

GCE

Geography

Advanced GCE A2 H483

Advanced Subsidiary GCE AS H083

OCR Report to Centres

June 2012

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This report on the Examination provides information on the performance of candidates which it is hoped will be useful to teachers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding of the specification content, of the operation of the scheme of assessment and of the application of assessment criteria.

Reports should be read in conjunction with the published question papers and mark schemes for the Examination.

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Overview

General Comments

It remains important that candidates indicate if they have used pages or continued answers elsewhere. This is particularly important for F763 where candidates should avoid writing answers to Section B in the space for Section A and vice versa. Candidates at AS should continue to show the number of Section B question they are answering.

The quality of communication could be improved by many candidates, who struggled to express their ideas, especially in Section A answers for all four question papers. The essay answers in Section B were noticeably of higher quality. Candidates need to understand that it is in the short answer questions that clarity and conciseness are vital.

Some commonly used terms are often left unexplained so examiners are uncertain that the candidate fully understands their meaning. This includes terms such as: pollution, services, multiplier and infrastructure.

In many answers there was a fundamental lack of place with too many answers that exemplified by 'eg Birmingham'. Candidates need to learn the basic geography of their case studies. Many knew detailed 'facts' but for areas that they couldn't locate or/and within which they could not name any locations.

The quality of handwriting remains an issue. Centres should consider using word processors for their candidates where this is an issue.

AS Comments

Consistency is the key for doing well at AS. A few weak answers in Section A, often the last part of a question, reduced the overall level of performance.

Those aspects of the examination that were encouraging included a good knowledge and understanding of the topics (especially cause and effect) and effective essay writing which is often a new challenge to AS candidates.

Essays were usually well argued, knowledgeable and candidates scored well in Section B but to be even more effective candidates need to:

- Keep to a few detailed examples;
- Show some attempt at a conclusion as the mark scheme rewards clear or effective conclusions;
- Be wary of chatty introductions;
- Think if a sketch map or diagram helps the argument;
- Try to keep answers analytical and explanatory rather than be purely descriptive;
- Make it locational with a clear sense of place;
- Use more local examples;
- Structure their answers using paragraphs, each with a distinctive aspect;
- Produce a plan which helps organise an answer.

A2 Comments

The key at A2 is the ability to evaluate. Some candidates do not seem to appreciate what this means so gave broad descriptions. Typically in F764 candidates were asked to evaluate the success of an aspect of their investigation but often this resulted in a description of how they did their investigation or a listing of factors. In F763 too many gave causes for their issues in Section A.

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Candidates must:

- Read the question carefully and then answer each aspect of it;
- Be relevant don't include material not needed;
- Exemplify with a clear sense of space or location;
- Use diagrams to illustrate points especially in F764;
- Structure their work with a worthwhile conclusion.

Additionally, candidates should have a strategy of how they are going to approach essays and short section questions in both papers. Which should they do first? There is no perfect answer and it will vary with individual candidates but some clearly struggle by doing essays first and subsequently running out of thinking time for Section A answers.

F761 Managing Physical Environments

General Comments

There was some excellent exemplification in the longer responses, with a clear understanding of the geography being examined and a secure grasp of the question demand. Performance tended to be quite consistent through the paper. This was true at both ends of the mark range. Essays received high marks where candidates were able to apply their understanding to the question set. Where they did not do this, they were often limited to Level 1 in AO2. In AO3, higher scoring responses were well structured, fluently and accurately written with conclusions that related directly to the question.

A very small number of candidates made rubric errors, typically answering both Q1 and Q5, or Q2 and Q6. There was very little evidence of candidates not having enough time to complete the paper.

Comments on Individual Questions

Section A

River Environments

- 1 (a) (i) This was answered well by most candidates. High scoring answers either provided detail of the evidence, such as the names/number of tributaries or relief data, or made links to flooding risk. A small number of candidates referred to human, rather than physical, factors.
 - (ii) Very good responses focused on the resultant increase in surface run-off following urbanisation or removal of vegetation. Links to reduced interception or infiltration were helpful. Weaker answers often referred to the lack of trees to "absorb" water.
 - **(b)** Some answers lacked focus on "different" land uses, for example outlining conflicts between settlements over water supply. The nature of the conflict was often not clearly stated or implied. Explicit reference to how the different uses may lead to competition for limited water supply, for instance, would be helpful.
 - (c) Good answers explained how management addressed flood risk. This could include prevention, prediction or protection. Much uncertainty existed over who was responsible for management of flood risk with confusion over the roles and responsibilities of the Environment Agency, local councils and landowners often evident. There was much confusion over the role of the Thames Barrier whilst the purpose of channel straightening, widening/deepening was seldom explained. There was often a lack of detail of the located examples. Few specified exactly whereabouts on the river specific strategies were employed, for example.

