

## Subject specific vocabulary

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All terms stated in the specification can be used in the exam. Students should be familiar with, and gain some understanding of, these terms in relation to the topics that they study. The required terms are listed below under each of the topic headings. Note that each list includes only the geographical terms stated in the specification. Students are encouraged to use other specialist geographical vocabulary in their answers as well as the terms listed here.

### Low income country (LIC) and High income country (HIC)

This subdivision of countries is based on the World Bank income classifications (GNI per capita), which in 2013 were Low Income \$1045 or below, and High Income \$12746 or above.

### Newly emerging economies (NEEs)

Countries that have begun to experience higher rates of economic development, usually with higher levels of industrialisation. They differ from LICs in that they no longer rely primarily on agriculture, have made gains in infrastructure and industrial growth, and are experiencing increasing incomes and high levels of investment, eg Brazil, Russia, China and South Africa (the so-called BRICS countries).

## 3.1.1 Section A: The challenge of natural hazards

### 3.1.1.1 Natural hazards

#### Hazard risk

The probability or chance that a natural hazard may take place.

#### Natural hazard

A natural event (for example an earthquake, volcanic eruption, tropical storm, flood) that threatens people or has the potential to cause damage, destruction and death.

### 3.1.1.2 Tectonic hazards

#### Conservative plate margin

Tectonic plate margin where two tectonic plates slide past each other.

#### Constructive plate margin

Tectonic plate margin where rising magma adds new material to plates that are diverging or moving apart.

#### Destructive plate margin

Tectonic plate margin where two plates are converging or coming together and oceanic plate is subducted. It can be associated with violent earthquakes and explosive volcanoes.

#### Earthquake

A sudden or violent movement within the Earth's crust followed by a series of shocks.

#### Immediate responses

The reaction of people as the disaster happens and in the immediate aftermath.

#### Long-term responses

Later reactions that occur in the weeks, months and years after the event.

#### Monitoring

Recording physical changes, such as earthquake tremors around a volcano, to help forecast when and where a natural hazard might strike.

#### Plate margin

The margin or boundary between two tectonic plates.

#### Planning

Actions taken to enable communities to respond to, and recover from, natural disasters, through measures such as emergency evacuation plans, information management, communications and warning systems.

#### Prediction

Attempts to forecast when and where a natural hazard will strike, based on current knowledge. This can be done to some extent for volcanic eruptions (and tropical storms), but less reliably for earthquakes.

## Primary effects

The initial impact of a natural event on people and property, caused directly by it, for instance the ground buildings collapsing following an earthquake.

## Protection

Actions taken before a hazard strikes to reduce its impact, such as educating people or improving building design.

## Secondary effects

The after-effects that occur as indirect impacts of a natural event, sometimes on a longer timescale, for instance fires due to ruptured gas mains resulting from the ground shaking.

## Tectonic hazard

A natural hazard caused by movement of tectonic plates (including volcanoes and earthquakes).

## Tectonic plate

A rigid segment of the Earth's crust which can 'float' across the heavier, semi-molten rock below. Continental plates are less dense, but thicker than oceanic plates.

## Volcano

An opening in the Earth's crust from which lava, ash and gases erupt.

### 3.1.1.3 Weather hazards

#### Economic impact

The effect of an event on the wealth of an area or community.

#### Environmental impact

The effect of an event on the landscape and ecology of the surrounding area.

#### Extreme weather

This is when a weather event is significantly different from the average or usual weather pattern, and is especially severe or unseasonal. This may take place over one day or a period of time. A severe snow blizzard or heat wave are two examples of extreme weather in the UK.

## Global atmospheric circulation

The worldwide system of winds, which transports heat from tropical to polar latitudes. In each hemisphere, air also circulates through the entire depth of the troposphere which extends up to 15 km.

## Immediate responses

The reaction of people as the disaster happens and in the immediate aftermath.

## Long-term responses

Later reactions that occur in the weeks, months and years after the event.

## Management strategies

Techniques of controlling, responding to, or dealing with an event.

## Monitoring

Recording physical changes, such as tracking a tropical storm by satellite, to help forecast when and where a natural hazard might strike.

## Planning

Actions taken to enable communities to respond to, and recover from, natural disasters, through measures such as emergency evacuation plans, information management, communications and warning systems.

