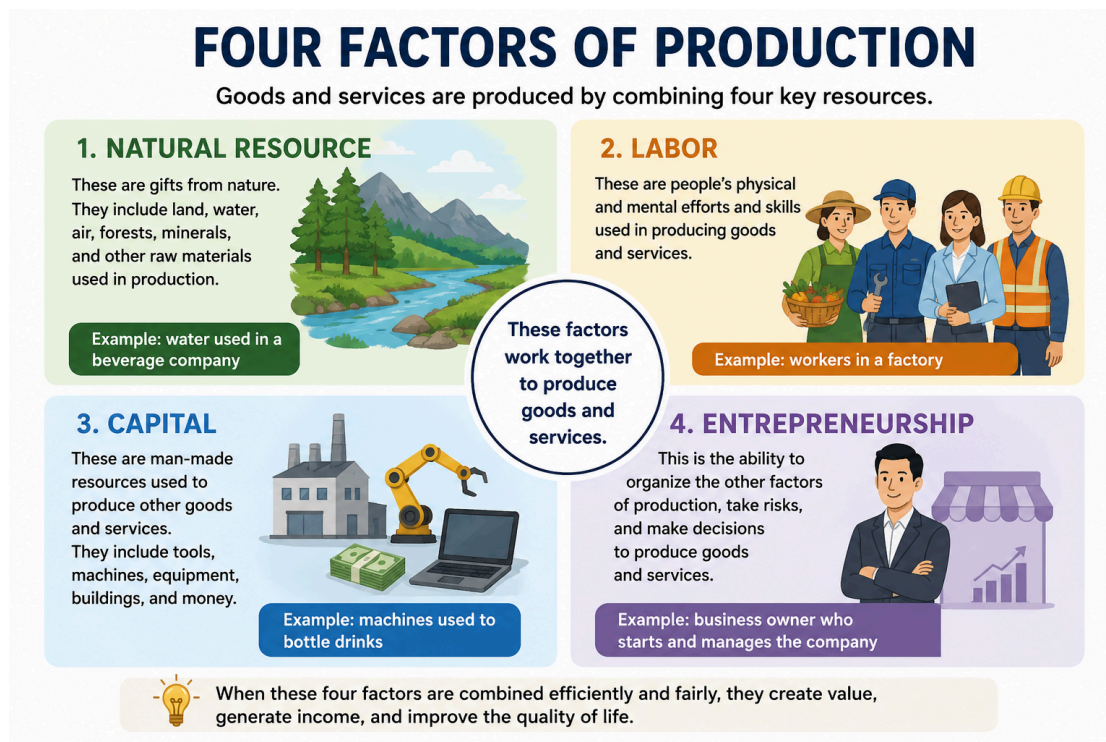
Extended producer responsibility helps correct this problem by making producers account for part of the waste created by their products. It gives firms an incentive to reduce unnecessary packaging, improve product design, and invest in reuse and recycling systems. In this way,

The Four Factors of Production

Production depends on four broad groups of inputs: land, labor, capital, and entrepreneurship. These factors work together. A business cannot operate with machines but no workers, workers but no tools, or natural resources without organization and finance.

Access to the factors of production is unequal. Some people own land and machinery. Others depend mainly on their labor. Some businesses can borrow at low interest rates, while small producers may

rely on expensive informal credit. These differences affect who can participate in production and who receives the income it creates.



1. Land and Natural Resources

Land includes all natural resources used in production. It includes farmland, forests, minerals, fisheries, water, sunlight, wind, and physical space.

Owners may receive rent or royalties from land and natural resources. Communities may also depend on the same resources for food, water, culture, and livelihoods. Conflicts can arise when private extraction reduces public access or damages ecosystems.

Government rules on property, mining, fisheries, land use, environmental protection, and ancestral domains shape who may use natural resources and under what conditions.

2. Labor

Labor is the physical and mental effort used to produce goods and services. Farmers, factory workers, teachers, caregivers, drivers, engineers, and artists all provide labor.

Education, training, health, and work experience can raise a worker's productivity. Working conditions also matter. Unsafe workplaces, long hours, low wages, discrimination, and unstable contracts can harm workers even when a business produces efficiently.

Workers receive wages or salaries, but the value they create may be much larger than their pay. Labor laws, minimum wages, unions, worker representation, and the demand for particular skills affect how income is divided.

3. Capital

Capital refers to produced resources used to create other goods and services. Machines, factories, computers, vehicles, roads, ports, and communication networks are forms of capital.

