

# Mark Scheme (Results) January 2011

GCSE

## GCSE Geography (5GB1H) Paper 1

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## General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.
- **Mark schemes will indicate within the table where, and which strands of QWC, are being assessed. The strands are as follows:**
  - i) ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear*
  - ii) select and use a form and style of writing appropriate to purpose and to complex subject matter*
  - iii) organise information clearly and coherently, using specialist vocabulary when appropriate.*

Question Number	Answer	Mark
<b>1(a)(i)</b>	Core  Also allow: Iron Liquid / Iron Liquid Core / Outer Core	<b>(1)</b>

Question Number	Answer	Mark
<b>1(a)(ii)</b>	Core  Also allow: Iron Solid / Iron Solid Core / Inner Core	<b>(1)</b>

Question Number	Answer	Mark
<b>1(b)</b>	<p>1 mark for identifying an appropriate reason. Additional mark awarded for describing the impact of the identified reason.</p> <p>e.g. Emergency services are poorly equipped in some countries (1 mark) making it difficult to reach people trapped under collapsed buildings (1 mark).</p> <p>e.g. construction laws are less strict in some countries (1 mark) leading to buildings which quickly collapse when tremors hit (1 mark).</p> <p>Reasons are likely to include:</p> <ul style="list-style-type: none"> <li>• Weaker buildings</li> <li>• Poorly equipped emergency services</li> <li>• Limited access</li> <li>• Population insufficiently prepared</li> <li>• Less money for emergency operations</li> <li>• Stronger earthquake</li> <li>• Densely populated location</li> <li>• Focus closer to the surface</li> <li>• Time earthquake hit</li> <li>• Hazards created e.g. landslides, tsunamis.</li> </ul>	<b>(2)</b>

Question Number	Answer	Mark
1(c)	<p>1 mark for each appropriate response identified. Additional mark(s) can be awarded if candidates provide extending descriptive statements</p> <p>e.g. Safe zones created (1 mark) to inform local residents of the region likely to be affected by a future eruption (1 mark).</p> <p>e.g. Roads are cleared (1 mark) to ensure emergency services (1 mark) and supplies of water, medication and food can get through (1 mark)</p> <p>Likely responses include:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Field hospitals established</li> <li><input type="checkbox"/> Safe Zones created</li> <li><input type="checkbox"/> Roads are cleared</li> <li><input type="checkbox"/> Wounded are excavated</li> <li><input type="checkbox"/> Fires are extinguished</li> <li><input type="checkbox"/> Food and water is distributed</li> <li><input type="checkbox"/> Collapsed buildings are searched for survivors</li> <li><input type="checkbox"/> Police are deployed to prevent lawlessness</li> <li><input type="checkbox"/> Information is distributed (TVs, Radios, Loud Speakers).</li> <li><input type="checkbox"/> Weakened buildings are supported or safety demolished to prevent further collapses.</li> <li><input type="checkbox"/> Money raised and sent from other countries and institutions e.g. UN.</li> </ul> <p><b>Up to three marks can be awarded for stating responses, at least one response must be described for full marks.</b></p> <p>NB: If no case study region is identified, or if only one response is described, maximum mark 3.</p>	(4)

Question Number	Answer	Mark
2(a)	<p>One mark for an accurate but simple statement e.g. the harvests will have failed.</p> <p>Two marks awarded when an appropriate impact has been identified and a clear description provided e.g. Early frosts would damage summer crops (1 mark), resulting in a low harvest (1 mark).</p> <p>Likely answers to include:</p> <ul style="list-style-type: none"> <li>• Frosts damaging crops</li> <li>• New crops grown to reflect changing climate</li> <li>• Marginal land abandoned</li> <li>• Shorter growing season</li> <li>• Inhospitable conditions for livestock</li> <li>• Snow cover made the harvesting of some crops difficult.</li> <li>• Frozen ground prevented ploughing</li> </ul>	(2)

