Social Science and THE HUMANITIES

an introductory course for
Myanmar learners

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Student's Book

ပုံနှိပ်တိုက်အမည်

ရွှေပုံနှိပ်တိုက် (မြ – ၀၀၂၁၀)
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ထုတ်ဝေသူ

ဦးအောင်မြတ်စိုး

စာပေတိုက်အမည်

မုခ်ဦးစာပေ

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Social Science and the Humanities, Student's Book.
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(၂) Social Science and the Humanities, Student's Book.

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■ Social Science teachers from Myanmar's technological universities planning and preparing lessons with *Social Science and the Humanities*.

Contents

How to use *Social Science and the Humanities…*

Before you use this book, read the information on these pages. It will help you to understand how it works. The aim of this book is to help you learn more about a range of social science and humanities subjects, to develop relevant skills, and to reflect upon important ideas in the social sciences and humanities.

Task Types

To help you in your learning, there are three kinds of tasks:

- **Exercises** focus on increasing your *knowledge* of the subjects in this book.
- **Activities** focus on developing and practising important social science *skills* such as inferring, reasoning, comparing and contrasting, interpreting graphs and charts and statistics, understanding cartoons and thinking critically.
- **Discussions** focus on how the issues and ideas in the book relate to you, your community and society. They encourage you to develop your *understanding* by expressing your opinion and listening to the views of others.

Structure

This book is divided into six chapters. Chapter 1 briefly introduces social science, the humanities and some of the main subjects within those areas of study. Chapters 2–6 explore some of those subjects in detail. We look at philosophy and ethics, the environment, economics, development and public health. Throughout the book we build upon, and show links between, topics that we have previously explored.

Before each chapter…

… read the *Themes* to prepare you for the main ideas in each chapter.

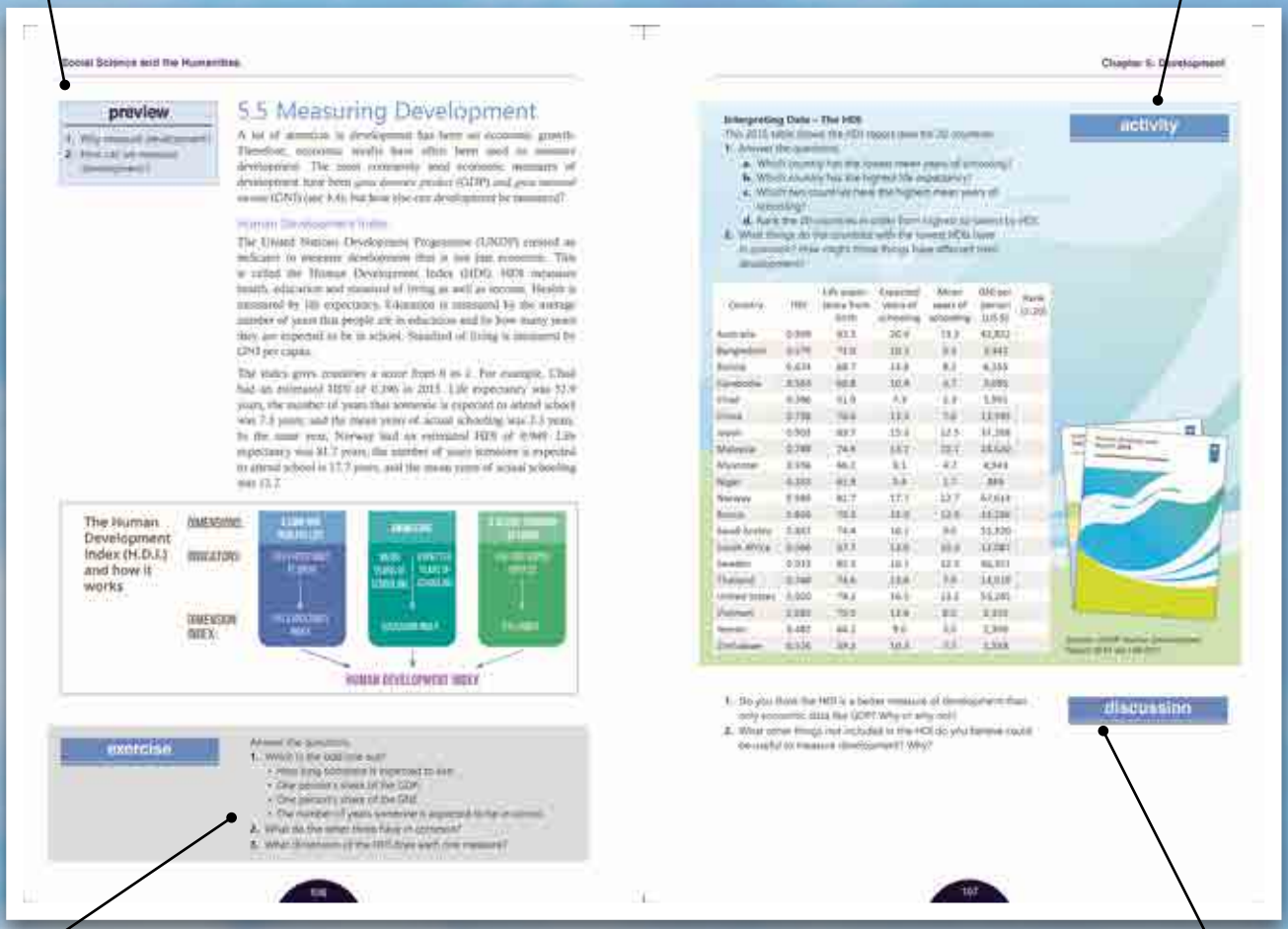
… look at the *Learning Goals*. These will help you to identify key knowledge and skills covered in the course. They will also provide guidelines to evaluate your progress through the course.

… there is a *glossary* of key words and phrases. Read them before the chapter or refer to them if you see a word in **bold** in the text that you do not know.

As you read…

… every section and subsection starts with a *Preview*. These encourage you to think about the topic you are going to study. They focus on what you already know, and your ideas about the topic.

… *Activities* are designed to help you practise useful skills. These include inferring, interpreting data, comparing and contrasting and thinking critically.



… *Exercises* develop your ability to work with information. They ask you to find and think about information in texts by answering questions about them.

… *Discussions* encourage you to discuss the ideas in the text and how they relate to important or controversial issues affecting your community and society.

Additionally…

… there are *Focus on…* sections, which look at the main theme of the section in relation to one or more countries in the region.

Chapter 1: Social Science and the Humanities

themes

Chapter 1 looks at the idea of 'society', and at societies throughout history. It introduces the major subjects studied within social science and within the humanities. It also considers the benefits to society and to humanity of studying social science and humanities subjects.

learning goals

Knowledge

By the end of this chapter you will increase your understanding of:

- what society is;
- what social science is;
- reasons to study social science;
- skills used in studying social science;
- subjects that are studied in social science;
- what the humanities are;
- subjects that are studied in the humanities.

Skills

By the end of this chapter you will develop your ability to:

- compare and contrast living conditions across different societies;
- identify skills used in social science;
- categorise different skills used in social science;
- reference social issues to social science subjects;
- describe relationships between personal interests and humanities subjects.

glossary

assess (v) – ဆန်းစစ်အကဲဖြတ်သည်

bias (n) – ဘက်လိုက်မှု၊ မျက်နှာသာပေးမှု

constitution (n) – ဖွဲ့စည်းပုံအခြေခံဥပဒေ

crossover (n, v) – ပေါင်းကူးဆက်စပ်မှု၊ ဆက်စပ်တူညီနေသော

custom (n) – ဓလေ့ထုံးစံ

data (n) – အချက်အလက်

empire (n) – အင်ပါယာ

exist (v) – တည်ရှိသည်

impact (n) – သက်ရောက်မှု

interpretation (n) – အဓိပ္ပာယ်ဖော်ဆိုချက်

livelihood (n) – သက်မွေးလုပ်ငန်း

moral (n, adj) – ကိုယ်ကျင့်တရား၊ ကျင့်ဝတ်နှင့်ညီသော

natural sciences (n) – သဘာဝသိပ္ပံ

peasant (n) – တောင်သူ

systematic (adj) – စနစ်ကျသော

■ The George Peabody Library, Johns Hopkins University, Maryland, USA

preview

1. What is a society?
2. What is a society made of?

1.1 Society

A society is made up of people. Usually, people in a society live within a particular space, such as a country. One society can be comprised of many communities.

People in a society often share a similar culture. A culture is the beliefs, values and **customs** that members of a society often have in common. However, one society can also consist of people from many different cultures.

People in a society are connected through their relationships to each other. For example, as family members, neighbours, work or school mates. They may also be members of cultural, business, religious or political groups.

Societies and their cultures change over time. One idea about society is that the technology that people use to produce food and other items has shaped societies. New technologies make people's lives easier and allow people better access to new information and ideas.

The pictures below show some of the types of societies that have grown over the past 100,000 years of human history. Examples of these different types of society can still be found around the world. Sometimes they can be found in different parts of the same country.

HUNTER-GATHERER

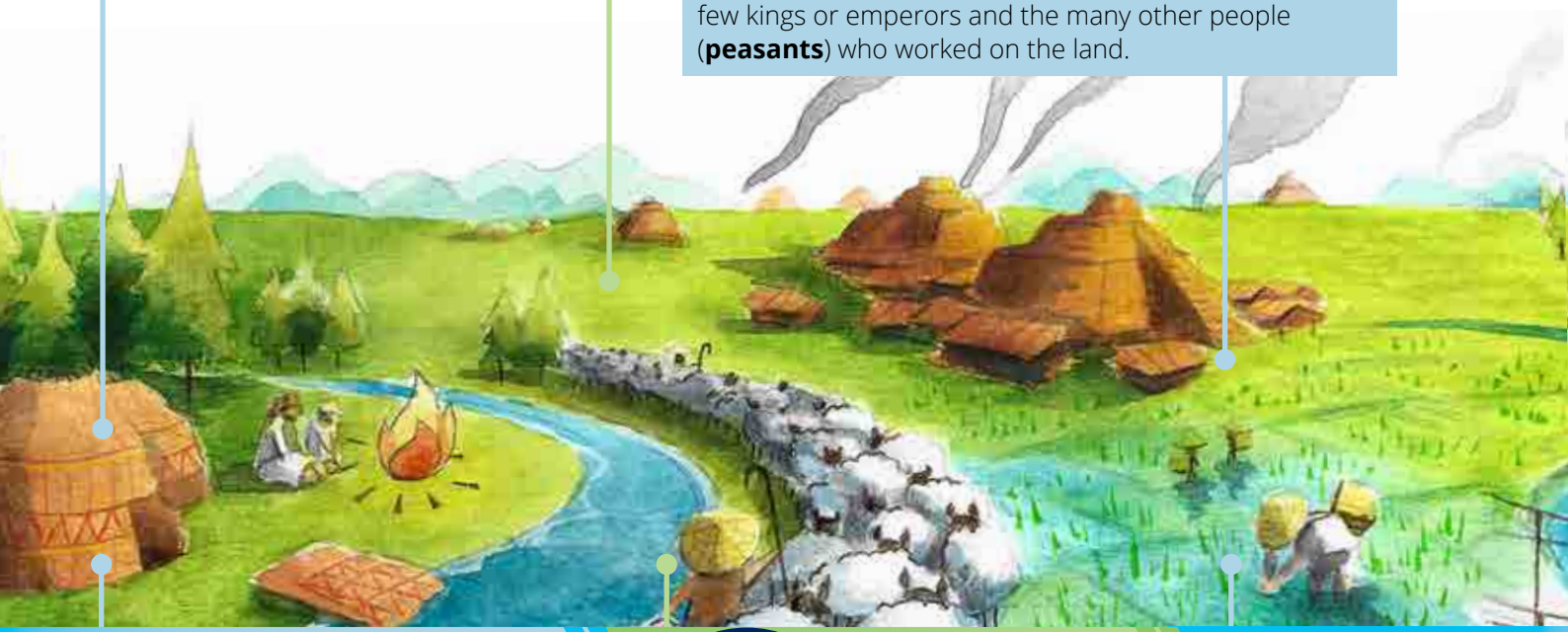
People probably lived in small groups. They moved around and did not settle in one place, raise animals or grow crops. Instead, they ate what they could hunt or find. These societies are called 'hunter-gatherer' societies.

HORTICULTURALIST/PASTORALIST

People began to spend more time in one place getting their food by growing crops ('horticulturalists') and raising animals ('pastoralists').

AGRARIAN

Larger groups of people began to grow crops and raise animals in one place. They started to specialise in doing certain things. For example, making boats, shoes or wine by hand, or being servants, builders or soldiers. Many kingdoms and empires were based on these 'agrarian' societies. However, there was inequality, between the few kings or emperors and the many other people (**peasants**) who worked on the land.



100,000 YEARS AGO

10,000 YEARS AGO

5,000 YEARS AGO

Society in *Social Science and the Humanities*

Society is an important idea when we study social science and humanities subjects. In each chapter of this book, we look at different ideas, actions and behaviours, and how they can affect society.

People in different societies, or within the same society, often have different ideas about what has happened in the past (history). People also have different ideas about how a society should be organised (politics). You will also find people, events and ideas from history and from politics throughout the subjects in this book.

exercise

1. What is the odd one out in each list?
   - **a.** small groups, kings, hunting, gathering nuts and berries
   - **b.** settled in one place, growing crops, factories, raising animals
   - **c.** collecting fruit, making websites, building software, work using the internet
   - **d.** cars, roads and railways, weaving clothes, pollution
2. What type of society do the other three items in each list have in common?
3. Which society would you place the odd thing out into?
4. Add something (it can be a thing or something people do) you can think of that would fit with each of the other three items from that society. Say why it could belong there.

INDUSTRIAL

People began to use machines for agriculture and in factories instead of making things with their hands. Factories could make a lot of things, like tools or clothes, very quickly. These things could be traded between countries. This was 'industrialisation'. Today, many people live in 'industrial' societies. They live in large cities, working in factories or other jobs where they earn money to buy things that they need. Transport, communication, medicine and education improved during industrialisation. However, inequality between rich and poor has increased, and pollution of the environment has become a problem.

POST-INDUSTRIAL

Instead of making physical things, some people use computers and the internet to create software for computers, applications for smartphones, or websites for businesses. Societies where people do this type of work are called 'post-industrial' societies. However, people still need physical things like clothes, shoes or cars, so industrial societies are still very important. Post-industrial societies can be found in different countries, or in parts of the same country, alongside industrial societies.

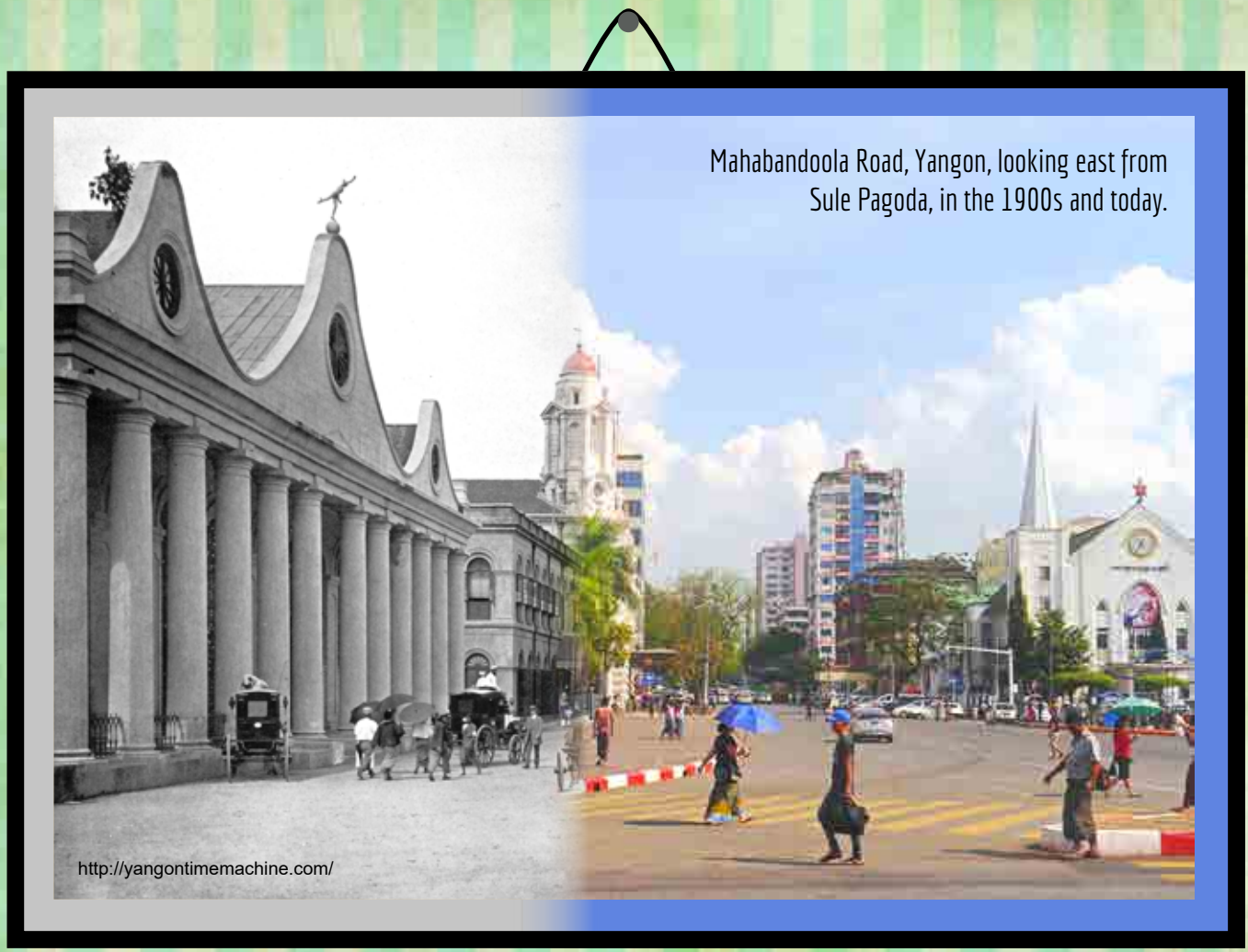
250 YEARS AGO

TODAY

activity

Comparing – Day-To-Day Life in Different Societies

1. In pairs or small groups, choose one subject from the list below.
   - families
   - food
   - work
   - clothes
   - homes
   - education
   - health
   - entertainment
2. Discuss and then draw a poster of what your topic might be like in each of the different society types.
3. Put your posters on the wall and see how other groups drew their topic for different societies.



discussion

1. What do you believe is the most important part of any society? Why?
2. What things do you believe cause a society to change? Why?

1.2 What Is Social Science?

preview

Why is social science called 'social science'?

Social science is the study of peoples and societies.

- **SOCIAL** refers to the relationships between people in a society.
- **SCIENCE** is the organised and systematic study of things and how they work.

Social science tries to understand how society works. It looks at how people in society relate to each other and to their environment. It can include the study of individuals, families, groups, organisations or whole countries. For example, a social scientist might want to understand why some people in society are rich and others are poor, or how building a dam on a river will affect the lives of people who live by the river.

People have different ideas about how society is or should be. This makes social science different from natural science like biology, chemistry or physics. For example, we know that humans need food and oxygen to survive. These are *scientific facts*.

Social science studies human behaviour and relationships and the effects that they have on society. Many things about people and society are more difficult to claim as 'facts'. For example, how people's views about religion or politics affect development. It is likely that social scientists will get different answers depending on who they ask.

exercise

Are these statements true or false? If false, say why.

1. Social science might study one person or an entire community.
2. Biology, chemistry and physics are examples of social science.
3. Natural science can establish facts about the physical world.
4. Social scientists always get the same results when they study the same thing.

discussion

1. What things do you expect to learn from studying social science?
2. What things do you want to learn from studying social science?

preview

1. Why do people want to study social sciences?
2. What do people learn from studying social sciences?

1.2.1 Why Study Social Science?

Studying social science is valuable for personal, community, work and education reasons. Social science studies human behaviour and relationships. We are all human and we all experience or relate to the things studied in social science. Learning about different issues and how they affect people helps us see things from other points of view and in new ways. That is important for understanding (and for being part of) the communities that we live in.

The skills that we learn from studying social science are useful for many kinds of work. Employers often look for these skills. They include conducting research, working with others, problem solving, and decision making. These skills are needed in industry, business, government, non-governmental organisations, and education.

Research means **systematically** studying something and creating new knowledge about it. Three important steps in research are data collection, thinking critically, and analysis.

- **DATA COLLECTION** means systematically searching for and collecting information **(data)** about the thing you are researching. Data can include written material, interviews, or surveys, etc.
- **THINKING CRITICALLY** means not accepting everything you read or hear. Instead, it involves thinking for yourself, recognising opinions and **bias** in what other people say and write and questioning those things.
- **ANALYSIS** means to look closely at data in a systematic way to try to understand how it relates to the central research topic.

Conclusions about what the research has found are then drawn from the analysis and the research is usually presented in a written report.

exercise

1. From sentences a-d (below), choose the best summary each for paragraph one and paragraph two of the text above.
   - **a.** People's relationships are studied in social science.
   - **b.** Social science helps us understand and participate in society.
   - **c.** Research is an important skill for social science.
   - **d.** Social science skills are valuable skills for work.
2. Match skills a-c from paragraph three to the examples (i-iii) that best demonstrates that skill.
   - **a.** data collection **b.** thinking critically **c.** analysis

i. Ma Mary interviewed people from 30 households in her village about why some people there could not access medical care.	**ii.** U Kyaw Lin sorted what people said in each interview into categories: people who live in towns and people who live in the country; men and women; and employed and unemployed.	**iii.** Daw Moe didn't believe what she read on the website of a factory about protecting the environment. So she read reports by environmental groups about the factory and spoke to local people.

activity

Categorising – Social Science Skills

1. In scenarios i-ix, below, decide if each sentence describes:
- **a.** data collection;
- **b.** thinking critically;
- **c.** analysis;
- **d.** presenting conclusions from research.

Some sentences might describe more than one skill.

2. Explain your answers.

i. A new road is being built through your town. You want to find out more about its effects on people, the economy and the environment.

ii. You collect and read newspaper articles about the planned road.

iii. You read one article carefully and notice it only talks about how the road will be good for the town and not any problems that it might cause.

iv. You look online to find out about the person who wrote the article and see they are working for the road building company.

v. You then search online for information about the results of an environmental **impact** assessment for the planned road the company had submitted to the Ministry of Conservation.

vi. You conduct interviews with people living near where the road will go.

vii. You read each interview and place concerns people mentioned about the road into three categories – **livelihoods**, economy and environment – to see which of those concerns occur the most.

viii. For each of the three main effects, you break them down into concerns held by men and concerns held by women, to see if they are the same or different.

ix. You write a report about what you found from your analysis of the interviews and distribute it to the people affected by the road and to the company building it.

discussion

Which skills for studying social science do you believe are most useful? Why?

preview

What things do you think social science studies? Predict from the pictures above.

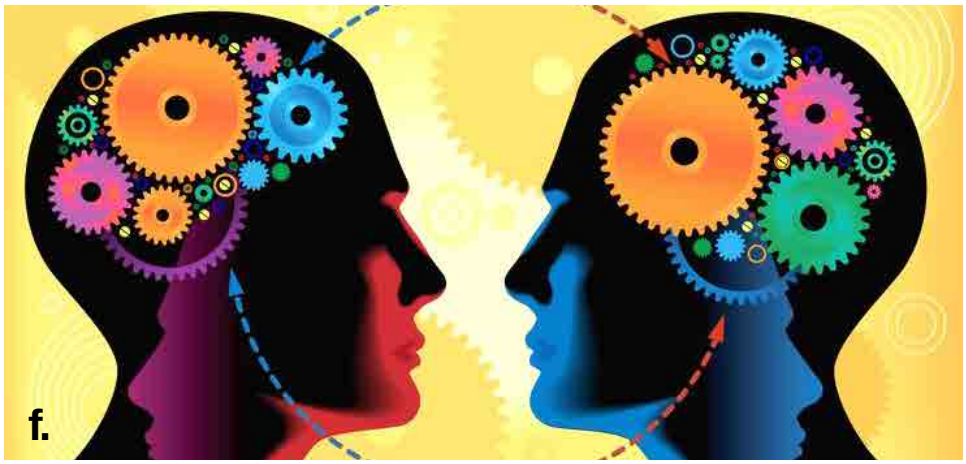
1.2.2 What Does Social Science Study?

Social science looks at a wide range of things that affect or are affected by people and society. Some examples of things that social science might study are:

- How economic change affects people differently. For example, a company might want to build a new factory. Some people might sell their land to the company to become rich. Other people would have to work at the factory instead of being farmers.
- How decisions about development affect the environment and people. For example, a plan to build a new factory in a town might bring jobs but it might also pollute the local river. The pollution will damage the livelihoods of local fishing communities.
- How religion or culture affects politics. For example, some people might not allow people from other religions or cultures to be involved in politics or become political leaders in the community.

Here are some of the main subjects within social science:

- **DEVELOPMENT STUDIES** looks at economic and social change and the social and environmental impacts that come from those changes.
- **ECONOMICS** is the study of the production, distribution, buying and selling of goods and services.
- **ENVIRONMENT STUDIES** looks at the natural world and how it is affected by human activity.



- **POLITICS** is the study of the systems that societies use to organise themselves, and which people or groups in society have power and why.
- **PSYCHOLOGY** is the study of the human mind and processes of thinking and behaviour.
- **PUBLIC HEALTH** is the study of health in society, the reasons for differences in people's health and their access to healthcare, and how governments can improve the overall health of a society.

In this book, we will focus on the environment, economics, development and public health.

exercise

1. Match pictures a-f, above, to the social science subjects (i-vi) that each picture represents.
   - **i.** development
   - **ii.** economics
   - **iii.** environment
   - **iv.** politics
   - **v.** psychology
   - **vi.** public health
2. Explain your answers.

exercise

Match the social science subjects from pages 12–13 to the actions below.

1. You interview people about what makes them feel more comfortable in new situations and how they think about those situations.
2. You study the **constitutions** of different countries around the world.
3. You study how the amount of fresh vegetables available affects their prices in local markets.
4. You work on a project to **assess** the effects of new roads on the lives of small farming communities.
5. You need to find out why many people in a village are getting sick after drinking from the local water supply.
6. You want to find out if cutting down trees in a local forest is reducing the number of species of birds living in the area.

activity

Matching – Issues in Society

1. Identify a current issue in your society (community or country) and decide which social science subjects (from pages 12–13) the issue is related to.
2. Explain to your partner:
   - **a.** what the issue is;
   - **b.** the social science subjects that relate to it;
   - **c.** why those social science subjects relate to this issue.

discussion

Which social science subjects do you think would be the most interesting to study? Why?

1.3 What Are the Humanities?

preview

1. What makes people human? In pairs or groups, make a list.
2. Make a class list.

The humanities are the study of what it means to be human. Subjects within the humanities look at human **existence**, history, culture, thought and creativity. For example, someone who tries to understand what happened in the past is studying history. Someone who tries to understand how traditions or social practices (for example, marriage) differ between cultures is studying anthropology.

Why Study the Humanities?

Studying the humanities helps us to think about, and understand, what it means to be human. Subjects like history and philosophy help us to think critically about where ideas about human knowledge and behaviour have come from. Those subjects also encourage us to think about how the world should be and how people should behave.

The humanities also help us to appreciate human creativity. Thinking creatively has contributed to scientific discovery, law, arts, music and literature. Critical and creative thinking are skills that are also useful in the social and **natural sciences**.

What Subjects Are Studied in the Humanities?

Subjects that are usually considered to be within the humanities include philosophy, anthropology, history, languages, literature, art and music:

- **ANTHROPOLOGY** is the study of cultures and societies, and how people across different cultures organise their lives and relationships. It includes the study of family systems, religions, traditions, food or clothes, etc. Anthropology is also included within social science subjects because it can include study of societies and social behaviour.

■ **Expressions of Buddhism from around the world. Top:** Venerable Chwasan, the leader of (Korean) Won Buddhism; **Above:** *Time Magazine* looks at 'Western' Buddhism; **Below:** the Temple of the Emerald Buddha, Bangkok

- **HISTORY** is the study of events and people in the past. People who study history are called historians. Historians try to find out about the past through documents, pictures and objects from the past. The spoken or recorded recollections of people from the past are also a valuable source of information for historians. There is not one 'correct' version of history. It is not just a list of dates and events. There are many different **interpretations** of what has happened in the past. A historian tries to understand these and choose the most likely version(s) of what happened, based on the evidence they have.
- The study of **LANGUAGES** includes the study of reading, writing, speaking and listening in our own or in other languages. The study of other languages can help increase our understanding of the culture, the literature, and the social and religious backgrounds of its speakers.
- **LITERATURE** is the study of written works such as poetry, novels or biographies. It can also involve studying and practising creative writing.
- **PHILOSOPHY** is the study of thought and ideas about existence, knowledge and **morality**. It is central to social sciences and to humanities.

In this course we will mainly focus on social science subjects. We will study how people are affected by (and how they affect) the environment, development, economics and health. However, there is a lot of **crossover** between humanities and social science subjects. Through history we can see how the societies, politics and economics of the past influence the societies, politics and economics of the present. People's cultures, beliefs, languages, literature and traditions also influence their philosophy, politics, economics and development.

We will look at some of the main ideas in philosophy in the next chapter, before we begin to explore social science.

exercise

Answer the questions.

1. Which is the best summary of the reasons for why people study the humanities?
   - **a.** The humanities help us study history and literature.
   - **b.** The humanities encourage us to think critically and creatively.
   - **c.** The humanities tell us about different traditions in society.
   - **d.** The humanities are where we learn other languages.
2. Match examples a-e to the subjects in the text.
   - **a.** Writing poetry.
   - **b.** Learning to speak Chinese.
   - **c.** Looking at different marriage traditions.
   - **d.** Deciding what is right or wrong.
   - **e.** Looking for causes of a war in the past.
3. Why is it hard to be certain about the past?
4. What are advantages of studying other languages?

activity

Describing – The Things That Make Us Human

1. Think of three things.
   - **a.** Some music that you like;
   - **b.** A book that you have read and like;
   - **c.** A type of food that you like.
2. In pairs, tell each other about the music, book and food you like.
3. Write three questions to ask your partner. One each about their music, book and food. For each of your questions you asked your partner, say which humanities subject/subjects it relates to. For example, 'How did Shan style noodles become popular in other parts of Myanmar?' This question can relate to anthropology and to history.
4. Ask your questions to your partner and write their responses.

discussion

1. How are humanities subjects different to social science subjects?
2. Which humanities subject would you most like to study? Why?

Chapter 2: Philosophy and Ethics

themes

Chapter 2 looks at some of the key concepts in the Western philosophical tradition and considers both rationalist and empiricist perspectives on the nature of knowledge and learning. It looks at ethics, at the possible sources of ethical behaviours and at different ethical aproaches. Finally, it examines philosophical and ethical traditions from around the world to see where ideas and beliefs may overlap.

learning goals

Knowledge

By the end of this chapter you will increase your understanding of:

- the origins of philosophy;
- the main branches of philosophy;
- ideas about what knowledge is and how it is gained;
- rationalism and empiricism;
- ideas about the sources of ethics;
- ethics in everyday life;
- rule-based and consequential ethics;
- ideas about philosophy from around the world.

Skills

By the end of this chapter you will develop your ability to:

- identify rationalist and empiricist ideas about the nature of knowledge;
- relate ethical ideas and their sources;
- apply an ethical framework to everyday ethical decisions;
- categorise rules and laws;
- identify rule-based and consequential approaches to ethics;
- compare and contrast philosophical ideas from around the world.

glossary

enforce (v) – ပြဋ္ဌာန်းသည်၊ (ဥပဒေ) အသက်ဝင်စေသည်

evidence (n) – သက်သေ

fundamental (adj) – အခြေခံကျသော

perception (n) – အသိအမြင်၊ သဘောထားအမြင်

sensation (n) – အာရုံခံစားမှု

spiritual (adj) – ကိုးကွယ်မှုဆိုင်ရာ၊ သက်ဝင်ယုံကြည်မှုဆိုင်ရာ

testimony (n) – သက်သေခံချက်

■ Busts of Greek philosophers on display at the British Museum.

preview

1. What do you think of when you hear the word philosophy?
2. What things do you think people study in philosophy?

2.1 Philosophy

Philosophy is a subject within the humanities. It is the study of **fundamental** questions about existence, knowledge or moral behaviour.

For example, 'What is the meaning of life?', 'What is knowledge and how do we get it?', 'By what rules should we lead our lives?'

Branches of Philosophy

The study of the very basis of reality and existence is a branch of philosophy called **METAPHYSICS**. Metaphysics goes beyond what we can know just from physical **evidence**. For example, metaphysics asks whether there is a god or whether there are other dimensions of space or time beyond those we currently know of.

The study of knowledge itself is called **EPISTEMOLOGY**. It asks questions about knowledge, what it is, how we gain it and whether we can truly know what we think we know.

There is also a branch of philosophy that asks questions about our actions. For example, what the right way to behave is or how we should treat other people, animals or the environment. This is called **ETHICS**. We use ethics in our daily life, often without realising it. For example, we might reject a plastic bag from a shop because we believe plastic bags are bad for the environment. Or, we might not eat meat because we believe it is wrong to kill animals. In making these types of decisions we are thinking about what we believe is right or wrong, and why. We are making decisions about ethics.

In this chapter, we look mainly at epistemology and ethics.

exercise

Answer the questions.

1. Which branch of philosophy studies how we gain knowledge?
2. Which branch of philosophy considers the question of whether we have a soul?
3. What are we doing when we think about the right way to treat other people?
4. Match questions a-c (below) to the three branches of philosophy.
   - **i.** metaphysics
   - **ii.** epistemology
   - **iii.** ethics

   a. Is it ever acceptable to tell a lie?
   b. How can we be sure that we really know something?
   c. Is there a part of us that lives on after we die?

2.2 Epistemology

preview

How did you get the knowledge that you have?

Epistemology is the study of knowledge, how we gain it and how we know the things that we know. It considers whether we can know things to really be true or only believe them to be true. It also considers whether knowledge is something that we are born with or something that we learn through experience.

Plato and the 'Allegory of the Cave'

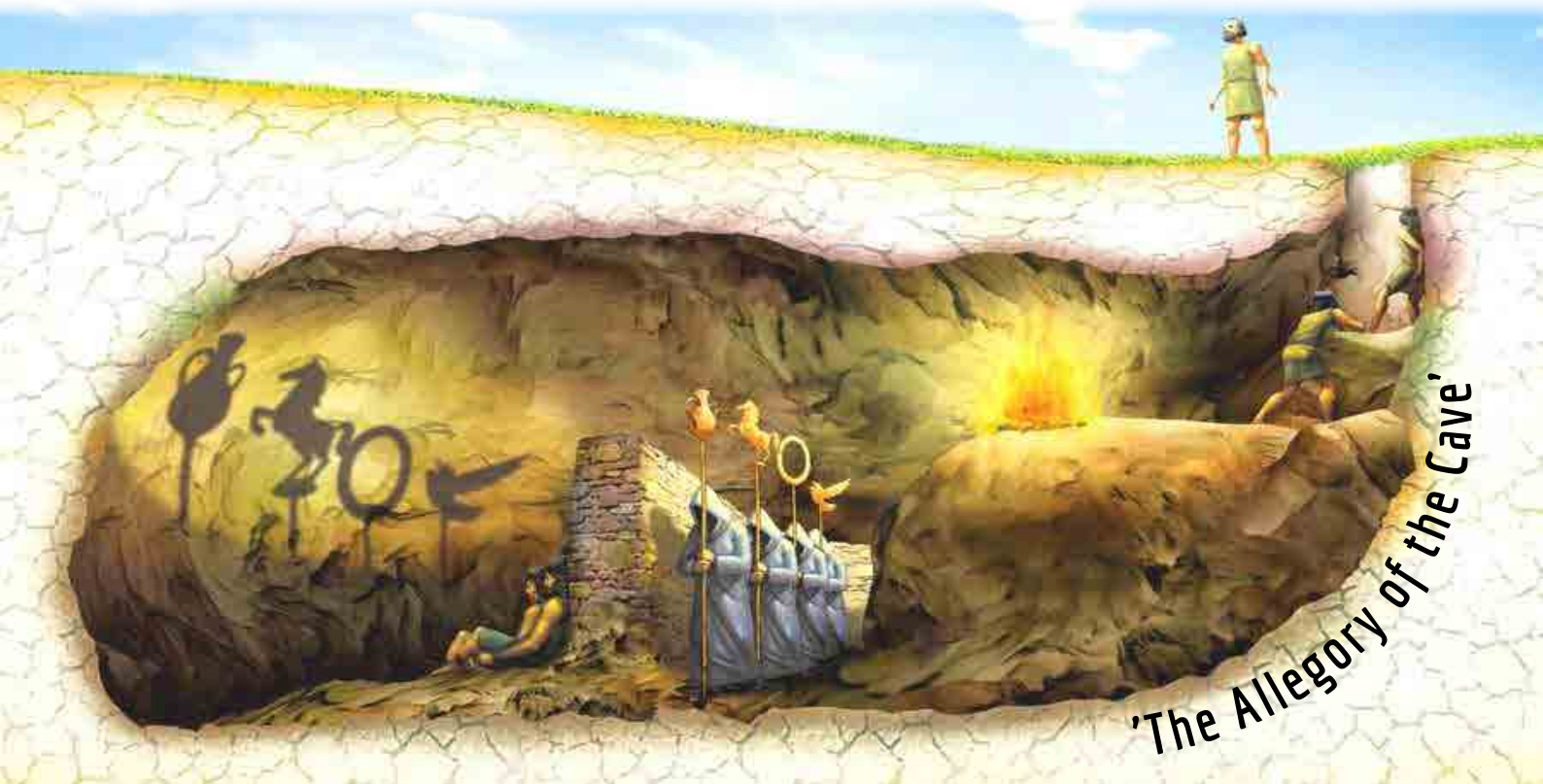
In Classical Greece, the philosopher Plato (428–347 BCE) described a story told by another philosopher called Socrates (470–399 BCE). He asked us to imagine prisoners that have always been chained up in a cave, facing the wall. There is a fire blazing behind them. People pass in front of the fire carrying models of things (see illustration below). All the prisoners can see of reality are the shadows cast on the wall. One day, a prisoner escapes and leaves the cave. Outside, at first he is blinded by the light and colours. He slowly starts to see the things in reality that he had only seen as shadows before. He returns to the cave to tell the others about the real things he has seen outside. However, the other prisoners do not believe him and think he has gone mad. This allegory demonstrates the difference between what we believe we know through our senses, and what might actually be real.