## Prediction

Attempts to forecast when and where a natural hazard will strike, based on current knowledge. This can be done to some extent for tropical storms (and volcanic eruptions, but less reliably for earthquakes).

## Primary effects

The initial impact of a natural event on people and property, caused directly by it, for instance buildings being partially or wholly destroyed by a tropical storm.

## Protection

Actions taken before a hazard strikes to reduce its impact, such as educating people or improving building design.

## Secondary effects

The after-effects that occur as indirect impacts of a natural event, sometimes on a longer timescale, for instance impact on access to potable water can lead to spread of disease.

## Social impact

The effect of an event on the lives of people or community.

## Tropical storm (hurricane, cyclone, typhoon)

An area of low pressure with winds moving in a spiral around the calm central point called the eye of the storm. Winds are powerful and rainfall is heavy.

### 3.1.1.4 Climate change

#### Adaptation

Actions taken to adjust to natural events such as climate change, to reduce potential damage, limit the impacts, take advantage of opportunities, or cope with the consequences.

#### Climate change

A long-term change in the earth's climate, especially a change due to an increase in the average atmospheric temperature.

#### Mitigation

Action taken to reduce or eliminate the long-term risk to human life and property from natural hazards, such as building earthquake-proof buildings or making international agreements about carbon reduction targets.

#### Orbital changes

Changes in the pathway of the Earth around the Sun.

#### Quaternary period

The period of geological time from about 2.6 million years ago to the present. It is characterized by the appearance and development of humans and includes the Pleistocene and Holocene Epochs.

### 3.1.2 Section B: The living world

#### 3.1.2.1 Ecosystems

##### Abiotic

Relating to non-living things.

## Biotic

Relating to living things.

## Consumer

Creature that eats animals and/or plant matter.

## Decomposer

An organism such as a bacterium or fungus, that breaks down dead tissue, which is then recycled to the environment.

## Ecosystem

A community of plants and animals that interact with each other and their physical environment.

## Food chain

The connections between different organisms (plants and animals) that rely on one another as their source of food.

## Food web

A complex hierarchy of plants and animals relying on each other for food.

## Nutrient cycling

A set of processes whereby organisms extract minerals necessary for growth from soil or water, before passing them on through the food chain - and ultimately back to the soil and water.

## Global ecosystem

Very large ecological areas on the earth's surface (or biomes), with fauna and flora (animals and plants) adapting to their environment. Examples include tropical rainforest and hot desert.

## Producer

An organism or plant that is able to absorb energy from the sun through photosynthesis.

### 3.1.2.2 Tropical rainforests

#### Biodiversity

The variety of life in the world or a particular habitat.

#### Commercial farming

Farming to sell produce for a profit to retailers or food processing companies.

#### Debt reduction

Countries are relieved of some of their debt in return for protecting their rainforests.

#### Deforestation

The chopping down and removal of trees to clear an area of forest.

#### Ecotourism

Responsible travel to natural areas that conserves the environment, sustains the wellbeing of the local people, and may involve education. It is usually carried out in small groups and has minimal impact on the local ecosystem.

#### Logging

The business of cutting down trees and transporting the logs to sawmills.

#### Mineral extraction

The removal of solid mineral resources from the earth. These resources include ores, which contain commercially valuable amounts of metals, such as iron and aluminium; precious stones, such as diamonds; building stones, such as granite; and solid fuels, such as coal and oil shale.

#### Selective logging

The cutting out of trees which are mature or inferior, to encourage the growth of the remaining trees in a forest or wood.

#### Soil erosion

Removal of topsoil faster than it can be replaced, due to natural (water and wind action), animal, and human activity. Topsoil is the top layer of soil and is the most fertile because it contains the most organic, nutrient-rich materials.

## Subsistence farming

A type of agriculture producing food and materials for the benefit only of the farmer and his family.

## Sustainability

Actions and forms of progress that meet the needs of the present without reducing the ability of future generations to meet their needs.

### 3.1.2.3 Hot deserts

#### Appropriate technology

(Also called Intermediate technology) Technology that is suited to the needs, skills, knowledge and wealth of local people in the environment in which they live. It usually combines simple ideas with cheap and readily available materials, especially for use in poorer countries, and is environmentally friendly.

#### Biodiversity

The variety of life in the world or a particular habitat.