Question Number	Answer	Mark
2(b)	<p>1 mark for identifying an appropriate human activity. Additional mark awarded for describing how the activity is contributing to climate change.</p> <p>e.g. Driving cars (1 mark) releases carbon dioxide (1 mark).</p> <p>e.g. Deforestation (1 mark) prevents the absorption of carbon dioxide (1 mark).</p> <p>Chosen activities are likely to include:</p> <ul style="list-style-type: none"> <li>• Transport - Travelling in petrol/diesel vehicles releases carbon dioxide.</li> <li>• Power generation - The majority of power stations use fossil fuels, which release carbon dioxide when burnt, to generate electricity.</li> <li>• Deforestation (1) - Trees absorb carbon dioxide and therefore cutting down trees prevents future carbon from being locked away.</li> <li>• Deforestation (2) - Felled logs are often burnt to make way for farming adding further CO<sub>2</sub> into the atmosphere.</li> <li>• Large cattle herds - Grazing cattle produce large amounts of methane when digesting food. Methane is a powerful greenhouse gas.</li> <li>• Expansion of rice farming - Organic matter decomposing in flooded paddy fields results in the release of methane.</li> <li>• The use of CFCs in manufacturing - A potent greenhouse gas used in refrigeration.</li> </ul> <p>NB: Although carbon monoxide has little direct effect on climate change it does have a significant indirect effect, leading to the creation of ozone and lengthening the 'lifespan' of other greenhouse gases.</p>	(2)

Question Number	Answer	Mark
2(c)	<p>1 mark for each appropriate response identified. Additional mark(s) can be awarded if candidates provide extending statements.</p> <p>e.g. Traditional farming methods may be unsuitable (1 mark) leading to reduced output (1 mark) and higher prices (1 mark).</p> <p>e.g. Warmer climates will increase rainfall in some regions (1 mark), resulting in more frequent flooding (1 mark)</p> <ul style="list-style-type: none"> <li>• Traditional farming techniques may prove unsuitable in changed climate.</li> <li>• New farming methods (e.g. GM cereals) too expensive to introduce.</li> <li>• Defences against river flooding and storm surges too expensive.</li> <li>• No money to import foods if domestic harvests fail.</li> <li>• Less research to prepare countries for future changes.</li> <li>• Little finance to invest in irrigation schemes to help farmers cope with increasing desertification.</li> <li>• Geographical position of most developing countries (Tropics) mean they are unlikely to experience the benefits some countries may feel from a warming climate e.g. increased agricultural output in Canada.</li> </ul> <p>NB: If no case study region is identified, maximum mark for generic statements 3. Case study must be a developing country.</p> <p><b>Up to three marks can be awarded for stating impacts, at least one response must be explained for full marks</b></p>	(4)

Question Number	Answer	Mark
3(a)	<p>One mark for each valid statement.</p> <p>Common responses likely to include:</p> <ul style="list-style-type: none"> <li>• Heaviest rain in January</li> <li>• Rains throughout the year</li> <li>• Lowest rain in July</li> <li>• Seasonal changes in rainfall</li> <li>• Rainfall decreases between Jan and July.</li> <li>• Rainfall increases from July to Dec.</li> </ul> <p>An additional mark can also be awarded if a student provides supporting figures from the graph.</p>	(2)

Question Number	Answer	Mark
3(b)	<p>1 mark for identifying a valid action. Addition mark awarded for statements which describe how the action conserves the biosphere.</p> <p>e.g. establish national parks (1 mark) to prevent construction that would damage the environment(1 mark).</p> <p>e.g. Sign global treaties (1 mark) to protect endangered animals, such as the tiger(1 mark).</p> <p>Common conservation methods include:</p> <ul style="list-style-type: none"> <li>• National Parks - legal status given to designated regions to protect habitats and wildlife.</li> <li>• Trade Agreements - CITES (Convention on International trade in endangered species) signed by 166 countries. Purposed to prevent trade of items made from endangered species, e.g. ivory products or crocodile skin footwear.</li> <li>• Biodiversity Action Plans - Designed to protect native / natural vegetation in areas where habitats and wildlife are under threat.</li> <li>• Global Treaties - The Ramsar Convention on Wetlands aimed to provide special protection status to endangered wetlands in 151 countries.</li> <li>• Nature Reserve - Provide protection for habitats</li> <li>• Sustainable Industries e.g. selective logging, replanting schemes, rubber tapping</li> </ul> <p>NB : Although the most answers to this question are likely to be rainforest focused, candidates can focus their response on any biome, including marine ecosystems such as reefs and mangroves.</p>	(2)