Coastal Environments

(a) (i) The best answers to this question made good use of the evidence provided from the map. Some effective links were made between the path of storms and the direction of the prevailing wind and wave energy. Although most referred to a need for protection from erosion, it was also valid for candidates to consider the need for protection against longshore drift or mass movement. A few answers addressed human reasons.

- (ii) Answers here typically related to the caravan site and the hotels. However, few made much of a case for why they needed protecting. Good answers referred to their economic value in terms of employment and spending in the local economy. The importance of the road to enable access to tourist facilities and sites was also understated. Some very good answers commented on the likely cost: benefit ratio.
- (b) A number of responses failed to focus on "different" activities, referring to coastal defences such as groynes on one stretch of coastline having implications downdrift. Better answers often considered the issues of industrial pollution on conservation of coastal ecosystems. Contamination of food chains being an especially effective link.
- (c) Many good answers were seen with clear explanation of how coastal defences protect economically valuable properties against wave erosion. The role of groynes was often well explained in terms of increasing beach width to absorb wave energy. Less convincing were those that failed to link their management strategies to development that had taken place. Candidates who discussed managed retreat or policies of no active intervention often found it difficult to explain how these provided protection. The distinction between beach nourishment, profiling and recycling was sometimes rather blurred.

Cold Environments

- **(a)** Most candidates were able to make valid observations about challenging conditions although were not always very explicit about the evidence. Comments about the nature of the terrain were often unconvincing.
 - **(b)** A significant proportion of responses included more than two adaptations and so the best two were credited in each case. Adaptations could be physiological or behavioural. Those referring to animals having thick fur often did not explain how it kept them warm; many simply stating that it did.
 - (c) Many answers showed great confusion between processes of weathering and erosion. Lengthy accounts of freeze-thaw were often provided. Only a few then linked that to weakening of the bedrock allowing faster rates of erosion or the provision of debris for abrasion. Some became side-tracked onto processes of meltwater erosion when discussing the factor of temperature. References to rock type were often poorly explained; hard rock is eroded slowly being typical of an undeveloped idea. Better answers referred to particle cohesion or the absence of weaknesses.
 - (d) The highest level responses showed an appreciation of what it is about cold environments that results in challenges for development. Some good detail of the difficulties of ground conditions and climatic conditions was seen, although there was a lack of climate data as evidence to support the use of the located examples. Alaska, Antarctica, Nepal and the Alps were commonly used as examples. Many responses reversed the focus of the question and considered challenges resulting from development, such as damage to ecosystems. This needed to be linked to their fragility for it to be fully relevant. Others were side-tracked onto how the challenges were being overcome. Disappointingly few answers made links to the additional costs involved in overcoming the challenges, which was relevant.

Hot Arid and Semi-Arid Environments

- 4 (a) Many good answers were seen with candidates making good use of the evidence in the photograph to infer a lack of water availability and high temperatures. Some inferred rather too much, particularly in terms of seasonal variations/differences which were not evident. Many cited a lack of shelter, but did not specify what it was that was lacking or what animals needed to be sheltered from.
 - **(b)** Answers were generally detailed and well-focused. Occasionally there was a lack of linkage to the conditions, but good technical detail was seen over physiological adaptations such as the production of concentrated urine. The role of large ears in aiding heat loss was less fully explained.
 - (c) A disappointing number of answers were quite heavily focused on depositional processes or even on aeolian rather than water processes. The best answers often referred to the generation of large volumes of water in flash floods, with some linking precipitation rates to infiltration capacity and the consequent generation of surface run-off. References to rock type were often poorly explained; soft rock is eroded quickly being typical of an undeveloped idea. Better answers referred to particle cohesion or the presence of weaknesses.
 - (d) The highest level responses showed an appreciation of what it is about arid environments that results in challenges for development. Some good detail of the difficulties of high temperatures and low rainfall was seen, although there was a lack of climate data as evidence to support the use of the located examples. The Draa valley, Kushab, Arches National Park and Uluru were frequently used as examples. Many responses reversed the focus of the question and considered challenges resulting from development, such as damage to ecosystems. This needed to be linked to their fragility for it to be fully relevant. Others were side-tracked onto how the challenges were being overcome. Disappointingly few answers made links to the additional costs involved in overcoming the challenges, which was relevant.