#### Desertification

The process by which land becomes drier and degraded, as a result of climate change or human activities, or both.

#### Hot desert

Parts of the world that have high average temperatures and very low precipitation.

#### Mineral extraction

The removal of solid mineral resources from the earth. These resources include ores, which contain commercially valuable amounts of metals, such as iron and aluminium; precious stones, such as diamonds; building stones, such as granite; and solid fuels, such as coal and oil shale.

#### Over-cultivation

Exhausting the soil by over-cropping the land.

#### Overgrazing

Grazing too many livestock for too long on the land, so it is unable to recover its vegetation.



### 3.1.2.4 Cold environments

#### Biodiversity

The variety of life in the world or a particular habitat.

#### Fragile environment

An environment that is both easily disturbed and difficult to restore if disturbed. Plant communities in fragile areas have evolved in highly specialised ways to deal with challenging conditions. As a result, they cannot tolerate environmental changes.

#### Infrastructure

The basic equipment and structures (such as roads, utilities, water supply and sewage) that are needed for a country or region to function properly.

#### Mineral extraction

The removal of solid mineral resources from the earth. These resources include ores, which contain commercially valuable amounts of metals, such as iron and aluminium; precious stones, such as diamonds; building stones, such as granite; and solid fuels, such as coal and oil shale.

#### Permafrost

Permanently frozen ground, found in polar and tundra regions.

#### Polar

The regions of Earth surrounding the North and South Poles. These regions are dominated by Earth's polar ice caps, the northern resting on the Arctic Ocean and the southern on the continent of Antarctica.

#### Tundra

The flat, treeless Arctic regions of Europe, Asia and North America, where the ground is permanently frozen. Lichen, moss, grasses and dwarf shrubs can grow here.

#### Wilderness area

A natural environment that has not been significantly modified by human activity. Wilderness areas are the most intact, undisturbed areas left on Earth – places that humans do not control and have not developed.

## 3.1.3 Section C: Physical landscapes in the UK

### 3.1.3.1 UK physical landscapes

#### Landscape

An extensive area of land regarded as being visually and physically distinct.

### 3.1.3.2 Coastal landscapes in the UK

#### Abrasion (or corrasion)

The wearing away of cliffs by sediment flung by breaking waves.

#### Arch

A wave-eroded passage through a small headland. This begins as a cave formed in the headland, which is gradually widened and deepened until it cuts through.

#### Attrition

Erosion caused when rocks and boulders transported by waves bump into each other and break up into smaller pieces.

#### Bar

Where a spit grows across a bay, a bay bar can eventually enclose the bay to create a lagoon. Bars can also form offshore due to the action of breaking waves.

#### Beach

The zone of deposited material that extends from the low water line to the limit of storm waves. The beach or shore can be divided in the foreshore and the backshore.

#### Beach nourishment

The addition of new material to a beach artificially, through the dumping of large amounts of sand or shingle.

#### Beach reprofiling

Changing the profile or shape of the beach. It usually refers to the direct transfer of material from the lower to the upper beach or, occasionally, the transfer of sand down the dune face from crest to toe.

## Cave

A large hole in the cliff caused by waves forcing their way into cracks in the cliff face.

## Chemical weathering

The decomposition (or rotting) of rock caused by a chemical change within that rock; sea water can cause chemical weathering of cliffs.

## Cliff

A steep high rock face formed by weathering and erosion along the coastline.

## Deposition

Occurs when material being transported by the sea is dropped due to the sea losing energy.

## Dune regeneration

Action taken to build up dunes and increase vegetation to strengthen the dunes and prevent excessive coastal retreat. This includes the re-planting of marram grass to stabilise the dunes, as well as planting trees and providing boardwalks.

## Erosion

The wearing away and removal of material by a moving force, such as a breaking wave.

## Gabion

Steel wire mesh filled with boulders used in coastal defences.

## Groyne

A wooden barrier built out into the sea to stop the longshore drift of sand and shingle, and so cause the beach to grow. It is used to build beaches to protect against cliff erosion and provide an important tourist amenity. However, by trapping sediment it deprives another area, down-drift, of new beach material.

## Hard engineering

The use of concrete and large artificial structures by civil engineers to defend land against natural erosion processes.

## Headlands and bays

A rocky coastal promontory made of rock that is resistant to erosion; headlands lie between bays of less resistant rock where the land has been eroded back by the sea.