Question Number	Answer	Mark
3(c)	<p>1 mark for each valid statement. Additional mark(s) can be awarded if candidates provide extending statements.</p> <p><b>As the command word is describe at least one of the goods or services highlighted must be described for 4 marks</b></p> <p>e.g. The rainforest provides use with a wide range of foods (1 mark) including popular fruits such as mangoes and pineapples (1 mark).</p> <p>Common responses likely to include:</p> <p><b>GOODS</b></p> <ul style="list-style-type: none"> <li>• Provide important food sources - fishing, hunting, gathering</li> <li>• Forests provide timber for construction, furniture and paper.</li> <li>• Plants may have a commercial value e.g. rubber</li> <li>• Plants may provide ingredients for medicines</li> </ul> <p><b>SERVICES</b></p> <ul style="list-style-type: none"> <li>• Soils enable commercial agriculture</li> <li>• Landscape and environments may promote tourism development</li> <li>• Forests, marshes and mangroves act as nature flood defences and pollution sinks.</li> <li>• Woodlands are the lungs of the Earth. Through photosynthesis vegetation takes in carbon dioxide and gives out oxygen.</li> <li>• Vegetation provides habitat for wildlife.</li> </ul> <p>NB: If statements are generic, rather than biome specific, Maximum mark 3.</p> <p>NB: Both goods and services need to be identified for the awarding of full marks. If answer only refers to 'goods' or 'services' maximum mark 3.</p>	(4)

Question Number	Answer	Mark
4(a)	<p>1 mark for a basic description e.g. Water use in farming has increased rapidly since 1950. (1 mark).</p> <p>Second mark can be awarded for either providing supporting figures or more detailed description.</p> <p>e.g. Water use in farming has increased rapidly since 1930. (1 mark). In 1950 500 km<sup>3</sup> per year was being used, by 2010 this figure had risen by 2000 km<sup>3</sup> (1 mark)</p> <p>Answer must refer to agriculture only.</p>	(2)

Question Number	Answer	Mark
4(b)	<p>1 mark for identifying a human activity that can cause a reduction in water quality. Additional mark awarded for extending statements that describe how the water quality is reduced.</p> <p>E.g. Pollution from industry (1 mark) can lead to poisonous substances being released into rivers (1 mark).</p> <p>E.g. Fertilisers washed into rivers from farmland (1 mark) can lead to algae blooms (1 mark).</p> <p>Chosen activities are likely to include:</p> <ul style="list-style-type: none"> <li>• The disposal of hazardous waste from industry poisoning wildlife.</li> <li>• Excessive fertiliser use resulting in eutrophication. Algae blooms block out sunlight and starve the water of oxygen.</li> <li>• Deforestation can result in water course siltation, blocking channels and affecting flow and oxygen levels.</li> <li>• Sewage waste disposed in river courses can cause algae blooms and poison river life.</li> <li>• Chemical sprays from gardens, farms and parks can be washed into rivers.</li> <li>• Hot water released from power stations can reduce the water's oxygen content, reducing the rivers ability to sustain life.</li> <li>• Over-extraction can result in river courses experiencing dramatic falls in flow, damaging fragile ecosystems.</li> <li>• Acid rain resulting from industrial pollution can change the pH of a river, killing wildlife.</li> </ul>	(2)

Question Number	Answer	Mark
4(c)	<p>Marks are to be awarded for identifying an appropriate benefit/cost. Additional point(s) can be gained through more in-depth description.</p> <p><b>As the command word is describe at least one of the costs or benefits highlighted must be described to get full marks</b></p> <p>e.g. large dams can be used to provide HEP, a renewable energy source (1 mark) that doesn't lead to increased carbon emissions (1 mark).</p> <p>e.g. The Three Gorges project will dam the Yangtze in China, reducing the flood risk downstream (1 mark) by controlling the amount of water released during periods of heavy rain (1 mark). However, the reservoir created flooded farmland (1 mark) and forced millions to be relocated (1 mark).</p> <p>Common <b>benefits</b> are likely to include:</p> <ul style="list-style-type: none"> <li>• Flood control</li> <li>• Generation of HEP</li> <li>• More reliable water supply</li> <li>• Reservoir for fishing</li> <li>• Dam / reservoir tourist attraction</li> <li>• Regulated flow benefits river transport</li> <li>• Water supply promotes irrigation</li> </ul> <p>Clean water is not an acceptable benefit as a reservoir is just as likely to be polluted as the previous river.</p> <p>Common <b>costs</b> are likely to include:</p> <ul style="list-style-type: none"> <li>• Reservoir floods land</li> <li>• Settlements may need to be abandoned</li> <li>• Expensive to construct</li> <li>• Concrete manufacture releases carbon dioxide</li> <li>• Damages river / wetland habitats</li> <li>• Silt gets trapped behind the dam</li> <li>• Can prevent wildlife (e.g. salmon) migrations</li> </ul> <p>NB: If statements are generic, rather than project specific, Maximum mark 3. If example given is small scale maximum mark is 3.</p> <p>NB: Both costs and benefits need to be identified for the awarding of full marks. If answer only refers to 'costs' or 'benefits' maximum mark 3.</p>	(4)