Classical Greece

Greece is a country in Europe. 'Classical Greece' was a period during the 5th and 4th centuries BCE in Greek culture. Classical Greece had a great influence on European civilisation. Much of modern European politics, thought, theatre, literature and philosophy comes from this period of Greek history.

Rationalism

René Descartes lived around 400 years ago. He asked, 'What can we truly be certain of?' He imagined a situation where all of our physical **sensations**, thoughts and memories could have been put into our minds by an 'evil genius'. Everything around us, and our experiences of them, might not be real. The evil genius is probably not true; however, this is an example of a 'thought experiment'.



'The Allegory of the Cave'

Although Descartes doubted everything, the one thing that he could not doubt was that he doubted, and that, therefore, he existed. That led to him to the statement: 'I doubt, therefore I think, and therefore I am.'

Like Plato, Descartes was a rationalist. Rationalists believe that *knowledge is gained through thinking and reasoning* rather than through our senses. For example, we know that adding two apples and two more apples equals four apples. Rationalists say that we do not actually need to see or hold any apples to know this is always true. Rationalists also believe that *people are born with some pre-existing (innate) knowledge*.

Empiricism

About 300 years ago, the philosopher John Locke stated that it was not possible to know reality just through thinking and reasoning, as Plato or Descartes had claimed. He also argued that people are born without any pre-existing knowledge. To gain knowledge, Locke believed that people have to physically observe and experience things around them through their own senses. This belief – that *we are born without knowledge and gain it through sense-based experience* – is called empiricism.

What is important about these ideas about knowledge is that they encourage us to think critically and question our understanding of the world around us. It is through this questioning that new knowledge, ideas, inventions and social change can happen.

exercise

1. Read the thoughts in the left column. Decide which statement in the right column would be made by a rationalist thinker and which by an empiricist thinker.
2. Explain why you matched the statements to rationalism or empiricism.

a. 'Where is my brother? He was here only a minute ago...'	**i.** 'I won't know where he is until I see him again.' **ii.** 'I know he must still be here.'
b. 'What will happen if I put my hand in the fire?'	**i.** 'It will probably hurt. Fires are very hot.' **ii.** 'I don't know. I will try it. Owwwww!'
c. 'I should know how to ride a bicycle but I have never ridden one.'	**i.** 'If I think about it how to do it for a very long time, I will be able to ride. I probably know how to do it anyway.' **ii.** 'I will get on this bicycle and see what happens...'
d. 'One plus one always equals two.'	**i.** 'No. I need to do the equation and check the result each time to know that it is true.' **ii.** 'Yes. If I know what is "one", and what is "plus", then I know that this is always true.'

exercise

1. Read the ideas, statements and actions in the box. Decide whether they relate to rationalism, empiricism or both, and why. Put them in the table.
2. Say why you believe each example represents rationalism, empiricism, or both.

a. The idea that children learn by observing their parents. ✓

b. I only believe what I can see, hear or feel.

c. Plato's 'Allegory of the Cave'.

d. The belief that you are born with a little knowledge but learn most things through experience.

e. Using 'thought experiments' and then testing them with physical evidence.

f. Only believing evidence that includes facts and figures.

g. The idea that people are born without any knowledge and gain it through experience.

h. Descartes' statement that, 'I doubt, therefore I think, and therefore I am.'

Relates to Rationalism	Relates to Empiricism	Relates to Both
	a. Because empiricism uses senses to gain knowledge. This is what children do when they observe.	

discussion

1. Do you prefer to understand the world around you through thoughts and ideas or through your senses? Why?
2. Do you believe that: a) people are born with knowledge already in their minds or; b) they are born with no ideas and they get knowledge through experiences in their lives? Why?

preview

How do you know if something is right or wrong?

2.3 Ethics

What Are Ethics and Where Do Ethics Come From?

Ethics is the branch of philosophy that studies ideas about right and wrong. Whenever you think about, or discuss, whether something is right or wrong, you are doing ethics. For example, is it always wrong to steal or to tell a lie? What if your family was starving? Would you steal some food to feed them?

One of the biggest questions for philosophers in ethics is what they are based on. Where did moral rules like 'do not lie' or 'do not steal' come from?

Divine Command: Religion as the Source of Moral Ideas

Ideas about what is right or wrong have often been based on religious beliefs. A god, gods or a **spiritual** force decided if something was right or wrong. This is known as 'divine command' theory. The Five Precepts of Buddhism or the Ten Commandments of Christianity are examples of rules from divine command. Morality based on divine command usually includes consequences. If someone follows divine moral rules in their present life they will be rewarded in their next life or afterlife. However, if people break those rules, there will be punishment in the next life or afterlife.

The 'Golden Rule': People as the Source of Moral Ideas

Different religions might have different ideas about what is moral and what is not. For example, whether someone can marry more than one person or whether people are permitted to eat certain foods. However, some ethical or moral ideas are found in almost all religions and cultures, in many different parts of the world. A moral rule found across most religions and cultures is that *people should treat other people the way that they want to be treated themselves*. This idea has become known as the 'Golden Rule'. People generally follow this idea in their daily lives so they can live and work with others. Therefore, the Golden Rule cannot really be claimed by any one religion or culture.

exercise

Answer the questions.

1. What are ethics concerned with?
2. What are the two main sources of ideas about ethics?
3. What encourages people to obey moral rules based on divine command?
4. A rule that says you should worship on a certain day is an example of which source for moral ideas?
5. What evidence is there for why people, rather than religion, is the source of the Golden Rule?

Matching – Sources of Moral Ideas

activity

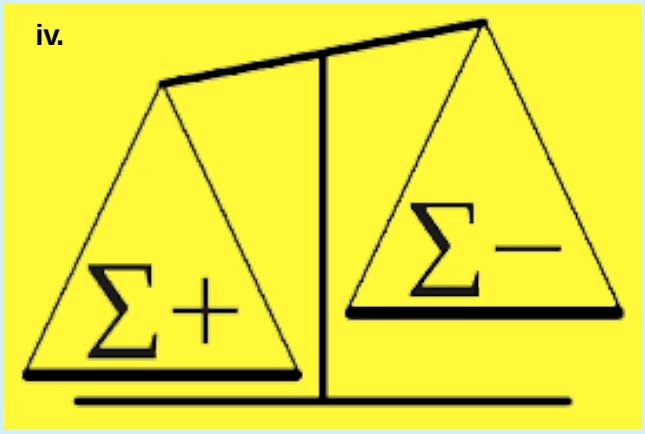
1. For each picture, decide if it represents:
   - **a.** divine command;
   - **b.** the Golden Rule;
   - **c.** both.
2. Explain why you think this.


i

ii.

Hinduism: This is the sum of duty: do not do to others what would cause pain if done to you. (Mahabharata 5:1517)

iii.



iv.

v.

vi.

vii.

viii.

Where do you think that ideas about right and wrong come from – from people or from a god or religion? Why?

discussion

preview

1. What questions can you ask yourself to see if something is right or wrong?
2. What does society do to make us do the 'right' thing?

2.3.1 Ethics in Our Lives

Everyday situations often involve ethical decisions. However, you may not have thought about those situations and decisions as 'ethics'. Thinking ethically means asking questions about your actions and about the possible effects of your actions on yourself and on others.

Some things to consider about a decision:

- Physical or emotional harm that it could cause to you or to others.
- Effects on your reputation and your relationships with other people.
- Wider effects on society and on the environment.
- Legal problems that it could cause.

The questions that you ask, and the answers that you give yourself, should act as guidelines for your decision making. They can help you to decide if your actions are ethically right or wrong.

Some questions that we can ask ourselves when we are trying to decide if something is right or wrong:

1. Would it break the Golden Rule?
2. Could it harm anyone?
3. Is it fair?
4. Will it cause more harm or more good?
5. Have I ever been told that it is wrong? If so, by whom?
6. How would I feel about it later if I did it?
7. How would it affect friends or family?
8. Does it have any impacts on society or the environment?

exercise

Are these statements true or false? If false, say why.

1. We often make ethical decisions without realising that that is what we are doing.
2. We only need to think about the consequences for ourselves when making ethical decisions.
3. 'Would I get rich?', is a question to consider when making an ethical decision.
4. How you will view your decision in the future, after you have done something, should be considered when making an ethical decision.

activity

Applying – Everyday Ethics

1. Read the scenarios below and use the questions for making ethical decisions on the previous page to help you decide, for each scenario:
   - **i.** what you would do;
   - **ii.** why you would do that.
2. Explain to a partner or in groups, what you would do and your reasons why for each scenario.

Everyday Situations Involving Ethics

a. A friend posts on Facebook. It says negative things about a different ethnic or religious group. Would you share it? Why?

b. You buy something at a shop and the shopkeeper gives you 200 MMK more in change than they should have. Would you give it back? Why?

c. The person in front of you in the street throws an empty plastic water bottle on the path. What would you do? Why?

d. A friend has dressed in new clothes and done their hair before going out for the evening. You think they don't look good. They ask you if you think they look good. What would you say? Why?

e. The day before you sit an exam, a friend offers you a copy of the answers. Would you take them? Why?

f. You think that someone in your class stole your mobile phone. They leave the room and you see a phone like yours on their desk. Would you take it to see if it is yours? Why?

g. During a test in class, you see your best friend looking over at the answer book of the person next to them. What would you do? Why?

Following Rules and Laws

Life is full of both rules and laws. They are similar but slightly different. We are usually expected to follow them.

- **RULES** are created by a person, such as a parent or religious leader, or by an institution, such as a university or a club. You do not (usually) go to jail for breaking rules, but there may be other consequences, such as your mother shouting at you or being expelled from university.
- **LAWS** are created by governments. The job of the police, who work for the government, is to make people follow laws. People who do not follow laws can be arrested by the police, tried in court and punished if the court finds them guilty. Punishments for breaking laws can include fines, prison sentences or, in some countries, even death.

There are so many rules and laws that it may be difficult to always follow them. Some (like the Golden Rule) are important because they allow society to function properly. However, some may not be fair or appropriate. Sometimes, the law may not be clear, or laws may not be properly **enforced**. Thinking ethically helps us make decisions about following rules and laws, when it is ethical not to, and what to do when a law or rule is unclear.

exercise

For each sentence below, decide if it relates to *rules*, *laws* or *both*.

1. They are usually not created by governments.
2. You can go to jail if you don't follow them.
3. The police are paid to enforce them.
4. A school has them.
5. They are supposed to be followed, but they might not always be fair.
6. If we don't follow them, it can cause problems for society.

activity

Arguing – Rules and Laws

1. Read the statements and decide whether you think that each statement is *always right*, *sometimes right* or *always wrong*, and why. Use the questions for making ethical decisions from page 26 to help you.
2. In pairs, explain why you made those choices.

Statements about Rules and Laws

a. Men and women should have exactly the same rights.

b. If young people misbehave, teachers can beat them.

c. It should be illegal for people to marry partners who are the same sex as them.

d. I should be allowed to say anything that I want about any group or person, even if it is rude and hurtful.

e. People should never hit their partners.

f. Drug users should go to jail if they are caught by the police.

g. If my company is doing something illegal, I should tell somebody.

h. The duty of the youngest child is taking care of the family.

i. We should always do what an older person tells us.

j. If someone at work offered me a bribe to do or not do something, I would take it, even though it's against the rules.

discussion

What things can be difficult about doing what you believe is ethically right? Why?

preview

Imagine this situation:

A dangerous-looking man carrying a gun comes to your house. He asks you where your best friend is.

Would you tell him where they are? Or would you tell a lie?

2.3.2 Rule-Based and Consequential Ethics

Rule-Based Ethics

The idea that ethical rules should always be followed because following the rules is a good act, regardless of the consequences, is called rule-based (or 'deontological') ethics. In rule-based ethics you should always follow an ethical rule because you would want everyone else to also follow that rule too. For example, you would not want other people to kill, steal or lie to you, so you should not do those things to other people. Consider the example of the man with the gun. Rule-based ethics would state that you should tell the truth about where your friend is. That is because telling a lie is always wrong. In rule-based ethics, it is the rule and not the consequences that decide if an action is considered right or wrong.

Consequential Ethics

The opposite of rule-based ethics is consequential ('teleological') ethics. Think again about the man with the gun. If you lie to him about where your friend is, he is unlikely to find or harm them. The consequence of telling a lie, in this example, is a greater good than not telling a lie. In consequential ethics, the consequences of actions decide if the actions are considered right or wrong.

Utilitarianism

Utilitarianism grew out of consequential ethics. It is the idea that an action is ethically right if the consequences of an action produce the 'greatest good for the greatest number' of people. A criticism of utilitarianism is that a good outcome for the majority of people does not mean a good outcome for everyone. For example, imagine a small boat with too many people in it that is sinking in the sea. If one person was pushed out of the boat into the sea, the boat would be able to keep floating with the other people who could be saved. While this might produce a good outcome for most of the people who are on the boat, it would be a very bad outcome for the person who was pushed out.

exercise

Match examples 1–4 to the ethical idea that they best demonstrate.

a. rule-based **b.** consequential/utilitarian

1. You hear about a new medicine that can cure a serious disease but it makes about one in every 10,000 people very sick. The government allows it to be used because it cures most people of the disease.
2. You believe children should always have access to education and should never have to work before the age of 15.
3. You were once arrested and spent a week in jail. The police did not keep an official record of your arrest. You are at an interview for a new job and the employer asks if you have ever been arrested. You say yes.
4. You need to take your mother to hospital because she is very ill. You have no money for the taxi. Your friend's wallet is on the table. You take 10,000 MMK for the taxi fare.

activity

Arguing – Thought Experiments in Ethics

Read the scenarios below and, for each scenario:

1. Decide what you would do and why.
2. Identify which ethical approach your decision demonstrated: *rule-based* or *consequential/utilitarian*.
3. In pairs, explain your decision for each situation and why it matched that ethical approach.
4. As a class, discuss what you would do in each situation and the ethical approach it demonstrates.

Ethics Thought Experiments

a. You have no food or money and your family are starving. You walk past a shop. The owner is in the back and cannot see you. You have a chance to steal some food from the shop to feed your family. Would you steal the food? Why?

b. You have no food or money and your family are starving. You see a blind beggar on the side of the road. He has enough money in his cup for you to buy food for your family. Would you steal the money? Why?

c. A small child is on her way to the dentist to have a tooth extracted. She has never been to the dentist before and she is very scared. You know that it will hurt. She asks you if it will hurt. Would you tell her? Why?

d. You are a doctor. A patient has a serious disease. You know that they only have a 50% chance of surviving it. They ask you what their chances of surviving are. Would you tell the patient? Why?

e. A man has put a bomb in a large shopping mall. It will explode in ten minutes and you cannot get everyone out before it explodes. You have arrested the bomber. You want him to tell you where the bomb is before it explodes. Would you torture him to tell you where the bomb is and stop it? Why?

f. You have also arrested the bomber's wife and child. Would you torture them to make the bomber tell you where the bomb is and stop it? Why?

g. You don't have much money, and need to support your family as well as yourself. You see a person who looks poor. They drop 5,000 MMK on the road. You pick it up. Do you keep it? Or run after the person and give it back? Why?

h. You don't have very much money and need to support your family as well as yourself. You see a person who looks rich. They drop 5,000 MMK on the road. You pick it up. Do you keep it? Or run after the person and give it back? Why?

discussion

1. Which of the two approaches to ethics we have looked at (rule-based or consequential/utilitarian) do you prefer? Why?
2. Is it easy or difficult to maintain the same ethical position all the time? Why?

preview

1. Do you think people in different parts of the world would have developed the same ideas or different ideas about philosophy? Why?

2.4 Philosophies from around the World

The ideas about philosophy we have considered so far have mainly been from Ancient Greece or Europe. However, there has also been a rich tradition of philosophy in other parts of the world such as in China, India and the Islamic world.

activity

Comparing and Contrasting – Philosophies from around the World

Some quotations or descriptions of ideas about philosophy from around the world are briefly outlined below in no particular order. Complete the table.

1. Read the quotations and ideas (a-l). For each, decide if it is about epistemology or ethics. Write epistemology or ethics in the first column in the table on page 33.
2. If it is about *epistemology*, record whether it is rationalism or empiricism. If it is about *ethics*, record whether it is about divine command or the Golden Rule.
   Note: Some quotes may relate to more than one column in the table.
3. In pairs, explain your answers.

a. Example: Chinese philosopher Confucius (551–479 BCE) stated, 'what you do not desire for yourself, do not do to others.'	**b. Example:** The Islamic scholar Avicenna believed human minds were without knowledge at birth and were developed through education.
c. The Chinese philosopher Mozi (468–391 BCE) stated that the truth of a claim can be found through 'the historical records' and 'the eyes and ears of the common people.'	**d.** The Islamic Hadiths (the record of words and actions of the Prophet Mohammad) state, 'None of you truly believes until he wishes for his brother what he wishes for himself.'
e. The Chinese philosopher Xunzi (310–220 BCE), believed people were born naturally bad but with knowledge of what goodness was so they would try to become good.	**f.** The Buddha, in the Udanavarga, states, 'Hurt not others in ways that you yourself would find hurtful.'
g. The Chinese philosopher Mozi (468–391 BCE) said that for social order, people must be concerned for each other and not merely for themselves or their own families.	**h.** Hindu Sankhya and Nyaya philosophy says that sources of proof for knowledge include **perception**, inference, comparison and **testimony**.

i. The Chinese philosopher Confucius (551–479 BCE) stated that moral order was aligned with heaven.

j. Chinese philosopher Wang Yangming (1479–1523 CE) asked, 'Is there any affair in the world outside of the mind?'

k. The Islamic scholar Avicenna (980–1037 CE) stated, 'The knowledge of anything, since all things have causes, is not acquired or complete unless it is known by its causes.'

l. The Chinese philosopher Mencius (372–298 BCE) believed that moral and political leaders got their power from heaven.

		Epistemology		Ethics	
Idea or Quote	Epistemology or Ethics?	Rationalism	Empiricism	Divine Command	Golden Rule
a.	*Ethics*				X
b.	*Epistemology*		X		
c.					
d.					
e.					
f.					
g.					
h.					
i.					
j.					
k.					
l.					

Why do you think there are similarities between philosophies from different parts of the world?

discussion

Chapter 3: The Environment

themes

Chapter 3 looks at the ideas of the 'natural' and 'human-made' environments and the relationship between the two. It considers the role that natural resources play in human societies, how their use relates to human-made climate change, and problems caused by waste and pollution on individuals, on society and on the environment.

learning goals

Knowledge

By the end of this chapter you will increase your understanding of:

- natural and human-made environments;
- relationships between people and the environment;
- ecosystems and biodiversity;
- natural resources;
- fossil fuels;
- human uses of water;
- climate change and responses to it;
- waste and recycling;
- chemical pollution.

Skills

By the end of this chapter you will develop your ability to:

- identify natural and human-made parts of the environment;
- list human uses of the natural environment;
- identify cause and effect in human impacts on the environment;
- identify differences between renewable and non-renewable resources;
- outline steps in the process of climate change;
- compare and contrast the effects of climate change;
- categorise adaption and mitigation responses to climate change;
- create possible solutions to reduce and recycle waste;
- interpret maps, pictures and data;
- infer meaning in political cartoons.

glossary

adaptation (n) – ပြင်ဆင်ချက်
agribusiness (n) – စိုက်ပျိုးရေးလုပ်ငန်း
aquaculture (n) – ရေသတ္တဝါစိုက်ပျိုးမွေးမြူရေး
atmosphere (n) – လေထု
biodiversity (n) – ဇီဝမျိုးကွဲစုံလင်မှု
clearance (n) – ရှင်းလင်းခြင်း
clear-cut (adj) – တိကျရှင်းလင်းပြတ်သားသော
climate change (n) – ရာသီဥတုပြောင်းလဲမှု
compensation (n) – လျော်ကြေး
compost (n) – မြေဆွေး
concentration (n) – ပါဝင်မှု
concession (n) – ကင်းလွတ်ခွင့်
disposable (adj) – တစ်ခါသုံး
ecological (adj) – ဂေဟစနစ်နှင့်ဆိုင်သော
ecosystem (n) – ဂေဟစနစ်
export (v, n) – တင်ပို့သည်၊ ပို့ကုန်
fault line (n) – ငလျင်ကြော
food security (n) - ရိက္ခာဖူလုံမှု
fossil fuel (n) – ရုပ်ကြွင်းလောင်စာ
fumes (n) – အခိုးအငွေ့
glacier (n) – ရေခဲတောင်
greenhouse effect (n) – ဖန်လုံအိမ် အာနိသင်
hydropower (n) – ရေအားလျှပ်စစ်
insecticide (n) – ပိုးသတ်ဆေး
interconnected (adj) – အပြန်အလှန် ချိတ်ဆက်နေသော
invest (v) - ရင်းနှီးမြှုပ်နှံသည်
market (n) – ဈေးကွက်
mitigation (n) – လျော့ပါးသက်သာစေခြင်း
natural gas (n) – သဘာဝဓာတ်ငွေ့
palm oil (n) – ဆီအုန်း
polar ice cap (n) – ဝင်ရိုးစွန်းရေခဲတောင်များ
radiation (n) – ဓာတ်ဖြာထွက်မှု
renewable (adj) – ပြန်ပြည့်မြဲဖြစ်သော
sediment (n) – အနယ်အနှစ်
side effect (n) – ဘေးထွက်အကျိုးသက်ရောက်မှု
toxic (adj) – အဆိပ်သင့်သော
waste (n) – စွန့်ပစ်ပစ္စည်း၊ အမှိုက်
web (n) – ကွန်ရက်

■ Deep inside a bamboo forest in Japan.

preview

When you hear the word 'environment' what do you think of?

3.1 What Is the Environment?

Maybe the word 'environment' makes you think of trees, mountains, animals, plants and rivers, or even clouds, rain and wind. These are examples of the natural environment. The natural environment is everything around us that was not created by humans.

Perhaps you also think about things made by people, like towns, cities, roads and bridges. These are also examples of the environment. They are part of the human-made or 'built' environment.

Both natural and human-made things make up the environment around us. In this chapter, we will focus on the relationships between people and the natural environment and the effects that people have on the natural environment.

Humans and the Natural Environment

The way that we live depends on the natural environment around us. For example, people near oceans or rivers will live differently to people in mountainous areas or people living in cold or dry places. Think about the difference in houses, clothes or food between people in Myanmar compared to Norway.

The way that we live also affects the natural environment around us. Humans have always relied on resources that come from the natural environment. Resources include animals and plants for food, coal and oil for fuel, stone and wood for building. Almost all the things that we use contain things that have originally come from resources in the natural environment.

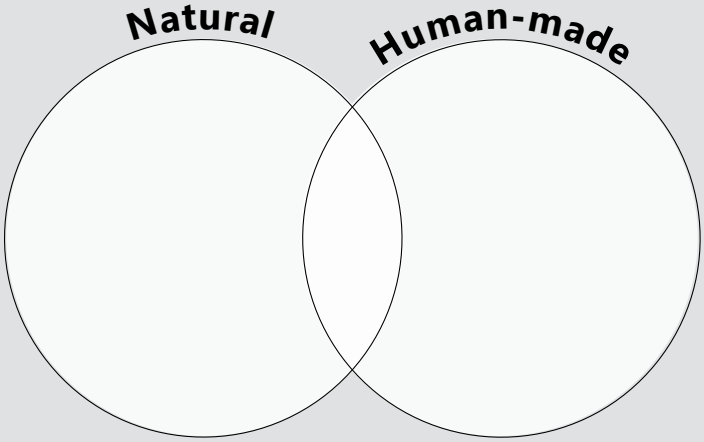
Humans change the natural environment. They do this when they make towns and cities, factories, farms, roads, bridges, dams, etc. These activities use extremely large amounts of resources and create **waste**.

■ Winter in Norway, Northern Europe.

exercise

Look at the picture on page 36 and put the things in it into the Venn diagram based on whether they are:

- part of the natural environment;
- part of the human-made environment;
- shared between both.



activity

Listing – Human Uses for the Natural Environment

Look outside at the human-made environment around your school or community. In pairs or small groups:

1. Make a list of all the natural things you can identify around you that are used or changed in the human-made built environment.
2. How is each used?
3. Compare your list with other groups.

discussion

1. Do you think there are more things that are natural or human-made in the area around you? Why?
2. Do you believe that the natural or human-made environment is more important? Why?

preview

Are we part of the natural environment? Why?

3.2 Maintaining a Balance in Nature

There is a complex **web** of relationships between living things in the natural environment. This web is called an **ecosystem**. An ecosystem includes plants, animals and insects as well as non-living things like soil, water and air. Ecosystems are **interconnected**, which means that all the plants and animals depend on each other for survival. For example, if a forest was cut down it would also affect the plants and animals that depend on the forest. If the trees disappeared, other plants would die because there was too much sunlight. The animals that eat the plants would then have no food and may die too.

'**Biodiversity**' refers to the number and variety of different species of living things, including plants, animals and insects that live in an ecosystem. If a lot of different species of plants and animals are dying off because of human activity, then an area's biodiversity is in danger. There would be fewer different types of plants and animals in the ecosystem.

When human activity affects the natural environment, it also affects humans. For example, if trees are all cut down on a hillside, floods that affect people will happen more often. The loss of trees will also affect local people who depend on the forest for food and medicine. Even the people who had jobs cutting down trees or making things from the wood will be affected if too many trees are taken from the forest. They may not have work anymore.

exercise

For each situation below, say if you believe it demonstrates:

a. a human effect on the natural environment, or;
b. an effect of the natural environment on humans.

1. Heavy rain washes away a farmer's crops.
2. People get sick from eating fish from a river that is downstream from a chemical factory.
3. People get malaria when they are bitten by mosquitoes.
4. A cyclone floods a coastal area, forcing people to move inland.
5. A forest is cleared to make way for a **palm oil** plantation.
6. During the rainy season the sale of umbrellas increases.
7. The cost of rice goes up after insects eat a lot of the rice crop.
8. A smoke cloud forms when farmers light fires to clear land.

Identifying Cause and Effect – Human Impacts on the Environment

activity

1. Match the causes of problems and their effects.

a. A textile factory pumps dirty water straight into the river.	**i.** Local bee populations begin to die out in large numbers.
b. A large hydropower dam is built across a river and raises the water level upstream.	**ii.** Fish and other animals are poisoned by the pollution.
c. Chemicals in waste water affect the biological sex of fish and other water animals.	**iii.** In the rainy season, peoples' homes flood more often.
d. Farmers start using powerful insecticides to stop insects eating their crops.	**iv.** There are more females than males and the populations of some species begin to decrease.

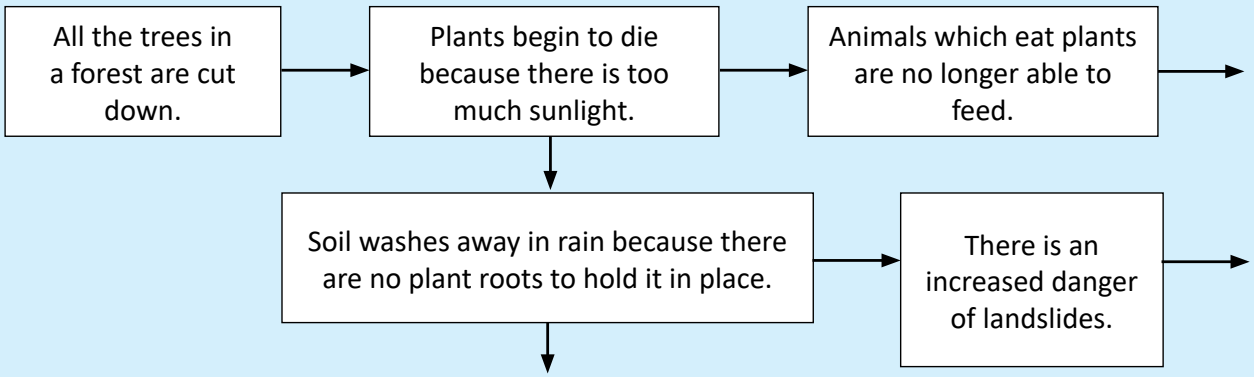
2. For each effect (i-iv), think of its possible effects on both human and animal populations in the surrounding areas.

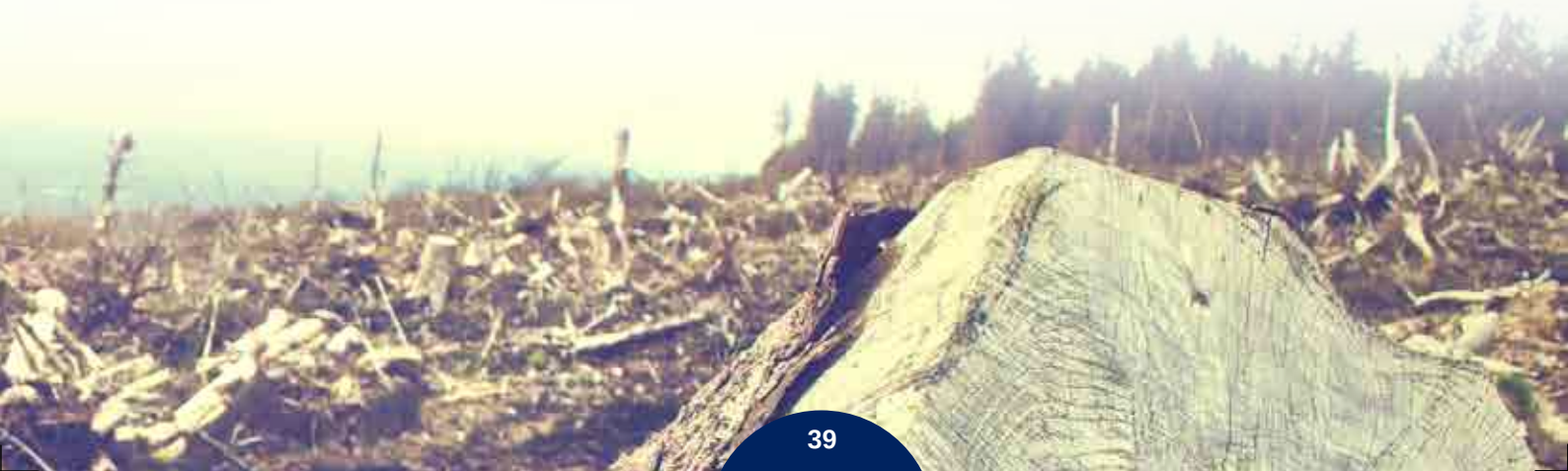
Identifying Cause and Effect – Cause-and-Effect Chains

activity

For scenarios a-d in the previous activity, make a cause-and-effect chain. An example has been provided below (based on the text on page 38). Consider the causes and effects in your chain for both the natural environment and on humans.

Example:





FOCUS ON ... MYANMAR

DEFORESTATION THREATENS BIODIVERSITY AND COMMUNITIES

13/05/15 — Clearing forests for commercial agriculture is increasing in Myanmar. According to a new report from a forest conservation organisation, this puts biodiversity at risk. It also increases the chances of conflicts over land. The government has allocated at least 5.2 million acres of forestland and identified a further eleven million acres as suitable to be cleared for private **agribusiness** projects.

Many of the forests are on land where there have been historical conflicts and current land claims by local ethnic minority groups. Forest **clearance** could increase armed conflict in these areas. The report also predicted the loss of wildlife in Myanmar from increased deforestation.

The report investigated forest clearance in two areas. In Kachin State, forests are being cut down for rubber and biofuel plantations. In Tanintharyi Region, oil palm and rubber plantations are replacing natural forests.

However, agricultural crops had been planted in only 15% of cleared areas in Kachin and Tanintharyi. According to the report, '75% of cleared forest lands are still not planted. Often, the businesses do not follow environmental protection regulations or protect local communities from negative impacts.'

Also, the cleared forest land is not always used for agriculture. The report says, 'It is difficult to obtain logging rights in Myanmar, so businesses want the rights of palm oil **concessions**. This allows them to **clear-cut** forests. They may not ever plant the oil palm and instead just sell the cleared land later, to make money.'

Source: http://www.dw.com/en/deforestation-in-myanmar-threatens-biodiversity-and-communities/a-18314594

1. What are the problems associated with clearing of forests?
2. In what ways could human impacts on the forests affect relationships between people?
3. What things are replacing the natural forests after they are cleared?
4. What might be another reason, other than planting crops, for people wanting to clear forests?
5. What are some possible solutions to the problems mentioned in the article?

discussion

Is it possible for humans to use forests without destroying them? How?

3.3 Resources

preview

What are natural resources?

Humans affect the natural environment when they take and use resources from it. Natural resources include water, coal, oil and gas, iron, animals, plants and trees. Natural resources are used to make the things humans need or want like food, houses, cars or computers. Resources are also used for fuel for factories, electricity and transport.

Renewable and Non-Renewable Resources

If resources can grow back or reproduce, they are called '**renewable**'. Renewable resources include plants and animals, as well as natural forces like the sun, wind and water. However, some renewable resources can run out if they are used too quickly. For example, if many trees are taken too quickly from a forest, new trees do not have time to grow back.

If resources are gone forever once they are used up, they are 'non-renewable'. They cannot be grown back or reproduced. Examples of non-renewable resources include coal, oil and **natural gas** and minerals like iron or gold.

Fossil Fuels

One of the main ways that resources are used is for fuel. Coal, oil and natural gas are examples of non-renewable '**fossil fuels**'. Fossil fuels are made from dead plants and animals that have been buried underground for millions of years. They are taken from the ground and burnt for energy. Petrol and diesel (from oil) are used in motor vehicles. Coal and natural gas are used by factories and for heating. When fossil fuels are burned, gases are released into the **atmosphere**, including carbon dioxide (CO_2). Increasing levels of CO_2 in the atmosphere is one of the main causes of **climate change** (see 3.4.1).

exercise

1. For each list of words below, choose the odd one out.
   - **a.** cars, houses, computers, plants
   - **b.** aeroplane, car, coal, factory
   - **c.** wind, oil, sun, water
   - **d.** oil, gold, gas, trees
   - **e.** iron, oil, coal, gas
2. What is the odd one out an example of, and what do the other three things have in common?

exercise

Matching – Resources

1. Match the pictures to the following resources:
   - **i.** petrol
   - **ii.** gas
   - **iii.** nuclear power
   - **iv.** wind
   - **v.** solar
   - **vi.** coal
   - **vii.** hydropower
   - **viii.** wood
   - **ix.** charcoal
2. Is the resource renewable or non-renewable?
3. State whether each resource is used in your community or country, and for what purpose.


A.


B.


C.


D.


E.


F.


G.


H.


I.

Water

Water is necessary for all living things on earth. Humans, plants and animals all need water to survive. Most of the water on earth is in the oceans and is salt water. Only 3% of water on earth is fresh water (water that does not contain salt). Only fresh water can be drunk by humans and land-based animals, and used to grow plants.

Water moves through a cycle. It can change from liquid to solid (ice) to gas (water vapour). Humans see this cycle as rain and snow. As it moves through the cycle, water sometimes becomes trapped as ice or as underground water. Most fresh water on earth is in ice – in **glaciers** and **polar ice caps** – or underground. Humans access underground water by digging wells and using pumps.

Rivers provide fish to eat, and rich **sediments** for growing crops. Rivers are also used for transport and to generate electricity at hydropower dams. Human civilisations have often developed along rivers, and on river deltas such as the Mekong or Ayeyarwaddy deltas.

Although water is a renewable resource, it can be overused or polluted by humans. Rivers are affected by overuse for irrigation for farming, fishing, and especially by dams for hydropower. These activities can affect other people living by rivers or downstream. They might also depend on the river for fishing or for farming. Rivers sometimes cross (or even form) borders between countries. Consequently, how rivers are used by one country can even affect its relations with other countries that share the same river.

exercise

Are these statements true or false? If false, say why.

1. Only humans need water to survive, unlike other animals.
2. Most of the water on earth does not contain salt.
3. Most freshwater is stored in the oceans.
4. Humans usually avoid living near rivers.
5. Supplies of fresh water are in danger from overuse and pollution by humans.
6. Human use of rivers does not affect other people.

activity

Interpreting Maps – The Mekong River

Look at the map and answer the questions.

1. Name all of the countries that the Mekong River flows through.
2. In which country does the Mekong start?
3. Between which countries does the Mekong form a border?
4. In which country does the Mekong River reach the ocean?
5. What is the area of land around where the Mekong reaches the ocean called?
6. Does the Mekong flow from north to south or south to north?

FOCUS ON ... MYANMAR

DAM PROJECTS IN NORTHERN MYANMAR

29/08/17 — A Chinese company will build four dams on the Ngo Chang Hka River. The Ngo Chang Hka flows into the N'Mai River, one of two rivers that join to form the Ayeyarwaddy. A report from The Kachin Development Network Group (KDNG) says that the dams will damage an **ecologically**-sensitive river valley. The dams will produce around 1,200 megawatts of electricity per year. 50% of the power from the planned dams will be **exported** to China.