Money is financial capital. It helps businesses acquire machines, buildings, materials, and labor, but money itself does not produce output. Economists often use the word capital to mean the productive assets purchased with financial resources.

Technology can increase productivity and improve safety. It can also replace some tasks. Workers may need training and income support when technology changes the demand for their skills.

4. Entrepreneurship

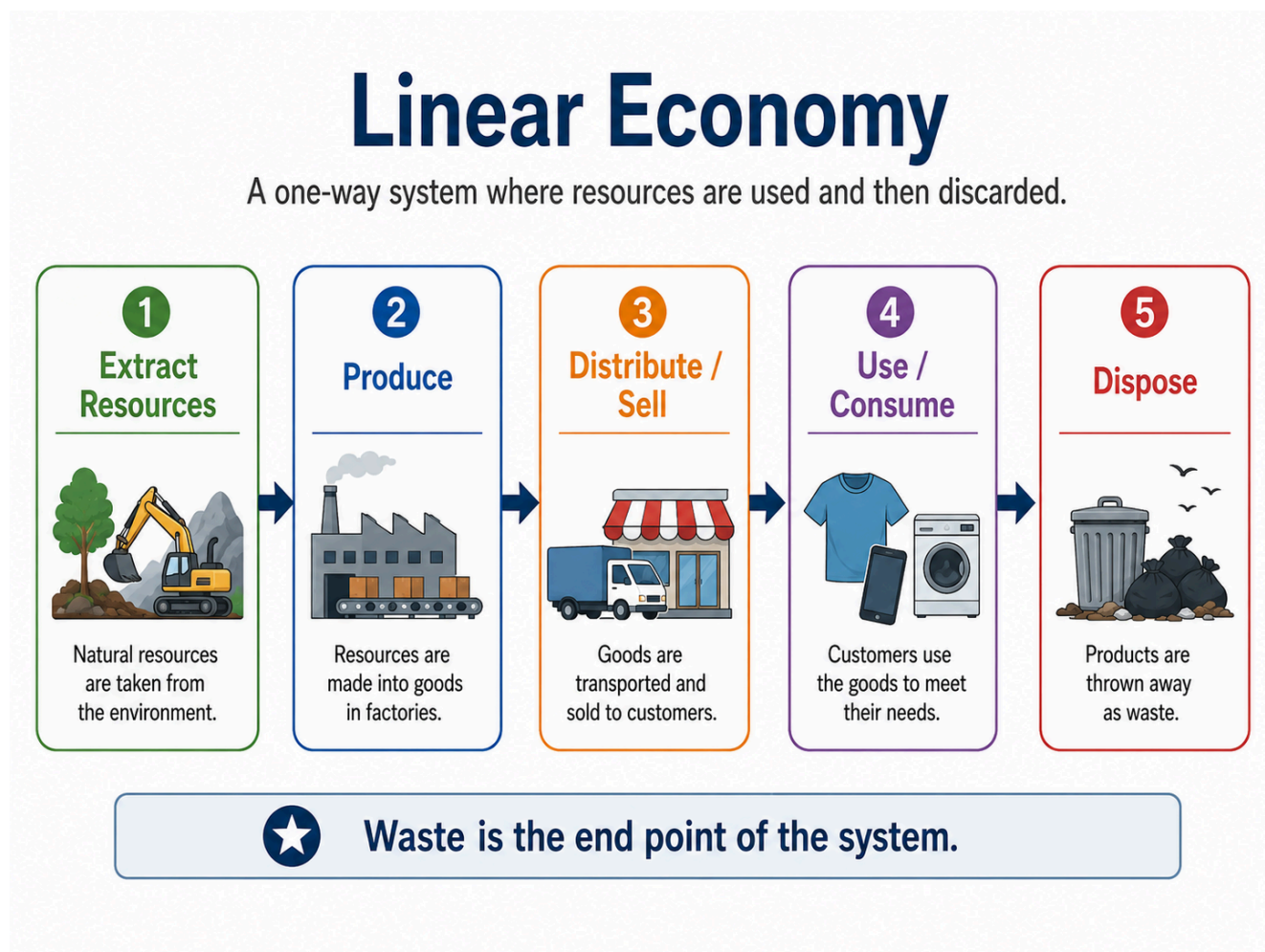
Entrepreneurship organizes land, labor, and capital to produce goods and services. Entrepreneurs identify opportunities, make decisions, accept risk, and coordinate people and resources.