Question Number	Answer	Mark
5(a)	<p>1 mark to be awarded for each appropriate statement.</p> <p>e.g. Longshore drift is the movement of beach material (1 mark)</p> <p>e.g. Swash pushes pebbles up the beach (1 mark), while backwash pulls them back down (1 mark).</p> <p>Likely answers to include:</p> <ul style="list-style-type: none"> <li>• Longshore drift is the process by which beach material is transported along the coastline</li> <li>• The direction of longshore drift reflects the direction of the wind</li> <li>• Longshore drift is a zig-zaggy motion</li> <li>• Beach material is pushed up the beach by the swash</li> <li>• Beach material is pulled down the beach by the backwash</li> </ul> <p>NB: Answer can be drawn, written or a combination of both. A diagram without labels or explanation - max mark 1.</p>	(3)

Question Number	Indicative content	
<b>5(b)</b>	<p>Hard Engineering usually involves heavy construction and use of materials such as concrete and steel to reduce erosion. These methods have both costs and benefits.</p> <p>Costs</p> <ul style="list-style-type: none"> <li>• Expensive to build</li> <li>• Visual pollution</li> <li>• Often lead to the destruction of natural habitats</li> <li>• May indirectly affect nearby coastlines e.g. reduce sand supply</li> </ul> <p>Benefits</p> <ul style="list-style-type: none"> <li>• Effective at stopping erosion</li> <li>• Promote development of coastline</li> <li>• Can indirectly create tourism attractions e.g. promenades</li> </ul> <p><b>If no/ inappropriate case study region is identified but the rest of the response is at a Level 3 standard maximum mark 4</b></p>	
Level	Mark	Descriptor
	0	No rewardable material
<b>Level 1</b>	1-2	<p>At least one cost or benefit has been identified. Simple / generic statements. Limited subject vocabulary used.</p> <p>e.g. Hard techniques look un-natural and put off tourists. (2 marks)</p>
<b>Level 2</b>	3-4	<p>An attempt has been made to explain at least one cost or benefit. Some linked or elaborated statements. Appropriate location identified. A range of geographical terms have been appropriately applied.</p> <p>e.g. In Scarborough a sea wall was constructed to protect the coastline. The sea wall has been very effective, almost stopping coastline retreat. However, some people think it has put off tourists as it looks ugly. (4 marks)</p>
<b>Level 3</b>	5-6	<p>Detailed / well developed answer. Focused on a specific region. A wide range of geographical terms have been effectively applied. Both costs and benefits have been explained.</p> <p>e.g. In Blackpool a sea wall has been built. Although the wall was expensive to build it did encourage development of the seafront as businesses felt confident that erosion and flooding had been controlled. Due to the size of the sea wall, access to the beach can be difficult. Some Blackpool residents feel that the sea wall has become an ugly barrier keeping tourists away from one of the resorts main attractions. (6 marks).</p>

Question Number	Answer	Mark
6(a)	<p>1 mark to be awarded for each appropriate statement. Likely answers to include:</p> <p>Meanders are formed because...</p> <p>On the outside:</p> <ul style="list-style-type: none"> <li>• the water is deep and fast flowing (1 mark)</li> <li>• there is lots of energy leading to erosion (1 mark)</li> <li>• erosion digs into the bed and bank deepening in the channel (1 mark)</li> </ul> <p>On the inside:</p> <ul style="list-style-type: none"> <li>• it is shallow and slow flowing (1 mark)</li> <li>• there is little energy so the river's load is deposited (1 mark)</li> <li>• deposited material builds up to form a slip-off slope (1 mark)</li> </ul> <p>NB: Answer can be drawn, written or a combination of both. A diagram without labels or explanation - max mark 1.</p>	(3)