KDNG estimates that 4,500 people living in the Ngo Chang Hka valley will be affected by the project. They have received no information about the impacts of the dams, or the size or location of the areas that will be flooded. Many local villagers live in the river valley and farm where the soil is richest. KDNG warns that the dams will flood farmland and cause disruption to local people's lives. According to KDNG, the project is very unpopular with the local population. Zawng Lum lives in the valley. He says, 'We refuse to let our ancestral homelands and natural resources be destroyed.'

According to KDNG, another dam in Kachin, built on the Chipwe River in 2013, has had negative consequences. KDNG says the dam provides an important lesson for those in the Ngo Chang Hka valley. The report on the Chipwe dam says, 'Valuable farmlands were destroyed without proper **compensation**. Villagers downstream now suffer from muddy, polluted water from the dam that destroys riverside crops, kills fish and makes bathing dangerous.'

Chinese officials decided not to build dams on the Nu River across the border in Yunnan. This is because of a **fault line**, and earthquakes that could be caused by the weight of dam reservoirs. According to the KDNG's research, one of the planned dams on the Ngo Chang Hka River is 30 km away from the same fault line.

Source: https://www.irrawaddy.com/news/burma/dam-project-in-northern-myanmar-will-destroy-remote-river-valley-environmentalist-group-warns.html

1. What are the concerns about the dam?
2. Where will half of the electricity go to?
3. What have people living near the dam not been told?
4. Why is the river valley good for farming?
5. Why is the river valley important to the people who live there?
6. What effects have other dams caused?
7. What is the planned dam close to that could cause a serious problem?

discussion

1. Which energy resources are most often used in your community and your country? Why?
2. What types of resources do you believe are most important? Why?

preview

1. What do you know about the causes of climate change?
2. What do you know about the effects of climate change?
3. Read the text and check your answers.

3.4 Human Impacts on the Environment

3.4.1 Climate Change

What Is 'Climate Change'?

We use the word *weather* to describe the temperature, wind and rain over days or months, and *climate* to describe patterns in the weather over hundreds of years. Climate change, then, is long-term change to the regular patterns of temperature, wind and rain.

Natural Climate Change

The climate has always changed. There are many natural reasons for this. They include the earth's orbit around the sun, **radiation** from the sun and the activity of volcanoes pushing gases into the atmosphere. One of those gases is carbon dioxide (CO_2). CO_2, together with other gases (like methane) and water vapour, traps some of the radiation from the sun when it is reflected back away from the earth towards space. This is a natural process called the '**greenhouse effect**'. It keeps the atmosphere warm enough for life to exist on earth.

Human-Made Climate Change

The element *carbon* makes up most of what is in fossil fuels. When fossil fuels are burnt, they produce CO_2, which goes into the atmosphere. Scientists know that the amount of CO_2 in the atmosphere has always changed (see box, left). However, more and more CO_2 is released by human activity through the burning of fossil fuels. Humans are also cutting down more and more trees, so there are fewer trees to absorb the increasing CO_2 in the atmosphere.

As CO_2 increases, it traps more and more radiation in the earth's atmosphere, so the earth gets warmer. The warming of the earth is causing changes to both the weather and to the long-term climate. There are more floods and storms in some places, and less rain in others. It is also causing sea levels to rise because polar ice caps are melting. The effects of climate change are especially serious for low-lying places near the sea, for example coastal Bangladesh and the Ayeyarwaddy Delta in Myanmar.

Climate change will affect what foods people can grow, what diseases they get and where they can live. Crops will not grow where salt water from rising seas has affected the land. In other places, it may be too dry to grow crops anymore. Places where the climate was previously too cool for diseases like malaria will start to experience them. People will have to move away from low-lying areas as sea levels rise. As people move to other places, this may lead to overcrowding, pollution and even problems between communities.

Measuring CO_2

Scientists regularly measure how much CO_2 there is in the atmosphere. They measure it in parts per million (PPM). Because of these measurements, they know that the amount of CO_2 is increasing. Historic CO_2 can also be measured. Scientists in Antarctica drill down into the ice and study carbon trapped in the ice. This can show how much carbon was in the atmosphere many hundreds of thousands of years ago.

exercise

Answer the questions.

1. What gas is produced when fossil fuels are burned?
2. What natural process keeps the earth's atmosphere warm?
3. What activities are increasing levels of CO_2 in the atmosphere?
4. What is being reduced that can absorb carbon dioxide?
5. What communities will have to move as a result of global warming? Why?
6. How could climate change affect people's lives?

activity

Ordering – Climate Change Cause-and-Effect Chain

Put these steps in the order that demonstrates the chain of causes and effects for human-made climate change.

a. ___ Increased crowding, pollution and conflict as people move to cities and other areas away from low-lying coasts and places where crops will not grow anymore.

b. ___ More radiation from the sun is being trapped by greenhouse gases in the atmosphere around the earth.

c. ___ The overall temperature of the earth's atmosphere is warming because of increased greenhouse gases.

d. ___ Coal, oil and gas is extracted from the ground by humans for use as fuel.

e. 1. Animals and plants that died millions of years ago eventually form coal, oil and gas deep in the earth.

f. ___ The levels of carbon dioxide and other greenhouse gases increase in the atmosphere.

g. ___ Rising sea levels (due to melting polar ice caps) and increasing severe weather affect people in low-lying areas and prevent crops being grown in other places.

h. ___ Coal, oil and gas are burnt as fuel for energy and transport by humans producing carbon dioxide and other greenhouse gases.

activity

Creating – Human-Made Climate Change Diagram

1. In pairs or small groups, draw a poster diagram that shows how human-made climate change is happening.
2. Put your posters around the room and see how others did theirs.

activity

Interpreting Data – CO_2 Emissions

1. Match the descriptions to the charts.

> **i.** Chart showing the amount of CO_2 in the atmosphere (in parts per million) from 1960 to 2010.
> **ii.** Chart showing the amount of CO_2 in the atmosphere (in parts per million) from 400,000 years ago to the year 2010.

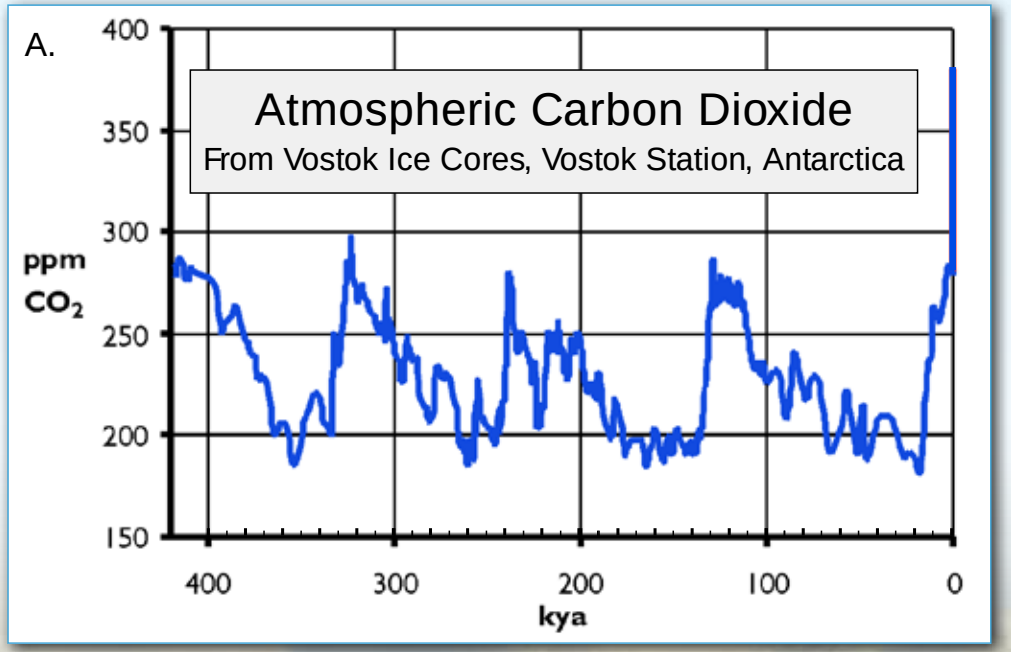
2. What do the charts tell us about the amount of historical CO_2 in the atmosphere?

3. Discuss the questions.

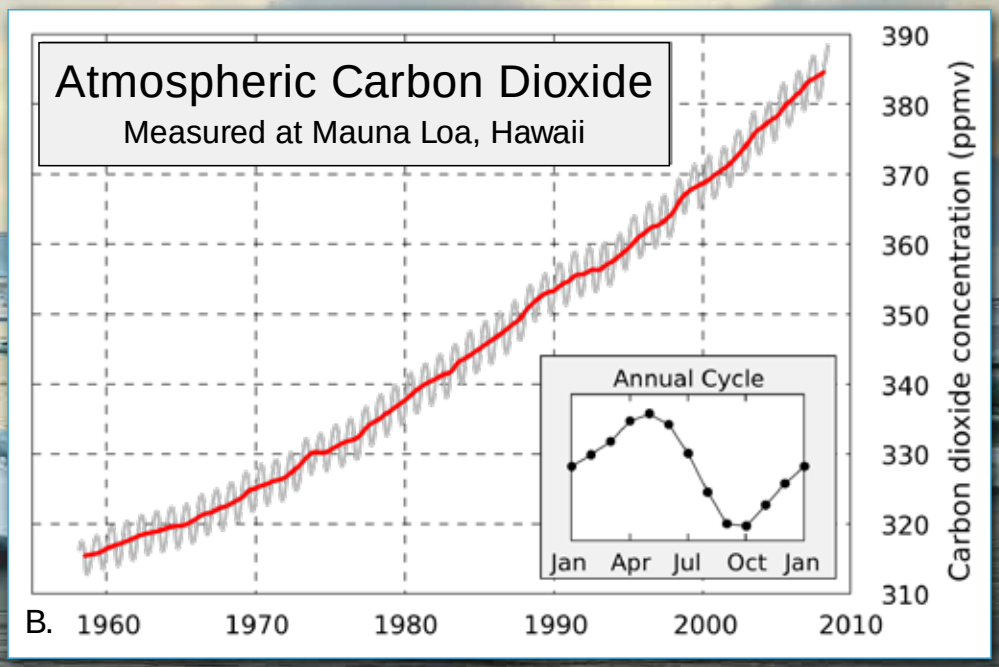
a. Which chart do you think is the most useful when thinking about climate change? Why?

b. Based on the information in the charts, do you think that humans are the biggest cause of climate change? Why?

A.



B.



FOCUS ON ... VIETNAM

CLIMATE CHANGE WILL AFFECT RICE FARMING IN VIETNAM

02/07/13 — Asia's many large river deltas are vulnerable to sea-level rise, which is accelerating around the world. During the twentieth century, global sea levels rose at an average of 0.07 inches (1.8 millimetres) per year. However, between 1993 and 2003, the average rate of sea-level rise increased to 0.12 inches (3.1 millimetres) per year.

■ A rice paddy on the Mekong Delta

A new report says that as early as 2040, Southeast Asia's major rice-growing region – the Mekong River Delta in Vietnam – will see crop production drop by about 12% due to an estimated sea-level rise of 30 cm (nearly one foot).

The Mekong Delta is often called the, 'rice bowl' of Vietnam. It is home to some 17 million people and makes up half of Vietnam's total agricultural production. It contributes significantly to the country's rice exports.

The report says, 'Any shortfall in rice production in this area because of climate change would affect the economy and **food security** of Vietnam and would also affect international rice **markets**.'

The Mekong Delta is also Vietnam's most important fishing region. It is home to almost half of Vietnam's marine fishing vessels and produces two thirds of Vietnam's fish from **aquaculture**.

An increase in saltwater associated with sea-level rise is already affecting farms. By 2050, the sea-level rise is expected to increase by over 30% of the total current area – 1.3 million hectares – affected by increased salt water in the Delta.

Sources: http://www.rfa.org/english/commentaries/east-asia-beat/climate-change-07022013165938.html
http://www.climatehotmap.org/global-warming-locations/mekong-river-delta-vietnam.html

1. What is the problem for Asia's river deltas and what is causing it?
2. How will the problems facing Vietnam also affect people in other countries?
3. What other industries will be affected by climate change in the Mekong Delta?
4. Why is sea water a problem for growing crops?

activity

Comparing and Contrasting – The Effects of Climate Change on Rich and Poor

A rich family and a poor family are living in a low-lying area. Climate change has begun to affect that area.

In groups, discuss either the rich family or the poor family.

1. Discuss how climate change would affect this family and future generations.
2. As a class:
   a. compare and contrast the different options that the families would have and choices that they could make;
   b. discuss what could be done to help poorer families who are affected by climate change and who should assist them.

Responding to Climate Change

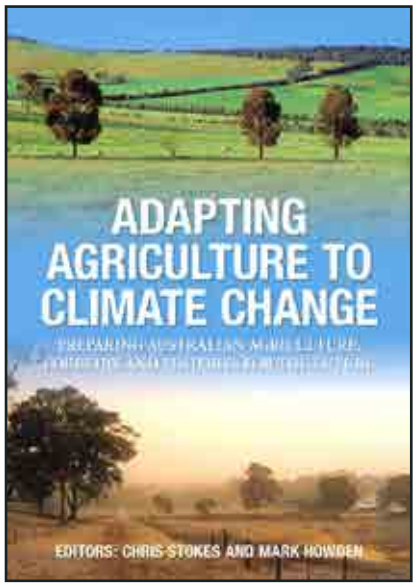
There are two main ways that have been suggested for how people can respond to climate change.

ADAPTATION means *accepting the effects of climate change by changing human activity to fit in with the changing climate*. Some people who promote **adaptation** say it is more expensive to try to reduce carbon in the atmosphere by reducing use of fossil fuels. Instead, they argue that people affected by climate change should adapt to it, for example, by moving further inland or building higher sea walls.

MITIGATION means *trying to reduce the causes of climate change*. People who support mitigation say that climate change will be more expensive and disruptive to people's lives in the long-term if its causes are not reduced (mitigation). The main way to do this is to reduce the amount of greenhouse gases (especially CO_2) released into the atmosphere. Reducing use of fossil fuels, using alternatives to them and planting forests to absorb CO_2 in the atmosphere are examples of **mitigation**.

Reducing the use of fossil fuels, especially by industry and for transport, is a controversial issue for governments. Using less fossil fuels may affect the economy of countries. Countries that are still developing their industries often do not want to reduce their use of fossil fuels. This means that international negotiations between countries to reduce climate change have been difficult.

■ An example each of both adaptation (left) and mitigation (right).



exercise

Are these statements true or false? If false, say why.

1. Adaptation focuses on the causes of climate change.
2. Mitigation means trying to reduce the causes of climate change.
3. Using sources of energy that are not fossil fuels is an example of mitigation.
4. Fossil fuels are not important for the economies of countries.
5. Reducing CO2 may be difficult because developing countries rely on fossil fuels to help them develop.

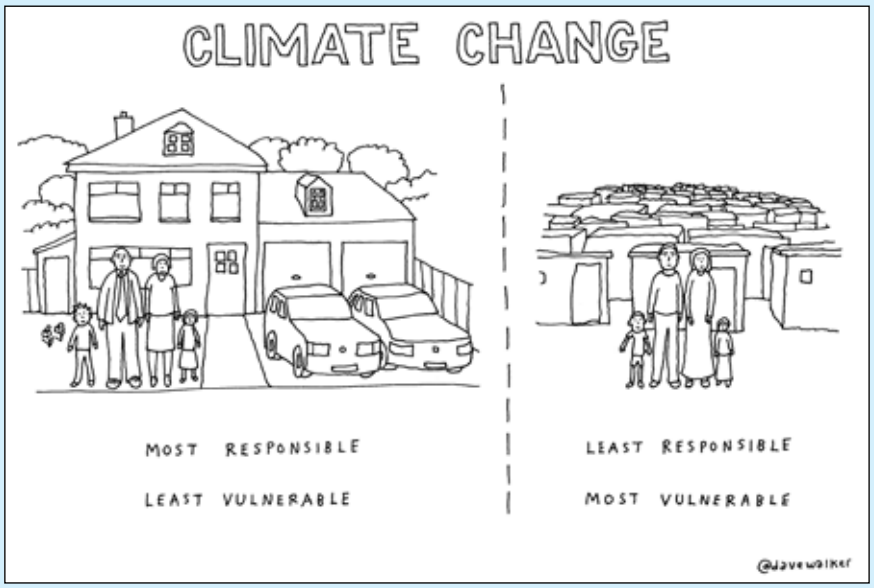
Adaptation	Mitigation

activity

Categorising – Adaptation or Mitigation?

1. Classify the activities (a-m) into adaptation or mitigation strategies. Put them in the table. Some activities may be both.
2. In pairs, explain for each example why you chose that category. Discuss possible effects of that action.

a. Changing to crops that grow in the new climate.
b. Redesigning buildings.
c. Using alternatives to fossil fuels, like hydro, solar or wind power.
d. Changing our diets so that we eat less meat.
e. Using fossil fuels more efficiently.
f. Raising the level of streets.
g. Having fewer children.
h. Building sea walls.
i. Improving drainage.
j. Moving people from low-lying areas.
k. Planting or replanting trees and forests.
l. Reducing the use of fossil fuels.
m. Higher taxes for businesses which produce CO_2.



activity

Interpreting – Climate Change Cartoon

What is this cartoon saying about the causes and effects of climate change? Do you agree?

Cartoon used with permissions from Dave Walker: http://davewalker.com

discussion

1. How do you think humans should respond to climate change? Why?
2. Should people be forced to reduce their use of fossil fuels to reduce climate change? Why or why not?

preview

Think about the things you buy and use each day. What things do you throw away?

3.4.2 Waste and Pollution

Humans make and use many things that produce waste and pollution. For example, waste plastic from packaging or **fumes** in the air from factories that burn fossil fuels. Waste and pollution affect land, water, animals, and humans through:

- smoke and fumes in the atmosphere from factories and transport;
- the effects of fertilisers and pesticides (poisons for killing weeds or insects) that run off agricultural land into rivers and lakes;
- poisonous chemicals used in industries such as mining, manufacturing and construction;
- plastic used by humans for things such as bags, bottles, packaging, etc. (Plastic things are often designed to be **disposable** and take a long time to break down. There is now a lot of plastic in land, rivers and oceans.)

■ An anti-littering poster and diagram, by students of Wide Horizons School in Mawlamyine.

exercise

1. For each list of words below, choose the odd one out.
   - **a.** charcoal, petrol, air, natural gas
   - **b.** bag, bottle, can, land
   - **c.** mining, manufacturing, water, construction
   - **d.** herbicides, humans, fertilisers, insecticides
2. What do the other three things in the list have in common?
3. For the odd one out, say how you think it could be affected by the other things in its list.

FOCUS ON ... ASEAN

PLASTICS INDUSTRY PROMPTS OCEAN POLLUTION FEARS

22/06/17 — The plastics and packaging industry in Asia is booming. Rising plastic pollution in rivers and oceans is becoming a concern. China has contributed more than 20% of global plastic production. Southeast Asia accounts for a further 20% of global plastic output.

■ The body of a sea bird, its stomach filled with plastic.

Southeast Asian countries sold almost $40 billion of plastics abroad in 2013. Thailand consumes large amounts of plastics each year – nearly 40 kilograms of plastic per person. Malaysia reports 35 kg per person and Indonesia 17 kg per person.

However, the plastics and food packaging industries have a dark side. Plastic pollution in rivers and oceans has created floating islands of plastic waste which are eaten by marine life. A research paper published in the Nature Communications journal said, 'The top 20 polluting rivers, mostly in Asia, account for 67% of the global total.' China's Yangtze River had, 'considerably higher plastic **concentrations** than any other sampled river worldwide.' The river dumped 330,000 metric tons of plastic into the East China Sea.

The United Nations Secretary General António Guterres recently warned plastic pollution could outweigh fish by 2050. Environmentalists estimate more than eight million tons of plastic ends up in the oceans each year. The plastic kills around one million sea birds, some 100,000 sea mammals and millions of fish.

The United Nations has called on nations to take steps to reduce plastic consumption. China, Thailand, Indonesia and the Philippines have committed to reduce plastics consumption. New Zealand-based environmental activist Anna Dawson says the food industry should be a target to reduce plastics use. 'This could include **compostable** packaging or just encouraging people to eat more fresh fruit and vegetables by shopping at local markets instead of supermarkets.'

Source: https://www.voanews.com/a/asia-plastics-industry/3911586.html

1. What evidence is given in the article for the economic importance of the plastics industry?
2. How does most plastic get into the oceans?
3. What types of living things are killed by plastic in the oceans?
4. What is the connection between the food industry and plastic?
5. What are alternatives suggested in the article to using plastic?

Problem Solving – The Plastic Problem

activity

1. In pairs or small groups, make a list of all the ways that plastic is used in your community.
2. Think of ways that plastic use could be reduced in your community.

Reducing Waste – 'The Five Rs'

We buy, use and throw away many items every day. They may be made from plastic, wood, metal, animal and plant products or chemicals. One of the first steps in finding ways to reduce waste is to identify the things that we use that create waste.

There are ways that people can reduce the amount of waste that they produce and that they put into the environment.

We can choose to:

- not take something if we don't need it;
- use less of something;
- reuse something again rather than throw it away;
- take or give things back to where we got them;
- make something new with the things that we do not need.

A way to remember ways to reduce waste are the *five Rs*:

exercise

Match the examples (a-e) below to the appropriate 'R' from the previous page.

1. You give back cardboard boxes to the shop that put your groceries in them.
2. You give all your plastic bottles to a new organisation that can make small buildings using bricks made out of unwanted plastic bottles.
3. You always ask people in shops not to put the things you buy into plastic bags.
4. You now buy most of your fruit and vegetables at the market rather than buying them at supermarkets where they are individually wrapped in plastic.
5. When you go shopping, you take plastic bags with you that you were given before by other shops, so you can use them again.

activity

Problem Solving – Reducing Your Waste

1. In pairs, make a list of as many things as you can that you use and that you throw away during one week. For each item, record:
   - **a.** what it was used for;
   - **b.** what it was made from;
   - **c.** how much/many you used of that thing in the week.
2. Based on the five Rs, think of ways to reduce the waste problem caused by each item that you identified on the list.

discussion

1. Who should be responsible for reducing waste? Individuals, government or businesses? Why? How?
2. Should there be laws to force people and businesses to recycle things that can be reused, rather than throw them away?

preview

What are some ways that chemicals are used in your community?

■ **Top:** Raising awareness about pesticides in food; **Above:** Protest against Monsanto, a company which produces pesticides. Many activists and scientists believe that Monsanto products are dangerous to both humans and the environment.

3.4.3 Chemical Pollution

Chemicals occur naturally, but they are used in concentrated forms by humans for many purposes. Sometimes new chemicals are created or synthesised in laboratories.

Pollution from chemicals is a problem. They are often used in large quantities in agriculture, mining or industries. They can affect soil, plants, animals, fish and water when they are washed into creeks, rivers and underground water. When this happens, these chemicals can eventually also affect humans.

Fertilisers and Pesticides

Fertilisers and pesticides are chemicals (or chemical compounds) that are used in agriculture. Fertilisers make crops grow bigger and faster. Pesticides that kill weeds are called herbicides and pesticides that kill insects that might eat crops are called **insecticides**.

Pesticides are sprayed directly onto crops. They may still be on fruit and vegetables when we buy them from markets. When it rains, the spray can also wash off crops and into waterways, into soil and into sources of drinking water used by humans.

The effects of agricultural chemicals on humans, plants and animals are not yet fully known. Among other things, some scientists think that fertilisers and pesticides may be responsible for:

- a rapid decline in the worldwide bee population;
- a general decline in worldwide insect populations;
- feminisation (turning female) of some male fish and frogs;
- decreased human fertility;
- an increase in antibiotic-resistant bacteria.

exercise

Are these statements true or false? If false, say why.

1. Fertilisers and pesticides are chemicals produced by humans for use in agriculture.
2. Fertilisers are designed to kill plants and insects in the same fields as crops.
3. Chemicals used in agriculture can enter the water supply of humans.
4. Pesticides are increasing the number of insects in the world.
5. More bacteria that are resistant to antibiotics may be a result of humans' use of pesticides.

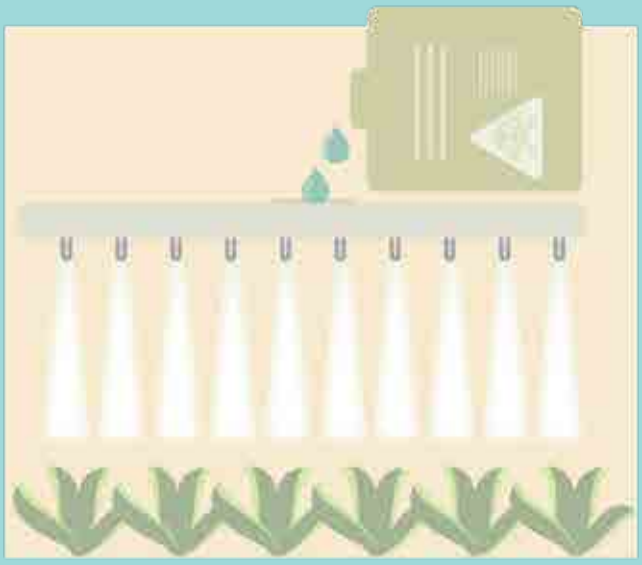
activity

Calculating and Interpreting Data – Pesticide use in Myanmar

1. Look at the table showing pesticide use in Myanmar and:
   - **a.** Add up the totals for insecticide use and herbicide use.
   - **b.** Calculate the mean (divide the total by the number of years that there are data for) for insecticide use 2001–2014 in Myanmar.
   - **c.** Calculate the mean for herbicide use 2001–2014 in Myanmar.
   - **d.** Calculate the mean per year for the combined total use of insecticides and herbicides between 2001 and 2014.
   - **e.** Which year had the highest insecticide use and which year had the highest herbicide use?
2. What do you notice about the overall use of pesticides (insecticides and herbicides) in Myanmar from 2001 to 2014? What are possible reasons for this?

Insecticide and Herbicide Use in Myanmar, in Tonnes (active ingredients), 2001–2014

	Insecticides	Herbicides	
	Tonnes of active ingredients		
2001	419	46	
2002	519	41	
2003	541	71	
2004	513	89	
2005	661	115	
2006	1,987	242	
2007	1,718	211	
2008	872	116	
2009	592	150	
2010	1,812	294	
2011	2,370	478	
2012	1,677	471	
2013	1,245	874	
2014	2,211	1,950	
Total			
Mean			



Based on official data reported on FAO Questionnaires from countries

Data Source: Food and Agriculture Organisation (FAO) of the United Nations http://www.fao.org/faostat/en/#data/RP

FOCUS ON ... LAOS

PESTICIDES A DANGER IN LAOS

16/04/16 — The Laos government has banned the use of pesticides in banana plantations in northern Laos. More than 10,000 hectares of banana plantation in Bokeo Province, owned by foreign **investors**, are spayed with these herbicides and insecticides. The governor of Bokeo said, 'Impacts on the environment and people are due to a lack of government management and monitoring. As a result, fertilisers, and harmful pesticides have been used.'

Studies show more than 100 different chemicals were regularly sprayed in banana plantations in northern Laos. The Lao Upland Rural Advisory Service (LURAS) reported two districts north of Vientiane had been sprayed with 19 million litres of herbicide last year. The NGO Field Alliance says the amount sprayed is usually not recorded, but what is more important is how **toxic** the chemicals are.

Maize is a dominant crop in Laos, where 75% of the workforce works in the agriculture sector. The LURAS paper said, 'Due to the maize boom, these chemicals have become a threat to human health and contribute to the loss of biodiversity and declining soil fertility.' Field Alliance said that farmers in Laos sometimes could not read labels on packaging because they were in other languages. Farmers also mixed different pesticides together.

Source: http://www.straitstimes.com/asia/se-asia/chemicals-are-killing-laos-farmlands

1. Who would be likely to make the most money from the banana plantations?
2. Who is it suggested should do more to control use of fertilisers and pesticides?
3. Apart from not knowing how much is being sprayed, what is considered a bigger problem about the use of herbicides?
4. In Laos, which part of the economy employs the most people?
5. Why would that be significant in relation to the use of pesticides?
6. What problems do the pesticides cause to the natural environment?
7. What are two reasons why farmers might use pesticides dangerously?

Mercury

Mercury is a very poisonous chemical. It is used in chemical processes in factories and in mining. Mercury that is released into oceans and rivers can accumulate in fish and shellfish. When people eat the fish and shellfish they can get mercury poisoning.

FOCUS ON ... MYANMAR

THE MERCURY MENACE

07/09/16 — Mercury is a highly toxic chemical that endangers the health of small-scale gold miners who use it in northern Myanmar. It has been detected in one of the main waterways flowing through Yangon.

Small-scale miners in Kachin State use mercury when they mine for gold. They mix liquid mercury by hand into sediment and it bonds with the gold. The mercury is then burnt off, leaving pieces of pure gold.

The World Health Organization says that direct handling of liquid mercury can cause corrosion to the skin, eyes and digestive tract, as well as lungs and kidneys. Children exposed to mercury fumes can suffer from lower growth and mental development.

Miners often do not have the education to access information about health risks caused by mining chemicals. U Tun Tun was a small-scale gold miner for seven years. He said, 'Many people don't know that there are any effects from using mercury.' U La Seng has worked for two years as a small-scale gold miner. He said he knew there were **side effects** from using mercury, but his knowledge was limited.

The use of mercury by gold miners along rivers in northern Myanmar poses a serious threat to the environment as well as health. According to the Nyein (Shalom) Foundation, 'Large pools of mercury are sitting on the edge of the water sometimes. No one is told how to dispose of it, so it's just left in the river.'

Japanese researchers have found increased levels of mercury in waterways as far south as Yangon's Ngamoeyeik Creek. Gold mining does not happen there. They concluded that mercury from upstream had travelled down into the area.

To reduce the harm, alternative methods to extract gold from sediment such as direct smelting or the use of borax or magnets have been suggested. Researchers also suggested that gold miners receive training in the proper disposal of mercury after it is used. They also suggest that the regulation of mercury is included in the Myanmar Mines Law in future.

Source: https://frontiermyanmar.net/en/the-mercury-menace (Text used with permission from Victoria Milko and Frontier Myanmar.)

1. How is mercury mixed with sediment from the gold mines?
2. How is the mercury separated from the gold?
3. What ways are miners and their families absorbing mercury?
4. Why might miners not have much information about the dangers of mercury?
5. What large natural features are near to places where mercury is used for gold mining?
6. What evidence is there to show mercury is spreading downstream in rivers?
7. What ways are suggested to reduce the use of mercury?

activity

Interpreting Images – Gold Mining in Northern Myanmar

Look closely at these pictures of gold mining in northern Myanmar and:

1. List as many ways as you can see of impacts of the gold mine on the natural environment.
2. List as many ways as you can see of how working in the gold mine could impact on the miners.
3. Discuss the questions.
   - **a.** What are possible long-term impacts from this gold mine?
   - **b.** If you were able to make changes to the Myanmar Mines Law in relation to gold mining, what changes would you make? Why?

Text (previous page) and photos used with permission from Victoria Milko and Frontier Myanmar.

discussion

1. Should people be prevented from small-scale gold mining with mercury because of long-term risks to people's health and the environment?
2. Do you think it is possible to control gold mining enough to reduce the dangerous use of mercury? Why or why not?

Chapter 4: Economics

themes

Chapter 4 looks at the two interconnected subject areas of microeconomics and macroeconomics. Within microeconomics, it considers core concepts such as goods and services and supply and demand, and briefly explores the idea of 'the market'. Within macroeconomics, it examines issues that relate to the economics of whole countries, such as inflation, taxation, imports and exports and free trade and protectionism.

learning goals

Knowledge

By the end of this chapter you will increase your understanding of:

- goods, services, needs and wants;
- supply and demand;
- markets;
- economic systems;
- gross domestic product, unemployment and inflation;
- taxes and tax systems;
- fiscal policy;
- imports and exports;
- free trade, tariffs and subsidies;
- economic integration and free trade agreements.

Skills

By the end of this chapter you will develop your ability to:

- apply economic concepts to real life scenarios;
- categorise real-life purchases into goods and services, needs and wants;
- interpret supply and demand graphs;
- categorise factors that influence supply and demand;
- express information in graphic format about markets into picture diagrams;
- reference examples to economic systems;
- infer meaning from quotes;
- interpret data for GDP, unemployment and inflation;
- assess the causes and effects of inflation;
- transfer information into graphs and diagrams.

glossary

basic needs (n) – အခြေခံလိုအပ်ချက်များ
communist (adj, n) – ကွန်မြူနစ်ဝါဒဆန်သော၊ ကွန်မြူနစ်
consumer (n) – စားသုံးသူ
corporate (adj) – ပေါင်းစည်းထားသော၊ အသင်းအဖွဲ့နှင့်ဆိုင်သော
demand (n, v) – ဝယ်လိုအား
depression (n) – စီးပွားရေးကပ်
division of labour (n) – လုပ်အားခွဲဝေမှု
economic growth (n) – စီးပွားရေးဖွံ့ဖြိုးတိုးတက်မှု
equilibrium (n) – မျှခြေ
exempt (adj) – ကင်းလွတ်ခွင့်ရှိသော
fiscal (adj) – ဘဏ္ဍာရေးဆိုင်ရာ
foreign aid (n) – နိုင်ငံခြားအထောက်အပံ့
free trade (n) – လွတ်လပ်သော ကုန်သွယ်မှု
globalisation (n) – ဂလိုဘယ်လိုက်ဇေးရှင်း
goods (n) – ကုန်ပစ္စည်းများ
import (v, n) – တင်သွင်းသည်၊ သွင်းကုန်
industrial revolution (n) - စက်မှုတော်လှန်ရေး
inflation (n) – ဖောင်းပွမှု
labour (n) – အလုပ်သမား
means of production (n) – ထုတ်လုပ်မှုနည်းလမ်းများ
profit (v, n) – အကျိုးအမြတ်
purchasing power (n) – ဝယ်နိုင်စွမ်းအား
regulate (v) – စည်းမျဉ်းစည်းကမ်း သတ်မှတ်သည်
revenue (n) – ဝင်ငွေ
self-interest (n) – ကိုယ်ကျိုး
services (n) – ဝန်ဆောင်မှုများ
shift (v, n) – ပြောင်းလဲသည်၊ အဆိုင်း
socialist (adj) – ဆိုရှယ်လစ်ဝါဒဆန်သော
stimulate (v) – လှုံ့ဆော်သည်
supply (n, v) – အထောက်အပံ့၊ ထောက်ပံ့သည် ပေးပို့သည်
tariff (n) – သွင်းကုန်အခွန်
trade barrier (n) – ကုန်သွယ်ရေး အတားအဆီးများ
transaction (n) – အရောင်းအဝယ်၊ လုပ်ငန်းတစ်ရပ်
value (n, v) – တန်ဖိုး၊ တန်ဖိုးဖြတ်သည်
variable (n, adj) – ကိန်းရှင်၊ ပြောင်းလဲနိုင်သော
wholesale (adj) – လက်ကားဖြစ်သော

■ A container ship at sea, delivering goods to countries around the world.

preview

What have you bought or sold in the last week?

4.1 What Is Economics?

How do you get the things that you own and use? Who makes those things? Who sells them? Why do some things cost a lot of money and some things cost only a little money?

If you think about questions like these, then you are thinking about economics. We think about, and do, economics every day without realising. We make economic choices whenever we choose to buy or sell something, or when we pay someone to do something for us.

Microeconomics vs Macroeconomics

The study of economics is usually divided into two main areas.

- **MICROECONOMICS** is the study of the economic decisions or actions of individuals, households and businesses. It looks at how those actions influence the quantity of **goods** and **services** that are produced, bought or sold and their price.
- **MACROECONOMICS** is the study of economic activity within an entire country or the world. It is often concerned with the relationship between governments and the economy. Macroeconomics includes the study of a country's growth and production, taxes and government spending, **inflation**, and unemployment rates. This can then affect other countries because of the **globalisation** of the world economy.

These two areas of economics are closely related. What happens at the microeconomic level influences what happens at the macroeconomic level in a country. For example, if many people individually start to buy more new cars, that influences government macroeconomic decisions about **importing** cars from other countries. On the other hand, macroeconomic decisions by a government, such as an increase in taxes on imported cars, may make individual people buy fewer of those cars.

exercise

1. Complete the labels for the two images below, based on the text.

a. The area of study of _____economics:

b. The area of study of _____economics:

2. Summarise the text on page 64 into the table.

Microeconomics	Macroeconomics
* Looks at economic decisions of people, households and businesses.	

3. Find the two examples in the text which show how microeconomics and macroeconomics are connected and complete the sentences.

a. Macroeconomics can affect microeconomics: If the _____ increases tax on cars, then _____ may want to buy fewer of them.

b. Microeconomics can affect macreconomics: If _____ all want to buy new cars, then this can affect the decisions of the _____ to import cars.

exercise

Are these statements true or false? If false say why.

1. When we decide to buy or not buy something, we are making an economic decision.

2. Taxes, inflation, unemployment and government spending are studied in microeconomics.

3. The overall growth of a country is studied in macroeconomics.

4. People's individual choices do not affect the economic decisions of governments.

5. Governments can affect the economic choices of individuals.

preview

1. Why do you buy things?
2. Why do people make and sell things?

4.2 Microeconomics

A central idea in microeconomics is the 'market.' Today, instead of making things themselves, people buy what they need from many different people. This interrelated system – where people produce and sell what others want to buy – is known as a market. People who make and sell things do this because they want to make a **profit** (the difference between what it costs to make goods and the larger amount they can be sold for).