Section B

- To successfully answer these questions, candidates needed to link factors, processes and landforms. Geology was the most commonly used factor, although many answers tended to lack explanation of why some rocks are more easily eroded than others. Detail of the specific mechanisms of erosion was sometimes provided, such as abrasion and hydraulic action, although this was not always linked to the landforms. Many simply described sequences such as undercutting, collapse and retreat of cliffs or waterfalls without applying their understanding of the process mechanisms. A surprisingly large number of candidates became side-tracked onto depositional landforms such as spits or deltas. Candidates scoring highly in AO2 tended to recognise that a range of factors was involved, that these were both physical and human and that their influence varied.
- Many responses to these questions needed to have a much clearer focus on the concept of sustainability. Reference needed to be made to how the environment could be used both in the present and the future and/or how socio-economic and environmental needs could be met in a balanced way. This was essential for the award of high marks for AO2. The emphasis in many of the weaker answers was very much on conservation of the environment, rather than on its sustainable use. Another common weakness was that management strategies were described, but little explanation was provided of how they worked and what was achieved by their use. Considerable confusion existed over the implementation of the Antarctic Treaty in Q7.

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The Tombs of the Kings was seldom used effectively in Q8. Very good responses discussed examples such as Alaska and the Alps in Q7 and the Draa Valley and the Grand Canyon in Q8, sometimes recognising the benefits brought to local communities as well as the more obvious economic gains. The Kushab Project is an excellent example for Q8, as it meets economic needs by providing jobs in farming and food processing, meets social needs by reducing the occurrence of water-borne diseases and meets environmental needs by decreasing waterlogging and salinization of soils.

F762 Managing Change in Human Environments

General Comments

Virtually all candidates completed the paper, suggesting a high level of preparation in relation to the timing of the paper. There were very few rubric errors.

The use of the resources was not always consistent; errors in basic skills costing a significant number of candidates marks. The follow on question part (ii) was often answered effectively. This pattern suggests a lack of practice in relation to the use of resources while at the same time sound understanding of the key ideas being examined.

Responses to the six mark questions generally showed a good level of basic understanding and in many cases some sound development. However, a number of candidates did not respond to the command which asked for "two" factors and went on to mention three or four points. This often resulted in rather superficial answers and was usually self-limiting.

A significant number of candidates used appropriate and well developed examples in the nine mark questions, at times to great effect. Responses to the essay questions were generally sound. They showed a good level of understanding and in many cases considerable locational detail. It was evident that the majority of candidates had been well prepared for the essay and a significant proportion of candidates drew up a clear plan which was then used to produce an effectively structured essay, often with a sound conclusion.

Two general concerns were identified from a number of scripts. Firstly, it was evident that a number of candidates did not understand some of the basic specification terminology. Terms such as land-use, socio-economic, gross national income, energy mix and renewable energy were not always understood. A second concern was the use of examples which were somewhat generic or not entirely appropriate, at times because of their historical nature. While general examples (which give ideas about the topic rather than consider the specific aspect of the topic under discussion) can give some insight into the question they often lead to answers which are rather vague or superficial and can be rather descriptive. This can be a significant factor in showing depth of understanding. The choice of example(s) often dictates the overall quality of the response – this is very noticeable at the higher mark levels.

Comments on Individual Questions

Section A

Managing Urban Change

- 1 (a) (i) The majority of candidates used Fig. 1 effectively to identify the trends in water supply and demand in Chennai. A significant proportion of candidates referred to the specific statistics in order to develop their answers, however, some simply quoted numbers without reference to what the numbers actually showed. A small number of candidates did not appreciate that the 2021 data was an estimate and referred to 2021 as a reality.
 - (ii) The majority of candidates considered population growth as a major factor in increasing the demand for water. When effectively developed this idea provided a useful gateway into the question. There were a number of other demand factors identified, the more common being points about increasing levels of wealth leading to increasing demand and the general point about industrial growth creating additional demand. Factors affecting supply were not always

considered so effectively. The most common idea was based around the lack of infrastructure and the consideration that India was a developing country and simply could not afford to extend water supply. Relatively few candidates developed points about the projected increase in water supply. Those that did often brought in thoughtful ideas, largely focusing on development/infrastructure projects and at times bringing in points linked to broader residential improvement schemes. A small number of candidates considered that the projected increase in water supply might be related to the growing industrial demand for water or water aid projects.