Question Number	Indicative content	
6(b)	<p>Human factors which contribute to flood risk:</p> <ul style="list-style-type: none"> <li>• <b>Deforestation</b> - Reduces interception and infiltration, increases overland flow. More water reaches the river and lag time is reduced.</li> <li>• <b>Urbanisation</b> - Impermeable surfaces, such as tarmac, prevent infiltration. Drains channel water directly and quickly to rivers.</li> <li>• <b>Peat Extraction</b> - Peat is capable of soaking up and holding onto large quantities of water. Where peat has been removed (garden compost), more water can reach the channel.</li> <li>• <b>Global Warming</b> - Increasing temperatures can result in rapid glacier melt, increased rainfall and more frequent storms, resulting in greater river flows.</li> <li>• <b>Flood Defences</b> - Flood defences in one location can cause flooding elsewhere. Hard flood defences usually increase flood speed in protected regions. When the defence stops, the water rapidly slows and builds-up causing flooding.</li> <li>• <b>Waste</b> - During periods of heavy rain waste and sewage is sometimes released into rivers increasing flow levels.</li> </ul> <p>If no/ inappropriate case study region is identified but the rest of the response is at a Level 3 standard maximum mark 4</p>	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	Simple statements. Limited subject vocabulary used.  e.g. Buildings can increase flood risk.
Level 2	3-4	Location identified. 1 human action has been explained. Linked or elaborated statements. A range of geographical terms have been appropriately applied.  e.g. The flood risk in York was increased by the removal of peat and deforestation, as this led to higher levels of surface runoff resulting in a shorter lag time. (4 marks)
Level 3	5-6	Detailed / well developed answer focused on case study region. A wide range of geographical terms have been effectively applied. Answer explains how two (or more) actions have increased flood risk.  e.g. Flooding has increased in York because of deforestation. The removal of forest cover has increased overland flow, resulting in more rainwater reaching the river Ouse. River levels have also increased due to urbanisation. York and nearby towns have grown in size leading to large areas being covered in impermeable materials, such as tarmac, increasing lag times and therefore flood risk.

Question Number	Answer	Mark
<b>7(a)</b>	<p>Award a mark for any appropriate statement. Answer can be from knowledge or 'lifted' from figure 7.</p> <p>Common answers likely to include:</p> <ul style="list-style-type: none"> <li>• Mangroves can make coastal transport difficult</li> <li>• Mangroves create ideal conditions for the spread of disease</li> <li>• Mangroves may need to be removed to make space for new hotel developments.</li> <li>• Mangroves can make it difficult to access the beach.</li> <li>• Mangroves are home to a number of dangerous animals.</li> </ul>	<b>(1)</b>

Question Number	Answer	Mark
<b>7(b)</b>	<p>Basic definition 1 mark e.g. over-fishing is when too many fish are caught. ( 1 mark).</p> <p>Additional point scored by either providing an extending statement</p> <p>e.g. catching too many fish (1 mark) so the remaining population is threatened with extinction. (1 mark).</p> <p>Credit to be given to candidates who provide a relevant species example (e.g. Cod population).</p>	<b>(2)</b>

Question Number	Indicative content	
7(c)	<p>Climate change is likely to have a significant impact on marine ecosystems.</p> <ul style="list-style-type: none"> <li>• Changes in the strength and direction of warm and cool currents could lead to significant temperature change in some marine ecosystems</li> <li>• The melting of Greenland's and Antarctica's ice sheets will lead to billions of gallons of ice-cold / fresh water being added to the world's oceans. Reducing temperatures and salinity.</li> <li>• Warmer temperatures in tropical seas could lead to a reduction of micro-plankton as nutrient mixing slows, resulting in food shortages throughout the entire food web.</li> <li>• Fragile corals could be damaged by increasingly stormy seas. Higher water temperatures are also likely to result in coral bleaching and eventually collapse.</li> <li>• Increased storm activity and the resulting flooding, could lead to ecosystem destruction from washed in pollutants, fertilisers and silt.</li> <li>• Higher sea levels from glacier melt and thermal expansion could leave coastal marine ecosystems, such as mangrove forest and salt marshes, permanently submerged.</li> <li>• Changes in temperature could lead to biodiversity changes unbalancing food webs, leading to ecosystem collapse.</li> </ul>	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	<p>Answer identifies at least one cause of additional stress which has resulted from global warming. Limited subject vocabulary used.</p> <p>E.g. Melting ice will lead to some seas becoming colder.</p>
Level 2	3-4	<p>An attempt has been made to explain at least one threat. Some elaborated / extended statements. A range of subject specific terms have been used.</p> <p>Melting ice sheets in Greenland and Antarctica will result in changes in seawater temperature. This could lead to ocean currents slowing or even changing direction, cooling some regions while others heat up.</p>
Level 3	5-6	<p>Detailed / well developed answer. At least one threat has been clearly explained. Answer includes clear linkage. Effective use of subject specific terms.</p> <p>Melting ice sheets in Greenland and Antarctica will dump billions of tonnes of cold fresh water into the oceans, changing the temperature and salinity of the oceans. This could slow or change the direction of ocean currents. Warmer tropical seas will lead to coral bleaching, resulting in reef collapse and ecosystem destruction.</p>