Goods and Services

Things that people make and sell – like clothes, food, computers or cars - are called goods. Things that people do for other people, like giving haircuts, serving food or driving taxis are called services.

Goods and services are central to economics because economics is concerned with:

- production – which goods and services are made, how they are made and how much or how many are made;
- distribution – how goods and services are moved and made available to people;
- cost – how much money is needed to make those goods and services;
- price – how much they will sell for;
- **supply** – the quantity of a good or service that producers want to make and sell;
- **demand** – the quantity of a good or service that people want to buy.

Needs and Wants

When you go shopping you might have a list of things you need to buy. Your list could include vegetables, fruit, cooking oil or rice. You also need somewhere to live, so you might need to pay rent. Things that you need to survive, like food, clothes and shelter are called *needs*.

However, you might also want the latest smartphone although you already have an older one. The smartphone is a *want*. It is something you would like to have but it is not necessary for your survival or your daily life. Other wants may include buying designer clothes or going to see a new movie.

Both needs and wants influence people's decisions about what to buy. Goods and services that are not necessary for survival are produced or supplied, and so are the things that people really need. The more money that people have, the more wants that they can satisfy as well as their **basic needs**.

exercise

1. Categorise these things into two groups, 'goods' and 'services'.
   - **a.** working in a furniture shop
   - **b.** cutting down a tree
   - **c.** making a table
   - **d.** a table
   - **e.** delivering tables
   - **f.** hammers and nails
   - **g.** planting new trees
   - **h.** an axe
2. For each example (a-d) say whether is it about *goods* or *services*, and *needs* or *wants*.
   - **a.** clean drinking water
   - **b.** flying on a plane to go on holiday
   - **c.** a diamond necklace
   - **d.** someone fixing your computer
3. Match ideas a-d from microeconomics with the examples (i-iv) that best demonstrate the idea.
   - **a.** profit
   - **b.** market
   - **c.** supply
   - **d.** demand
     - **i.** There are many more people now who want to buy new smartphones.
     - **ii.** It costs Win Kyaw 800 MMK to make each bowl of his delicious noodles. He sells each bowl of his noodles at his noodle stand for 1,200 MMK.
     - **iii.** Many factories are making new clothes and now there are more clothes for sale in the shops.
     - **iv.** More people want smartphones so factories are making more of them and more shops are selling them. Because of competition between shops to sell smartphones the price has gone down.

activity

Categorising – Microeconomics in Our Everyday Lives

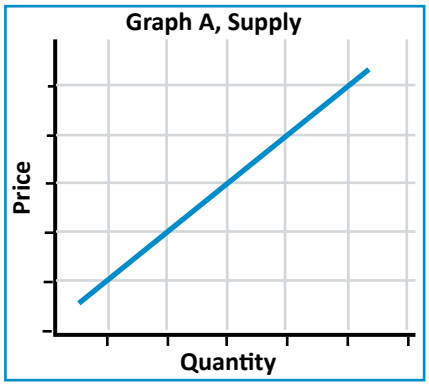
1. Make a list of all the things that you buy and pay for over one week. Include things that you buy and things that you pay other people to do for you.
2. For each thing, decide if it is a good or a service.
3. For each thing, decide if it is a need or a want, and why.
4. For each thing, find out or estimate how much it costs.
5. What is the total cost of your 'needs' for the week?
6. What is the total cost of your 'wants' for the week?

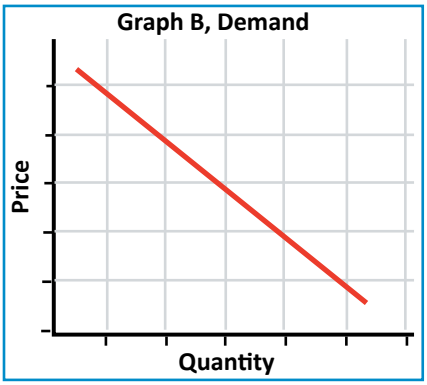
Supply and Demand

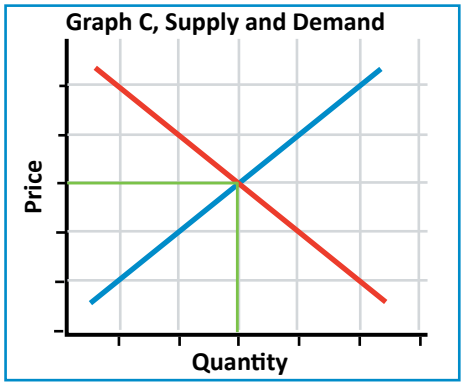
In a market, the quantity of a good or service that is produced is called *supply*. The quantity of a good or service that people want is called *demand*. The relationship between supply and demand explains the price – how much sellers ask, and buyers pay, for a good or a service. Sellers will supply more of a good or service when the price they get for it is high. However, buyers want to buy (demand) more of a good or service if the price for it is lower.

Supply and demand and their relationship to price are often shown in graphs (like the ones below). The vertical axis represents price and the horizontal axis represents quantity. Supply (blue line, graph A) is shown as an upward sloping line. Demand (red line, Graph B) is shown as a downward sloping line. The lines that represent the path of supply and demand are called 'curves' (although they are often shown as straight lines).

Graphs that combine supply and demand curves (like Graph C) are used to demonstrate how **shifts** in supply or shifts in demand have an effect on the price of a particular good or service. Where the supply and demand curves meet is the **equilibrium** price (green lines, Graph C). That is the price that the sellers are willing to accept for a certain quantity of a good or service, and that buyers are willing to pay for it.







exercise

Look carefully at the axes for price and quantity and at the supply and demand curves in Graphs A-C to help you answer the questions.

1. Why does the supply curve slope upwards?
2. Why does the demand curve slope downwards?
3. If the supply curve moves to the right but the demand curve stays the same:
   a. Does it show an increase or decrease in supply?
   b. What will happen to the price?
4. If the demand curve moves to the left but the supply curve stays the same:
   a. Does it show an increase or decrease in demand?
   b. What will happen to the price?

Factors That Influence Supply and Demand

The supply and demand graph assumes that all other **variables** that could influence supply or demand and price stay the same. However, other factors can influence supply and demand. These factors can shift the supply or demand curves on the graph and change the equilibrium price.

The quantity supplied of a good or service can be influenced by:

i. the price of inputs to make goods and services;
ii. changes in technology to make goods and services;
iii. the expectations of sellers or producers about events in the future;
iv. natural or unexpected events;
v. government decisions.

The quantity demanded for a good or service can be influenced by:

vi. the income of buyers;
vii. changes in what buyers like or prefer;
viii. the expectations of buyers about changes to price in the future;
ix. substitute goods and services that can take the place of others;
x. complements to other goods and services (things that are used with other goods and services);
xi. government decisions.

activity

Categorising – Factors That Influence Supply and Demand

1. Match the factors (i-xi) that influence supply or demand in the scenarios (a-k).
2. For each scenario, is it an influence on supply or demand? How?

Example: *a.*
1. xi – Government decision (to reduce tax)
2. Demand – This will increase. The price of cars will be lower so the quantity demanded will increase.

Examples

a. People want to buy more new foreign cars after the government removed taxes on imported cars

b. A new type of soft drink has become more popular because people believe it is better than another similar type of soft drink.

c. Machines and systems in clothing factories are able to produce many more clothes per day than by people sowing by hand in the past.

d. The average wage for workers has decreased over the last five years so people are buying less luxury goods.

e. Unusually cold weather has reduced the amount of coffee beans that have been grown and the price of coffee has gone up.

f. Bright green shirts are popular this year and many people now want to buy them.

g. The price for rice is likely to rise in the next six months so people are buying and stockpiling more rice now.

h. Since the price of imported cars has fallen, people are now using more petrol.

i. The price of new tyres for cars has risen since the international price for rubber has gone up.

j. The government provides support to farmers to plant and grow more beans.

k. Clothes manufacturers think more people will want to wear jeans in the next year, so they have increased production of them.

FOCUS ON ... MYANMAR

ONION PRICES DECLINE

26/02/18 — According to traders in the Bayinnaung onion **wholesale** market, the average price of onions has declined to 700 MMK per viss because of the surplus onion supply that will enter the market soon.

Onion prices were high in January 2018. The average wholesale price of onions was 2,900 MMK per viss.

An onion trader at Bayinnaung Market said, 'This is the time to harvest new summer onions. Therefore, the average price of onions is now 925 MMK. The summer onions will enter the market in March from Pakokku, Myittha, Myingyan and Taungdwin.' He added that the supply of onions will increase this year.

In December, Myanmar imported onions from China to decrease the price of local onions in the market. The Permanent Secretary of The Ministry of Commerce said they had also suspended the export of local onions since December. He said, 'We have suspended it because the onion price in the local market was very high. If the onion growers association says it is advisable to allow onion exports to avoid a decline in onion prices in the local market, we will allow it again.'

Source: http://www.globalnewlightofmyanmar.com/onion-prices-decline-due-glut-supply/

1. What has increased the local supply of onions?
2. Why would importing onions from China make the local price of onions fall?
3. Why would exporting locally-grown onions make local onion prices higher?
4. Draw graphs with combined supply and demand curves (see example Graph C on page 68). On the graph draw new curves (lines) to show what changes i and ii (below) described in this article would look like. Show:
    a. which way the curves would shift and;
    b. what the effect on price would be.

    i. Increase in the quantity supplied of onions with the quantity demanded remaining the same
    ii. Decrease in the quantity supplied of onions with the quantity demanded remaining the same.

discussion

1. Think of examples of goods or services that have high demand. Why is demand high for them?
2. What things affect your choices about whether to buy or not buy something? Why do they influence you?

4.2.1 Markets

When economists talk about a 'market', they don't usually mean a market in any one physical place. They are talking about the market for a good or service, (the market for rice, for fish, cars, houses, computers, haircuts, etc). The idea of free and competitive markets is a central idea in the theories of 18th century economists like Adam Smith (see box below).

Smith believed that, left to itself, a free, competitive market produces the best outcome by meeting the needs of society. Competition keeps prices low and the quality of goods and services high. Producers want to make a profit. Therefore, producers and sellers sell goods or services of quality and at a price that buyers are willing to pay. He also believed that governments do not have to be directly involved in **regulating** markets because markets regulate themselves. The 'invisible hand' of competition, and the **self-interest** of those who produce or sell goods and services in the market, creates these results.

A way of thinking about the relationship between people and markets is to think of a goods and services market and a **labour** market. Labour refers to people doing work. In the labour market, workers sell their labour – their time and skills – to employers in businesses who pay them money (wages or salaries) in return for the work they do. Workers use their wages or salaries to buy things in the goods and services market that are produced and sold by businesses.

preview

1. What do you think of when you hear the word 'market'?
2. What do people do in a market?

Adam Smith and the 'Invisible Hand' of the Market

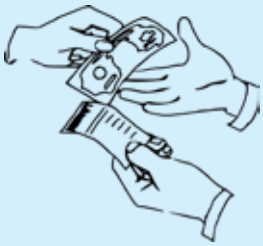
■ Adam Smith (1723–1790) was a Scottish economist and philosopher. He is sometimes called the 'father of modern economics'.

exercise

Are these statements true or false? If false say why.

1. All the different places where rice is sold in towns in a country are a part of the 'rice market'.
2. The economist Adam Smith believed that markets worked best when governments controlled them.
3. In free markets, it is assumed that prices are kept low and quality is kept high by competition.
4. Profit is an incentive for buyers to pay more for goods and services.
5. The 'invisible hand' of the market raises prices higher than buyers will pay.
6. The labour market is where producers make and sell goods and services.
7. Money earned by workers is used to buy goods and services made by producers.

activity



Diagramming – Markets

The diagram demonstrates the relationship of the labour and goods and services markets.

1. In pairs, transfer the written information into a diagram using pictures instead of words.
2. Compare your diagrams with other pairs.

discussion

1. Do you believe free markets based on supply and demand can meet all the needs of society? Why or why not?
2. Do you believe free markets always produce the best results for both buyers and sellers? Why or why not?

4.3 Macroeconomics

Macroeconomics looks at the economy of an entire country. It is concerned with trying to estimate the total aggregate (combined) figures for supply and demand, production, employment and inflation. It also looks at how the millions of **transactions** of buying and selling of goods and services within a country affect prices.

Macroeconomics developed as an area of study in economics during and after the Great **Depression** of the 1930s (see box below). Economists wanted ways to gather and understand information about the causes of economic crises and unemployment. This also led to more government involvement in the economies of countries.

Economic Systems

There have been many different ideas about how a country's economy should be organised, what it should produce, how it should produce it and how the benefits of production should be distributed. The main differences in economic systems are between market economies and planned economies.

Capitalist **MARKET ECONOMIES** follow the idea of a 'free market'. The government has little role in the economy. There is individual, private ownership of the '**means of production**' like land and factories. Profit, competition, and supply and demand (the 'invisible hand' of the market) decide what and how things are made and distributed, and how much people are paid. In the 19th and early 20th centuries, free market capitalist systems in the United States and Western Europe created rapid **economic growth**. However, periods of economic growth ('booms') in capitalist systems have also been followed by periods of collapse ('busts'), such as the Great Depression or the Global Financial Crisis in 2008.

preview

1. What do you know about the economy in your country?
2. What do you know about economic systems in other countries?

■ **Below left:** Famous portrait of a mother and her children taken during the Great Depression; **Below right:** Newspaper covers from 1929, during the 'Wall Street Crash' at the beginning of the Great Depression.

The Great Depression

In 1929, the economy in the USA collapsed. Many people lost all their savings. This caused businesses to shut down and millions of people became unemployed and very poor. Because of unemployment and poverty, the demand for goods and services fell. More businesses and factories could not afford to pay workers, making even more people unemployed. The Great Depression affected people in many countries around the world.

Another issue with market-based systems is that some public goods and services like police or fire fighters may not be best supplied by the free market. For example, it would be a problem if you had to pay the fire service before the fire truck would come to put out your burning house.

PLANNED ECONOMIES have a central role for government. It owns the means of production and plans how the economy is run. The government decides what is produced, how much/many are produced, how they are distributed and how much people are paid. Public goods and services like health and education are often supplied free to everyone. Planned economies have usually been associated with the **socialist** and **communist** governments of the 20th century (for example, the Soviet Union from 1917–1991) that were influenced by the ideas of 19th century political philosopher and economist Karl Marx (see box below).

Today most countries' economies are **MIXED ECONOMIES**. They are a mix of both free markets and some government services and regulations. The government supplies some public goods and services like police, defence, education and roads. It also makes regulations about issues such as working conditions or protecting the environment. The government might also own a share alongside private businesses in important industries or agriculture. Meanwhile, privately owned businesses are able to produce and supply many other every-day goods and services like clothes, food, houses, cars, cleaning services, computers and so on.

The amount of government involvement in the economy varies between countries. Some countries, such as the USA and Britain, for example have a more market-based system. However, the government still regulates services like health and education. Other public services, like water or electricity, are provided by private companies.

In some Northern European countries, like Sweden or Denmark, government has a bigger role, and many public services, such as higher education, are free. However, countries that provide a lot of free public goods and services also require people to pay higher taxes to the government to pay for them.

Karl Marx

Karl Marx (1818–1883) was an influential German philosopher and economist. He argued that the capitalist economic systems of 19th century Europe, during the **Industrial Revolution**, created an unequal class division. This results in a struggle between capitalist business owners and low-paid workers who live and work in poor conditions. The capitalists who owned the 'means of production' – like land and factories – grew rich.

Marx argued that workers

Division of Labour

The **division of labour** means production of goods is divided between people. Workers each perform a different part of the production of goods on assembly lines in factories. This way, more things can be made more quickly. For example, to make clothes, one worker might dye cloth, then another cuts it, and yet another sews it together. The division of labour has enabled the mass production of goods that we use, like cars, clothes, computers or smartphones.

Division of labour was also central to industrialisation in the 19th and 20th centuries. It influenced Karl Marx during the 19th century. He believed that the industrial division of labour meant workers had fewer skills because they only did one thing repeatedly and were being exploited for profit by capitalists.

exercise

Match the examples with one of the economic systems.

a. planned economy
b. free market economy
c. mixed economy

1. Private businesses build and control water supplies for cities but they are also partly owned by the government, and they must follow government regulations.
2. People are only allowed to sell rice in the market at the price decided by the government.
3. People own or work for private businesses and pay low taxes but must pay all of their hospital treatment costs themselves if they get sick.
4. It is illegal for people to bring goods from another country into their own country to sell for profit. They are only allowed to buy goods made in government-run factories.
5. People work for or own private businesses but also they pay high taxes so that they can have free hospital care if they need it.
6. Some people get rich and pay low taxes from the businesses they own and more jobs are created for people as their businesses grow bigger.

needed to have a revolution to take over and control the means of production.

Marx believed that this revolution would lead to socialism and then to communism. Communism is a system where the workers control all property and the means of production. In the 20th century, communist governments were inspired by Marx's ideas. For example, Soviet Russia from 1917–1991, attempted to control and plan the economy as well as many other aspects of people's everyday lives.

exercise

Answer the questions.

1. Why is division of labour efficient?
2. What period of economic change occurred with an increase in the division of labour?
3. What are examples of goods produced through the division of labour?
4. What did Marx believe about the division of labour during the Industrial Revolution?
5. What are examples of the 'means of production'?

activity

Matching – Macroeconomic Concepts

1. Match the pictures (a-j, opposite) with the macroeconomic concepts (i-iv). Some concepts may match more than one picture.
   - **i.** free market
   - **ii.** planned economy
   - **iii.** mixed economy
   - **iv.** division of labour
2. In pairs, explain your reasons for why you matched each picture to a particular concept.

activity

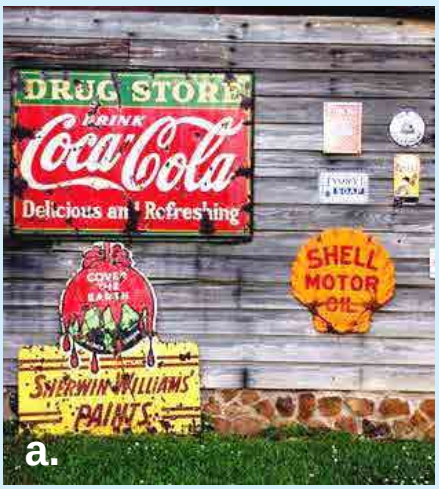
Inferring – On Economic Systems

> 'It doesn't matter whether the cat is black or white, as long as it catches mice.'
> *– Deng Xiaoping (Deng Xiaoping was the effective political leader of the People's Republic of China from 1978 to 1989 after the death of Mao Tse Tung in 1976).*

1. With regard to economic systems and communist China, what do you think Deng Xiaoping meant in this quote?
2. As a class, discuss what you think this quote means.

discussion

1. What things in the economy do you believe the government should be involved with and which things do you believe it should not be involved with? Why?
2. Which economic system outlined in this section do you prefer? Why?


DRUG STORE
DRINK
Coca-Cola
Delicious and Refreshing
SHELL
MOTOR
OIL
SHERWIN-WILLIAMS
PAINTS
a.


U.S. PUBLIC HEALTH SERVICE
1798
b.

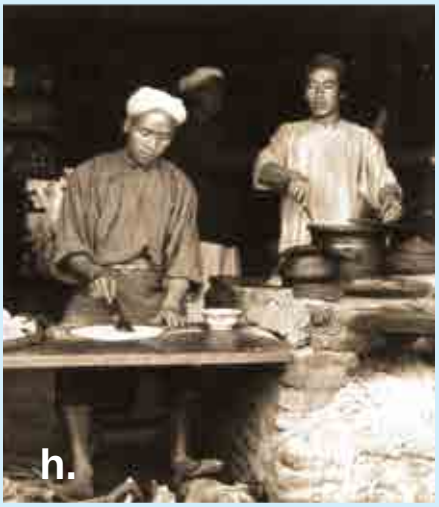

c.


d.


CITY EDITION
London Herald
LATE PRICES
FRIDAY 25th OCTOBER 1929
WALL STREET CRASH!
Black Thursday in America
Stocks Plunge and Eleven Commit Suicide
e.

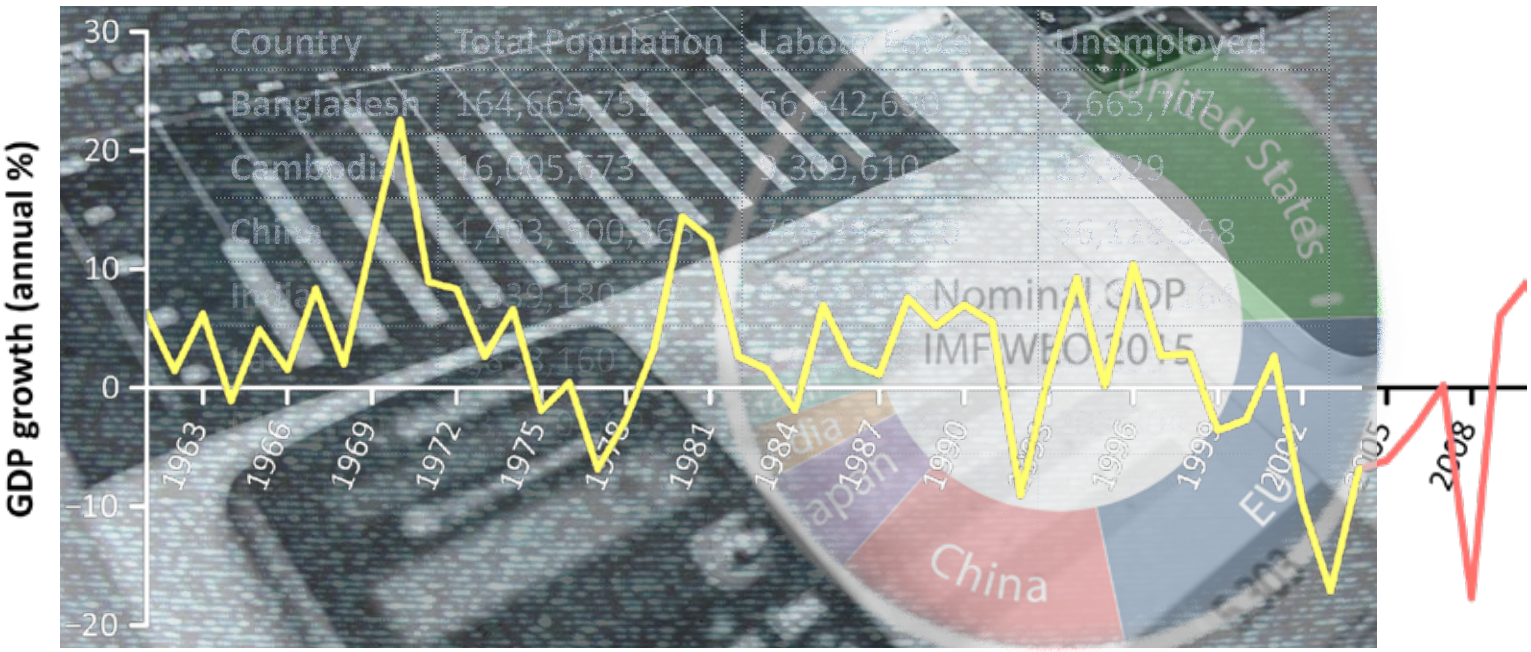

f.


И ЗАСУХУ ПОБЕДИМ!
g.


h.


NATIONAL POWER CORPORATION
1936
i.


j.



preview

1. Why measure the economy?
2. What kinds of measures for economies have you heard of?

4.4 Economic Indicators

Countries want their economies to grow and to have very little unemployment or inflation. Those things affect jobs, incomes (salaries), what people can afford to eat and where they live, etc. If the economy of a country fails badly, it may cause serious social and political problems. Therefore, economists and governments need ways to measure what is happening in the economy of a country.

Gross Domestic Product (GDP)

The most commonly used measure of an economy is gross domestic product (GDP). GDP is the **value** of all goods and services produced in a country, minus the cost of producing them over a specific period (usually one year). Figures counted in GDP are:

- **consumer** spending on goods and services;
- business spending to grow and produce goods and services, for example land, labour or machinery;
- government spending, for example new roads or schools;
- income from exports minus the cost of imports.

A country's GDP is usually compared to previous years. This can show whether the economy is growing or shrinking, and by how much. If the GDP of a country decreases for more than six months, it is said to be in a *recession*.

Because GDP is measured in different currencies in different countries (for example, US dollars, Thai baht, or Myanmar kyat, etc.) the different GDPs need to be converted into one common currency so they can be compared. Currencies are usually converted and compared in US dollars ($US).

GDP per Capita

GDP per capita (per person) is the GDP of a country divided by the country's population. It is what each person would get if the GDP was equally divided between each person in the country. For example, the GDP of Cambodia in 2016 was approximately $US 20 billion (20,000,000,000) and its population was approximately 16,000,000. 20 billion (GDP) divided by 16 million (population) = $US 1250 GDP per capita (GDP per person per year).

Gross National Income (GNI)

Gross National Income (GNI) is similar to GDP, but it also includes income earned by the country's citizens in other countries. This can include money earned by citizens working abroad and profits earned by domestically based companies operating in other countries. If a country receives a lot of money from **foreign aid** that will also contribute to its GNI (it is not counted in GDP). GNI is used by the United Nations Development Programme as one of its measures for the Human Development Index (HDI) (see 5.5).

exercise

Answer the questions.

1. Why are unemployment and inflation important?
2. What things are deducted when calculating a country's GDP?
3. How is GDP useful in understanding a country's economy?
4. To be able to compare GDP between countries, what is done with the GDP amounts?
5. What does GDP per capita assume about people's share of GDP in a country?
6. What other sources of money are included in calculating a country's Gross National income (GNI)?

activity

Interpreting Data – Calculating GDP per Capita for Myanmar

In 2017:
- Myanmar's GDP was $US 70,715,000,000 (IMF)
- Myanmar's population was 53,370,609 people (United Nations)

1. Calculate the GDP per capita for Myanmar.
2. Calculate how much that amount would be for one person per week and per day.
3. Calculate those $US per capita amounts per year, per week and per day into Myanmar kyat (MMK)*.
4. Discuss the questions.
   a. Do you think that the figures above are an accurate average income for each person in Myanmar? Why or why not?
   b. What are possible reasons for why the GDP per capita might not be the same as the average person's income?

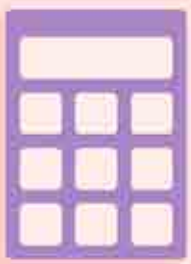
*Check online for the current exchange rate for US dollars to Myanmar kyat. In September 2018 it was approximately 1,500 MMK to $US 1.

Unemployment Rate

As well as supply and demand for goods and services, there is also supply and demand in the labour market. If the demand for workers falls, then people become unemployed. If people are unemployed they may not be able to meet their basic needs like food and shelter, or access healthcare. They also usually spend less money on their wants. Employers make less profit and lay off more workers because they cannot afford to pay them.

If there is a lot of unemployment in a society, problems like crime and domestic violence can increase.

The unemployment rate is a percentage of people who are unemployed in a country, as compared to the total number of people who are able to work (the labour work force). The total number able to work does not include people too young or too old to work, or people who are unable to work.



UNEMPLOYMENT RATE CALCULATOR

To calculate the rate of unemployment:

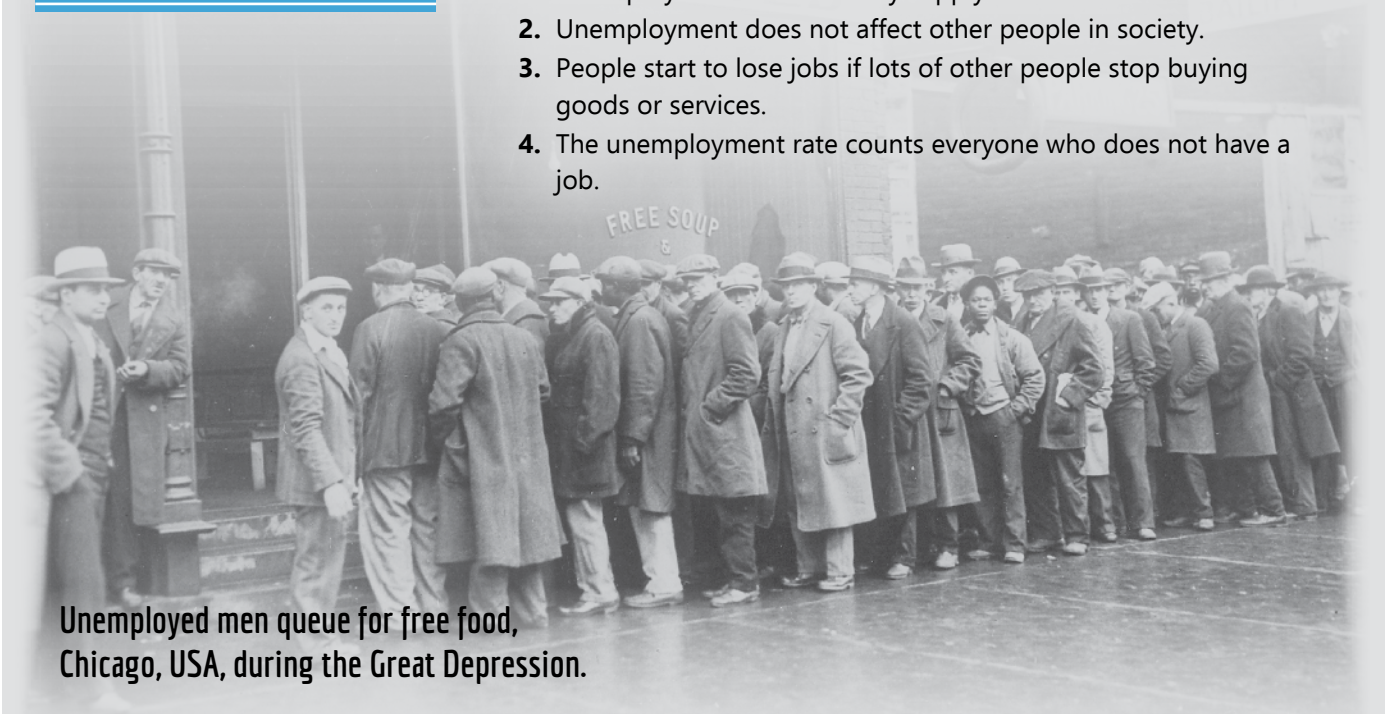
1. Divide the number of unemployed people in a country by the total number of people in the labour work force*.
2. Multiply this amount by 100.

*The labour work force is all the people in a country who are counted as available and able to work.

exercise

Are these statements true or false? If false say why.

1. Unemployment is affected by supply and demand.
2. Unemployment does not affect other people in society.
3. People start to lose jobs if lots of other people stop buying goods or services.
4. The unemployment rate counts everyone who does not have a job.



Unemployed men queue for free food, Chicago, USA, during the Great Depression.

activity

Interpreting Data – Unemployment Statistics

Below are the total population, total number in the labour force, and the number unemployed for Myanmar and nearby countries*.

1. For each country, work out their unemployment rates (see the unemployment rate calculator on the previous page).
2. Rank the countries by unemployment rate.
3. What do you notice about the difference between labour force and total population for some countries? What are possible reasons for that difference?
4. What is significant about the sources of the data on unemployment used by the World Bank?
5. How might that influence the reported levels of unemployment?

Country	Total Population	Labour Force	Unemployed	Unemployment Rate	Rank
Bangladesh	164,669,751	66,642,690	2,665,707		
Cambodia	16,005,673	9,309,610	27,929		
China	1,403, 500,365	785,399,320	36,128,368		
India	1,339,180,127	520,199,010	18,727,164		
Lao	6,858,160	3,602,980	54,055		
Myanmar	53, 370,609	25,413,060	203,304		
Thailand	69,037,513	39,134,880	391,349		
Vietnam	95,540,800	56,358,750	1,239,812		

Source: World Bank and ILO, 2017 https://data.worldbank.org/indicator/SL.TLF.TOTL.IN

*The statistics are provided to the World Bank and ILO by the governments of each country.

Inflation

Inflation is a continuing rise in the price of goods and services over time. It can be caused by either *an increase in demand while supply remains the same*, or by *a reduction in supply while demand remains the same*. In both cases, prices rise.

Demand for goods and services increases if people have more money to spend. People may have more money because of increased government spending, lower taxes or rising wages. Sometimes, governments also print more money to **stimulate** the economy when it is slow. In all these cases, the effect is that there is more money but the same amount of goods and services. This causes 'demand pull' inflation. Prices rise because people compete with each other with more money for the same amount of goods and services.

Sometimes, an important resource (such as oil) may become harder to get or more expensive. This causes a rise in the cost of goods and services produced with this resource, so prices rise. This is known as 'cost push' inflation.

When prices rise, workers want higher wages to pay for the higher prices of goods and services. The cost of making goods and services increases, so producers and sellers raise their prices to pay the higher

■ **The effects of inflation:** Zimbabwean money. Due to economic problems, inflation in Zimbabwe led to US$1 becoming equivalent to Z$2,621,984,228 (2.6 billion Zimbabwe dollars) in 2008.

wages and production costs. Prices, wages and the costs of production go upwards in a spiral.

Inflation reduces the real value or '**purchasing power**' of people's money. Money becomes worth less than it was before.

Effects of inflation:

- People's savings lose value (because money is worth less).
- People withdraw savings from the bank and buy physical things (like gold or land) that will keep their value.
- Businesses struggle because the costs of resources and labour increase and it is harder to sell their goods for higher prices.
- Unemployment increases because businesses cannot pay workers higher and higher wages to keep up with rising prices.

To measure the rate of inflation in a country, economists measure the change over time in the price of commonly-used goods and services. For example, food, clothing, housing, transport, healthcare, and education.

exercise

Answer the questions.

1. What two main situations lead to inflation?
2. Why would people having more money cause prices to rise?
3. What will workers want if the price of goods and services rise?
4. What makes it more expensive for producers to make goods?
5. What happens to people's savings when there is inflation?
6. Why would people lose their jobs because of inflation?

activity

Ordering – Causes and Effects of the Inflation Cycle

Put the causes and effects of inflation (a-h) in the most appropriate order to demonstrate the process of inflation.

a. ___ People compete for the same amount of goods and services with more money.

b. ___ Prices of goods and services start to rise.

c. ___ People have more money to spend.

d. ___ The government spends more money in the economy.

e. ___ Workers start to lose jobs as employers cannot afford to ___ pay as many people higher wages.

f. ___ Production costs rise for employers as the cost of wages rise.

g. ___ Workers demand higher wages to keep up with the rising prices of goods and services.

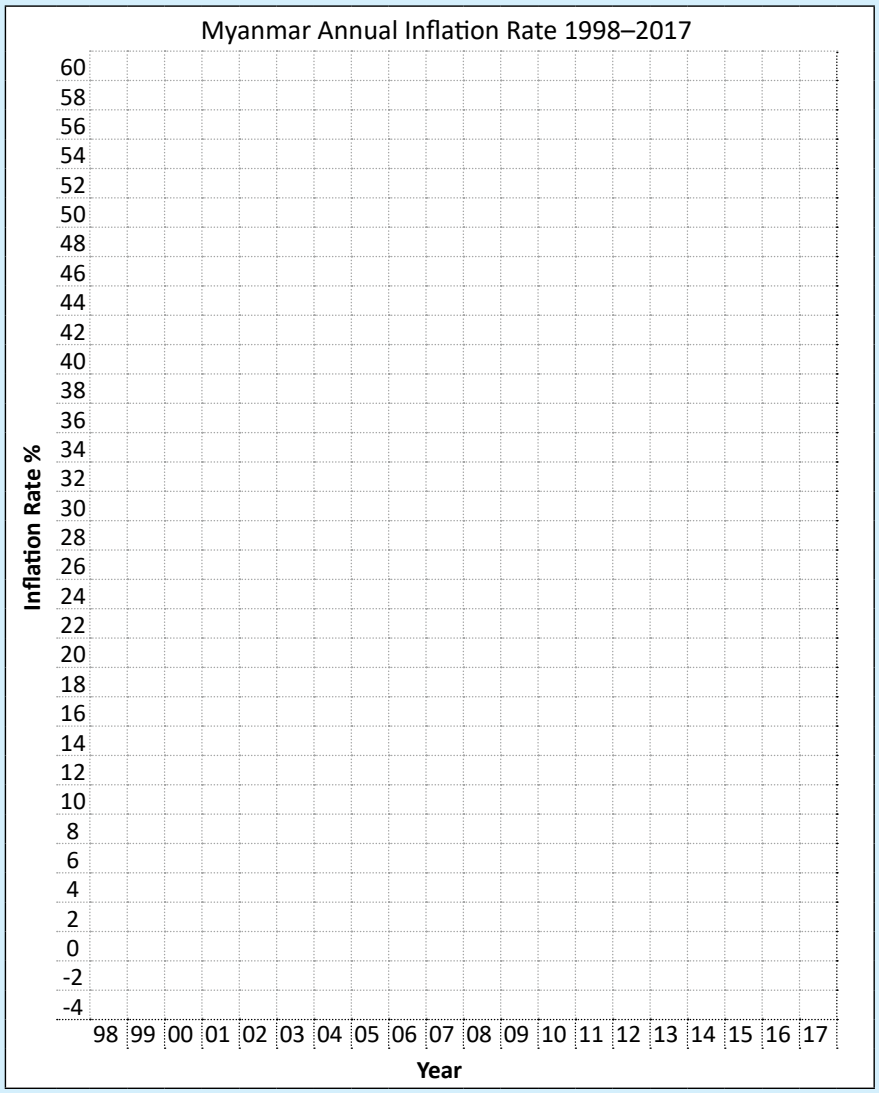
h. ___ Producers raise the price of goods and services to cover higher production costs.

activity

Diagramming – Plotting Myanmar's Inflation Rate

1. Use the annual inflation data in the table and the blank graph to plot the track of Myanmar's inflation rate from 1998 to 2017.
2. Answer the questions at the bottom of the graph.