- (b) The majority of candidates considered this question in relation to land use rather than land use patterns. In most cases this did not significantly restrict the quality of responses. It was clear that a small number of candidates did not fully understand what was meant by "political" in the context of urban planning. Those that did were generally able to make two useful points; the extent to which the points were developed was the differentiating factor. In most cases candidates considered building restrictions (Green Belt) as a major factor, although a significant proportion of candidates took a rather simplistic view of this, often considering Green Belts as areas where no development was permitted. Other points that were frequently considered were observations about regeneration projects, housing initiatives and the development of infrastructure. A small number of candidates used the regeneration of the Olympic site as an example of political influence over land use/land use change. Some of these responses were very effective and showed an impressive level of understanding.
- The majority of candidates showed some understanding of "deprivation", many considering a range of statistical data which might be used to measure deprivation. A number of candidates developed this theme further by describing the ways in which governments classify deprivation. The question was interpreted in two different ways by candidates in approximately equal measure. One interpretation considered how areas fall into deprivation, usually identifying industrial change or decline as the major factor. The second interpretation considered how areas of deprivation are being redeveloped, often by looking at regeneration schemes. Both of these approaches were seen as a suitable way of addressing the question, and in many cases the same case studies were used irrespective of the approach taken. The quality of the answer was usually dictated by the strength of the locational knowledge. Those candidates who had a detailed example of an area of deprivation at their command often produced well documented and thoughtful answers. Those that did not generally produced generic answers which showed some awareness of the question but lacked both the knowledge and understanding to reach the higher marks. Typical of this type of approach was where whole cites (often Birmingham, Sheffield, Manchester and Liverpool) were quoted as deprived areas and very general (and often rather historical) observations were made. The key to exploring this topic is to select a smaller area where census data (or other socio-economic data) can be used to illustrate deprivation and then look at how focused investment is trying to resolve some of the identified issues.

Managing Rural Change

2 (a) (i) The majority of candidates used Fig. 2 effectively to identify the overall differences in access to services between remote and accessible rural areas. A significant proportion of candidates went on to develop this theme by using specific data to back up their observations or considered relative differences to particular services.

- (ii) The majority of candidates were able to express two possible reasons for the differences identified in part (i). The two most common ideas focused on issues of road access and population and when fully developed and clearly linked to the observations made in Q2(a)(i) they often produced excellent responses. A number of candidates considered the differences between social services and commercial services, often with particular reference to schools and doctor's surgeries. Observations about Primary schools serving local communities while Secondary schools had larger catchments were at times very effectively made.
- (b) There were some excellent responses to this question. The majority of candidates clearly understood the terminology expressed in the question and were able to explain how building development can affect rural environments. Observations about loss of habitat, changes to water courses and how building might increase the risk of flooding were often very effectively made. The higher quality answers fully addressed the command "Explain" and did not simply describe development pressures. A small number of candidates discussed farming change rather than building development or simply used unqualified terminology such as "pollution" or "environmental damage". While these ideas may have shown a basic insight they did not really address the question in any depth.
- (c) This question generated some interesting responses, with a number of candidates considering how rural development can create economic challenges for local people. The main areas for discussion were based on the following observations; upward pressure on house prices making it difficult for local communities, small shops and services closing as larger businesses open and increased mechanisation in agriculture creating challenges for rural employment. Observations about the growth of tourism creating seasonal unemployment were also considered by a number of candidates. A number of different examples were used to address the question, with some interesting and well developed points raised about how rural development projects in parts of the developing world can economically marginalise some rural dwellers.