Creativity and persistence can help an entrepreneur, but business success also depends on external conditions. Access to credit, customers, roads, electricity, digital tools, suppliers, skilled workers, and clear government rules can determine whether a business survives.

Entrepreneurs also make decisions about wages, safety, product quality, waste, and profit distribution. Entrepreneurship carries economic and social responsibilities.

D. From Linear Production to a Circular Economy

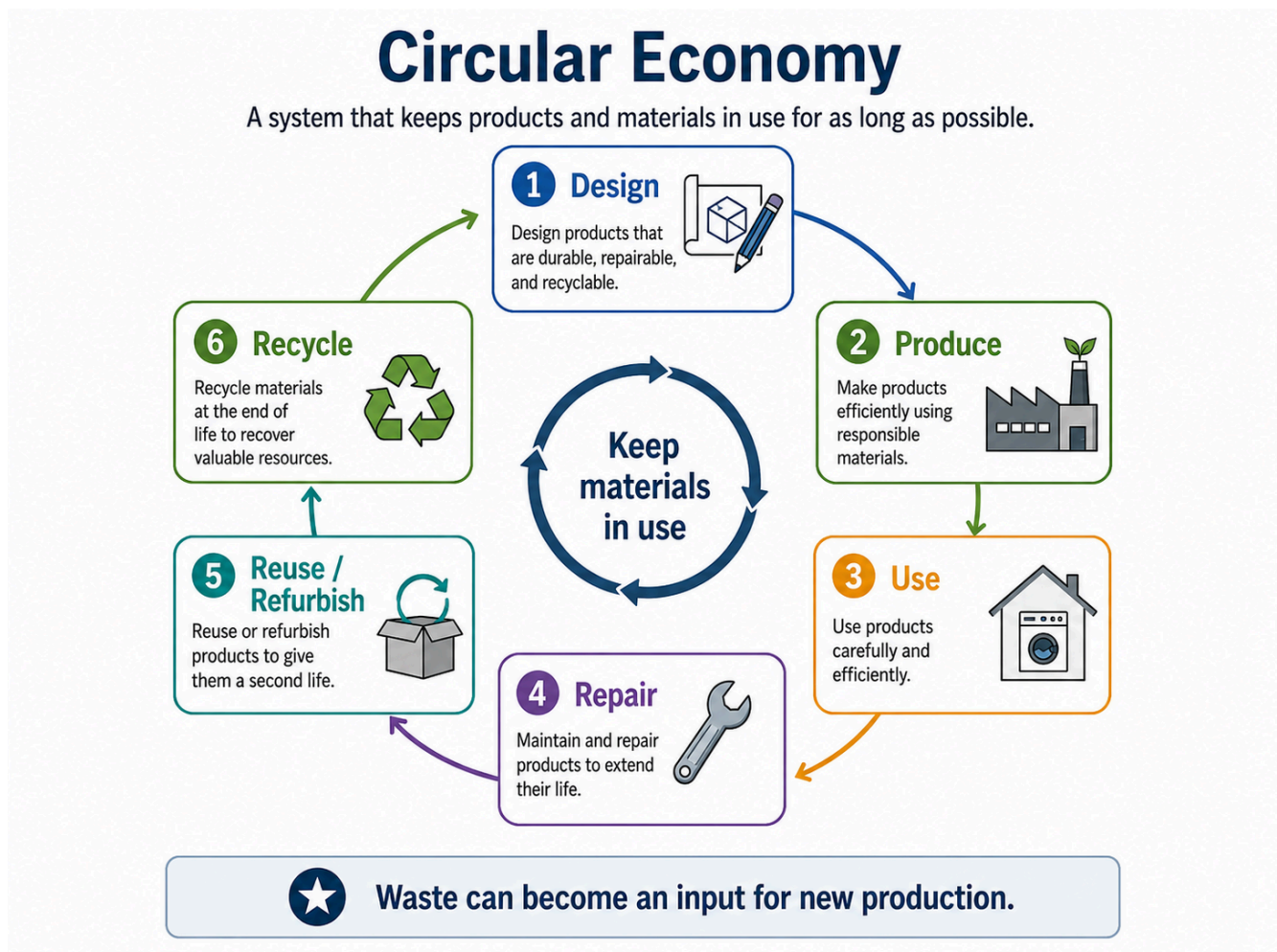
Traditional production is often described as a **linear system**:



In this model, raw materials are taken from nature, transformed into products, and eventually thrown away. The process can generate economic growth, but it can also lead to resource depletion, pollution, and large amounts of waste.