Annual (rounded) inflation rate for Myanmar from 1998 to 2017									
1998	49	**2002**	58	**2006**	26	**2010**	8	**2014**	5
1999	11	**2003**	25	**2007**	31	**2011**	3	**2015**	10
2000	-2	**2004**	4	**2008**	11	**2012**	3	**2016**	7
2001	34	**2005**	11	**2009**	2	**2013**	6	**2017**	6
Source: https://knoema.com/atlas/Myanmar/Inflation-rate									



a. During what period were there large changes, from year to year, of the annual inflation rate?

b. During what period has the annual inflation rate remained almost steady?

c. What possible reasons can you think of for the difference between those two periods?

discussion

1. Have you noticed increases in prices of things around you? What were they and why do you think the prices increased?
2. How has the value of money in your country changed over time?

preview

1. Have you ever paid taxes? If you have, what kinds of tax have you paid?
2. What is the money from taxes used for?

4.5 Taxes and Fiscal Policy

Taxes

A central role of governments is to provide 'public goods and services'. They are things that the free market and private businesses might not provide (because they do not make a profit). For example, police, defence, building or maintaining roads, public health, basic education or protection of the environment.

To pay for these things, governments need to raise funds through taxes. Taxes are money that is collected by the government to pay for public goods and services. Taxes can be direct and indirect. Direct taxes are taken as a percentage of the income of people or businesses. Indirect taxes are raised though adding a percentage of tax to the price of goods and services that people buy. These are often known as goods and services taxes (GST).

Direct taxes on the incomes of individuals are often 'progressive'. That means that the larger the income, the higher the percentage of tax that is taken from it. Taxes on goods and services, in comparison, are often 'flat'. They remain the same for everyone. For example, if there is a 15% tax on goods and services, everyone pays that same amount of tax whether they are rich or poor.

Governments often use indirect taxes to try and change public behaviour. For example, they add taxes to the price of things like tobacco or alcohol. These are things that are bad for people's health. Taxes increase the price so that people will use less or stop buying them.

Fiscal Policy

The government's decisions about its spending in the economy are known as its '**fiscal** policy'. Government spending has several purposes. As already mentioned, it provides public goods and services. When the government spends money on those things, it is also creating jobs and paying people's incomes. This puts more money into the economy. Those workers then spend their extra money buying goods and services, shops have more customers with more money to spend and producers have more demand for their goods.

Economies have 'cycles' Sometimes the economy grows and other times it slows or even shrinks (booms and busts). Government spending is often used to correct or reduce the effects of changes in the economic cycle. When the economy slows down, governments can increase their spending in the economy. For example, it could build new roads and pay people to do that work. That means more money enters the economy and those people start buying more goods and services again, which leads to growth. When the economy is growing, the government can then reduce the amount it spends in the economy to avoid creating inflation.

exercise

1. Match the concept (a-f) with the examples (i-vi). Some examples could match more than one concept.
2. Explain your answers.

a. Direct tax

b. Public goods and services

c. Fiscal policy to decrease spending

d. Progressive tax

e. Fiscal policy to increase spending

f. Goods and services (consumer) tax

i. The government has put a 25% tax on all cigarettes.

ii. The government has reduced the amount of new construction projects and people working on them it is paying for.

iii. Min Aung has to pay the tax on his income each year.

iv. The government has started building new roads. Lots of people are being paid in new jobs working for construction companies to build the roads.

v. To protect forests and the plants and animals that live in them, the government provides forest protection officers who manage and guard the forests.

vi. Aung Zaw Myo earns 600,000 MMK a month and Moe Moe Thet earns 1,000,000 MMK a month. Aung Zaw Myo pays 10% income tax and Moe Moe Thet pays 15% income tax.

FOCUS ON ... MYANMAR

THE MYANMAR TAX SYSTEM

INDIVIDUAL INCOME TAX ON PEOPLE'S WAGES OR SALARIES

Myanmar has a 'progressive' individual income tax system. The more that people earn, the larger the percentage of tax that they are supposed to pay on that income. However, tax systems usually have **exemptions** for some of a person's income. Exemptions mean some income that is not taxed. For example, in Myanmar:

- if a person's total yearly income is under 2,000,000 MMK they do not have to pay any tax;
- the first 20% of a person's yearly income (up to 10,000,000 MMK) is exempt from taxation;
- 1,000,000 MMK of a person's yearly income is exempt from taxation if the person supports one parent, and 2,000,000 MMK is exempt if they support two parents;
- if the person supports a non-working husband or wife, 1,000,000 MMK of the person's yearly income is exempt;
- for each dependent child that the person has, 500,000 MMK of their yearly income is exempt.

After these exemptions, the person's total taxable yearly income can then be calculated (see table, right).

Personal Income Tax Rates		
From (MMK)	**To (MMK)**	**Tax Rate**
1	2,000,000	0%
2,000,001	5,000,000	5%
5,000,001	10,000,000	10%
10,000,001	20,000,000	15%
20,000,001	30,000,000	20%
30,000,001 and above		25%

GOODS AND SERVICE TAX (CONSUMER TAX)

Larger businesses in Myanmar have to collect goods and services tax (often called consumer tax in Myanmar) from customers and pay that tax to the government. An example of consumer tax is the 5% tax paid by restaurants in Myanmar. The restaurant buys tax stamps from the Internal **Revenue** Department or Post Office. When the restaurant charges consumer tax to a customer, they put tax stamps on the customer's receipt to prove that they have paid tax. For example, the bill at a restaurant might be 3,000 MMK. 5% of 3,000 is 150. So 150 MMK extra is added to the original bill and a consumer tax stamp is attached to the receipt. The final bill, including tax, is 3,150 MMK.

CORPORATE INCOME TAX

Companies are usually expected to pay tax. Myanmar-owned and foreign-owned companies pay a **corporate** tax of 25% on their yearly income. However, companies can deduct money that they spend on the running of the business from the total amount of income that they are taxed on. Companies operating in special economic zones (SEZs – see 5.4) follow different rules. They are exempt from paying any corporate tax for the first seven years, and pay only 50% of the corporate tax rate for the following five years.

Source: http://www.vdb-loi.com/wp-content/uploads/2017/04/Myanmar-Tax-Booklet_2017.pdf

Answer these questions based on the information about Myanmar's tax system.

1. What things can reduce the total amount someone has to pay personal income tax on?
2. How can companies reduce the amount of tax they have to pay?
3. How long can companies operate in special economic zones before they need to pay any taxes?
4. Your yearly income before tax is 10,000,000 MMK. You support one parent and two children.
   - **a.** What would your total taxable income be?
   - **b.** For that taxable amount, what is your percentage income tax rate?
   - **c.** How much tax would you pay?

FOCUS ON ... MYANMAR

STAMP TAX VIOLATIONS BRING 30 MILLION MMK FOR IRD

28/09/15 — About 30 million MMK in fines have been collected from restaurants who have failed to put consumer tax stamps on their receipts. This amount was collected from the beginning of 2015–16 fiscal year (April) until the end of August 2015. Fines were taken from 125 restaurants.

U Htin Linn Aung is assistant director of the Internal Revenue Department (IRD). He said, 'We have fined most of the restaurants already. We asked the restaurants to get the tax stamps from us, but they didn't use these tax stamps. Consumers and owners are both responsible for this.'

Restaurants which fail to put tax stamps on receipts get a warning the first time, a 500,000 MMK fine the second time and a 700,000 MMK fine for the third time.

IRD said a total of two billion MMK in commercial tax has been collected from restaurants this fiscal year in Yangon. That amount is more than double the amount collected in the same period last year.

Source: https://www.mmbiztoday.com/articles/stamp-tax-violations-bring-k30-million-ird

1. Why would restaurants charge consumer tax but not put the consumer tax stamps on receipts that they give to customers?
2. How does IRD get money from restaurants if they do not put consumer tax stamps on receipts?
3. What other ways do you think IRD could collect consumer tax?
4. What do you think a 'fiscal year' is?
5. Do all sizes of restaurants in Myanmar charge consumer tax? Why do you think this might be?

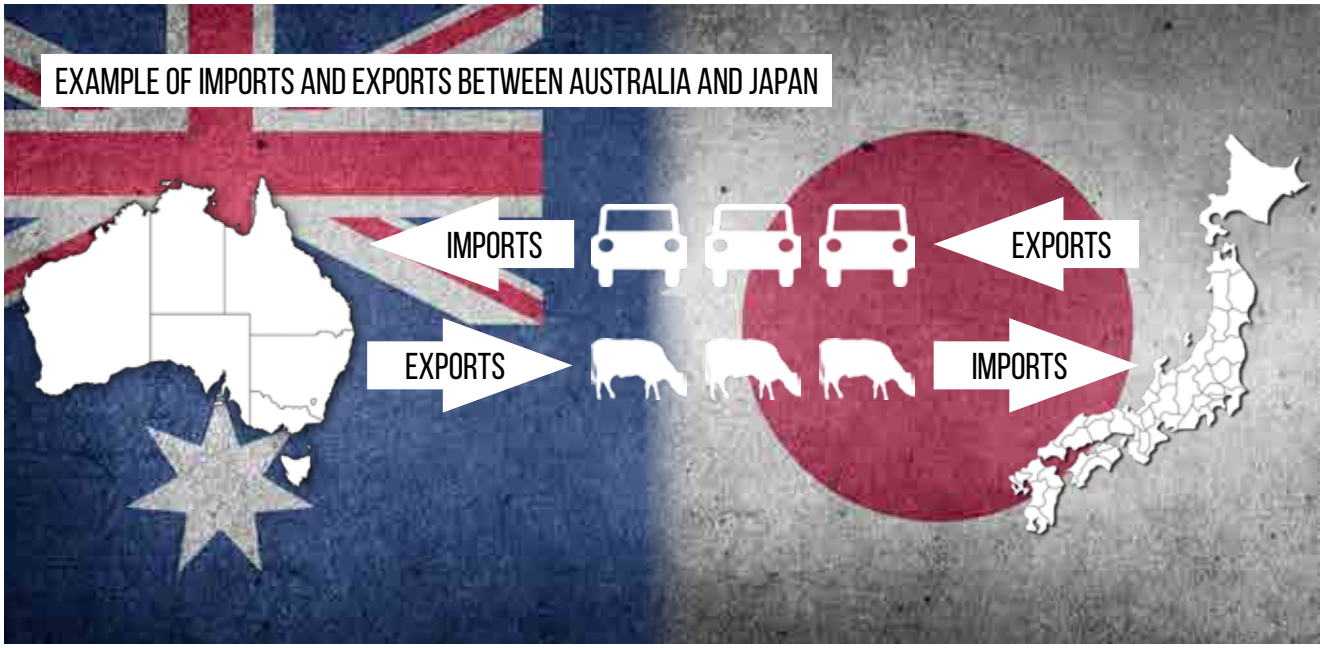
Diagramming – The Flow of Taxes and Government Spending

Draw a diagram or flow chart that illustrates the processes and directions that money moves in for taxes and government spending that are described in this section.

activity

Do you think everyone should pay the same amount of tax? Or should people who are rich pay more tax than people who are poor? Why?

discussion



preview

1. What are some goods or services that come from other countries to your country?
2. What are some goods or services that your country sells to other countries?

4.6 International Trade

Imports and Exports

Goods and services are also bought and sold between countries. This is *international trade*. When a country buys goods and services from another country they are called *imports*. When a country sells goods and services to another country they are called *exports*.

Trade between different countries has been happening since ancient times. However, global trade increased with industrialisation (see 5.2) and better transport and communication in the 19th and 20th centuries. In the modern global economy, countries specialise in making things that they have a 'comparative advantage' in. A comparative advantage means that a country can make something more cheaply or efficiently than other countries. Countries trade with each other for things that they do not have or cannot make as cheaply and efficiently.

Some countries have comparative advantages in natural resources like oil, rice or timber. Other countries have a comparative advantage in the number or the skill of their workers to manufacture things for export. For example, Saudi Arabia has a comparative advantage in oil. South Korea, which has no oil, has a comparative advantage in manufacturing electronic goods like smartphones and computers, because it has a large, skilled workforce.

However, the growth of international trade also has some disadvantages for people and the environment. People work for low pay and in poor conditions in some countries (see 5.2 and 5.4). It can also have negative effects on the environment due to pollution and resource extraction (see Chapter 3).

Tariffs, Subsidies and 'Free Trade'

Countries have often tried to protect their own industries and agriculture from competition from other countries. This is called 'protectionism'. Governments can put a tax on imported goods. A tax on imports is called a **tariff**. Tariffs on imported goods encourage people to buy locally-made versions of the goods because they are cheaper. It helps local producers to stay in business and provides jobs for local people.

The government may also give money to local producers. This encourages them to make more of a particular good. This is known as a subsidy. A subsidy also keeps the price of the locally-made goods lower than imported goods.

Today, most countries are reducing tariffs and subsidies and opening up their economies to global trade. International trade without barriers like tariffs has become known as '**free trade**'. This has been assisted by economic globalisation over the last 40 years and the increasing role of transnational corporations (see 5.2 and 5.4).

exercise

Are these statements true or false? If false say why.

1. An export is when a country buys things from another country.
2. Ships, roads, railways, telephones and the internet have all helped the spread of international trade.
3. When a country makes everything it needs itself, it has a comparative advantage in trade.
4. A large supply of oil has helped South Korea's comparative advantage in producing electronic goods.
5. Damage to the environment and social problems are disadvantages of increased international trade.

exercise

Match the three example (1–3) to the concepts in international trade (a-c) that they best demonstrate.

a. tariff **b.** subsidy **c.** free trade

1. A soy bean farmer gets paid extra money to buy seeds and fertilisers by a government programme to support production of locally made cooking oil.
2. A local company in Myanmar can now sell the clothes it makes to neighbouring countries. These countries have joined with Myanmar in a trade agreement to end taxes on clothing imports.
3. A company wants to buy cars from another country and bring them into its own country to sell. However it will have to pay another 60% in tax to bring the cars into the country.

Regional Economic Integration and Free Trade

Over the last 40 years, there has been increasing trade cooperation between groups of countries around the world. Economic integration involves removing **trade barriers** like tariffs and reducing regulations between countries. Countries located in the same regions of the world have formed regional organisations for closer economic integration and cooperation. The EU, ASEAN, Mercosur and NAFTA (see opposite page) are examples of regional free trade areas.

Many countries have made free trade agreements (FTAs) to reduce barriers to trade between them. Countries with smaller economies often want to join FTAs with countries like China or the USA, or regional organisations like ASEAN. These countries and organisations have large economies and large populations that can buy a lot of goods.

However, large countries with big populations can produce things more cheaply than smaller countries with limited resources and small populations. When trade barriers are removed, businesses in smaller countries might not be able to compete with those from larger countries. There is concern that FTAs and transnational corporations will lessen the power of countries to control economic activity within their own borders. Also, businesses in developed countries have moved to developing countries where wages are cheaper. This has led to claims that FTAs are taking away jobs from workers in some rich countries such as in the USA.

Some free trade agreements are bilateral (between two countries) and others are between groups of countries. For example, Australia and China have a bilateral trade agreement. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) is an example of a free trade agreement between a group of countries around the edge of the Pacific Ocean.

exercise

Match summaries a-d to the four paragraphs on this page.

a. Smaller countries often want free trade agreements with large countries or regional trade organisations because they will have many more people to sell goods to.

b. Groups of countries in regions of the world have formed organisations to work together to increase economic cooperation and reduce barriers to trade.

c. Some free trade agreements are made between just two countries while others are made between many countries.

d. Free trade agreements could reduce the ability of countries to regulate their own economies and lead to job losses when companies move to other countries with lower wages.

exercise

Are these statements (about the text on this and the opposite page) true or false? If false, say why.

1. People are worried that FTAs and transnational corporations will increase the role of governments in the economy.

2. When barriers to free trade are removed, businesses may move to countries where people will work for lower wages.

3. A bilateral free trade agreement includes many countries.

4. The European Union has a common agricultural policy to remove subsidies for agricultural products.

5. The EU has made it easier for other countries to export agricultural goods to Europe.

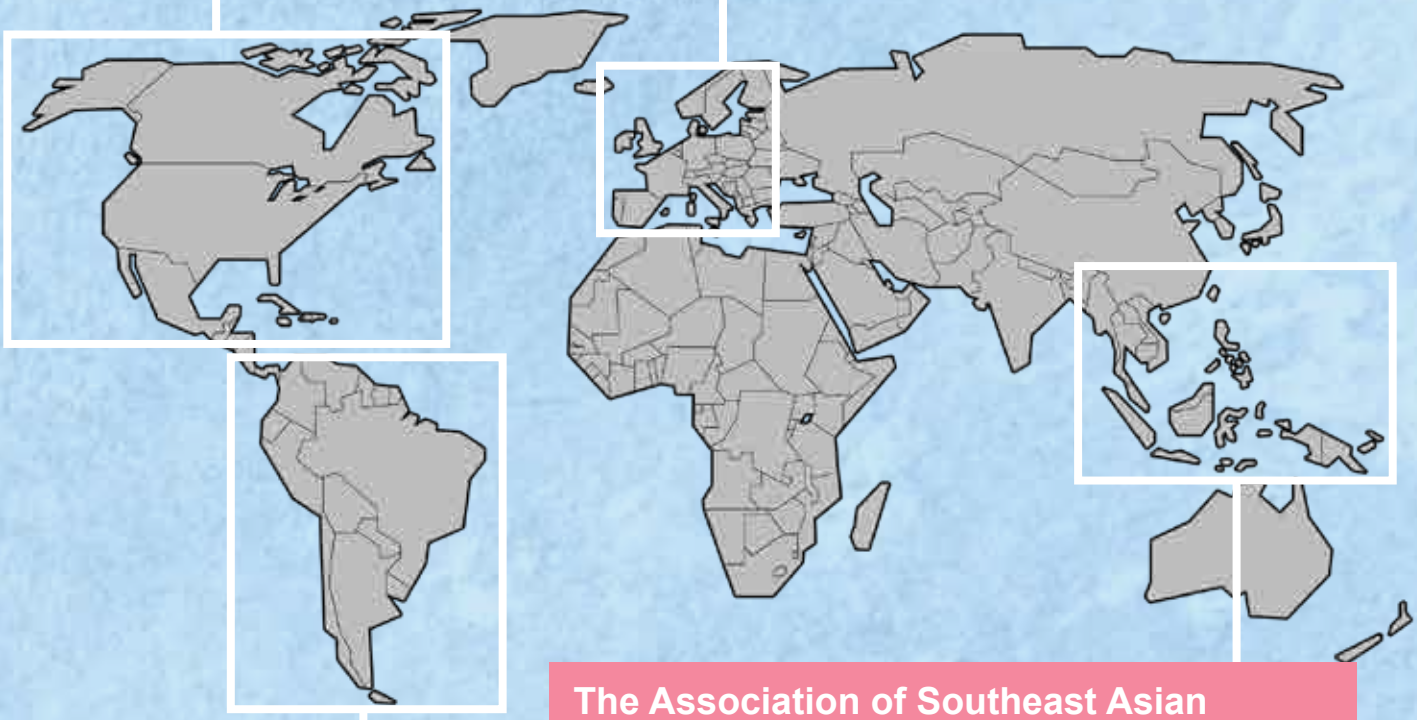
Economic Integration and Regional Free Trade Areas

NAFTA

The North American Free Trade Agreement (NAFTA) is between the USA, Canada and Mexico. It has been criticised for the loss of jobs in the USA as manufacturers moved to Mexico, where workers will work for lower wages.

The European Union

The European Union (EU) is an example of regional economic integration. 27 EU countries cooperate to allow goods, services and people to move freely across their borders. Many of the EU countries share a common currency called the euro. However, the Common Agricultural Policy (CAP) means EU farmers receive subsidies to keep producing fruit, vegetables, meat and dairy products at low prices. Farmers outside the EU in developing countries (for example, in Africa) who depend on agricultural exports cannot compete and sell their products to Europe.



Mercosur

Mercosur is a South American trading bloc which was established in 1991. Its purpose is to promote free trade and the fluid movement of goods, people and currency.

The Association of Southeast Asian Nations

The Association of Southeast Asian Nations (ASEAN) has worked towards the economic integration of ten countries in Southeast Asia. ASEAN has promoted the idea of a single market within ASEAN and trade and foreign investment between ASEAN countries and countries outside the region. ASEAN is trying to reduce barriers to trade and improve the flow of goods and services and skilled labour between member countries.

discussion

1. Do you prefer the idea of free trade agreements or tariffs and subsidies? Why?
2. Which countries do you believe your country should seek free trade agreements with? Why?

Chapter 5: Development

themes

Chapter 5 looks at the meaning of development and the different forms that it can take. It also considers the problems that some types of development can cause, and how individuals and communities can actively participate in development.

learning goals

Knowledge

By the end of this chapter you will increase your understanding of:

- different ideas about what 'development' is;
- the causes and effects of 'development' through history;
- economic development;
- theories and criticisms of development;
- indicators of development and measures of poverty;
- social and community development;
- organisations involved in social and community development;
- sustainable development and the SDGs;
- free, prior and informed consent for people affected by development projects;
- environmental and social impact assessments.

Skills

By the end of this chapter you will develop your ability to:

- identify types of development activity;
- categorise different theories of development;
- transfer information from history into a development timeline;
- order steps in the economic development model;
- design visual information about development;
- infer from quotes and from cartoons about development;
- interpret maps, data, tables and graphs about development;
- categorise types of organisations involved in development;
- apply community empowerment goals to real-life scenarios;
- create possible solutions to community development issues;
- analyse impacts of development projects.

glossary

absolute (adj) - လုံးလုံးလျားလျား

advocate (v) - ထောက်ခံအားပေးသည်၊ ရပ်တည်အရေးဆိုသည်

cash crop (n) - စီးပွားဖြစ် စိုက်ပျိုးသောသီးနှံ

collective (adj, n) - စုဝေးထားသော

conserve (v) - ထိန်းသိမ်းစောင့်ရှောက်ထားသည်

deregulation (n) - ဖြေလျှော့ပေးခြင်း

discriminate (v) - ခွဲခြားဆက်ဆံသည်

empower (v) - မြေတောင်မြှောက် မြှင့်တင်ခြင်း

eradicate (v) - တိုက်ဖျက်သည်

faith-based (adj) - သက်ဝင်ယုံကြည်မှုကို အခြေခံသော

grassroots (adj) - အခြေခံလူတန်းစားများ

hazard (n) - ဘေးအန္တရာယ်ဖြစ်ခြင်း

income generation (n) - ဝင်ငွေရှာဖွေခြင်း

indicator (n) - ညွှန်းကိန်းများ

indigenous (adj) - ဌာနေတိုင်းရင်းသားဖြစ်သော

infrastructure (n) - အခြေခံအဆောက်အအုံ

integrate (v) - စုစည်းပေါင်းစပ်သည်

interest (n) - အတိုး

life expectancy (n) - လူ့သက်တမ်း

literate (adj) - အရေး၊ အဖတ်၊ အတွက်အချက်တတ်မြောက်သော

marginalised (adj) - ခွဲခြားဆက်ဆံခံရသော

mortality (n) - ကိုယ်ကျင့်တရား (သိက္ခာ)

neoliberalism (n) - ခေတ်သစ်လစ်ဘရယ်ဝါဒ

non-aligned (adj) - ဘက်မလိုက်သော (နိုင်ငံများ)

nutritious (adj) - အာဟာရပြည့်ဝသော

privatisation (n) - ပုဂ္ဂလိကပိုင်ပြုသော

relative (adj) - ဆက်နွယ်သော

restructure (v) - ပြန်လည်ဖွဲ့စည်းသည်

slum (n) - ဆင်းရဲသားရပ်ကွက်

social justice (n) လူမှုတရားမျှတရေး

standard of living (n) - နေထိုင်မှုအဆင့်အတန်း

superpower (n) - လွန်စွာ သြဇာတိက္ကမ ကြီးမားသော

sustainable (adj) - ရေရှည်ထိန်းသိမ်းနိုင်သော

target (n, v) - ပစ်မှတ်၊ ပစ်မှတ်ထားသည်

union (n) - အစည်းအရုံး၊ သမဂ္ဂ

well-being (n) - ကျန်းမာချမ်းသာခြင်း

■ Pakkoku Bridge, Ayeyarwaddy Region, Myanmar.

preview

What do you think development is about? Why?

5.1 What Is Development?

'Development' means to be in a process of growth and improvement. When we talk about development in relation to communities or entire countries, we are usually talking about either *economic development* or *social and community development*.

- **ECONOMIC DEVELOPMENT** aims to improve people's lives through growing the economy of a country. Economic growth can create more jobs and raise the amount that people earn (income). This helps them to pay for needs, like food and housing. As people earn more, they can then afford more of the goods that they want, like computers or cars.
- **SOCIAL AND COMMUNITY DEVELOPMENT** focuses more on education, health and people's **well-being**. Social development often encourages people to be more involved in economic and political decisions that affect them and their communities.

A large part of development studies has been focused on countries – or areas of countries – where there is widespread poverty. A key question in development studies is about the best ways to reduce poverty and improve lives: How should people's health, education and standards of living be improved?

An important difference between the two models of development is the role of government and business and the role of people in communities. Economic development usually focuses on governments and business to create change. Social and community development focuses on communities working together to create change themselves.

All forms of development involve a process of working towards a better future for people. However, there are different opinions about whether development should focus on economic growth, or on social change in communities, or on both. There are also concerns that development should be **sustainable** so it can protect people's livelihoods and the environment into the future.

exercise

Answer the questions.

1. How are people expected to meet their needs and wants through economic development?
2. Who has the most influence on what happens in social and community development?
3. What are important issues considered by development studies?
4. Select the odd one out from the list.
   - large businesses, investment banks, local decisions, government plans.
5. What do the other three have in common?
6. What model of development does the odd one out belong to?

activity

Describing – Images of Development?

1. Match the images (a-f) with the concepts in development (i-vi). The images can match more than one concept.
   - **i.** economic
   - **ii.** health
   - **iii.** education
   - **iv.** political
   - **v.** environmental
   - **vi.** sustainable
2. For each, explain why you matched them.
3. For each, does it show 'development', or 'the need for development'? Why?


a.


b.

c.


d.


e.


f.

discussion

Who do you think should be responsible for development in your community? Why?

preview

1. What do you think makes a country developed?
2. Why?

PORTUGUESE SAILORS, INDIA, COLONIAL PERIOD

WORKERS, ENGLAND, INDUSTRIAL REVOLUTION

SOLDIERS IN A BATTLE DURING WORLD WAR II

THE USA AND THE USSR, THE COLD WAR

5.2 A History of Development

Industrialisation, Imperialism and the Colonial Period

Ideas about what development is – and how to achieve it – have changed over time. Often, 'industrialised' countries are thought to be 'developed'. Industrialisation is the mass production, through factories of clothes, tools, weapons and other goods (see 1.1).

In the 15th century, the Portuguese and Spanish **empires** started exploring and establishing colonies in other parts of the world. This was the start of imperialism and colonisation by European empires. In the mid-18th century, industrialisation started in Western Europe with the 'Industrial Revolution'.

European imperial expansion increased a lot with the Industrial Revolution. It helped European empires like Britain and France. They had an advantage in machinery and weapons when they took control over parts of Africa and Asia and established colonies there.

The Early 20th Century

By the start of World War I (1914–1918), European empires controlled more than 80% of the land and resources in the world. Most of the wealth and resources from their colonies went back to Europe, although they also built roads, hospitals, railways and universities in their colonies. However, the **infrastructure** and education provided by the colonial powers was usually to help them extract resources and to educate local people for working in the colonial administrations.

By the end of World War II (1939–1945), the European empires were weakened from war. Most of the European empires' colonies eventually became independent countries. These newly independent countries were 'developing' countries economically and politically.

The Cold War (1945–1991)

After World War II, the two most powerful countries in the world were communist Russia (the Soviet Union/USSR) and the capitalist United States of America (USA). They became known as the '**superpowers**'. They competed for economic and political influence around the world. This period, between 1945 and 1991, is known as the Cold War.

The economic systems of the two superpowers were very different. Communism is a political system that demands government ownership of businesses, factories, farms and property. The government has a lot of control over how people live and work, and over the economy. The capitalist economic model is the opposite. It believes in private ownership of property and businesses and a free market. This means that the government has less control over business, the economy or the lives of individuals.

The economic systems of the USSR and USA affected how they worked with developing countries during the Cold War period. Both

superpowers used development aid and military power to encourage countries to adopt their system. The USSR supported, traded with and lent money to other socialist and communist countries. The USA encouraged developing countries to follow the capitalist model and lent them money through US financial institutions.

Some countries chose sides in the Cold War. Others, such as Myanmar, did not. Countries which did not take sides were called '**non-aligned**' nations. Myanmar joined the The Non-Aligned Movement in 1961.

The Cold War ended in 1991 when the USSR collapsed. Its collapse was due to several reasons, including poor economic performance and democratic political reforms within Russia. Capitalism then became the main economic system in most countries.

exercise

Are these statements true or false? If false, say why.

1. The words 'developed' and 'industrialised' are often assumed to mean the same thing.
2. Industrialisation began before the expansion of empires from Western Europe.
3. The Industrial Revolution allowed the European countries to build empires more easily.
4. World War II helped the European empires grow stronger.
5. The USSR and USA had similar economic models.
6. Both the USSR and USA used 'development' as a way to influence other countries.

exercise

Complete the table below that highlights the differences between the capitalist and communist economic models.

	Capitalist	Communist
Ideas about Ownership		
Control over Economy		
Views on Business		
Control over Lives of People		

Economic Globalisation (1980s to the Present)

The trading of goods between countries has happened since ancient times and it increased during the Industrial Revolution in the 19th and 20th centuries. However, from the 1980s onwards, the capitalist model of development – free markets, **deregulation** and **privatisation** of businesses- began to be adopted by almost all countries. This economic model – which promotes free trade between countries and reduces the role of governments in the economy, has become known as '**neoliberalism**'.

Today, instead of separately developing their own industries, developing countries are often part of an inter-connected global economy. They have also become a source of resources and cheap labour for transnational corporations (see box below).

Transnational Corporations and Supply Chains

Transnational Corporations

A transnational corporation (TNC) is a company that conducts economic activity (such as manufacturing) in two or more countries. 90% of TNCs are based in developed countries like the USA, Germany and Japan. TNCs produce 50% of world manufacturing and over 70% of world trade. Developing countries need TNCs to provide jobs and foreign investment – the money that the TNC brings into the country to build factories and pay workers. To do this, the country provides conditions (infrastructure and low taxes) that are in the interests of TNCs.

Global Supply Chains

TNCs operate 'global supply chains'. Labour and resources from many different countries are included in the production of goods such as clothes, smartphones or computers. Resources and pre-made parts to make consumer goods can be transported to different parts of the world. They are often assembled by people working in factories in developing countries where wages are lower and, therefore, production costs for the TNCs are lower. The goods are then transported to other countries, where they are sold at a higher price than they cost to make.

exercise

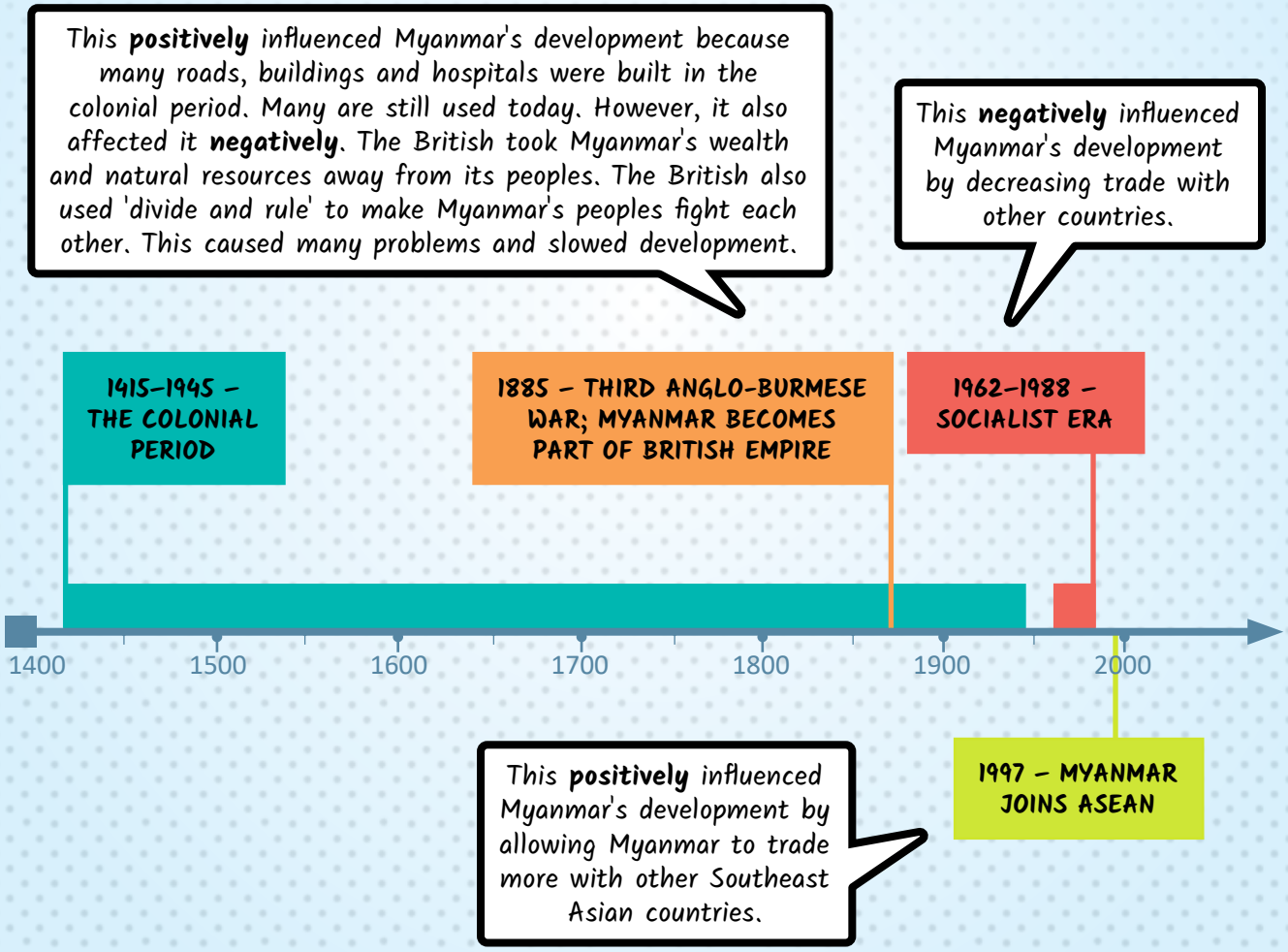
Are these statements true or false? If false, say why.

1. International trade between countries started in the 1980s.
2. The communist economic model spread to most parts of the world through economic globalisation.
3. Neoliberalism promotes more government regulations.
4. TNCs operate in places where it is cheaper to make things because wages are lower.
5. TNCs make things in one factory in one country.

activity

Diagramming – *Globalisation and Myanmar's Development Timeline*

1. Create a timeline based on the key events and information about the history of development in 5.2.
2. Research and add other key world events during this period that influenced Myanmar's development. For each event, you should be able to say how it influenced Myanmar.
3. Research and add additional events in Myanmar during this period that influenced Myanmar's development. For each event, you should be able to say how it influenced Myanmar.



discussion

1. What world events have influenced Myanmar's development the most? How?
2. What events in Myanmar have influenced Myanmar's development the most? How?

preview

1. What things do you think would be part of economic development?
2. Why?

5.3 Economic Development

Economic development has often been seen as the best way to improve people's living conditions, jobs, homes, health and education. Most developing countries have encouraged economic growth through foreign investment. Foreign companies or TNCs help set up new factories and infrastructure like dams and roads, or large agriculture projects. The foreign companies make money (profits) back from their investments, and their investment in the developing country creates new jobs. It is believed that people's wages and living conditions will then slowly rise as the country becomes more economically developed.

Another way that governments in developing countries try to improve their economies is through borrowing money from other countries or international financial institutions like the World Bank or International Monetary Fund (see box below). These loans are intended to improve the country's infrastructure, like roads, electricity, hospitals or schools. However, the borrowing countries must pay **interest** on these debts. These debts grow bigger if they are not paid back quickly.

The World Bank and the IMF

The World Bank and the International Monetary Fund (IMF) are international financial institutions created in 1944, mainly by the US and Britain. The World Bank provides loans and technical assistance to developing countries. The loans are meant to help improve health and education, reduce poverty or build infrastructure. The IMF gives large loans to countries during times of economic or financial difficulty. The loans are meant to help avoid economic collapse in one country that could lead to a global economic or financial crisis like the Great Depression of the 1930s (see 4.3). World Bank and IMF loans need to be repaid and have interest attached. To get the loans, countries are often required to **restructure** their economies, privatise businesses and reduce government spending.

exercise

Answer the questions.

1. What outcomes for people are expected through economic growth?
2. What do foreign companies get from setting up business in other countries?
3. What do countries expect to get from companies setting up business?
4. Where do developing countries get loans?
5. What are the loans used for ?

exercise

Put these steps in the economic development model in the best order based on the text.

a. ___ People can earn more money working at the TNC factory than what they earned before.

b. ___ A TNC sets up a new factory in an area of a developing country because of the improved infrastructure, lower costs and decreased regulation.

c. ___ Because more money earned from working at the TNC factory is being spent in the local economy, the overall **standard of living** for people in the area slowly rises.

d. ___ A developing country gets a loan from the World Bank to build roads and provide electricity to an area. It then offers TNCs low taxes, less regulations and low wages to set up in that area.