The Energy Issue

- The majority of candidates used the photograph (Fig. 3) very effectively to 3 (a) (i) identify how the exploitation of energy resources might harm the physical environment. A significant proportion of candidates considered how removing the forest would affect the wider woodland ecosystem, many developing this theme further by considering how this might also affect water courses and create problems of erosion. Many candidates went on to consider the wider implications, discussing how exploitation of a relatively small area might have broader impacts because of the need for the development of transport links and workers settlements. A small number of candidates ignored the reference to Fig. 3 in the guestion and embarked on a discussion about global warming. While this approach raised some interesting points it did not address the key idea of the question which was essentially based on a local area as identified in the photograph.
 - (ii) The most popular idea considered was that of employment. A significant number of candidates developed this theme very effectively, identifying the fact that a range of direct employment possibilities of different skills would be required and that there would be significant multiplier employment possibilities associated with a development of this scale. A small number of candidates drew a parallel with oil developments in Alaska to illustrate how oil exploitation had significantly affected the local economy. While not specifically demanded, the

use of an appropriate example in this context was a useful tool in helping to show a clear understanding of the question. In addition to observations about employment possibilities candidates also considered the impact of increases in local income, both at individual and governmental levels. A number of candidates developed this theme very effectively, suggesting that increases in local government revenues could be used to develop infrastructure and improve local services.

- (b) Candidates found the idea of economic influences on energy supply quite challenging. A significant number of candidates took the view that an increase in demand would lead to an increase in supply and so discussed the economic factors that might influence demand. When carefully considered and clearly linked back to the idea of supply this approach produced some interesting and useful answers. Those candidates who did address the key idea of economic influences on supply often produced thoughtful and well considered responses. A number of interesting points were considered, including observations about the relative price of different energy sources, the impact of the cost of infrastructure and transportation on supply, the effect of government subsidy on the development of particular types of energy and how rising energy prices have made supply increasingly viable, especially in challenging locations.
- (c) It was clear that the majority of candidates had a sound understanding of the concept of "energy mix" and in most cases had an appropriate case study at their command. Many candidates were able to use detailed figures when describing the relative contributions of different energy sources to the energy mix of their chosen country. The most commonly used examples were India, Mali, Bangladesh and Brazil. The quality of responses was generally a reflection of the level of explanation that candidates were able to offer for the energy mix of their chosen country. At the highest level candidates offered a detailed explanation, often bringing in ideas about the availability of resources, links to levels of development and the distinction in types of energy use between rural and urban areas.

Many candidates showed an impressive understanding of the question which was very effectively backed up by detailed locational knowledge.

The Growth of Tourism

- 4 (a) (i) The majority of candidates used the photograph (Fig. 4) very effectively to identify how the development of tourism might harm the physical environment. A significant proportion of candidates considered how both the building and the operation of the tourist resort might affect the physical environment. Observations about how development might change ecosystems and sediment flow were frequently expressed, in some cases with clearly developed reasoning. A small number of candidates simply used generic, descriptive observations (pollution, environmental damage ie) with no real reference to Fig. 4.
 - (ii) The most popular idea considered was that of employment. A significant number of candidates developed this theme very effectively, identifying the fact that a range of direct employment possibilities would be required and that there would also be significant multiplier employment possibilities associated with the development of a large tourist resort. A small number of candidates drew a parallel with other areas to illustrate how they had been affected by the development of tourism. While not specifically demanded, the use of an appropriate example in this context was a useful tool in helping to show a clear understanding of the question. In addition to observations about employment

possibilities candidates also considered the impact of increases in local income, both at individual and governmental levels. A number of candidates developed this theme very effectively, suggesting that increases in local government revenues could be used to develop infrastructure and improve local services.

- (b) There were a number of thoughtful responses to this question. The majority of candidates were able to identify two ways in which economic factors influence the growth of global tourism. The quality of the response was generally dictated by the clarity of the answer and how effectively the candidate considered the idea of "global". The more commonly expressed ideas were observations about rising disposable incomes, the development of transport infrastructure, the growth of low cost airlines and general points about how countries are encouraging the growth of tourism as part of an economic development strategy.
- (c) There were some impressive responses to this question. The majority of candidate showed some awareness about the relationship between tourism and economic development. At the basic level candidates identified the fact that tourism brought in money and created employment. This theme was developed effectively by many candidates who brought in ideas about the economic multiplier and the way that tourism had provided the stimulus for social and environmental development. A significant number of candidates brought in detailed statistical data in order to back up their discussion. At the highest level a very broad appreciation of "economic development" was considered, bringing in detailed observations about the links to "hard" and "soft" infrastructural developments. A small number of candidates took the view that tourism had not always played a significant part in the economic development of countries, considering that the fickle nature of tourist demand can make the economic reliance on tourism quite problematic. Observations about leakage, seasonality and exploitation were frequently mentioned in what were often very sophisticated essays.