## Hydraulic power

The process by which breaking waves compress pockets of air in cracks in a cliff. The pressure may cause the crack to widen, breaking off rock.

## Longshore drift

The zigzag movement of sediment along a shore caused by waves going up the beach at an oblique angle(wash) and returning at right angles(backwash). This results in the gradual movement of beach materials along the coast.

## Managed retreat

Allowing cliff erosion to occur as nature taking its course: erosion in some areas, deposition in others. Benefits include less money spent and the creation of natural environments. It may involve setting back or realigning the shoreline and allowing the sea to flood areas that were previously protected by embankments and seawalls.

## Mass movement

The downhill movement of weathered material under the force of gravity. The speed can vary considerably.

## Mechanical weathering

Weathering processes that cause physical disintegration or break up of exposed rock without any change in the chemical composition of the rock, for instance freeze thaw.

## Rock armour

Large boulders dumped on the beach as part of the coastal defences.

## Sand dune

Coastal sand hill above the high tide mark, shaped by wind action, covered with grasses and shrubs.

## Sea wall

A concrete wall which aims to prevent erosion of the coast by providing a barrier which reflects wave energy.

## Sliding

Occurs after periods of heavy rain when loose surface material becomes saturated and the extra weight causes the material to become unstable and move rapidly downhill, sometimes in an almost fluid state.

## Slumping

Rapid mass movement which involves a whole segment of the cliff moving down-slope along a saturated shear-plane or line of weakness.

## Soft engineering

Managing erosion by working with natural processes to help restore beaches and coastal ecosystems.

## Spit

A depositional landform formed when a finger of sediment extends from the shore out to sea, often at a river mouth. It usually has a curved end because of opposing winds and currents.

## Stack

An isolated pillar of rock left when the top of an arch has collapsed. Over time further erosion reduces the stack to a smaller, lower stump.

## Transportation

The movement of eroded material.

## Wave cut platform

A rocky, level shelf at or around sea level representing the base of old, retreated cliffs.

## Waves

Ripples in the sea caused by the transfer of energy from the wind blowing over the surface of the sea. The largest waves are formed when winds are very strong, blow for lengthy periods and cross large expanses of water.

### 3.1.3.3 River landscapes in the UK

#### Abrasion

Rocks carried along by the river wear down the river bed and banks.

#### Attrition

Rocks being carried by the river smash together and break into smaller, smoother and rounder particles.

## Cross profile

The side to side cross-section of a river channel and/or valley.

## Dam and reservoir

A barrier (made on earth, concrete or stone) built across a valley to interrupt river flow and create a man-made lake (reservoir) which stores water and controls the discharge of the river.

## Discharge

The quantity of water that passes a given point on a stream or river-bank within a given period of time.

## Embankments

Raised banks constructed along the river; they effectively make the river deeper so it can hold more water. They are expensive and do not look natural but they do protect the land around them.

## Estuary

The tidal mouth of a river where it meets the sea; wide banks of deposited mud are exposed at low tide.

## Flood

Occurs when river discharge exceeds river channel capacity and water spills out of the channel onto the floodplain and other areas.

## Flood plain

The relatively flat area forming the valley floor on either side of a river channel, which is sometimes flooded.

## Flood plain zoning

This attempts to organise the flood defences in such a way that land that is near the river and often floods is not built on. This could be used for pastoral farming, playing fields etc. The areas that rarely get flooded would therefore be used for houses, transport and industry.

## Flood relief channels

Building new artificial channels which are used when a river is close to maximum discharge. They take the pressure off the main channels when floods are likely, therefore reducing flood risk.

## Flood risk

The predicted frequency of floods in an area.

## Flood warning

Providing reliable advance information about possible flooding. Flood warning systems give people time to remove possessions and evacuate areas.

## Fluvial processes

Processes relating to erosion, transport and deposition by a river.

## Gorge

A narrow, steep sided valley, often formed as a waterfall retreats upstream.

## Hard engineering

Involves the building of entirely artificial structures using various materials such as rock, concrete and steel to reduce, disrupt or stop the impact of river processes.

## Hydraulic action

The force of the river against the banks can cause air to be trapped in cracks and crevices. The pressure weakens the banks and gradually wears it away.