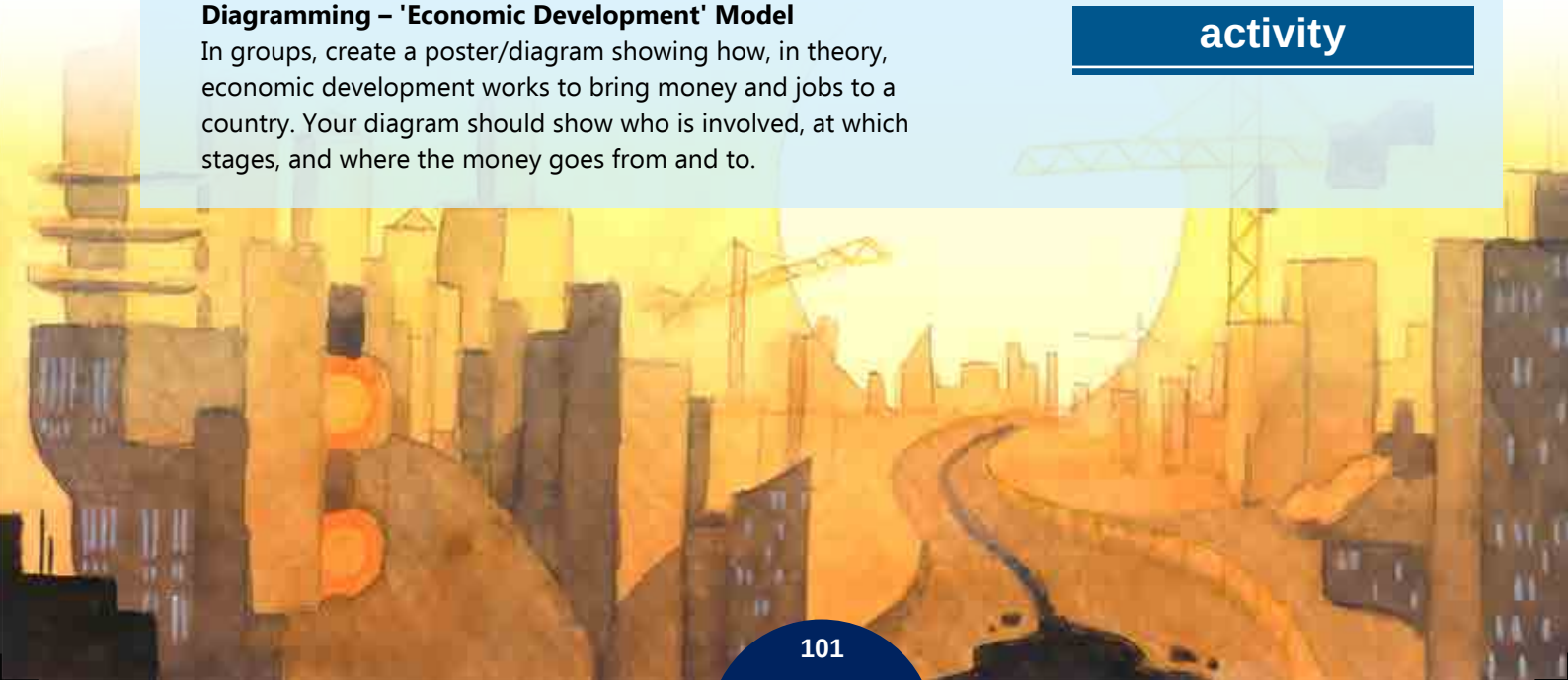
e. ___ People now spend the extra money they earn from working for the TNC factory at other businesses in the local economy.

f. ___ People in the developing country get jobs working at the new factory set up by the TNC.

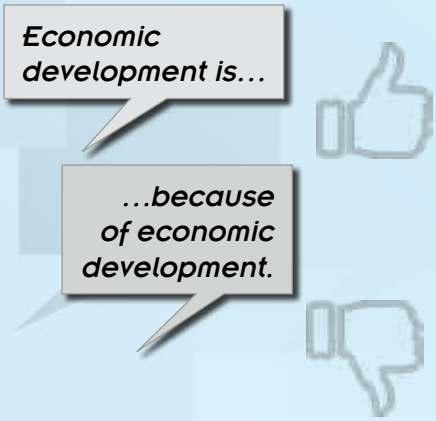
activity

Diagramming – 'Economic Development' Model

In groups, create a poster/diagram showing how, in theory, economic development works to bring money and jobs to a country. Your diagram should show who is involved, at which stages, and where the money goes from and to.



activity



Inferring – Quotes About Economic Development

1. For each quote about economic development, decide:
   - **a.** Is economic development presented as the cause or the effect?
   - **b.** What is the other variable that causes or is affected by economic development, according to the quote?
   - **c.** What is the relationship between economic development and the other issue in the quote?
   - **d.** Does the quote promote economic development, or is it critical of it?
   - **e.** Do you agree or disagree with the idea in the quote? Why?
2. Join with a partner and compare your responses for each quote.
3. Explain to each other why you agree or disagree with each quote.

Example: *i.*
a. ***Cause:*** *Economic development*
b. ***The other variable that affects or is affected by economic development:*** *Poverty.*
c. ***The cause and effect relationship:*** *economic development (the cause) cures (ends) poverty (the effect).*
d. The quote promotes economic development (as the way to end poverty).

i. A job is the best cure for poverty, and that's why economic development and job creation has been my principle focus. – *Luther Strange*

ii. Chinese economic development has meant that many American workers have lost their jobs. – *P. J. O'Rourke*

iii. Children born in poor areas are likely to have poor educational outcomes. If we end that, we can increase economic development. – *Cory Booker*

iv. The Saudi government's denial of basic rights to women is not only wrong, it hurts Saudi Arabia's economic development, modernisation and prosperity. – *Barbara Boxer*

v. Nature shrinks as capital grows. The growth of the market cannot solve the very crisis it creates. – *Vandana Shiva*

vi. I'm impressed by the economic development of Korea. Women scientists, without a doubt, played an important role in it. – *Tim Hunt*

vii. Economic growth without investment in human development is unsustainable – and unethical. – *Amartya Sen*

viii. The only practical way to stop terrorism is through economic development and an improved standard of living. – Yitzhak Rabin

discussion

1. What have you heard about economic development in your country?
2. Where do you get this information from?

5.4 Criticisms of 'Economic Development' Models

preview

What are some possible problems with economic development?

With the end of colonisation, economic relations between developed and developing countries often remained unequal. Resources from former colonies continued to flow to the former colonial powers. Although economic development improved infrastructure and technology in developing countries, they continued exporting resources and crops that did not bring in much wealth. The developed countries benefitted more from the resources by manufacturing goods out of them and selling them for more money. This criticism of development became known as 'dependency theory.'

Today, criticism often focuses on the role of transnational corporations (TNCs). TNCs frequently set up branches of their businesses in countries where wages are lower, so their production costs for making goods are less. Some countries create areas called Special Economic Zones (SEZs) to encourage TNCs to set up factories there. They are provided with infrastructure like electricity and roads and often pay lower taxes. Supporters of SEZs say that they create new jobs, and people working in SEZs earn more than in other low paid jobs in the local economy.

The process of economic industrialisation can also negatively affect communities. People lose jobs as they are replaced by new technology, or they lack the education or skills to work in new industries. People from rural communities might have to grow **'cash crops'** for export to earn money to buy food rather than growing their own food. They may be forced to move from land because it is being used by mining companies or for large-scale agriculture. They sometimes have to move to cities to find new work.

exercise

Answer the questions.

1. What are some problems with economic relations between developed and developing countries?
2. How have developed countries made more wealth out of the resources from developing countries?
3. What things about SEZs help attract TNCs?
4. How might economic development cause problems for people?
5. What do you think 'cash crops' are?

Alabuga Special Economic Zone, Tatarstan, Russian Federation

FOCUS ON ... MYANMAR

THE DAWEI SPECIAL ECONOMIC ZONE

11/04/16 — Japan has signed on as a third equal partner with Myanmar and Thailand in the planned Dawei Special Economic Zone (DSEZ). The 196 square km special economic zone would become one of the biggest industrial parks in Southeast Asia.

The DSEZ will be one of three special economic zones in Myanmar. It is expected to encourage growth by drawing in foreign investment. It will include automotive, electronics, canneries and pharmaceutical factories. However, after eight years, progress on the DSEZ has stalled. Land has been ploughed but construction has barely started.

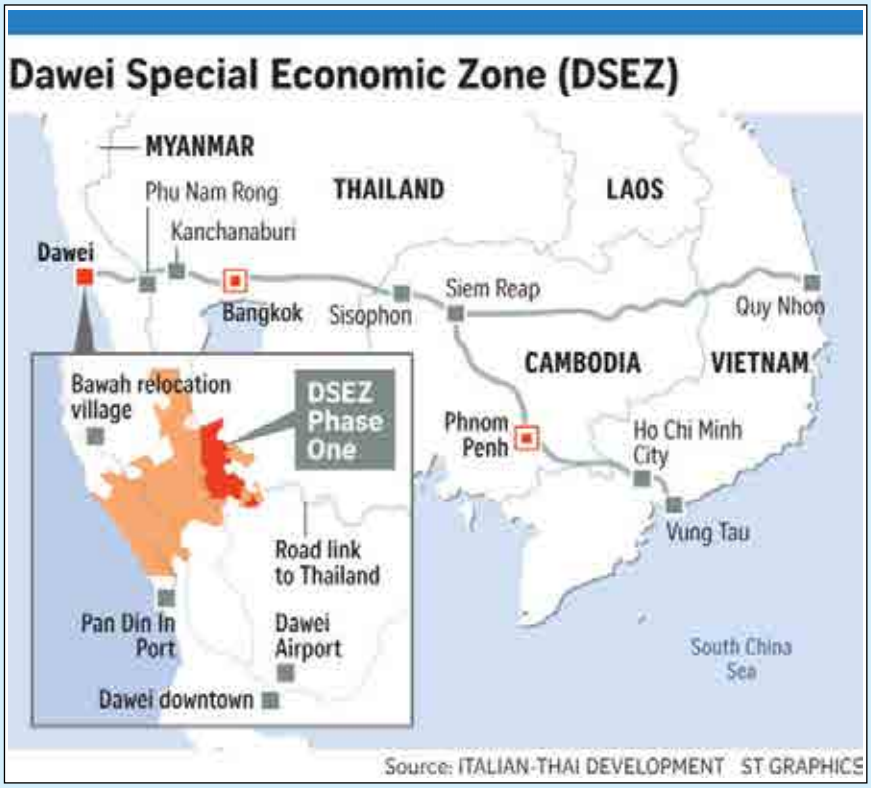
Meanwhile, local opposition to the project has been growing. The Dawei Development Association (DDA) is a local civil society coalition opposed to the project. According to a 2014 DDA report, the project will affect more than 43,000 people living in 36 small farming and fishing villages along the coast of the Andaman Sea. The report says residents who sold their land to investors for very little are still waiting to be paid. Some other locals claimed their land was confiscated.

The report says there are also environmental threats. The government plans to use a 2,000 megawatt coal plant to power construction. Mangrove forests that help protect the coastline have been cleared. Road construction and deforestation have affected water supplies and erosion has dirtied rivers and streams. The area is home to many fishing villages that rely on the coastline for their daily livelihood. If the project goes through life in the villages will be changed forever.

However, some locals see the DSEZ as a chance they are willing to take, although they don't always completely understand the effects that the project will have on their lives and their children's. Nga Pea Dat is a fishing village half a kilometre away from the DESZ. Fishermen there remain hopeful that the DSEZ will bring much needed jobs to the region. Creating new jobs was the main focus of how the project planners originally presented the DSEZ to local villagers.

Source: https://thediplomat.com/2016/04/myanmar-the-dawei-special-economic-zone/

1. What three countries are investing in the Dawei Special Economic Zone?
2. What types of industries are expected to operate at the DSEZ?
3. What are the occupations of the people who will be affected by the DSEZ?
4. What issues have there been about how land for the DSEZ has been obtained?
5. What are possible environmental impacts from the DSEZ?
6. Who depends on the Andaman sea coast for their living?
7. What do some people expect the DSEZ to bring? Why?



activity

Inferring – a Development Map

Look at the map of the DSEZ and answer the questions.

1. What are possible reasons for where the DSEZ is located?
2. What suggests that people are being moved to make way for the project?
3. What suggests that resources and goods will be transported to and from the DSEZ by ship?
4. What other form of transport, apart from roads and ships, is indicated on the map?
5. What/who might that form of transportation be used for?
6. Why might this map show the features of the DSEZ that it does?

activity

Inferring – a Development Cartoon

What does this cartoon suggest about economic globalisation and development?

1. Write a paragraph that explains the idea you believe the cartoon is demonstrating.
2. Swap your paragraphs with a partner and compare your ideas about the cartoon's meaning.

discussion

1. Should people be forced to move or sell their land so that development projects can proceed? Why or why not?
2. Do you believe people's lives will be improved by development projects like SEZs? Why or why not?

preview

1. Why measure development?
2. How can we measure 'development'?

5.5 Measuring Development

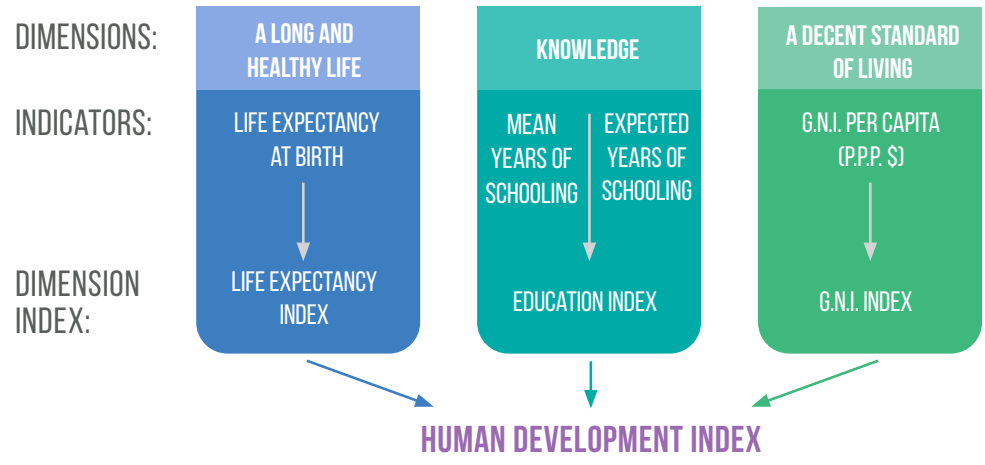
A lot of attention in development has been on economic growth. Therefore, economic results have often been used to measure development. The most commonly used economic measures of development have been *gross domestic product* (GDP) and *gross national income* (GNI) (see 4.4), but how else can development be measured?

Human Development Index

The United Nations Development Programme (UNDP) created an **indicator** to measure development that is not just economic. This is called the Human Development Index (HDI). HDI measures health, education and standard of living as well as income. Health is measured by **life expectancy**. Education is measured by the average number of years that people are in education and by how many years they are expected to be in school. Standard of living is measured by GNI per capita.

The index gives countries a score from 0 to 1. For example, Chad had an estimated HDI of 0.396 in 2015. Life expectancy was 51.9 years, the number of years that someone is expected to attend school was 7.3 years, and the mean years of actual schooling was 2.3 years. In the same year, Norway had an estimated HDI of 0.949. Life expectancy was 81.7 years, the number of years someone is expected to attend school is 17.7 years, and the mean years of actual schooling was 12.7.

The Human Development Index (H.D.I.) and how it works



exercise

Answer the questions.

1. Which is the odd one out?
   - How long someone is expected to live;
   - One person's share of the GDP;
   - One person's share of the GNI;
   - The number of years someone is expected to be in school.
2. What do the other three have in common?
3. What dimension of the HDI does each one measure?

activity

Interpreting Data – The HDI

This 2015 table shows the HDI report data for 20 countries.

1. Answer the questions.
   - **a.** Which country has the lowest mean years of schooling?
   - **b.** Which country has the highest life expectancy?
   - **c.** Which two countries have the highest mean years of schooling?
   - **d.** Rank the 20 countries in order from highest to lowest by HDI.
2. What things do the countries with the lowest HDIs have in common? How might those things have affected their development?

Country	HDI	Life expectancy from birth	Expected years of schooling	Mean years of schooling	GNI per person (US $)	Rank (1–20)
Australia	0.939	82.5	20.4	13.2	42,822	
Bangladesh	0.579	72.0	10.2	5.2	3,341	
Bolivia	0.674	68.7	13.8	8.2	6,155	
Cambodia	0.563	68.8	10.9	4.7	3,095	
Chad	0.396	51.9	7.3	2.3	1,991	
China	0.738	76.0	13.5	7.6	13,345	
Japan	0.903	83.7	15.3	12.5	37,268	
Malaysia	0.789	74.9	13.1	10.1	24,620	
Myanmar	0.556	66.1	9.1	4.7	4,943	
Niger	0.353	61.9	5.4	1.7	889	
Norway	0.949	81.7	17.7	12.7	67,614	
Russia	0.804	70.3	15.0	12.0	23,286	
Saudi Arabia	0.847	74.4	16.1	9.6	51,320	
South Africa	0.666	57.7	13.0	10.3	12,087	
Sweden	0.913	82.3	16.1	12.3	46,251	
Thailand	0.740	74.6	13.6	7.9	14,519	
United States	0.920	79.2	16.5	13.2	53,245	
Vietnam	0.683	75.9	12.6	8.0	5,335	
Yemen	0.482	64.1	9.0	3.0	2,300	
Zimbabwe	0.516	59.2	10.3	7.7	1,558	

Source: UNDP Human Development Report 2016 (pp.198–201).

discussion

1. Do you think the HDI is a better measure of development than only economic data like GDP? Why or why not?
2. What other things not included in the HDI do you believe could be useful to measure development? Why?

preview

1. What do you think of when you hear the word poverty?
2. How can we measure poverty?

5.6 Measuring Poverty

Poverty can be measured as **absolute** and as **relative**.

- **ABSOLUTE** (or 'extreme') **POVERTY** refers to a situation where people cannot meet basic needs for survival like food, clean water, clothing and shelter. No matter where they live, if people cannot meet these basic needs, they are at great risk of illness and death.
- **RELATIVE POVERTY** refers to a situation where people are considered poor compared to other people living in the same country. They may have access to the minimum basic needs for survival, like food, clean water and shelter, but they have less than others in the country.

The World Bank's Global Poverty Line

The World Bank's global poverty line is the amount of money per person per day below which people are considered to be living in extreme poverty. It is calculated from an average of the national poverty lines of some of the poorest countries. Those national poverty lines are set by the governments of those countries. The global poverty line was originally estimated at $US1 per person per day in 1990. It was raised to $US1.25 in 2005, and has been set at $US1.90 per person per day since 2015. The increase in the global poverty line was due to increases in prices for basic goods since 1990. Therefore, the value of $US1.90 in 2015 in real terms was equivalent to $US1.25 in 2008.

Global Poverty Reduction

Overall, global poverty has been reduced through economic growth over the last 50 years. That has led to improvements in health and education for a lot of people. However, the benefits of economic growth have not been shared evenly. In some countries, many people remain poor, while a few have grown rich. This inequality is one of the biggest challenges for development. Inequality, war, political corruption, economic inefficiency or natural disasters all contribute to continuing poverty for many people.

exercise

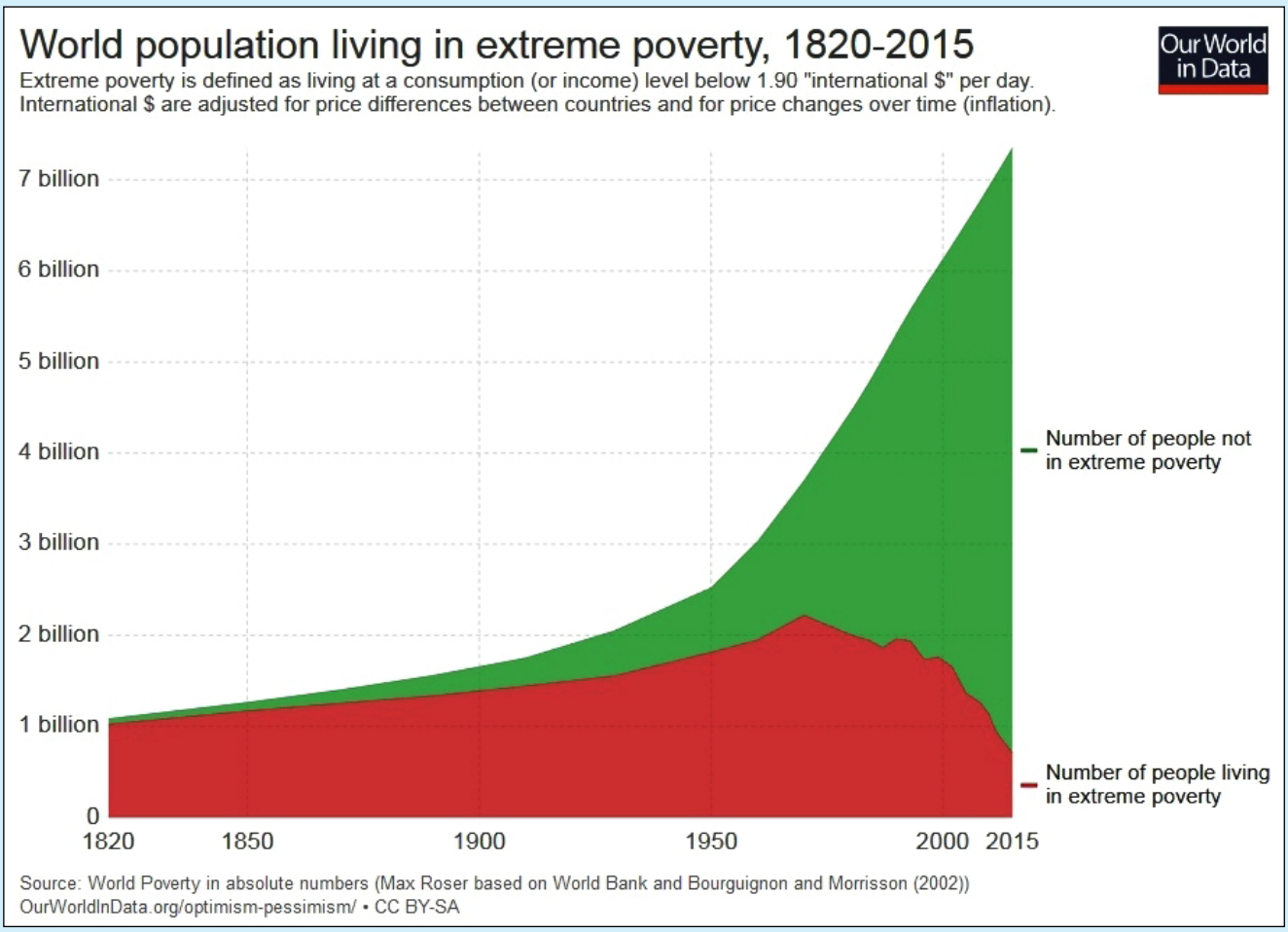
Answer the questions.

1. Which of these is the odd one out?
   - **i.** clean drinking water
   - **ii.** rice and vegetables
   - **iii.** owning a car
   - **iv.** living in a building with a roof
2. If you did not have access to the other three items on the list, what would that be an example of?
3. Who sets the national poverty lines for countries?
4. Why has the amount of the World Bank's global poverty line gone up since 1990?
5. What are reasons for poverty reduction in the last 50 years?
6. What are reasons for why poverty reduction has been uneven?

activity

Interpreting Data – Extreme Poverty

1. Look at the chart and answer the questions.
   - **a.** In 1820, what conditions were most people living in?
   - **b.** When did the world population reach two billion?
   - **c.** What was the largest number of people living in extreme poverty?
   - **d.** When did the number living in extreme poverty reach its highest point?
   - **e.** How many people were living in extreme poverty in 2015?
   - **f.** In what time period did most people move out of extreme poverty?
2. What possible reasons are there for more people not living in extreme poverty?



discussion

What do you think would be the best ways to reduce poverty? Why?

preview

1. How might social and community development be different from economic development?
2. How might it be the same?

5.7 Social and Community Development

'Top-Down' Development

Economic models of development for whole countries (see 5.3) are usually 'top down'. Governments, international banks and TNCs decide what economic development projects a country needs, like factories, roads or power stations. However, not everyone may benefit equally from economic growth (see 5.4 and 5.6). For example, economic and political systems in a country are sometimes structured in ways that enable only a few people (or groups) in society to become wealthier.

'Bottom-Up' Social and Community Development

Social and community development – often called 'bottom-up' or '**grassroots**' development – allows people to decide what development projects they want in their community. It usually focuses on issues that affect people in their communities, like health or education.

Bottom-up development is sometimes supported and funded by non-governmental organisations (NGOs, see box below). UN agencies, like the United Nations Development Programme (UNDP) may also provide support and funding to NGOs, who in turn provide funding or support to local communities.

UN agencies and NGOs may also directly support local civil society organisations and community-based organisations (CSOs and CBOs, see box below). CSOs and CBOs usually consist of local people who

Organisations Involved in Social and Community Development:

Civil Society and CSOs

Civil society refers to a wide range of non-profit organisations that are not part of governments or businesses. Civil society organisations (CSOs) can include NGOs and CBOs, but also include **faith-based** or religious organisations, students', women's or youth groups, rights-based organisations and **unions**. All of these types of organisations can be involved in social or community development in different ways. They may raise funds, or support education, advocacy or grassroots participation in community projects and decision making.

CBOs

Community-based organisations (CBOs) usually work within a particular community such as a village, town, or ethnic or religious group. Members of CBOs often come from the same community as the people

are volunteers. They take part in projects such as teaching, promoting human rights or environmental protection. They might also **advocate** for local people to participate in economic or political decisions that affect them.

Sometimes bottom-up development involves businesses or even governments. Big businesses can undertake corporate social responsibility (CSR) programmes. CSR is a way that big businesses can advertise as well as show that they care for people and the environment. CSR programmes supply money and new technologies to help local communities develop. Governments can also be influenced by community development. Local people can work with their members of parliament (MPs) to raise important issues at the national level.

exercise

Answer the questions.

1. Why would 'top-down' development be called top down?
2. How does 'bottom-up' development differ from top-down?
3. What organisations can provide support for 'bottom up' development?
4. What are differences between people working for CBOs and INGOs?
5. What do businesses gain from doing development work with communities?
6. What is one possible way that communities can influence politics at the national level?

they are working with and know the issues that local people face. CBOs usually focus on a particular issue like health, education, women's empowerment or youth empowerment or **income generation** within a community. They sometimes get funding from NGOs or UN agencies or through partnerships with businesses.

NGOs

Non-governmental organisations (NGOs), whether local in one country (LNGOs) or international (INGOs), are usually larger than CSOs and CBOs, and have more funding. They also usually have regular, paid professional staff who may be from different communities or different countries. They work in more than one location and with more than one community. Their funding may come from governments, UN agencies or donations.

Left: Mosquito fogging by an NGO in rural Thailand; **Right:** A child painting during an after-school club run by a local CBO in Cambodia.

exercise

1. Look at the acronyms (from the texts on pages 110–111) and, for each, state:
   - **a.** what the acronym stands for;
   - **b.** whether it relates to top-down development, bottom-up development, or could relate to both.
   - **c.** what it does (or could do) in development.

i.	CSR	**iii.**	CBO	**v.**	LNGO	**vii.**	INGO
ii.	TNC	**iv.**	CSO	**vi.**	MP	**viii.**	UNDP

2. For each activity (A-G), decide if it is an example of top-down or bottom-up development, or both, and why.

A. People from around the area volunteer to clean the local canal, where people bathe and wash their clothes and dishes.

B. A new bridge is built across a river on a main road that runs through the country so that goods can be taken to a port.

C. Farmers who grow maize crops for export form a group that works on a shared piece of land to grow fruit and vegetables for their families.

D. A technological university and a town work together to lower malaria deaths in that town.

E. A telephone company gives 1,000,000 MMK and 30 new handsets to a mobile health centre.

F. A foreign company builds a plastics factory in a poor area just outside a big city.

G. A youth group in a town provides free reading and writing classes for factory workers in the evenings.

activity

Inferring – Confucius on Development

'There is a Chinese proverb: "Give a man a fish and you feed him for a day. Teach him how to fish, and he can feed himself for a lifetime." But what if the man, or woman, is not allowed to use the lake?'
- *Allan Kaplan. (1996). The Development Practitioner's Handbook.(p.40).*

1. What do you think this quote is saying about ideas about development? Why?
2. Write a paragraph outlining what this means for development.
3. In pairs, compare your ideas.

Community Empowerment

A central idea in bottom-up development is *community empowerment*. People gain more power over their own lives and they get the knowledge and confidence to undertake projects that improve their own and other people's lives. Certain groups that have traditionally had less power or participation in decision making, such as women or youth, are often the focus for **empowerment**.

Some common issues addressed through community empowerment include:

i. increasing participation of **marginalised** groups such as women or youth in community decision making;
ii. improving access for marginalised groups to basic healthcare services;
iii. improving education and literacy;
iv. promoting **social justice** through working for more equal distribution of wealth and opportunity;
v. promoting human rights, including women's and children's rights;
vi. encouraging community participation in political and economic decisions that affect them;
vii. promoting forms of development that are locally relevant and sustainable for people and the environment.

These issues are often interconnected. For example, if someone is **illiterate** (cannot read) they will also find it hard to be informed about human rights, gender equality, political or social justice issues that affect their community.

activity

Matching – Community Empowerment Goals

1. Match the pictures to the issues (i-vii) addressed by community empowerment. Pictures may match more than one issue.
2. In pairs, explain why you think that picture matches to the issue (or issues).

FOCUS ON ... THAILAND

THE INPAENG FARMERS' NETWORK

A lot of small farmers in rural northeast Thailand depend on growing 'cash crops' for export, including rice, cassava and maize. The farmers are often in debt to banks because of loans that they have taken. Loans to farmers are supposed to be for new farm equipment or education so the farmer can produce more and earn more. However, many of the loans are instead used to buy food when the income from the cash crops is not enough.

The Inpaeng Network was established in the 1980s in northeast Thailand. It was started by local farmers together with a university scholar interested in traditional village life. It helps farmers develop locally-based strategies to reduce debt and dependence on income from cash crops. Replanting of forests is a central strategy as they are a source of food and medicine. Farmers also use '**integrated** farming techniques.' For example, they grow rattan trees that provide materials for shelter and produce food. The ecosystem of the rattan trees supports the plants, animals and mushrooms that people eat. Farmers also grow fruits and vegetables, and dig ponds to raise fish and frogs. As the network grew, they built a small factory that could process local fruits and herbs into food and medicine products. These products have extra value and can be sold for more money by the farmers in the network.

By 2012, the Inpaeng Network expanded to other provinces in the northeast with 30,000 members. The Thai government's Agricultural Land Reform Office started to support it and included the network in decisions about the use of natural resources. Members of the network now meet with farmers from other areas. They encourage moving away from dependence on cash crops for income. Instead, they demonstrate the Inpaeng Network's integrated farming approach, which combines traditional and new farming techniques.

Source: Istvan Rado. (2012). 'Sustainable community development in north-eastern Thailand: The Inpaeng Network,' in Linda Brennan, Lukas Parker et al (eds), Growing sustainable communities: A development guide for Southeast Asia. Melbourne, Australia: Tilde University Press. (pp.179–196).

Answer the questions.

1. Why do farmers grow rice, cassava and maize?
2. Why are some farmers in debt?
3. Why is replanting of forests important?
4. What have farmers in the Inpaeng Network done that is different to the cash cropping system?
5. What other organisations involved in development have been involved with the Inpaeng Network?
6. How have the ideas of the Inpaeng Network spread?

Transferring Information – the 'Bottom-Up' Development Model

activity

In groups, create a diagram showing how bottom-up development aims to bring positive change to communities. Show who is involved, at which stages, and where the money goes from and to.

Problem Solving – Community Development Plan

activity

1. In groups, identify a need or problem within your community. This could be related to:
   - a development project from outside the community;
   - access to clean water or toilets;
   - access to healthcare or education;
   - political decision-making;
   - excluded or marginalised groups;
   - pollution;
   - use of land;
   - or any other issue that affects the wellbeing of local people in the community.
2. Discuss how the community could take action to improve the situation, or find solutions to the problem.
   Your community development plan should consider:
   - How to encourage community participation
   - How people will be empowered
   - What organisations might be involved and how
   - How to know if it has made a difference

discussion

1. What do you believe are the biggest challenges faced by people undertaking community development? Why?
2. What type of community development would you focus on? Why?

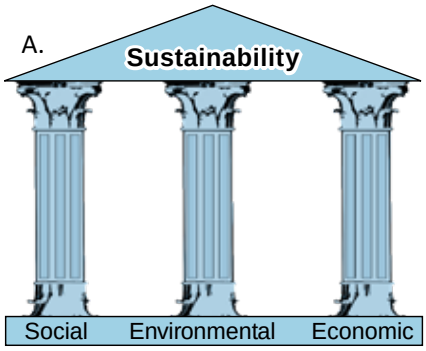
preview

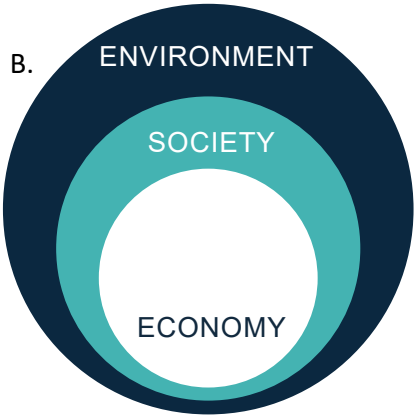
1. What does 'sustainable' mean?
2. What is an example of being sustainable?

5.8 Sustainable Development and the SDGs

The idea of development by economic growth has led to concerns about sustainability. Economic development uses a lot of natural resources. Being sustainable means to be able to maintain and continue doing something for the long term. For development to be sustainable, economic activities like industry and agriculture need to reduce harm to the natural environment and **conserve** natural resources. The long-term goal of sustainable development is to make sure that important natural resources will still be available for future generations.

Sustainable development is difficult to achieve because industry and transport depend on coal, oil, petrol and diesel. Many developing countries are already struggling to grow their economies and improve the living standards of their people. Additional demands to reduce the use of fossil fuels, and to use land, forests and rivers sustainably, create more challenges for them.





Sustainable development has three main pillars – environmental, social and economic. Some models see the three elements as equal. Others believe the environment is the most important part because society happens within the environment, and the economy happens within society (see diagrams A and B, left).

Some of the main issues in promoting sustainable development include:

- renewable energy such as wind, **hydropower** and solar power;
- agriculture that does not damage land or water through pollution and overuse;
- industries that use energy efficiently, conserve resources and produce little waste or pollution.

The Sustainable Development Goals

In 2015, the United Nations created a set of 17 goals for sustainable development. The Sustainable Development Goals (SDGs) combine environmental, social and economic goals. Each goal has **targets** included within it, that countries should try to meet by the year 2030. For example, Goal 1 – 'No Poverty' – has seven targets, such as, 'By 2030, **eradicate** extreme poverty, currently measured as people living on less than $1.25 a day.' There are 169 targets across the 17 SDGs. The SDGs are all interconnected but some focus more on environmental, social or economic issues.

Applying – Your Community and the SDGs

activity

1. Match one target (a-q) each to one of the 17 Sustainable Development Goals.
2. Think of one action that you/your community could do to help reach each goal.

a. Provide cheap access to the internet in least developed countries by 2020.
b. Strengthen ability to adapt to climate-related **hazards** and natural disasters in all countries.
c. Promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.
d. End hunger and ensure access by all people to safe, **nutritious** and sufficient food all year round.
e. Reduce waste generation through prevention, reduction, recycling and reuse.
f. Reduce the global maternal **mortality** ratio to less than 70 per 100,000 live births.
g. Ensure that all girls and boys complete free, quality primary and secondary education.
h. End all forms of **discrimination** against all women and girls everywhere.
i. Integrate ecosystem and biodiversity values into national and local planning and development processes.
j. Achieve full and productive employment and decent work for all women and men .
k. Provide safe and affordable drinking water for all.
l. Increase the amount of renewable energy.
m. Ensure equal opportunity by ending discriminatory laws, policies and practices.
n. End extreme poverty, currently measured as people living on less than $1.25 a day.
o. Ensure access for all to adequate, safe and affordable housing and basic services and upgrade **slums**.
p. Reduce violence and violent death rates.
q. Reduce marine pollution of all kinds, in particular from land-based activities.

discussion

1. Do you think the idea of sustainable development is really possible? Why?
2. Would you agree to changing your lifestyle (for example, no mobile phone or petrol-powered car or motorbike) to conserve resources and the environment? Why or why not?

■ **From Above:** Deforested land; a polluted, waste-filled river, slum evictions in Phnom Penh, Cambodia.

preview

1. In what ways do you think development can affect the environment?
2. In what ways do you think development can affect people's lives?

5.9 Impacts of Development

Environmental Impacts

Developing countries often require large amounts of natural resources. Factories need fuel and resources to produce goods. People with higher incomes consume more goods and energy use increases. Because development can happen quickly, governments may not be able to plan well for sustainability. Additionally, local companies or TNCs could take advantage of weak or poorly-enforced laws. They may be able to take resources quickly without worrying about the long-term environmental effects of their actions (see Chapter 3 for more on environmental issues).