Section B

5 The majority of candidates showed some awareness of the issues relating to traffic congestion in urban areas. In most cases appropriate case studies were used to address the question, the more common being London, Mexico and Mumbai. Candidates generally used one of two approaches to this question. The first approach considered the problems associated with traffic congestion, in most cases focusing on environmental issues relating to air pollution. While this approach provided an appropriate way of addressing the question, responses were often quite narrow, often not considering the economic issues relating to traffic congestion or bringing in any observations relating to factors such as business costs or social costs. Those candidates who did consider points beyond fairly generic environmental ideas often produced thoughtful and well documented responses. The second approach considered that traffic congestion was a problem so the issues related to it were essentially how to manage these issues. The focus to these responses was consequently about traffic management and usually ideas were specifically related to the chosen case studies. Where candidates had detailed examples at their command, answers were often very impressive and in some cases candidates considered a range of strategies that were being used by particular places, often to great effect. A number of candidates who took the environmental approach quickly moved away from focusing on their chosen case study and began a broader discussion about global warming. This is not an uncommon situation whenever a question has potential links to air pollution. Candidates should guard against this because it usually moves them away from the focus of the question. A small number of candidates addressed the question with reference to what are essentially rural areas.

- 6 There were some very sound answers to the question with a considerable proportion of candidates bringing in appropriate and detailed case study material. In general terms the overall quality of individual responses was related to the detail expressed through the chosen case studies and the range of problems examined. Added to this was the key idea of "problems" expressed in the question. Those candidates who picked this up and showed a clear appreciation of why certain pressures become problems, with a clear "cause-effect" discussion, often produced thoughtful answers. A number of candidates simply focused on a narrow range of environmental ideas (often footpath erosion and litter). These answers looked somewhat generic and lacked detail, often not getting beyond a simple description rather than discussing why these issues may create problems for the local environment and local economy. A number of candidates who identified increasing traffic as a major problem sometimes moved away from focusing on their chosen case study and began a broader discussion about global warming. This is not an uncommon situation whenever a question has potential links to air pollution. Candidates should guard against this because it usually moves them away from the focus of the question. A small number of candidates addressed the question in relation to farming change. Where there were some tentative links to recreation and leisure activities this was creditworthy, but in most cases this approach to the question was inappropriate.
- 7 The majority of candidates showed a good understanding of the question, in many cases using very well documented examples to address the question. The more commonly used examples were Norway, Germany, Iceland and California. A small number of candidates also brought in points about small scale energy projects in developing countries, often using examples of NGO projects. This produced some interesting discussions about the relative sustainability of different types of energy use. A wide range of renewable energy types were considered and in many cases candidates entered a discussion about the relative merits of different types of renewable energy and the actual and potential part they might play in satisfying energy demands. In general terms the overall quality of individual responses was related to the detail expressed through the chosen case studies. Those candidates who used detailed examples and clearly accurate facts about energy production produced very impressive responses. A small number of candidates considered ideas about energy conservation and energy efficiency as a means of managing demand. Where this approach demonstrated a clear link to the question useful points were made. In most cases this was not really the case, answers generally simply describing energy efficient building developments.
- 8 The majority of candidates showed a good general understanding of the guestion, in many cases using very well documented examples to address the key idea. A wide range of examples were used, often with a considerable level of detail. In general terms the overall quality of individual responses was related to the choice of examples and the level of detail expressed. Those candidates who used appropriate and detailed examples which showed clear evidence of sustainable management produced very effective responses. The use of examples which were slightly narrow in focus tended to limit the opportunity of showing a broad understanding of the idea of sustainability. A commonly used example of this was seen in the use of Antarctica, where some candidates simply identified environmental pressures and described how they were being managed with little reference to the concept of environmental sustainability. This was also evident in the use of National Parks where candidates often showed an excellent appreciation of environmental pressures and their management but often did not consider the social and economic aspects of these areas in relation to broader issues of sustainability. Where there is a clear concept expressed in a question, for example "sustainability", it is worth expressing an understanding of the concept and then selecting examples which will allow that understanding to be fully developed. In doing this, candidates will show that they understand the concept and have appropriate knowledge to develop their understanding of it. This will give the opportunity of reaching the highest marks in AO1 and AO2.