## Hydrograph

A graph which shows the discharge of a river, related to rainfall, over a period of time.

## Interlocking spurs

A series of ridges projecting out on alternate sides of a valley and around which a river winds its course.

## Lateral erosion

Sideways erosion by a river on the outside of a meander channel. It eventually leads to the widening of the valley and contributes to the formation of the flood plain.

## Levees

Embankment of sediment along the bank of a river. It may be formed naturally by regular flooding or be built up by people to protect the area against flooding.

## Long profile

The gradient of a river, from its source to its mouth.

## Meander

A pronounced bend in a river.

## Ox-bow lake

An arc-shaped lake which has been cut off from a meandering river.

## Precipitation

Moisture falling from the atmosphere - as rain, hail, sleet or snow.

## Saltation

Particles bouncing down the river bed.

## Soft engineering

Involves the use of the natural environment surrounding a river, using schemes that work with the river's natural processes. Soft engineering is usually much cheaper and offers a more sustainable option as it does not interfere directly with the river's flow.

## Solution

Soluble particles are dissolved into the river.

## (Channel) straightening

Removing meanders from a river to make the river straighter. Straightening the river (also called channelising) allows it to carry more water quickly downstream, so it doesn't build up and is less likely to flood.

## Suspension

Fine solid material held in the water while the water is moving.

## Traction

The rolling of boulders and pebbles along the river bed.

## Vertical erosion

Downward erosion of a river bed.



## Waterfall

Sudden descent of a river or stream over a vertical or very steep slope in its bed. It often forms where the river meets a band of softer rock after flowing over an area of more resistant material.

### 3.1.3.4 Glacial landscapes in the UK

#### Abrasion

Erosion caused by rocks and boulders in the base of the glacier acting like a giant file scratching and scraping the rocks below.

#### Arête

A sharp, knife-like ridge formed between two corries cutting back by processes of erosion and freeze thaw.

#### Bulldozing

Ice pushes material of all shapes and sizes as it moves slowly forward.

#### Conservation

Managing the environment in order to preserve, protect or restore it.

#### Corrie

(Also called cirque) Armchair-shaped hollow in the mountainside formed by glacial erosion, rotational slip and freeze-thaw weathering. This is where the valley glacier begins. When the ice melts, it can leave a small circular lake called a tarn.

#### Drumlin

A hill made of glacial till deposited by a moving glacier, usually elongated or oval in shape, with the longer axis parallel to the former direction of ice.

#### Erratics

Rocks which have been transported and deposited by a glacier some distance from their source region.

#### Freeze-thaw weathering

(Also called frost-shattering) It occurs in cold climates when temperatures are often around freezing point and where exposed rocks contain many cracks. Water enters the cracks during the warmer day and freezes during the colder

night. As the water turns into ice it expands and exerts pressure on the surrounding rock, causing pieces to break off.

## Glacial trough

A river valley widened and deepened by the erosive action of glaciers; it becomes 'U'-shaped instead of the normal 'V'-shape of a river valley.

## Hanging valley

A tributary valley to the main glacier, too cold and high up for ice to be able to easily move. It therefore was not eroded as much as the lower main valley, and today is often the site for a waterfall crashing several hundred metres to the main valley floor.

## Land use conflicts

Disagreements which arise when different users of the land do not agree on how it should be used.

## Moraine

Frost-shattered rock debris and material eroded from the valley floor and sides, transported and deposited by glaciers.

## Outwash

Material, chiefly sand or gravel, deposited by meltwater streams in front of, and underneath, a glacier. The material is sorted and rounded by water action.

## Plucking

A type of erosion where melt water in the glacier freezes onto rocks, and as the ice moves forward it plucks or pulls out large pieces along the rock joints.

## Pyramidal peak

Where several corries cut back to meet at a central point, the mountain takes the form of a steep pyramid.

## Ribbon lake

A long, narrow lake found in glaciated valleys formed in locations where the glacier had more erosive power, eg in areas of softer rock, where the valley gradient temporarily steepened or a tributary glacier joined the main valley.

## Rotational slip

This occurs when the ice moves in a circular motion. This process can help to erode hollows in the landscape, and deepen hollows into bowl shapes.

## Till

An unsorted mixture of sand, clay and boulders carried by a glacier and deposited as ground moraine over a large area.