Social Impacts on Indigenous People

With increased economic growth and development, demand for land and resources in areas where **indigenous** people live has increased. Indigenous people (see boxes, left and right) are the original ethnic groups who have inhabited an area. They have been living there for a long time and often have a close attachment to the land they live on and depend on for survival.

In the era of colonisation, indigenous peoples often had their land taken by force. They were often displaced or killed by violence or disease. Today, many of the remaining areas of valuable land, rivers, forests and minerals are in remote areas inhabited by indigenous people. This is the case, for example, in the Amazon in Brazil and in areas of Southeast Asia. People in these places often have **collective** ownership and use of land and resources. This is different to the individual idea of ownership that has spread with capitalism and economic globalisation.

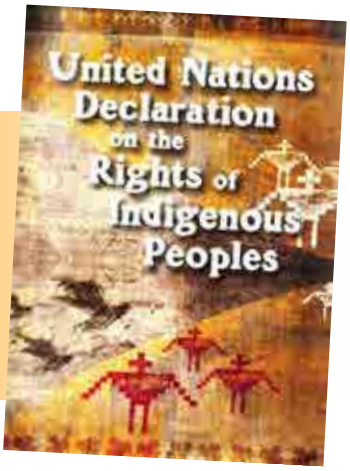
'Indigenous People'

The Myanmar Ministry of Environmental Conservation and Forestry defines indigenous people as, 'People with a social or cultural identity distinct from the dominant or mainstream society, which makes them vulnerable to being disadvantaged in the processes of development.'

It is important for people planning development projects to listen to the voices and needs of the indigenous people who will be most affected. Indigenous people should be informed about and included in decisions, and their consent should be required before projects start in their areas. In 2007, the UN Declaration on the Rights of Indigenous Peoples stated this as the principle of 'free, prior and informed consent' (FPIC).

UN Declaration on the Rights of Indigenous Peoples, 2007

Article 10: Indigenous peoples shall not be forcibly removed from their lands or territories. No relocation shall take place without the free, prior and informed consent of the indigenous peoples concerned and after agreement on just and fair compensation and, where possible, with the option of return.



exercise

Answer the questions.

1. What circumstances can lead to businesses taking resources and not considering the long-term impact of their actions?
2. What is leading to pressure on land and resources in areas inhabited by indigenous people?
3. What are two different views on land ownership?
4. What should people conducting development projects in indigenous areas do?
5. What is needed from indigenous people if they will be affected by development projects?

Environmental Impact Assessments

An environmental impact assessment (EIA) is meant to give people planning development projects good information about possible impacts on the environment and on people before the project begins. The EIA should give people affected by development projects a say in the decision-making process.

FOCUS ON ... MYANMAR

MYANMAR'S ENVIRONMENTAL IMPACT ASSESSMENT PROCEDURE

In 2015 Myanmar established its Environmental Impact Assessment (EIA) Procedure. When a company wants to start a new development project, it must inform the Ministry of Environmental Conservation and Forestry. The Ministry will then decide if the project needs an environmental impact assessment or not.

If the project needs an environmental impact assessment, the planners must do an investigation which:

- looks at all negative impacts of the project (environmental, social, economic, health and cultural);
- collects data (surveys, interviews, focus groups, engineering designs, photos, maps, etc.);
- analyses alternatives to the planned project and their potential impacts;
- includes the perspectives of communities affected by the project through public consultations;
- discloses to the public – through media and public consultations – information about the planned project.

The project planners write a report and submit it to the Ministry. The Ministry then makes a decision. The project planners (if the report is rejected) have 30 days to appeal the decision. Affected individuals and communities (if the report is accepted) have 30 days to appeal the decision.

Source: Ministry of Environmental Conservation and Forestry Notification No. 616 / 2015. Environmental Impact Assessment Procedure

Are the statements true or false? If false, say why.

1. Development project planners decide if an EIA is needed.
2. An EIA does not consider other ways a project could be done.
3. Information for an EIA should include the views of people affected by the project.
4. The findings of an EIA are shared between the project planners.
5. If the project is accepted, the planners have 30 days to appeal the decision.

Analysing – Impacts of Development Projects

activity

1. Below (a-l) are some criteria from Myanmar's EIA procedure for making a decision about the type of environmental assessment a project may require. Match the criteria to the possible scenarios (i-viii) Scenarios may match more than one of the criteria.
2. Say why the criteria you have chosen match in each scenario.

Criteria

a. the need for the Project to deal with an emergency situation;
b. the interest of public health and safety;
c. the interest of national security;
d. the lifespan of the Project;
e. protection of cultural and religious norms, and historical and religious heritage;
f. protection of areas having a fragile ecosystem;
g. areas affected by cyclones, strong storms, flooding, and earthquakes;
h. protection of water resources that serve or may serve as sources of public drinking water;
i. conservation and protection of biodiversity;
j. population density;
k. national, regional and global climate change conditions;
l. likely residual impacts or effects occurring some years after Project closure

Scenarios

i. Three cyclones in one month bring flooding that causes a dam on a river to burst and flood surrounding countryside.
ii. A rock quarry and a road to it are planned near a very old temple that is sacred to local people living in the area.
iii. A new mining project will create new jobs but local people worry that people from outside the area will come for jobs and there will be overcrowding and conflict.
iv. A large palm oil plantation is planned for an area that has had dry weather over the last fifteen years and local farmers are worried it will use too much water for irrigation.
v. Logging is planned in a forest that still has many rare and endangered birds and rare plants used for medicine by local people.
vi. A strong earthquake has cracked a dam and people are being evacuated downstream from the dam.
vii. A logging company wants to build a road to an area where it has an agreement with an ethnic armed group to cut down trees but the road will cut through the territory of another armed group.
viii. Waste water ponds at an old abandoned chemical factory have been leaking into a river.

discussion

1. Do you believe that the environmental and social impacts of development projects are properly considered in your community or country? Give examples.
2. Apart from EIAs, what else could be done to improve understanding and awareness of the impacts of development projects?

Chapter 6: Public Health

themes

Chapter 6 looks at general health at an individual level, and at factors which affect it. It defines and examines the idea of public health and looks at some of the major public health challenges that face developing countries. Finally it looks at ways of addressing public health issues through public health programmes and policies.

learning goals

Knowledge

By the end of this chapter you will increase your understanding of:

- the definition of health;
- causes of disease;
- causes, treatment and prevention of malaria, cholera, HIV/AIDS and tuberculosis;
- social determinants of health;
- public health indicators;
- public health programmes;
- public health policies.

Skills

By the end of this chapter you will develop your ability to:

- identify causes and effects of diseases;
- assess the importance of public health issues;
- interpret information about diseases, symptoms, treatments and prevention;
- design informative posters about diseases;
- identify and interpret social determinants of health;
- evaluate the effectiveness of public health programmes;
- design public health policy.

glossary

addiction (n) - စွဲလမ်းခြင်း

antibody (n) - (ရောဂါကာကွယ်သော) ပဋိပစ္စည်း (ခန္ဓာကိုယ်သွေးတွင် ဖြစ်ပေါ်သည်။)

bacteria (n) - ဗက်တီးရီးယား

condom (n) - ကွန်ဒုံး

contaminated (adj) - အဆိပ်အတောက်ဖြစ်စေသည်၊ ညစ်ညမ်းစေသည်

depression (n) - စိတ်ဓာတ်ကျခြင်း၊ စိတ်ကျရောဂါ

determinant (n) - အဆုံးအဖြတ်ပေးနိုင်သောအရာ

diabetes (n) - ဆီးချိုရောဂါ

diarrhoea (n) - ဝမ်းလျှောခြင်း

feces (n) - မစင်၊ ကျင်ကြီး

gene (n) - ဇီဇမျိုးစေ့

immune (adj) - ကိုယ်ခံစွမ်းအား (ရောဂါကို တုံ့ပြန်နိုင်သောစနစ်)

infect (v) - ကူးစက်သည်

inhale (v) - ရှူသွင်းသည်

inject (v) - ထိုးသွင်းသည် (ဆေး)

microorganism (n) - အနုဇီဝရုပ်

monitor (v) - ကြီးကြပ်စောင့်ကြည့်သည်

nausea (n) - ပျို့တက်ခြင်း

needle (n) - ဆေးထိုးအပ်

parasite (n) - ကပ်ပါးပိုး၊ ကပ်ပါး

processed (adj) - စီမံပြုပြင်ထားသော

protein (n) - ပရိုတိန်း (အသားဓာတ်)

resistance (n) - ခုခံအား

respiratory (adj) - အသက်ရှူလမ်းကြောင်းနှင့် ဆိုင်သော

sewer (n) - ရေဆိုးပိုက်၊ မိလ္လာပိုက်

stagnant (adj) - ရေသေဖြစ်နေသော

stigma (n) - ခွဲခြားဆက်ဆံမှု

trauma (n) - စိတ်ဒဏ်ရာ

vaccination (n) - ကာကွယ်ဆေး

virus (n) - ဗိုင်းရပ်စ်ပိုး

vomit (v) - အော့အန်သည်

■ Air pollution over the Great Pyramid and Cairo, Egypt.

preview

What things do you think of when you hear the word 'health'?

6.1 Health

What Does 'Health' Mean?

How do you feel when you are 'healthy'? How do you feel when you are 'sick'? Before we look at public health, it is helpful to think about what we mean by 'health'. We often think of being healthy as 'not being physically sick'. However, being healthy is more than just not being sick. Health includes things such as:

- mental health and wellbeing;
- a balanced diet;
- access to safe drinking water;
- access to health services;
- mothers giving birth safely;
- protection from preventable **infectious** diseases.

The World Health Organization in 1948 defined health as, 'a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity'.

When our health is not good, we may experience many different physical and mental effects. For example, we might have **vomiting**, pain, **diarrhoea**, fever, tiredness or **depression**. These things show us that we are not well, but on their own they are not the original reason that we are unwell. They are the symptoms of diseases that are actually making us unwell.

Causes of Diseases

Microorganisms

Bacteria and **viruses** are all around us. We can't see them because they are microscopic. All animals and humans naturally have **microorganisms** (microbes) living in or on them. However, when some microorganisms get inside us they cause diseases. Diseases cause our bodies to stop working properly or create toxins that harm us. Influenza, tuberculosis and malaria are examples of diseases caused by microorganisms.

Environment

If we live somewhere with polluted air, food or water, we may get sick. We might also get sick if we live in places or buildings that are too hot, cold or damp. Smoking, drinking too much alcohol or eating too much unhealthy food also affect our health. All these things come from the environment around us. Heart disease and some forms of cancer are examples of diseases with environmental causes.

Genes

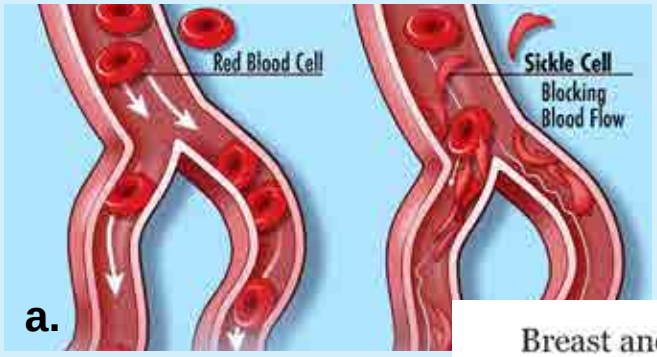
Some diseases – or the higher risk of them – are passed from generation to generation in a family. Some forms of cancer or **diabetes** are examples of diseases that have a higher risk of being passed down **genetically** through families. However, environmental

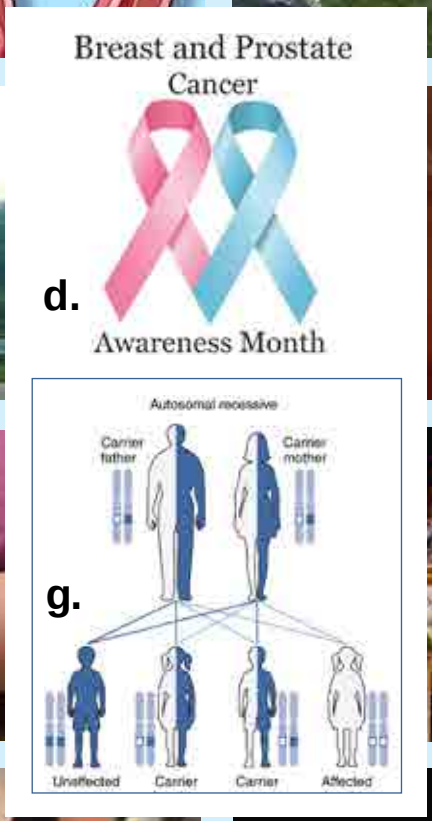
factors like diet and exercise (or not) also influence the onset of these diseases. Some diseases are entirely genetic, for example, sickle cell anaemia. Other diseases, like breast or colon cancer, may have genetic influences where some people are more likely to develop them, but those diseases are also influenced by environmental factors like diet or lifestyle.

activity

Applying – Causes of Disease

1. Match the pictures (a-j) with the causes of disease (i-iii).
   i. microorganisms **ii.** environment **iii.** genes
2. For each, explain why they match.





Treatments

Treatments are medicines (like **antibiotics**) or actions (like surgery), that help us get better from diseases. Some treatments or medicines, (like painkillers), do not cure diseases but they reduce the symptoms.

The Immune System

Our body has a natural defence against disease called the *immune system*. Cells and tissues in our body protect us by attacking microorganisms that bring disease into the body. White blood cells in our blood are an example of our immune system working. White blood cells identify and attach themselves to disease-carrying microorganisms in our body. Our immune system then produces proteins, called antibodies, that fight the unwanted microorganisms. Once the invading microorganisms have been destroyed, our body keeps the antibodies that destroyed them. They can then fight the same disease again in the future.

How sick we get from disease (or if we get sick at all) depends on how well our immune system is working.

Prevention

Prevention of diseases can include medical interventions like vaccination. We are injected with a tiny quantity of a weakened disease. Our body begins to fight it and produces antibodies to protect us from the disease.

Other preventions for diseases can include basic hygiene like washing hands, and access to clean water and toilets.

exercise

Are these statements true or false? If false, say why.

1. We always need to take medicines when microorganisms enter our body.
2. Fever, pain and vomiting are examples of diseases.
3. Antibodies are a kind of germ that attacks our bodies.
4. When our body's immune system has successfully destroyed an invading microorganism, it produces immunity to it.
5. Vaccination is when we are injected with medicines to stop a disease.
6. How sick we get from microorganisms depends on how effective our immune system is.

activity

Summarising – Teaching about Health

Close your books. In pairs or groups, explain these topics in your own words.

1. Three different things that contribute to full health.
2. The difference between diseases and symptoms.
3. Three different sources of disease.
4. The difference between treatment and prevention.
5. Two different ways that treatments can have an effect.
6. Two commonly used methods that can help prevent diseases.

discussion

1. What sorts of things have you, your family or friends done in the past to avoid getting sick?
2. Were they effective? Why or why not?

preview

What are some diseases that often affect your community or country?

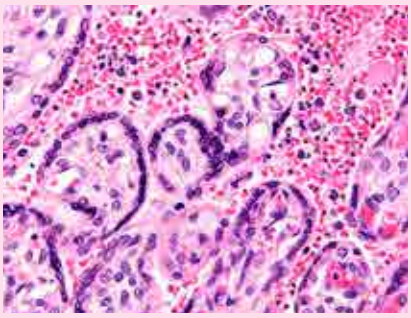
6.1.1 Disease

Some diseases are caused by our environment or our genes, or by a combination of them together. However, many diseases are caused by microorganisms that people can get from each other, animals, food, water or their environment.

On the following pages are four examples of commonly occurring infectious diseases that are caused by microorganisms, with their causes, symptoms, treatments and ways to prevent them.

I. MALARIA

CAUSE



Malaria is caused by a microorganism that lives as a **parasite**. It lives part of its life in mosquitoes and part in the blood of people or animals. It is passed to humans by mosquitoes. They bite an infected human and drink blood that contains the malaria parasite. The mosquito then bites another person and it passes on a little of the blood that contains the malaria parasite. The malaria parasite lives in the person's blood and liver.

SYMPTOMS, TREATMENT AND PREVENTION

Symptoms of malaria usually appear about two weeks after being bitten by a malaria-carrying mosquito. Symptoms include fever, headaches, **nausea** and vomiting. People can become very sick from malaria or die if they are already weak. There are four different types of malaria parasite, but *falciparum* malaria, is the most deadly.

To find out what type of malaria someone has, a blood sample is taken from an infected person. Once the malaria type is known, the person can take the appropriate medicine for that type. However, malaria strains can change and develop **resistance** to anti-malaria drugs (such as chloroquine) that are used to treat them.

The best way to prevent malaria is by avoiding mosquito bites. Sleeping under mosquito nets, covering bare skin and using insect repellents help avoid bites from mosquitoes. At a community level, draining areas of **stagnant** water where mosquitoes breed or spraying to kill them are ways to reduce the risk from mosquitoes that carry malaria.

activity

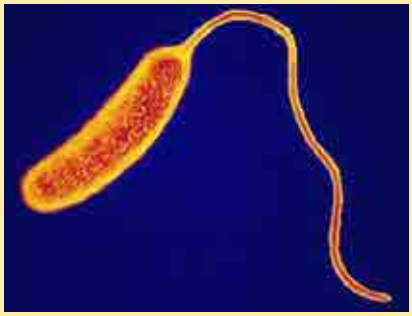
Applying – Causes and Prevention of Disease

Read the four disease case studies on pages 128–131.

1. Match the most common means of transmission (a-d) to the diseases (i-iv) that have been outlined on pages 128–131.
   - **a.** blood and sexual fluids
   - **b.** the air
   - **c.** water and food
   - **d.** mosquitoes
   - **i.** malaria
   - **ii.** cholera
   - **iii.** HIV/AIDS
   - **iv.** TB
2. What is the best way to prevent each disease?

II. CHOLERA

CAUSE



Cholera is bacteria that is spread through water or food. It can also be spread from person to person. Water **contaminated** by human **feces** is often the cause of cholera outbreaks. Cholera can spread quickly in crowded places with poor access to clean water or sanitation such as refugee camps or crowded areas of cities.

SYMPTOMS, TREATMENT AND PREVENTION

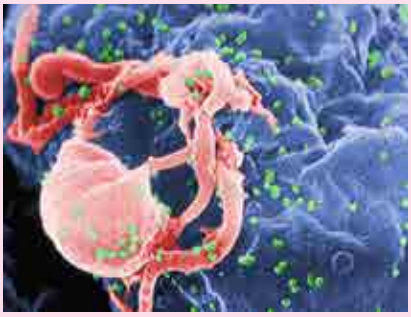
Symptoms appear between one and five days after infection. Cholera causes severe watery diarrhoea and vomiting. This leads to loss of fluids from the body. Cholera can kill people through severe dehydration.

Cholera can be treated with oral or intravenous (direct into the veins) rehydration solutions. These solutions help stop the loss of fluids so the person can recover. Antibiotics can also be used to reduce the length of time that the person suffers from the symptoms. Cholera is particularly dangerous for people living where there is no quick access to healthcare services.

Cholera can be prevented by improving access to clean water and sanitation. Water used for drinking or cooking needs to be free of any cholera bacteria. Toilets should be designed so human feces cannot enter sources of clean drinking water. Washing hands with soap after using toilets, and before handling food, also helps reduce the spread of cholera from person to person.

III. HIV/AIDS

CAUSE



Acquired Immune Deficiency Syndrome (AIDS) happens when a microorganism, the Human Immunodeficiency Virus (HIV) slowly destroys people's immune systems. People then get sick or eventually die from other microorganisms that their immune system can no longer defend against. HIV/AIDS became widespread during the 1980s.

SYMPTOMS, TREATMENT AND PREVENTION

■ Male (above) and female (top) condoms. Either of these should be worn whenever people have sex and the sexual history of their partner is not known to them.

Because HIV/AIDS is a disease of the immune system it has no specific symptoms. The symptoms that people often notice are symptoms of other illnesses. They get these other illnesses because of their weak immune system. Symptoms include many things such as weight loss, fever, chills, nausea, vomiting, etc.

In the 1980s there was no cure and no effective drugs for treating HIV/AIDS. Most people with the disease eventually died. Today, there are drugs that can treat it in some cases. The drugs do not work for everybody or 'cure' the person. However, if taken correctly and continuously, the drugs can stabilise some people's immune systems and they can lead relatively normal lives.

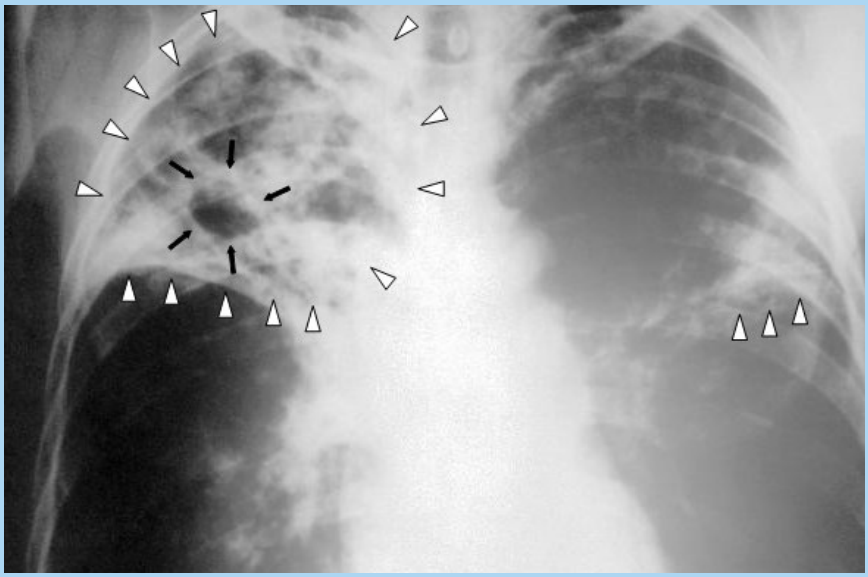
Two common means of getting HIV/AIDS are through intravenous drug use and unprotected sex. Not sharing **needles**, and using **condoms** during sex, are important ways to prevent the spread of HIV/AIDS. However, these are issues that some people have strong moral opinions about. This has led to some people with HIV/AIDS facing unfair **stigma** and prejudice in their communities.

IV. TUBERCULOSIS

CAUSE

Tuberculosis (TB) is a microorganism. People **inhale** it into their lungs through tiny drops of moisture in the air. Those drops come from the coughs or sneezes of people who are carrying the TB microorganism in their lungs. For some people, the TB remains in their lungs but does not make them sick. For others, if their immune system is not as strong, the TB starts to reproduce quickly and make them sick.

SYMPTOMS, TREATMENT AND PREVENTION



Symptoms of TB include persistent coughs, fever, weakness and loss of weight. If people's immune systems are weak or they do not get treatment, they can die from TB.

There are drugs that can treat TB. They are strong and need to be taken consistently for up to six months to be effective. The TB can return if someone does not complete the full course of drugs. The TB can also become resistant to the drugs. If people with drug-resistant TB pass it to other people, the anti-TB drugs will not work for those people either.

Coughing, sneezing and spitting spread TB microorganisms in the air. Covering the mouth and nose when coughing or sneezing can help to reduce the spread of TB. Suspected TB sufferers need to get the fluid from their cough tested to see if it is TB. If it is they can take actions to avoid spreading it to other people.

Creating – Disease Awareness Poster
In groups, choose one of the diseases in this section and design a poster or infographic for the appropriates audience(s), showing the cause(s) and symptoms of the disease as well as treatment and prevention.

activity

Which of the diseases discussed in this section do you think is the most serious for the health of people in communities? Why?

discussion

preview

1. What is 'public health' concerned with?
2. How does it relate to other subjects in this book?

6.2 Public Health

Public health has been defined as, 'the science and art of preventing disease, prolonging life, and promoting health through the organised efforts and informed choices of society, organisations, public and private communities, and individuals' (C.E.A Winslow, US Public Health Expert, 1920).

We all care about our own health when we get sick. However, public health is concerned with the health of groups of people, communities or all the people in an entire country. It covers a wide range of health issues that also connect to society, the environment, economics and development. These deeper influences on public health are sometimes known as '**determinants**'. These determinants are often shown on a model, like the one below.

The social model of determinants of health shows individuals at the centre. The influences on an individual's health then expand outwards, from age and sex to lifestyle choices to social and community networks. Finally, the model considers a whole set of issues like living and working conditions, access to education and healthcare services that are all contained within the social, economic, cultural and environmental conditions.

exercise

Are the statements true or false? If false, say why.

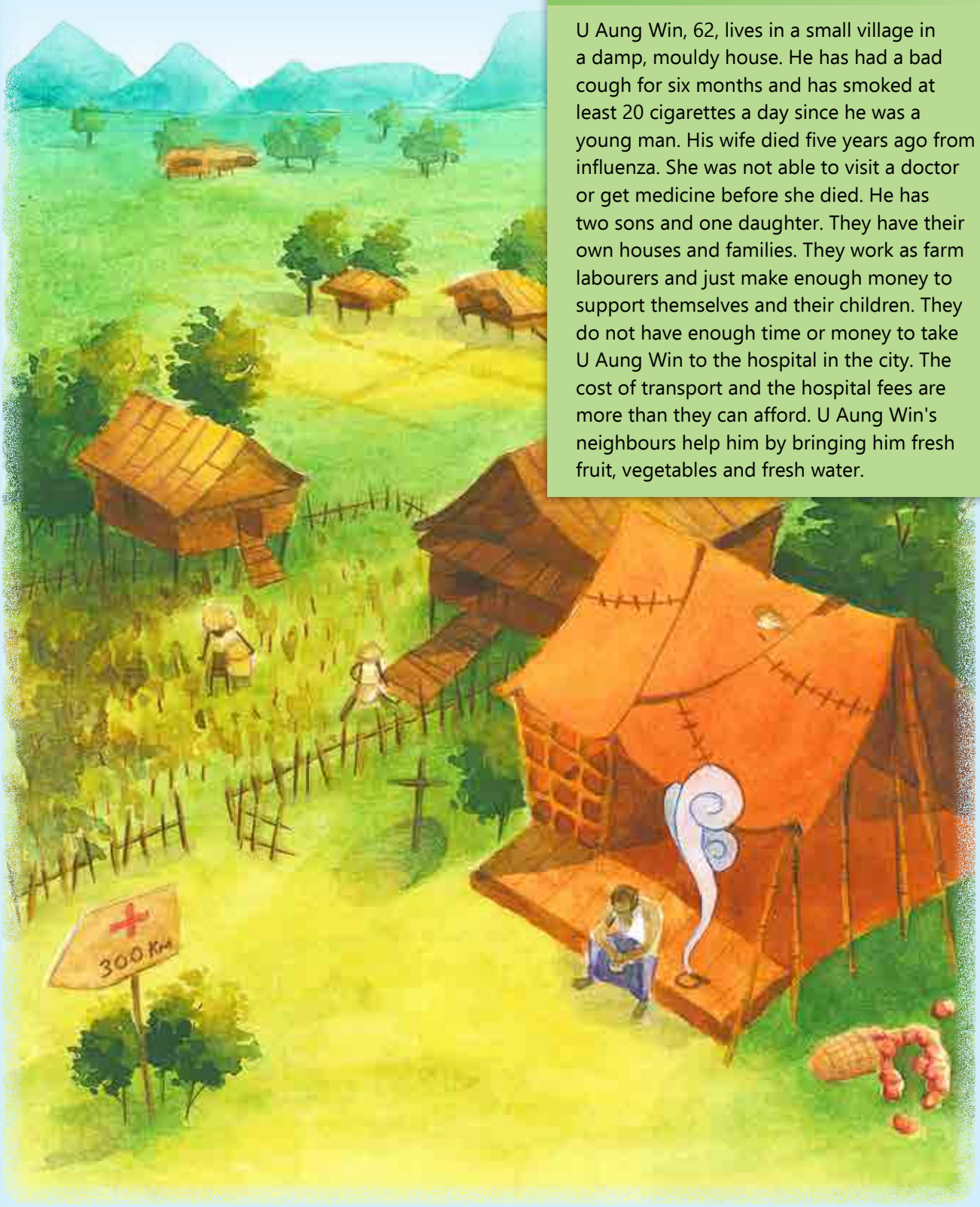
1. Stopping diseases, helping people to live longer and encouraging healthy behaviour are parts of public health.
2. Doctors are the main focus for public health.
3. Public health does not consider social, economic or environmental issues.
4. The social model of health puts society at the centre.
5. Smoking would be an example of an individual lifestyle factor in the model.

Analysing – Public Health Case Studies
Read the case studies and study the pictures on pages 133–135. Identify factors from the social model (on the previous page) that are demonstrated in the information and/or picture.

activity

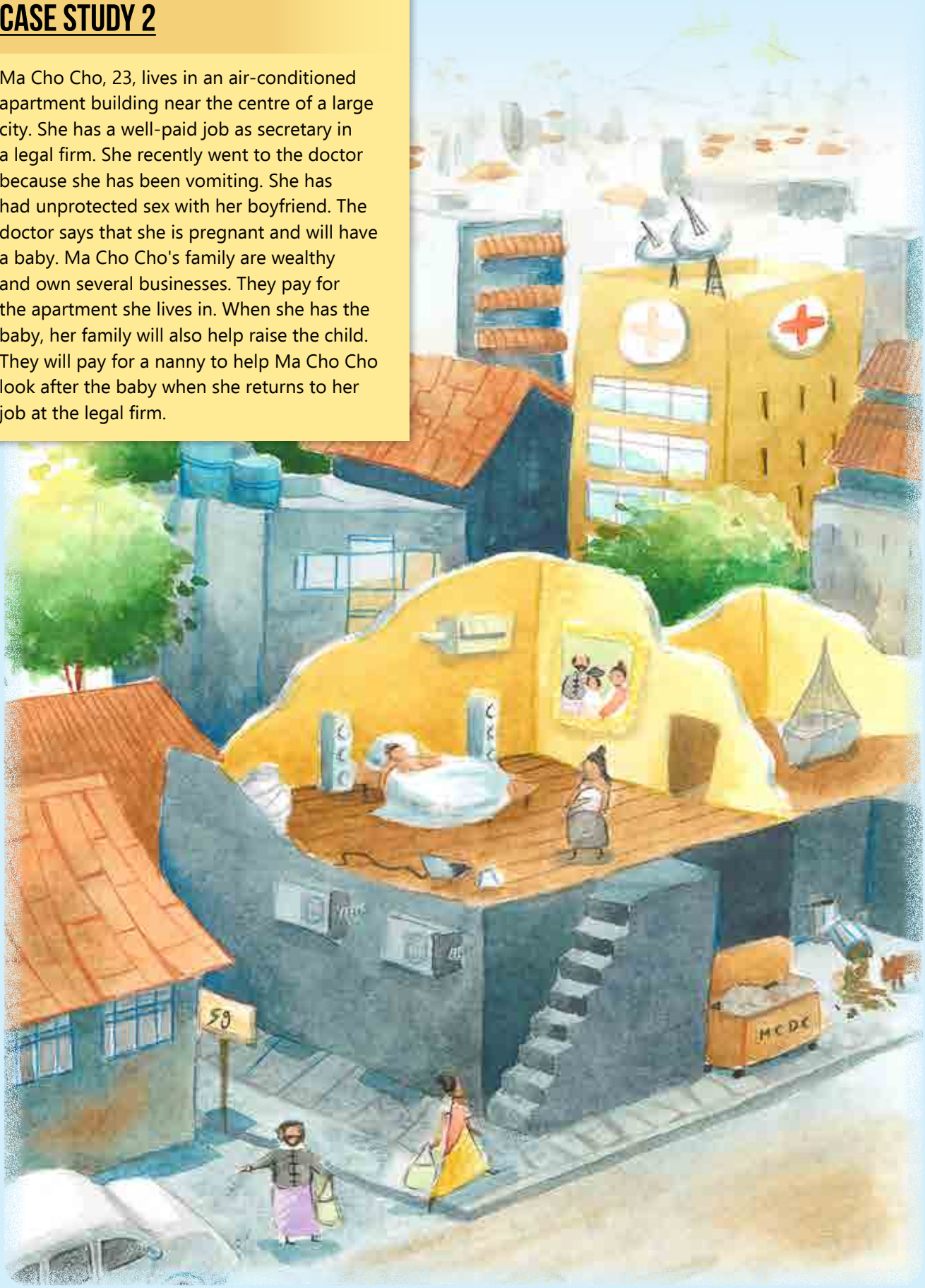
CASE STUDY 1

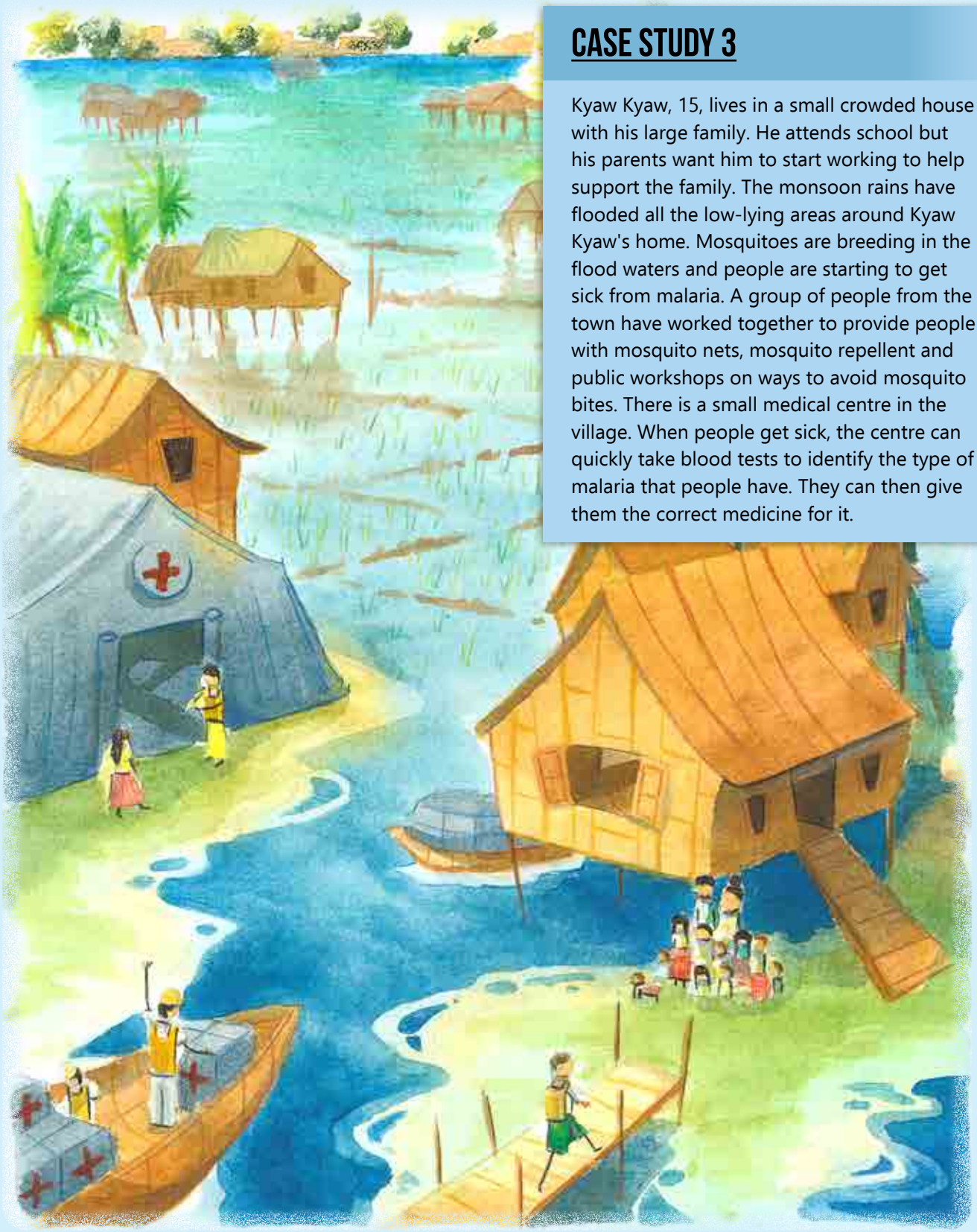
U Aung Win, 62, lives in a small village in a damp, mouldy house. He has had a bad cough for six months and has smoked at least 20 cigarettes a day since he was a young man. His wife died five years ago from influenza. She was not able to visit a doctor or get medicine before she died. He has two sons and one daughter. They have their own houses and families. They work as farm labourers and just make enough money to support themselves and their children. They do not have enough time or money to take U Aung Win to the hospital in the city. The cost of transport and the hospital fees are more than they can afford. U Aung Win's neighbours help him by bringing him fresh fruit, vegetables and fresh water.



CASE STUDY 2

Ma Cho Cho, 23, lives in an air-conditioned apartment building near the centre of a large city. She has a well-paid job as secretary in a legal firm. She recently went to the doctor because she has been vomiting. She has had unprotected sex with her boyfriend. The doctor says that she is pregnant and will have a baby. Ma Cho Cho's family are wealthy and own several businesses. They pay for the apartment she lives in. When she has the baby, her family will also help raise the child. They will pay for a nanny to help Ma Cho Cho look after the baby when she returns to her job at the legal firm.