F763 Global Issues

General Comments

There were an encouraging number of scripts whose combination of substantial and authoritative geographical knowledge and understanding and clear structure, organisation and fluency of expression, resulted in responses of high quality. Such scripts represent a great deal of very effective teaching and learning for which both teacher and candidate must take credit. At the very highest level, it has been pleasing to read essays which unambiguously wove relevant theory into answers. Candidates earning themselves a top quartile place were those who could support their discussions with detailed and accurate factual material. But above all is the perennial truth that those who directly and explicitly answer the question, achieve highly. Thus those who simply replicated pre-learned material tended to offer issues and strategies which did not emanate from the resource in Section A and omit the key element of evaluation in Section B essays.

Comments on Individual Questions

Section A

The standard of response ran right across the whole range of marks available although generally candidates adopted an appropriate structure that focussed on one geographical issue and then offered two or three (and occasionally more) appropriate strategies. There continues to be a concern that some candidates do not outline an appropriate geographical issue, relying on a description of the resource. There is also a tendency for too many candidates to over elaborate their answers with, for example, extended explanations of the feature, pattern or process which is the focus of the question. When dealing with strategies, candidates should be reminded that these are to be 'appropriate' to the issue identified.

Earth hazards

There were many effective responses dealing with the issue of earthquake magnitude and deaths. Candidates identified contrasts among the events plotted on the scatter graph according to level of development of the location affected. The more convincing answers quoted figures from the resource. Strategies were discussed enthusiastically by most candidates but a key discriminator here was how appropriate they were. Too many candidates made much of prediction which, despite significant investment, remains out of reach even for the most advanced of societies. Suggestions of evacuation were likewise unrealistic. Answers offering strategies such as disaster planning and preparedness, building regulations and the particular protection of key infrastructure, were generally more successful. Comments about how appropriate and practical specific strategies might be in places of different levels of development generally moved a response higher.

Ecosystems and environments under threat

The text extract about the exploitation of a natural resource, fish stocks, was used well by some candidates to identify a variety of issues emanating from pressure on ecosystems. These included loss of biodiversity with the more convincing answers highlighting impacts spreading throughout food webs and chains from the severe loss in numbers of particular species. Economic and social impacts on communities reliant on a specific ecosystem/environment were also well outlined by some as was the issue of the 'tragedy of the commons'. Appropriate strategies generally emerged which either could be of a generic nature such as the establishment of reserves, or more specific ones such as net mesh size. It was clear that some candidates had been excited by the recent campaigns of

some well known chefs concerning the issue of over-exploitation of fish stocks and made good use of the material contained in their television programmes. It was pleasing to read those scripts where candidates were very aware of the particular difficulties in managing a mobile resource such as the definition of boundaries and issues of policing trans-national policies and regulations.

Climatic hazards

The photograph of a tornado drew a wide variety of responses. The more authoritative answers made direct reference to the resource, for example in pointing out the spatially restricted nature of a tornado and were secure in their knowledge and understanding of what exactly a tornado is and what the hazards it poses are. They were then able to offer appropriate strategies such as storm tracking and the levels of warning that agencies offer. Comments about tornado shelters for individual households were also appropriate. For a disappointingly large minority, tornadoes are synonymous with hurricanes which led them into offering comments about strategies which were inappropriate. Suggestions such as evacuation and land-use planning were the refuge of those unsure of their material.

Population and resources

The clear majority of answers to this question made effective use of the resource, identifying the imbalance between population number and cereal production and quoting actual figures from the resource. Many of the more convincing responses drew attention to the contrasting position amongst regions generally described as being less developed or developing. It was encouraging that a good number were able to use a term such as 'Malthusian' with authority when drawing attention to sub-Saharan Africa. Appropriate strategies tended to focus on the twin approaches of increasing resource supply such as 'green revolution' solutions and decreasing the rate of population increase.