A **circular economy** aims to keep products, components, and materials in use for as long as possible. Instead of treating waste as the final stage of production, it asks whether products can be repaired, reused, refurbished, remanufactured, or recycled.

The circular model may be represented as:



The most important point is that circular production begins with **design**. A product that is durable, repairable, and made from replaceable parts is more likely to remain useful. A product that is difficult to open, repair, or recycle is more likely to become waste.

Core Principles of a Circular Economy

The section can introduce four simple principles:

1. **Reduce resource use**
Firms use fewer raw materials, less energy, and less packaging.
2. **Extend product life**
Products are designed to be durable, repairable, and upgradable.

3. **Keep materials in circulation**

Products and components are reused, refurbished, remanufactured, or recycled.

4. **Reduce waste and pollution by design**

Environmental harm is considered before production begins, not only after waste is created.

Connection to the Factors of Production

This section would also allow you to revisit the four factors of production:

- **Natural resources** are conserved when fewer new raw materials are extracted.
- **Labor** is used in repair, maintenance, recycling, and refurbishment.
- **Capital** includes repair facilities, recycling equipment, durable machinery, and collection systems.
- **Entrepreneurship** creates new business models such as rentals, refill systems, product take-back programs, and secondhand marketplaces.

This is pedagogically useful because it shows that sustainable production does not necessarily mean producing less economic value. It can mean producing value differently.

Comparing Linear and Circular Production

Linear production	Circular production
Extract, produce, discard	Design, use, recover, and reuse
Short product life	Longer product life
Repair may be difficult	Repair is encouraged
Waste is an end product	Waste becomes a possible input
Firms earn mainly from selling new products	Firms may also earn from repair, leasing, refurbishment, and resale

Economic Relevance

Circular production can reduce dependence on imported raw materials, lower waste-management costs, create repair and recycling jobs, and help households save money by extending product life.

However, it also involves trade-offs. Durable or repairable goods may initially cost more. Firms may need to redesign products and change supply chains. Recycling systems require investment, collection networks, and markets for recovered materials. Some materials also lose quality after repeated recycling.

This makes the circular economy a useful example of **costs, benefits, incentives, and trade-offs**. It changes production from a one-way process of extraction and disposal into a system where products and materials remain useful for as long as possible.

Key Idea: A circular economy seeks to create value while using fewer new resources and producing less waste.

E. Entrepreneurship and Business Organizations

A business organization defines ownership, control, responsibility for debts, and the distribution of profits. The best form depends on the size of the business, its goals, its need for capital, and the number of people involved.

Sole Proprietorship

A sole proprietorship is owned by one person. It is easy to establish and gives the owner direct control. The owner also carries the business risks and may be personally responsible for debts.

Many small shops, food stalls, repair services, and home-based businesses begin as sole proprietorships.

Partnership

A partnership is owned by two or more people. Partners can combine skills, money, and contacts. A written agreement should explain decision-making, profit sharing, responsibilities, and the process for resolving disputes.

Professional firms, family businesses, and small enterprises often use partnerships.

Corporation

A corporation is legally separate from its owners. Shareholders generally have limited liability. Corporations can raise large amounts of capital and continue operating when ownership changes.

Corporations can support large-scale investment and employment. They can also concentrate economic power. Corporate decisions may affect workers, suppliers, consumers, communities, and public policy. Regulation, competition law, labor standards, and corporate governance help protect the public interest.

Cooperative

A cooperative is owned and governed by its members. Members may be farmers, workers, consumers, transport operators, borrowers, or residents of a community. A cooperative usually follows the principle of one member, one vote.

Cooperatives can help members buy inputs, obtain credit, process products, market goods, and negotiate better prices. They may face limits in raising capital and can suffer from weak management when member participation and accountability are poor.

Form	Owners	Control	Liability	Common use
Sole proprietorship	One owner	Owner	Usually personal	Small local business
Partnership	Two or more partners	Partners	Depends on form	Professional or family firm
Corporation	Shareholders	Board and managers	Usually limited	Large or growing enterprise
Cooperative	Members	Democratic member control	Usually limited	Shared service or member welfare

Case Study: How Cooperatives Help Small Farmers Reach Large Buyers

Small farmers often struggle to sell directly to large companies. A restaurant chain or supermarket may require steady deliveries, uniform quality, food-safety standards, and reliable timing. Individual farmers may find it difficult to meet these conditions on their own. They may also lack affordable credit, storage, transport, market information, and bargaining power.