## Truncated spur

A former river valley spur which has been sliced off by a valley glacier, forming cliff-like edges.

### 3.2.1 Section A: Urban issues and challenges

#### Brownfield site

Land that has been used, abandoned and now awaits some new use. Commonly found across urban areas, particularly in the inner city.

#### Dereliction

Abandoned buildings and wasteland.

#### Economic opportunities

Chances for people to improve their standard of living through employment.

#### Greenfield site

A plot of land, often in a rural or on the edge of an urban area that has not yet been subject to any building development.

#### Inequalities

Differences between poverty and wealth, as well as in peoples' wellbeing and access to things like jobs, housing and education. Inequalities may occur in housing provision, access to services, access to open land, safety and security.

#### Integrated transport systems

When different transport methods connect together, making journeys smoother and therefore public transport more appealing. Better integration should result in more demand for public transport and should see people switching from private car use to public modes of transport, which should be more sustainable. It may also lead to a fall in congestion due to less road users.

#### Mega-cities

An urban area with a total population in excess of ten million people.

## Migration

When people move from one area to another. In many LICs people move from rural to urban areas (rural-urban migration).

## Natural increase

The birth rate minus the death rate of a population.

## Pollution

The presence of chemicals, noise, dirt or other substances which have harmful or poisonous effects on an environment.

## Rural-urban fringe

A zone of transition between the built-up area and the countryside, where there is often competition for land use. It is a zone of mixed land uses, from out of town shopping centres and golf courses to farmland and motorways.

## Sanitation

Measures designed to protect public health, including the provision of clean water and the disposal of sewage and waste.

## Social deprivation

The degree to which an individual or an area is deprived of services, decent housing, adequate income and local employment.

## Social opportunities

Chances for people to improve their quality of life, for instance access to education and health care.

## Squatter settlement

An area of poor-quality housing, lacking in amenities such as water supply, sewerage and electricity, which often develops spontaneously and illegally in a city in an LIC.

## Sustainable urban living

A sustainable city is one in which there is minimal damage to the environment, the economic base is sound with resources allocated fairly and jobs secure, and there is a strong sense of community, with local people involved in decisions made. Sustainable urban living includes several aims including the use of renewable resources, energy efficiency, use of public transport, accessible resources and services.

## Traffic congestion

Occurs when there is too great a volume of traffic for roads to cope with, so traffic jams form and traffic slows to a crawl.

## Urban greening

The process of increasing and preserving open space such as public parks and gardens in urban areas.

## Urbanisation

The process by which an increasing percentage of a country's population comes to live in towns and cities. Rapid urbanisation is a feature of many LICs and NEEs.

## Urban regeneration

The revival of old parts of the built-up area by either installing modern facilities in old buildings (known as renewal) or opting for redevelopment (ie demolishing existing buildings and starting afresh).

## Urban sprawl

The unplanned growth of urban areas into the surrounding countryside.

## Waste recycling

The process of extracting and reusing useful substances found in waste.

## 3.2.2 Section B: The changing economic world

### Birth rate

The number of births in a year per 1000 of the total population.

### Commonwealth

The Commonwealth is a voluntary association of 53 independent and equal sovereign states, which were mostly territories of the former British Empire. It is home to 2.2 billion citizens. Member states have no legal obligation to one another. Instead, they are united by language, history, culture, and their shared values of democracy, human rights, and the rule of law.

### Death rate

The number of deaths in a year per 1000 of the total population.

## De-industrialisation

The decline of a country's traditional manufacturing industry due to exhaustion of raw materials, loss of markets and competition from NEEs.

## Demographic Transition Model

A model showing how populations should change over time in terms of their birth rates, death rates and total population size.

## Development

The progress of a country in terms of economic growth, the use of technology and human welfare.

## Development gap

The difference in standards of living and wellbeing between the world's richest and poorest countries (between HICs and LICs).

## European Union

An international organisation of 28 European countries, including the UK, formed to reduce trade barriers and increase cooperation among its members. Seventeen of these countries also share the same type of money: the euro. A person who is a citizen of a European Union country can live and work in any of the other 27 member countries without needing a work permit or visa.

## Fairtrade

When producers in LICs are given a better price for the goods they produce. Often this is from farm products like cocoa, coffee or cotton. The better price improves income and reduces exploitation.