CASE STUDY 3

Kyaw Kyaw, 15, lives in a small crowded house with his large family. He attends school but his parents want him to start working to help support the family. The monsoon rains have flooded all the low-lying areas around Kyaw Kyaw's home. Mosquitoes are breeding in the flood waters and people are starting to get sick from malaria. A group of people from the town have worked together to provide people with mosquito nets, mosquito repellent and public workshops on ways to avoid mosquito bites. There is a small medical centre in the village. When people get sick, the centre can quickly take blood tests to identify the type of malaria that people have. They can then give them the correct medicine for it.

discussion

Do you think there is one factor in the social determinants model that is most important for affecting people's health or are they all the same? Why?

preview

1. Why measure public health?
2. How can public health be measured?

6.2.1 Public Health Indicators

People who work in public health need ways to measure the health of everyone in a community or a country. This information can help answer important questions about the overall health of the population. It can also be compared to the past to see how public health is changing. The types of information that are used to measure public health are called 'indicators'.

Information about public health indicators is most often collected by governments. They use a range of sources: censuses, hospital records, birth and death records, local health providers, doctors and NGOs. Public health indicators can help with planning, policy and decision-making about:

- which health issues require most attention;
- how health programmes are implemented;
- how effective public health programmes are;
- how much funding they should get;
- how much education about certain health issues there needs to be.

Common public health indicators include:

- life-expectancy – the average number of years that people can expect to live for;
- maternal mortality rate – the number of deaths of women (per 100,000 births) that occur during pregnancy, while giving birth or in the first 42 days after giving birth.
- infant and under-five mortality rate – the number of children (per 1,000 births) that die before their first birthday (infant mortality) or die before their fifth birthday (under-five mortality).

Information about people's diets and lifestyles also helps inform public health policy (see 6.3). For example:

- the number of people who smoke;
- the amount of alcohol that people drink;
- the amount of **processed** food or sugary drinks that people consume.

exercise

Match the examples of public health issues (1–7) to the relevant public health indicator (a-g).

a. life expectancy
b. maternal mortality ratio
c. infant mortality rate
d. the number of people who smoke
e. the amount of alcohol that people drink
f. under-five mortality rate
g. the amount of processed food and sugary drinks consumed by people

1. There has been an increase in people who are overweight and are getting heart disease.
2. The law demands that cigarette packets must have health warnings printed on them.
3. In Myanmar, on average, women live four years longer than men.
4. In remote areas, poor nutrition and lack of access to medicine and healthcare cause more children to die in the first year of their lives.
5. The government has asked police to enforce the law that beer stations shut at 11pm.
6. There is better medical care and support in cities for women when they have babies than in remote rural areas.
7. Children in remote areas are in more danger of dying before the age of five because of lack of access to healthcare

activity

Interpreting Data – Myanmar's Health Statistics

Answer the questions about the statistics below.

1. Based on the number of live births, approximately how many children born in 2015 would be expected to die before they reached one year old (infants)?
2. Based on the number of live births, how many mothers would be expected to die before, during or just after child birth in 2015?
3. Approximately how many people live in rural areas in Myanmar?
4. What percent of the population still need access to improved sanitation?
5. Myanmar's GDP in 2015 was $US 62,600,000,000 ($62.6 billion). Approximately what was the amount in US dollars that Myanmar spent on health in 2015?

Table 1: Basic information[1] 2015

Total population	50 402 517	Division/Province/State/Region	17
Live births (LB)	1 023 892	Township/District	330/69
Children <1 year	928 612	City/Town	396
Children <5 years	4 536 499	Village	67,285
Children <15 years	13 342 996	Population density (per sq. km)	88
Pregnant women	1 012 556	Population living in urban areas	33%
Women of child bearing age (15-49 years)	13 135 291	Population using improved drinking-water sources	86%
Neonatal mortality rate	25.5 (per 1,000 LB)	Population using improved sanitation	77%
Infant mortality rate	39.8 (per 1,000 LB)	Total expenditure on health as % of GDP	1.8%
Under-five mortality rate	50.5 (per 1,000 LB)	Births attended by skilled health personnel	78%
Maternal mortality ratio	200 (per 100,000 LB)	Neonates protected at birth against NT	87%

Source: World Health Organisation, Myanmar EPI Factsheet, 2016

discussion

1. What public health indicator is most important today? Why?
2. What are some other possible indicators of public health that were not mentioned in the text?

6.2.2 Public Health Issues and Programmes

Think about the diseases (and their causes, treatments and preventions) that we looked at in 6.1. They are some of the things that public health programmes work on to improve people's health and to reduce or prevent illness and deaths.

Public health programmes are often planned and conducted by governments through their health ministries. Sometimes the programmes are done with support from UN agencies such as the World Health Organization (WHO) or UNICEF, and implemented through local NGOs and CSOs. They can include health education, vaccination, providing access to clean water and sanitation or awareness raising about accidents or lifestyle choices. Sometimes it involves helping people talk about issues that are embarrassing for them, such as reproductive health.

preview

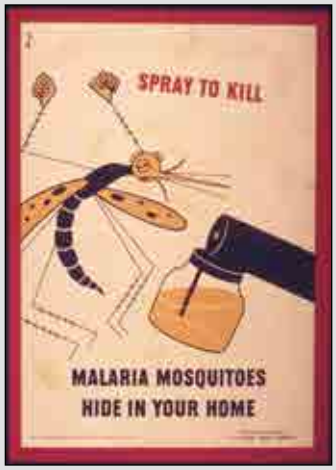
1. Where have you noticed information about public health in your community?
2. What public health issues were they about?

exercise

1. What public issue is implied or demonstrated in each poster?
2. What prevention is implied or recommended in each poster?

a.

b.



c.

d.

e.

f.

activity

Summarising – Public Health Problems and Solutions

1. In groups of four, each person reads a case study from pages 140–144.
2. Explain to the group, in your own words with your book closed, about this issue.
   - **a.** The main public health issues in each case and briefly what it involves.
   - **b.** Things that are, or could be, done to improve that public health issue.
   - **c.** Potential barriers to improving this public health issue.

I. WATER, SANITATION AND HYGIENE

A lot of diseases are spread when people drink water that is polluted by human waste that contains disease microorganisms. Clean drinking water and reliable toilets reduce the risk of those diseases. To keep drinking water clean and safe, people need access to toilets that do not pollute their drinking water. Washing hands with soap after going to the toilet also reduces the spread of diseases from person to person.

Access to clean drinking water (WAter), waste disposal and safe reliable toilets (Sanitation), and hand washing (Hygiene) is often referred to collectively as water, sanitation and hygiene, or 'WASH'.

Communities that need access to clean water, sanitation and hygiene may live in remote areas or in poor and crowded areas of cities. These areas often do not have good WASH infrastructure. For example, lack of water pipes for clean water or closed **sewers**, a lack of rubbish collection, public toilets and soap and water for hand washing. If communities are involved in the planning and implementation of WASH projects, they will use and maintain them. Education about hygiene issues like hand-washing and environmentally-friendly waste disposal are also part of WASH programmes.

II. VACCINATION

Vaccination is when a tiny bit of a disease – a vaccine – is injected into our bodies to produce antibodies. The antibodies then protect us from actually getting that disease. People cannot be vaccinated against all diseases, but some very serious diseases can be prevented by vaccination. Some diseases like smallpox have now been completely eradicated through vaccination programmes. Others, like polio, have been reduced so that only a few new cases still occur. Children can be vaccinated so they are protected from the diseases for the rest of their lives.

In recent years, Myanmar has undertaken vaccination programmes focused on protecting children from diseases including measles (a virus-causing fever, rash and pneumonia that can be fatal), rubella (a virus that can cause serious harm or death to unborn babies), polio (which can cause muscle weakness and permanent paralysis in limbs), tuberculosis (a disease of the lungs that can be fatal) and hepatitis B (a virus that can cause liver disease and sometimes liver cancer).

The WHO, UNICEF, public-private businesses and NGOs have all been part of the vaccination programmes. However, not every child has been vaccinated. This might be because they live in remote locations without roads and are hard to reach, or in areas affected by armed conflict. Also, people who move a lot to seek better work often miss being vaccinated, or do not receive all their follow-up injections.

III. SAFETY AND ACCIDENTS

Health is not only affected by disease. Many people are injured or die in accidents at work or when travelling in vehicles. There are many reasons for this. Work places can be dangerous and without correct safety standards, signs or equipment. Roads or cars may also not be safe. Building better roads and making better regulations for car safety might reduce these issues.

Education, raising awareness about the causes of accidents and promoting safety measures are important aspects

of public health. For example, safety in the workplace is affected by whether employers follow laws and safety regulations and provide safety training and equipment for workers. Also, some people might be willing to work in dangerous conditions because they desperately need to earn money. People who live or work near rivers, lakes or the sea often cannot swim and are at risk from drowning. Finally, how people learn to drive affects safety for them and others on the roads.

IV. LIFESTYLE CHOICES

Lifestyle choices that affect health include: the food and drink that people consume, whether they smoke and drink and whether they take drugs. Some foods have a lot of fat or sugar in them and can cause heart disease. Smoking increases the risk of getting cancer. Drinking too much alcohol or taking too many drugs damages physical and mental health, increases social problems like domestic violence and wastes money.

However, the reasons that people become addicted to alcohol or drugs also need to be considered. For example, unemployment, **trauma** from wars, pressure from friends, advertising or how easy or cheap they are to get. Governments, NGOs and UN agencies run programmes to reduce the harm that these things cause. Sometimes this is through education and awareness-raising about the risks caused by unhealthy food, alcohol or drugs. Other ways include regulations that restrict use, or taxes that increase the prices of food, drink or harmful substance. Some medical and social programmes that are run through hospitals, NGOs or private organisations, help people to end their **addiction** to alcohol or drugs.

activity

Inferring – WASH-Related Issues

For each of the pictures:

1. Match it to the issue you believe it represents: water, sanitation or hygiene (some may represent more than one of these).
2. State whether you believe it demonstrates a problem or a solution to an issue in WASH.
3. For the pictures that you believe show WASH problems, what are potential ways to improve WASH in those situations?

activity

Mapping – Vaccination in Myanmar

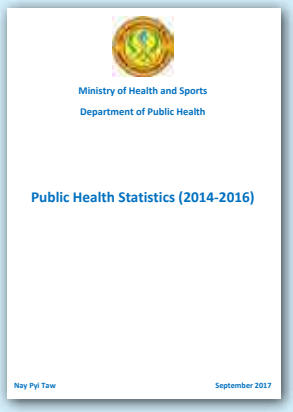
In pairs or small groups, use the table of percentages of vaccination coverage for children in Myanmar.

1. Order the vaccination percentages for states/regions from lowest to highest percentages.
2. On the blank map:
   - **a.** create a map key (for example using colours or patterns for different bands of percentage - 30s, 40s, 50s, etc.);
   - **b.** label each state and region;
   - **c.** fill in each state and region to show vaccination coverage by percentage in Myanmar.
3. What do you notice about the coverage when you see it on the map?
4. Discuss and list what social, environmental, economic and development factors could influence rates of vaccination in different parts of Myanmar.

Myanmar	
% of children aged 12–23 months who received all basic vaccinations	
State/Region	**% Vaccinated**
Ayeyarwaddy	34%
Bago	47%
Chin	53%
Kachin	59%
Kayah	80%
Kayin	65%
Magway	58%
Mandalay	81%
Mon	64%
Nay Pyi Taw	49%
Rakhine	41%
Sagaing	66%
Shan	46%
Tanintharyi	52%
Yangon	67%

Map Key

activity

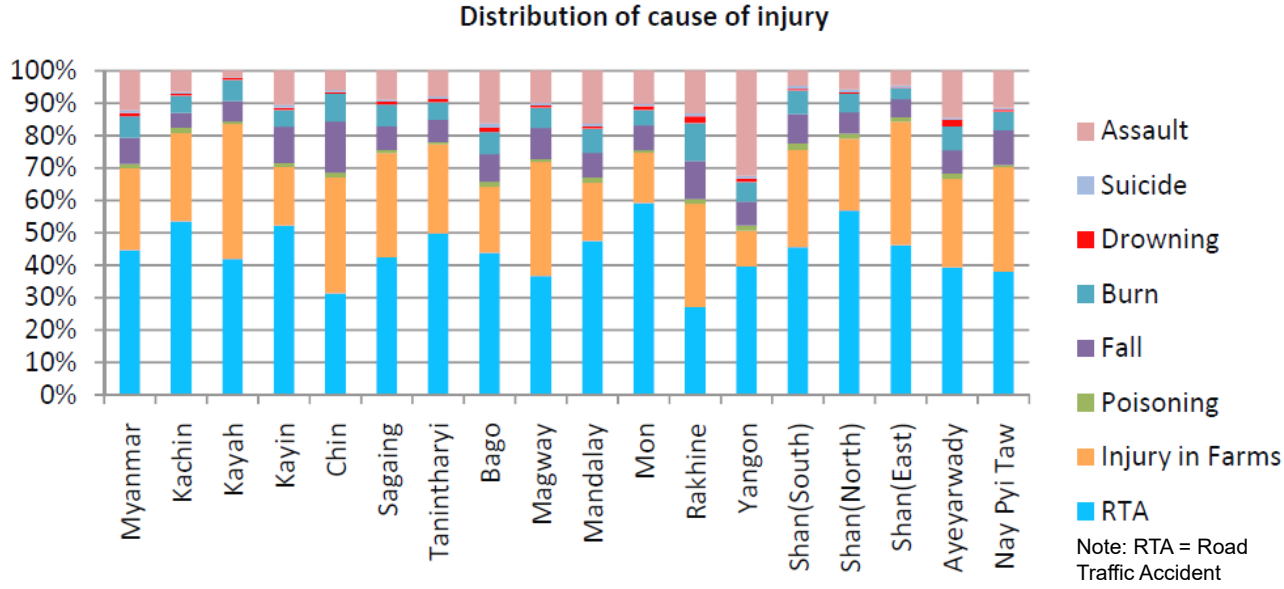


Source: Myanmar Ministry of Health and Sports Department of Public Health, Public Health Statistics 2014–2016

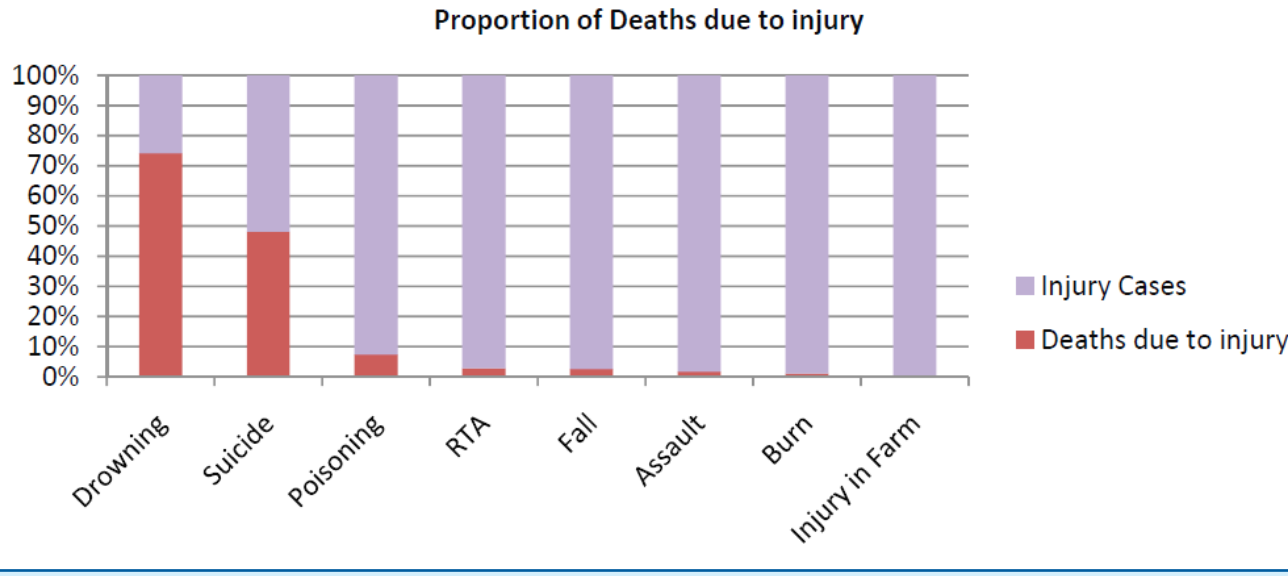
Analysing – Accident Deaths and Injuries In Myanmar

Look at the statistics and answer the questions.

1. Overall, in Myanmar, what type of accident causes the most injuries?
2. Approximately what percentage of injuries in Myanmar does it account for?
3. Which state or region has the most injuries from this cause?
4. What is the second most common cause of injuries?
5. Which state or region has the most injuries caused by the deliberate action of other people?
6. What accident causes the most deaths?
7. Which two states or regions have the most incidents of this type of accident?
8. Why would this be the case?
9. What are possible reasons for why this accident would cause the most deaths?



Note: RTA = Road Traffic Accident



activity

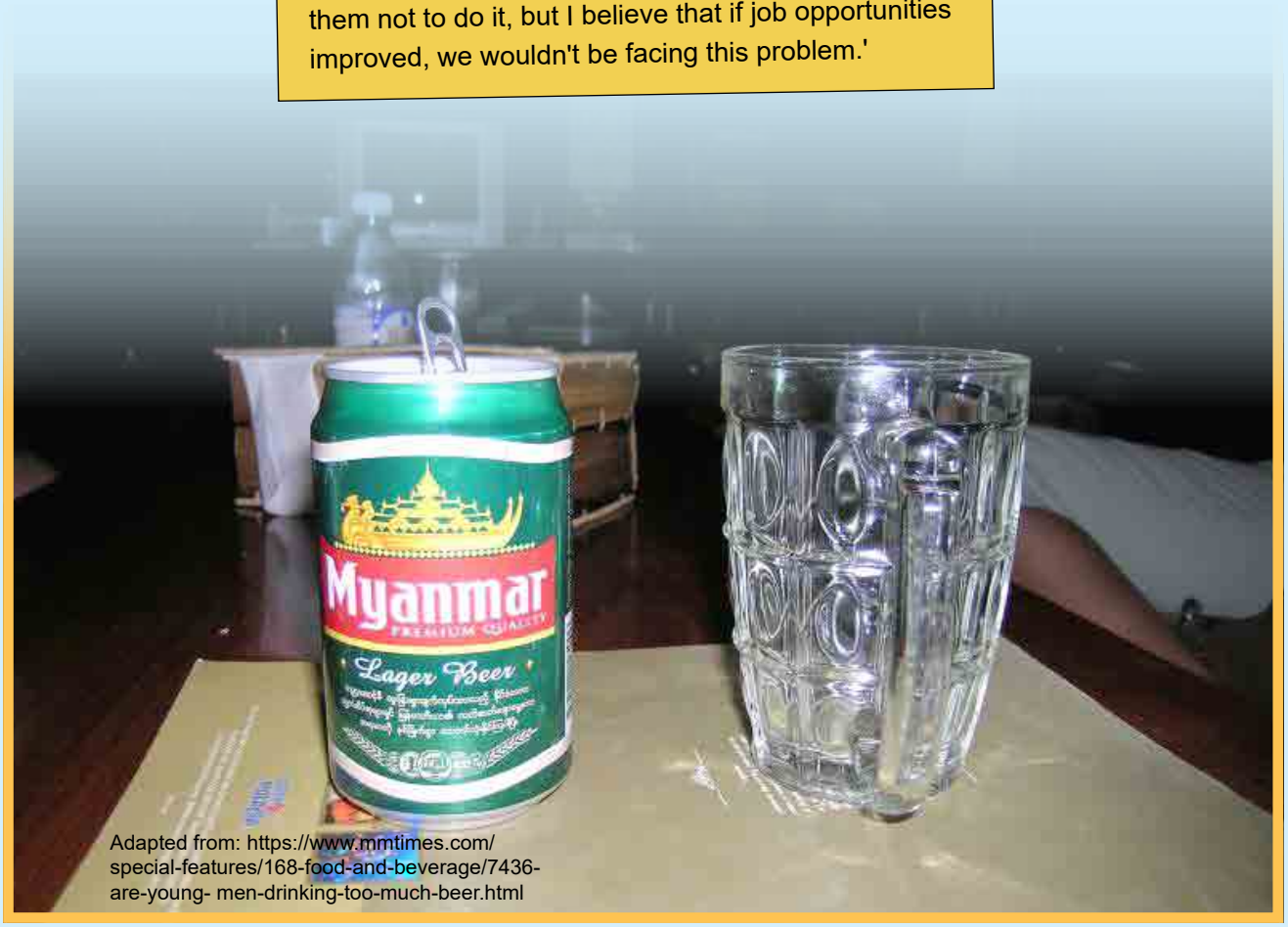
Inferring – Causes and Effects of Alcohol Consumption in Myanmar

1. For each quote, what is the cause of drinking the person is identifying and what is the effect?
2. For each cause of drinking, what could be some possible public health actions or policies to address the problem?

a. 'Beer stations are bad for young people. There are too many beer stations and they are open too long. They are a waste of time and money. When I was a 20-year-old, I only ever went to tea shops. Now I see so many young people sitting around at beer stations.'

b. 'Today alcohol advertisements are in full swing and young people are encouraged to drink more alcohol than ever. In my opinion, advertising makes young people want to drink more, and more often. Alcohol brands even have things like lucky draws and expensive gifts to trap people into being greedy.'

c. 'In my opinion young men are drinking alcohol as an outlet for the frustration they feel as a result of the lack of job opportunities. Parents and elder people tell them not to do it, but I believe that if job opportunities improved, we wouldn't be facing this problem.'



Adapted from: https://www.mmtimes.com/special-features/168-food-and-beverage/7436-are-young- men-drinking-too-much-beer.html

FOCUS ON ... MYANMAR

ROAD DEATHS IN MYANMAR

YANGON — According to a new report from the World Health Organization (WHO), the number of people dying on Myanmar's roads is increasing. The country ranks second in deaths per capita in Southeast Asia. In the WHO's 2006 to 2011 survey, Myanmar had a rate of 15 roads deaths per 100,000 people. In 2015, it had risen to 20.3 deaths per 100,000 people. Motorcycle crashes are very frequent – and deadly.

The WHO says the increase in the number of cars on Myanmar's roads since 2011 is one reason for the high road death rate. It has also been due to a lack of enforcement of driving licenses and the quality of cars. Myanmar has recently banned the import of right-hand-drive cars.

The government, the Myanmar Red Cross and WHO have discussed how to improve road safety on the Yangon-Mandalay highway. Authorities are planning to improve road safety education. It will provide education for car drivers, motorbike riders, and pedestrians. The WHO data shows that more than a quarter of road user deaths are pedestrians.

U Thit Lwin is a member of Myanmar Traffic Rules Enforcement Advisory Committee. He says, 'We are planning a media campaign to educate people more about road safety. That includes going into schools that are close to the Yangon-Mandalay highway and educating the children there about road safety.'

Sources: https://frontiermyanmar.net/en/myanmar-ranked-second-in-sea-road-deaths-who;
http://www.searo.who.int/myanmar/areas/roadsafety_datacollection/en/
http://www.nationmultimedia.com/detail/business/30304560

1. How much has the per 100,000 road deaths rate increased from 2011 to 2015?
2. What are possible reasons for why motorcycle accidents are frequently deadly?
3. What factors are identified as contributing to the increase in road deaths?
4. Why has the government banned importing right-hand-drive vehicles?
5. What three categories of people using roads will be the focus of road safety education?
6. What things about roads in Myanmar may contribute to pedestrian deaths?
7. What are reasons for children at schools being a focus of road safety education?

FOCUS ON ... MYANMAR

CHOOSE HANDWASHING, CHOOSE HEALTH

15/10/14 — A programme has been established to promote handwashing in schools across Myanmar society. It promotes handwashing at critical times, such as before eating and after using the toilet.

The Ministry of Health, Ministry of Education and UNICEF launched the Myanmar Handwashing Communication Initiative in 2014. It aims to improve hygiene behaviour, especially amongst children in schools. Through them, it plans to reach family and community members to encourage handwashing. Children are encouraged to spread WASH and health messages to their parents and families.

Zin Zin Myo Tun is a Grade 8 student at a Basic Education High School. 'At school, I've learned about the importance of handwashing since I was in Grade 3. I've learned that regular handwashing can help prevent many diseases. It's good for me, my friends and my family.'

Promoting WASH programmes in schools – handwashing, use of latrines and drinking safe water – creates benefits for the school and the wider community. According to the Central Health Education Bureau, 'Provision of adequate facilities, soap, water and a place to wash will help fully implement the campaign.'

The health focus at schools is generally on diarrhoea, worm infections and **respiratory** infections. These diseases affect school-age children most. It has been estimated that 88% of diarrhoeal diseases are caused by unsafe water supplies, inadequate sanitation and inappropriate hygiene.

Source: http://unicefmyanmar.blogspot.com/2014/10/choose-handwashing-choose-health.html

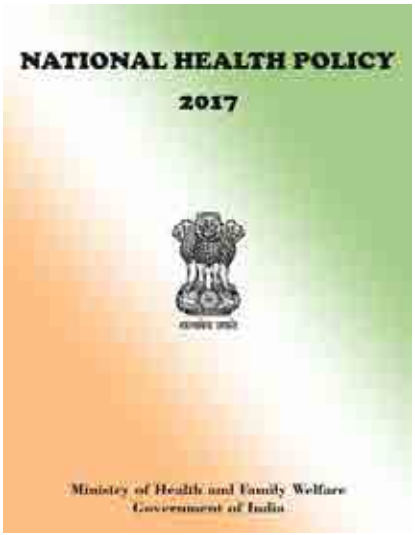
1. When are important times to do hand washing?
2. Why is the handwashing programme focused on children?
3. What practical materials can support handwashing?
4. What types of symptoms and diseases are common for children at school?
5. Why would they affect children at school?

Which subjects from this book (society, ethics and law, environment, economics, or development) most affect public health? Why?

discussion

preview

1. Who should be responsible for the overall health of people in a country? Why?
2. What things should they do to improve people's health? How?



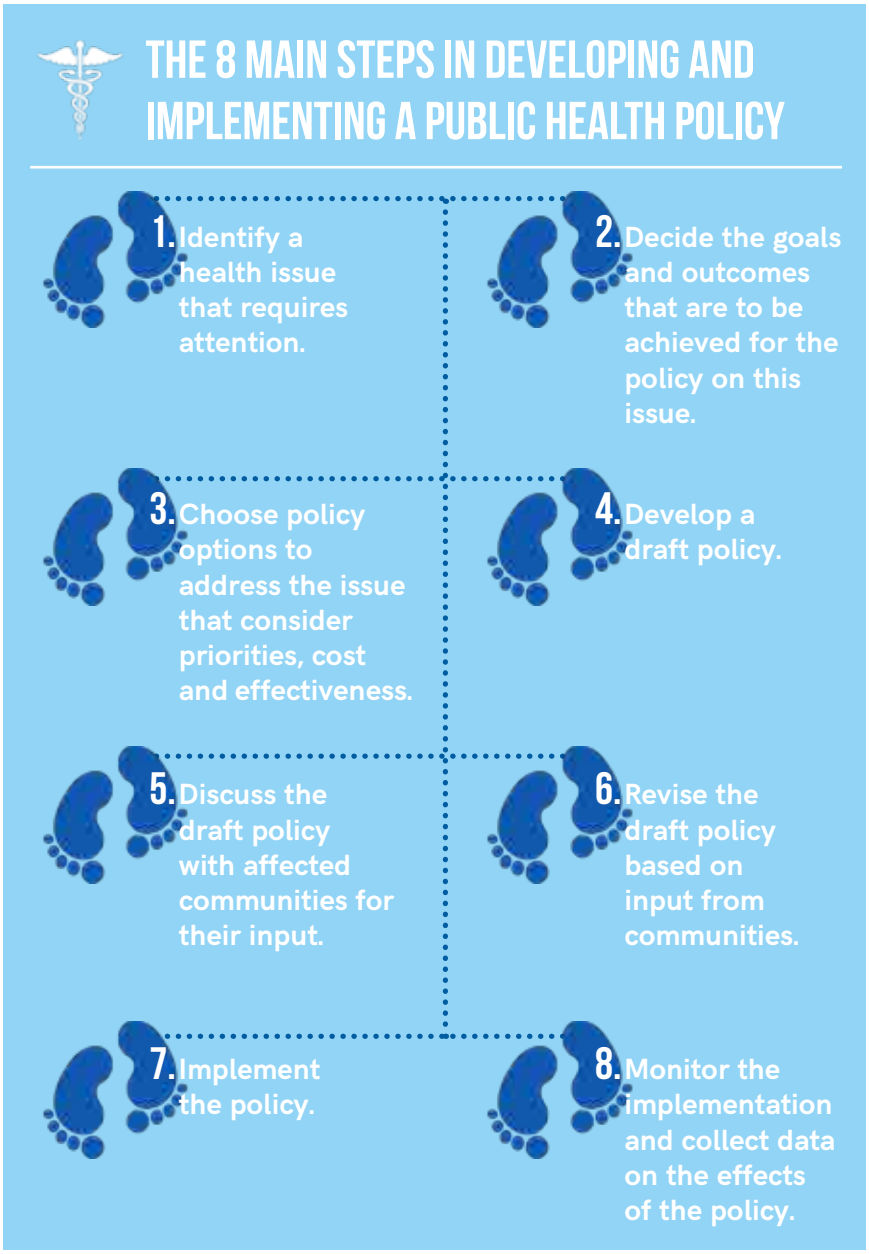
■ The Government of India's *National Health Policy* document for 2017.

6.3 Public Health Policy

A policy is an organised plan that is undertaken by a government or an organisation. It guides their actions in relation to particular issues. Usually policies are focused on producing specific outcomes. When a government is considering a new public health policy, it needs to consider:

- which public health problems need most attention;
- the effects public health programmes could have on people;
- how much public health programmes will cost;
- how public health programmes will be implemented;
- who will implement public health programmes;
- how public health programmes will be **monitored**;
- collection of public health data to measure progress.

Developing and implementing a public health policy is complicated and can take many years.



exercise

Put the example steps in the development of a public health policy (a-h) in order according to the main public health policy steps on page 150.

a. ___ Education about healthy foods is included in science classes at elementary schools. Food manufacturers must limit fat and sugar in their processed food products and state the amount of fat and sugar on the food labels.

b. ___ Doctors and health experts warn the Ministry of Health that obesity and heart disease have increased. They say that they are caused by processed foods with a lot of fat and sugar.

c. ___ A first draft of a public health policy is created. It includes limits on how much fat and sugar can be in processed foods, increased taxes on processed foods containing fat and sugar, and an education campaign in schools about healthy foods.

d. ___ The Ministry of Health decides to develop a policy to reduce deaths from heart disease and diabetes by 25% within ten years.

e. ___ Processed foods are now regularly tested for fat and sugar content. Labels are monitored to ensure that they tell consumers how much fat and sugar is in the food product. Children learn about healthy foods at school. Statistics on new cases of heart disease are recorded every six months.

f. ___ The government, with advice from the Ministry of Health, considers setting limits on fat and sugar in processed food, increasing taxes on processed food, and education in schools about healthy and unhealthy foods.

g. ___ The government meets with doctors, teachers, and food manufacturers. Doctors recommend limits on fat and sugar in processed foods. Teachers support education about healthy food. Food manufacturers oppose taxes on processed foods. They say their workers will lose jobs if processed food prices rise. They agree to limit fat and sugar in processed foods and to put the amount on food product labels.

h. ___ The government rewrites its 'healthy foods' policy. The policy now includes education in schools promoting healthy foods, regulations to limit how much fat and sugar can go in processed foods and labels that show amounts in all processed food products.

FOCUS ON ... MYANMAR

MYANMAR RANKS LAST IN ASEAN TOBACCO CONTROL STUDY

17/11/16 — In a 2014 survey, the rate of tobacco use in Myanmar was 26.1% of the population, including 43.8% of men and 8.4% of women. In 2006, Myanmar adopted a law to reduce the number of people using tobacco products. The law contains rules on non-smoking areas and regulations on the sale, production and advertising of tobacco products.

The Southeast Asia Tobacco Control Alliance (SEATCA) says Myanmar is behind on banning smoking in indoor public places, workspaces, bars and restaurants. It has not regularly updated its tobacco control policy and strategy. Despite taxation, cigarettes are still cheap. They cost between 800 and 2,000 MMK for a pack of twenty. Myanmar is only average in providing education or smoking cessation programmes.

According to the report, the government does not allow tobacco industry officials to join government committees or groups that are deciding health policy. However, the report claims the government does give preferential treatment to the tobacco industry.

Regulation of tobacco advertising and sponsorship is often not enforced. Tobacco ads are banned in television, movies, print media, and billboards. However, there is no enforcement of tobacco advertising bans on the internet.

The government has created new regulations that require health warnings and graphic photos of harm from tobacco use on all brands of cigarette and other tobacco products. Anyone involved in the production, distribution or sale of tobacco products that lack graphic warning labels could face a fine of between 10,000 and 30,000 MMK for a first offence.

Source: https://www.mmtimes.com/national-news/23722-myanmar-ranks-last-in-asean-tobacco-control-study.html

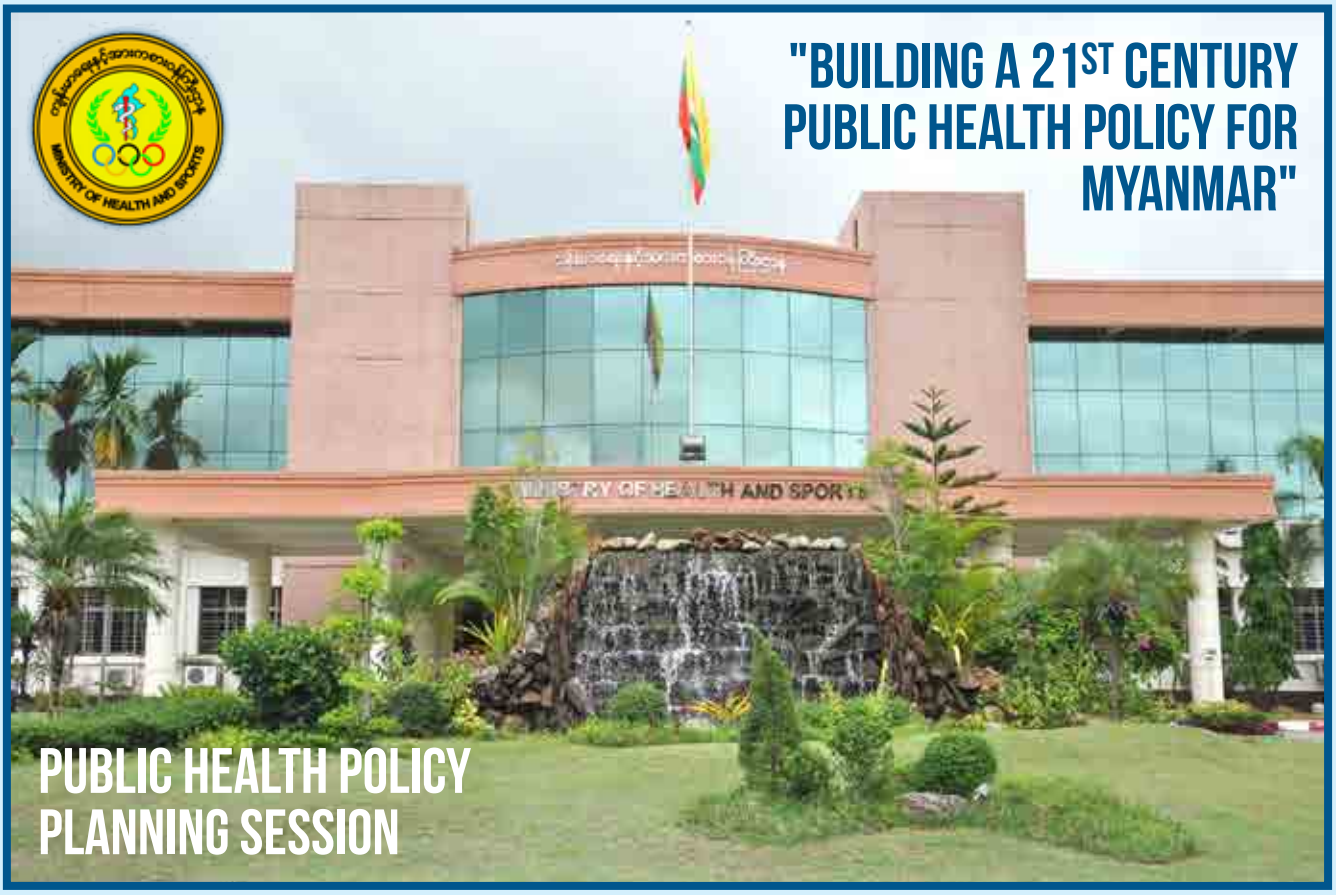
1. What are possible reasons for the difference in the levels of smoking between men and women?
2. Why would there be regulations about the advertising of tobacco products?
3. What reasons can you think of for banning smoking in public places, work spaces, bars and restaurants?
4. Does the article suggest that there is enough tax on tobacco products?
5. What are reasons for the taxation of tobacco products?
6. Why would it be an issue if tobacco industry officials could join committees or advise on health policy?
7. What would make laws about tobacco advertising more effective?
8. What is the intended outcome of the regulations about tobacco product labels?

activity

Creating – Designing a Public Health Policy

Work in groups. Imagine you are part of the Ministry of Health. Decide on a public health issue that affects your community or country and:

1. Develop a policy for what could be done about this issue. Your public health policy plan should include short notes or a sentence about each of these:
   - the public health issue;
   - the goal of the policy;
   - what kinds of actions the policy would involve;
   - what types of people and organisations you would consult with to develop the policy and how they would be involved;
   - specific actions to achieve the goal of the policy;
   - how the policy's effectiveness would be monitored.
2. Present your public health issue and policy ideas to the class.



discussion

1. What public health issues in your country do you believe need public health policies (or better public health policies)? Why?
2. Who should be involved in making or improving public health policy? Why?

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