The Jollibee Group Foundation's **Farmer Entrepreneurship Program** was designed to address these barriers. It linked small farmers with institutional buyers such as Jollibee Foods Corporation, supermarkets, hotels, food processors, and other businesses. The program also brought together cooperatives, local governments, rural banks, microfinance institutions, and development organizations. From 2008 to 2014, it assisted about 1,800

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Most products pass through several connected activities before reaching consumers. These activities form a value chain. A value chain may include design, raw-material sourcing, processing, manufacturing, transport, marketing, retail, repair, and recycling.

Each stage can add value. A mineral becomes more valuable when it is refined and turned into a component. A crop becomes more valuable when it is processed, packaged, branded, and sold in a reliable market.

A global value chain exists when these stages take place in different countries. Firms choose locations based on resources, skills, costs, technology, infrastructure, trade rules, and access to markets.

The Philippines in Global Value Chains

The Philippines participates in global production through electronics, business-process services, agricultural exports, garments, transport services, and other activities. Semiconductor and electronics firms assemble, test, and export parts used in products sold around the world. Filipino workers also provide customer support, finance, information technology, animation, and other services to foreign clients.

Participation can create jobs, exports, investment, and access to technology. The size of these benefits depends on the stage performed in the country. Design, research, software, specialized components, branding, and marketing often capture more value than routine assembly.

A World Bank study argued that the Philippines could gain more by moving toward higher-value activities in electronics, digital services, industrial production, and health-related value chains. It highlighted skills, investment, infrastructure, competition, and stronger domestic linkages as important conditions for upgrading (World Bank, 2022).

A semiconductor product may be designed in one country, fabricated in another, assembled and tested in the Philippines, and placed inside a final device elsewhere. Philippine factories and workers contribute real value, but the largest profits may remain with firms that control patents, design, advanced equipment, branding, and distribution.

Moving up the value chain requires more than attracting additional assembly plants. It requires engineers, technicians, research institutions, reliable electricity, efficient ports, digital infrastructure, supplier development, and protection of fair competition.

Local firms can gain when they supply materials, tools, software, logistics, testing, or professional services to multinational companies. Without these linkages, an export industry may remain dependent on imported inputs and create fewer benefits for the wider economy.

Policy can support upgrading through technical education, research funding, industry-university partnerships, better infrastructure, support for local suppliers, and clear investment rules. Workers also need pathways to higher-skill jobs and protection during technological change.

Efficiency and Resilience

Global value chains can reduce costs because firms specialize and source inputs from efficient producers. Heavy dependence on a small number of suppliers can also create risk.

The COVID-19 pandemic disrupted factories, ports, and transport. Shortages of medical supplies and semiconductors showed how a problem in one location could affect production around the world. Firms and governments began to diversify suppliers, hold larger inventories of critical inputs, and consider more local or regional production.

Resilience can require extra cost. A firm may pay more to maintain several suppliers or additional inventory. These measures can prevent larger losses when disruptions occur. Efficiency should therefore include reliability, not only the lowest immediate cost.

Let's Review

- Production combines inputs to create goods and services.
- Primary production obtains resources from nature, secondary production transforms inputs, and tertiary production provides services.
- Productivity rises when more or better output is produced from the same resources.
- Sustainable production considers economic, social, and environmental costs.
- The four factors of production are land, labor, capital, and entrepreneurship.
- Ownership and bargaining power influence how wages, rent, interest, and profit are distributed.
- Sole proprietorships, partnerships, corporations, and cooperatives distribute ownership, control, risk, and profit in different ways.
- The informal economy provides livelihoods and flexibility, but many informal workers lack stable income, legal protection, and social insurance.
- Value chains connect many stages of production. Global value chains spread these stages across countries.
- Countries capture more value when they develop skills, technology, local suppliers, design capacity, and strong institutions.

Chapter Key Takeaway

Production creates the goods and services used in daily life. It also creates jobs, income, waste, risks, and environmental effects. The results depend on the resources used, the methods chosen, the form of business organization, and the rules that govern production.

A productive economy needs skilled workers, reliable infrastructure, useful technology, responsible businesses, and effective public institutions. It should also protect workers and communities, reduce environmental harm, and expand opportunities for people who lack access to land, capital, training, and secure employment.

Understanding production helps us examine how value is created and how income, power, benefits, and costs are shared.

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