## Globalisation

The process which has created a more connected world, with increases in the movements of goods (trade) and people (migration and tourism) worldwide.

## Gross national income (GNI)

A measurement of economic activity that is calculated by dividing the gross (total) national income by the size of the population. GNI takes into account not just the value of goods and services, but also the income earned from investments overseas.

## Human Development Index (HDI)

A method of measuring development in which GDP per capita, life expectancy and adult literacy are combined to give an overview. This combined measure of

development uses economic and social indicators to produce an index figure that allows comparison between countries.

## Industrial structure

The relative proportion of the workforce employed in different sectors of the economy (primary, secondary, tertiary and quaternary).

## Infant mortality

The average number of deaths of infants under 1 year of age, per 1000 live births, per year.

## Information technologies

Computer, internet, mobile phone and satellite technologies – especially those that speed up communication and the flow of information.

## Intermediate technology

The simple, easily learned and maintained technology used in a range of economic activities serving local needs in LICs.

## International aid

Money, goods and services given by the government of one country or a multilateral institution such as the World Bank or International Monetary Fund to help the quality of life and economy of another country.

## Life expectancy

The average number of years a person might be expected to live.

## Literacy rate

The percentage of people who have basic reading and writing skills.

## Microfinance loans

Very small loans which are given to people in the LICs to help them start a small business.

## North-south divide (UK)

Economic and cultural differences between Southern England (the South-East, Greater London, the South-West and parts of the East) and Northern England (the North-East, West and Yorkshire and the Humber). There are clear differences in health conditions, house prices, earnings, and political influence.

## Post-industrial economy

The economy of many economically developed countries where most employment is now in service industries.

## Science and business parks

Business Parks are purpose built areas of offices and warehouses, often at the edge of a city and on a main road. Science parks are often located near university sites, and high-tech industries are established. Scientific research and commercial development may be carried out in co-operation with the university.

## Service industries (tertiary industries)

The economic activities that provide various services – commercial (shops and banks), professional (solicitors and dentists), social (schools and hospitals), entertainment (restaurants and cinemas) and personal (hairdressers and fitness trainers).

## Trade

The buying and selling of goods and services between countries.

## Transnational Corporation (TNC)

A company that has operations (factories, offices, research and development, shops) in more than one country. Many TNCs are large and have well-known brands.

## 3.2.3 Section C: The challenge of resource management

### 3.2.3.1 Resource management

#### Agribusiness

Application of business skills to agriculture.

#### Carbon footprint

A measurement of all the greenhouse gases we individually produce, through burning fossil fuels for electricity, transport etc, expressed as tonnes (or kg) of carbon-dioxide equivalent.

#### Energy mix

The range of energy sources of a region or country, both renewable and non-renewable.



## Food miles

The distance covered supplying food to consumers.

## Fossil fuel

A natural fuel such as coal or gas, formed in the geological past from the remains of living organisms.

## Local food sourcing

A method of food production and distribution that is local, rather than national and/or international. Food is grown (or raised) and harvested close to consumers' homes, then distributed over much shorter distances.

## Organic produce

Food which is produced using environmentally and animal friendly farming methods on organic farms. Artificial fertilisers are banned and farmers develop fertile soil by rotating crops and using compost, manure and clover. It must be free of synthetic additives like pesticides and dyes.

## Resource Management

The control and monitoring of resources so that they do not become depleted or exhausted.

### 3.2.3.2 Food

#### Aeroponics

Growing plants in an air or mist environment without the use of soil.

#### Biotechnology

The manipulation (through genetic engineering) of living organisms to produce useful commercial products (such as pest resistant crops and new bacterial strains).

#### Famine

A widespread, serious, shortage of food. In the worst cases it can lead to starvation and even death.

#### Food insecurity

Being without reliable access to a sufficient quantity of affordable, nutritious food. More than 800 million people live every day with hunger or food insecurity.

## Food security

When people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life.

## Hydroponics

A method of growing plants using mineral nutrient solutions, in water, without soil.

## Irrigation

Applying water to land in order to supply crops and other plants with necessary water.

## Permaculture

A system of agricultural and social design principles based upon or directly using patterns and features observed in natural ecosystems.

## Sustainable development

Development that meets the needs of the present without limiting the ability of future generations to meet their own needs.