Question Number	Answer	Mark
<b>8(a)</b>	<p>1 mark for any suitable suggestion.</p> <ul style="list-style-type: none"> <li>• Contact with ‘stronger’ cultures.</li> <li>• Loss of language as use of ‘tourist language’ brings job opportunities.</li> <li>• Tourism brings in-migration of workers with an ‘alien’ culture.</li> <li>• Increased development leads to new expectations.</li> <li>• More money enables locals to adopt modern practices.</li> <li>• Improved transport makes it easier for locals to experience different cultures.</li> </ul>	<b>(1)</b>

Question Number	Answer	Mark
<b>8(b)</b>	<p>1 mark for identifying an appropriate adaptation. Additional mark for extending statements.</p> <p>E.g. The Inuit populations of Lapland have become nomadic people (1 mark), moving around to find suitable pastures for their reindeer (1 mark).</p> <p>Hot Arid:</p> <p>Water supplies are secured through dams and boreholes. Grey water is recycled. Houses are built into the rock, limiting temperature extremes. Solar panels are used to generate electricity.</p> <p>Polar:</p> <p>Houses are built with steep roofs causing snow to slip off. Triple glazed windows trap heat indoors. Houses are built on stilts to prevent their heat melting the permafrost. Reliance on hunting and fishing as climate prevents farming. Geothermal heat sources are used to warm homes and generate electricity.</p>	<b>(2)</b>

Question Number	Indicative content	
<b>8(c)</b>	<p>Local approaches to sustainable development depend upon the case study region. Some examples include:</p> <p>Hot Arid:</p> <p>In Siguin Vousse in Burkina Faso Oxfam has been working with local farmers to improve soil fertility and improve rainwater management. Diguettes, earth barriers, were laid to trap soil and soil down rainwater.</p> <p>In Zambia, Oxfam has trained people to use conservation farming. Crop yields have been increased through a multi-cropping programme. This system involves the growing of trees, shrubs, and ground level plants all in the same area. As well as increased output this layered vegetation approach improves soil quality and reduces moisture loss.</p> <p>Polar:</p> <p>In Iceland geothermal energy has been used to create sustainable energy. Magma heated groundwater is used for heating and electricity generation. Using geothermal energy, farmers are able to heat and light greenhouses allowing vegetables and fruits to be grown throughout the year</p> <p><b>If no/ inappropriate case study region is identified but the rest of the response is at a Level 3 standard maximum mark 4</b></p>	
Level	Mark	Descriptor
	0	No rewardable material
<b>Level 1</b>	1-2	<p>At least one action has been identified. Generic statements - simple descriptions.</p> <p>E.g. Sustainable energy can be created in arid countries by using solar panels.</p>
<b>Level 2</b>	3-4	<p>Focused on a specific region. An attempt has been made to explain at least one sustainable action. Reasonable use of geographical terminology.</p> <p>E.g. Farmers in Iceland are able to grow fruit and vegetables throughout the year by using geothermal energy to heat and light greenhouses.</p>
<b>Level 3</b>	5-6	<p>Focused on a specific region. Detailed explanation two or more LOCAL sustainable actions. Wide range of geographical terms applied.</p> <p>E.g. Farming in Zambia has become more sustainable due to a conservation farming technique introduced by Oxfam. Farmers grow a wide range of foods from trees, bushes and ground plants all on the same land. This leads to increased output, a healthier diet and the plant layers protect the soil from erosion and reduce the flood risk. Farmers are no longer dependent on the success of one crop or its price at market.</p>

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