## Sustainable food supply

Food that is produced in ways that avoid damaging natural resources, provide social benefits such as good quality food and safe and healthy products, and contribute to local economies.

## The new green revolution

A combination of modern technology, traditional knowledge and an emphasis on farming, social and agro-ecological systems as well as yields, especially in poorer countries. At the same time, it emphasizes alternative approaches and improved farm management and information systems in order to minimise environmental damage from external inputs and benefit poor farmers and marginal areas bypassed by the original green revolution.

## Undernutrition

This occurs when people do not eat enough nutrients to cover their needs for energy and growth, or to maintain a healthy immune system.

## Urban farming

The growing of fruits, herbs, and vegetables and raising animals in towns and cities, a process that is accompanied by many other activities such as processing and distributing food, collecting and reusing food waste.

### 3.2.3.3 Water

#### 'Grey' water

Wastewater from people's homes that can be recycled and put to good use. Uses include water for laundry and toilet flushing. Treated greywater can also be used to irrigate both food and non-food producing plants. The nutrients in the greywater (such as phosphorus and nitrogen) provide an excellent food source for these plants.

#### Groundwater management

Regulation and control of water levels, pollution, ownership and use of groundwater.

#### Over-abstraction

When water is being used more quickly than it is being replaced.

#### Sustainable development

Development that meets the needs of the present without limiting the ability of future generations to meet their own needs.

#### Sustainable water supply

Meeting the present-day need for safe, reliable, and affordable water, which minimises adverse effects on the environment, whilst enabling future generations to meet their requirements.

#### Waterborne diseases

Diseases caused by microorganisms that are transmitted in contaminated water. Infection commonly results during bathing, washing, drinking, in the preparation of food, or the consumption of infected food. eg cholera, typhoid, botulism.

#### Water conflict

Disputes between different regions or countries about the distribution and use of freshwater. Conflicts arise from the gap between growing demands and diminishing supplies.

#### Water conservation

The preservation, control and development of water resources, both surface and groundwater, and prevention of pollution.

## Water deficit

This exists where water demand is greater than supply.

## Water insecurity

When water availability is not enough to ensure the population of an area enjoys good health, livelihood and earnings. This can be caused by water insufficiency or poor water quality.

## Water quality

Quality can be measured in terms of the chemical, physical, and biological content of water. The most common standards used to assess water quality relate to health of ecosystems, safety of human contact and drinking water.

## Water security

The reliable availability of an acceptable quantity and quality of water for health, livelihoods and production.

## Water stress

Water stress occurs when the demand for water exceeds the available amount during a certain period or when poor quality restricts its use.

## Water surplus

This exists where water supply is greater than demand.

## Water transfer

Water transfer schemes attempt to make up for water shortages by constructing elaborate systems of canals, pipes, and dredging over long distances to transport water from one river basin to another.

### 3.2.3.4 Energy

#### Biomass

Renewable organic materials, such as wood, agricultural crops or wastes, especially when used as a source of fuel or energy. Biomass can be burned directly or processed into biofuels such as ethanol and methane.

#### Energy conservation

Reducing energy consumption through using less energy and becoming more efficient in using existing energy sources.

## Energy exploitation

Developing and using energy resources to the greatest possible advantage, usually for profit.

## Energy security

Uninterrupted availability of energy sources at an affordable price.

## Fossil fuel

A natural fuel such as coal or gas, formed in the geological past from the remains of living organisms.

## Geothermal energy

Energy generated by heat stored deep in the Earth.

## Hydro(electric) power

Electricity generated by turbines that are driven by moving water.

## Nuclear power

The energy released by a nuclear reaction, especially by fission or fusion. Nuclear energy uses fuel made from mined and processed uranium to make steam and generate electricity.

## Renewable energy sources

A resource which is not diminished when it is used; it recurs and cannot be exhausted (for example wind and tidal energy).

## Solar energy

The Sun's energy exploited by solar panels, collectors or cells to heat water or air or to generate electricity.

## Sustainable development

Development that meets the needs of the present without limiting the ability of future generations to meet their own needs.

## Sustainable energy supply

Energy that can potentially be used well into the future without harming future generations. Sustainable energy is the combination of energy savings, energy efficiency measures and technologies, as well as the use of renewable energy sources.

## Wind energy

Electrical energy obtained from harnessing the wind with windmills or wind turbines.