Globalisation

The photograph of a western drink advertisement in Nigeria drew a wide range of interesting and thoughtful responses. Many candidates made comments relating to the cultural impact of globalisation of a western style consumerism on traditional cultures. Among the more effective answers, comments about the language and message of the advertisement were highlighted and the presence and implications of the western tourist for the locality were often mentioned. Strategies were not always related to the issue identified but appropriate ones tended to be based on the promotion and support of local culture and the possibilities afforded by eco-tourism. Comments about the role and actions of Trans-National Corporations (TNCs) were also offered by many and were successful when linked with the appropriateness of their products for domestic markets, such as 'glocalisation'. In this respect one suitable management strategy might be a focus on import substitution. Interesting links were also made by a good number of candidates between the TNC and their direct involvement in local projects to raise the standard of living of local people such as those shown clustered around the advertisement.

Development and inequalities

The choropleth map of unemployment rates across the European Union (EU) gave an opportunity for candidates to set ideas about core and periphery in a regional spatial context. Most identified a degree of variation but few made the direct link with theories of regional development or simply offered 'unemployment' as the issue. The more convincing responses went on to discuss regional and local schemes for arresting unemployment, offering various types of regional incentives as possible strategies. Too many answers however, only gave vague suggestions about job creation, with statements such as '... the government should make sure jobs are available.' or '... the government should tell a TNC

where to locate.' The economic and political realities of relationships between governments and TNCs had not been grasped by many candidates. It was also a concern of examiners that a significant number of candidates wrote about governments forcing unemployed to migrate to other countries. There were, however, those who had a secure contemporary knowledge and understanding of the types of measures governments employ in order to try to alleviate unemployment.

Section B

The overall impression of answers in this section was that the quality of discursive writing showed some improvement compared to previous sessions. A good number of candidates are planning their answers and thereby managing to maintain a sharper focus on the actual question. Some of the depth and detail of exemplification was very encouraging, especially when the material was organised so as to reflect the particular thrust of the question. That said, examiners were concerned by the continued decline in the legibility of hand writing. Too many scripts contained passages whose geographical content was difficult to discern as key words and phrases could not be deciphered. Additionally, the unacceptable trend in the increasing use of abbreviations and ampersands continues.

Earth hazards

- There were many very encouraging answers discussing the extent to which volcanic hazards can be managed effectively. A key issue was the degree to which the discussion embraced 'managed effectively' with this phrase offering many evaluation opportunities. Examiners were pleased to read much substantial exemplification but it should be noted that at this level, candidates are expected to be accurate with matters such as dates, locations and facts and figures concerning impacts. Common examples came from Montserrat, Pinatubo, Heimaey and Etna. Comments about the predictability of volcanoes figured prominently although a distinguishing feature of the more convincing answers was their ability to discuss the role in the variations in type of volcanic eruption, Icelandic and Hawaiian contrasting with Andean and Indonesian events for example. Much was made of contrasts in development with the better candidates mentioning not just economics but also robustness of government. Amongst the weaker responses, more time should have been given to discussing the actual nature of the hazards posed.
- This question gave candidates the opportunity to draw on the complete range of earth hazards and those who restricted their response to a consideration for, for example earthquakes, tended to be self-limiting: their discussions tended to lack effective evaluation. There were, however, many well written and argued responses, with those discussing both short and long term impacts from the same hazard event tending to write most persuasively. Impacts ranged across the wide variety of social, economic, political and environmental possibilities, with the latter category something of a distinguishing feature of the more convincing essays. There were those who discerned contrasts according to where a location was along the development continuum, with some very effective evaluation coming from a comparison of the impacts of flooding for example. It was heartening to read numerous comments about fatalities being both short term and long term with the impacts on the lives of the bereaved being sensitively discussed, such as the loss of the main bread winner from a subsistence fishing or farming family.

Ecosystems and environments under threat

While there were some very convincing discussions assessing the significance of human activities to change in ecosystems/environments, the majority of responses did not offer persuasive arguments. This was mainly due to weaknesses in the knowledge and understanding of ecological processes and the importance of energy flows and linkages within ecosystems/environments. A strong impression was that those candidates who had

- actually had the opportunity to visit and investigate in person, their chosen ecosystem/environment, tended to write with greater authority. The Norfolk Broads, Studland peninsula and Epping Forest were frequently mentioned. The Great Barrier Reef was also used in responses but did tend to lack in facts and figures. Whatever the choice of exemplar the key discriminatory point was how well the candidate picked up on 'Assess the significance of ...'. Too few did this preferring to write in detail about the mechanics of management schemes.
- 10 Many candidates had studied in depth management schemes operating in a variety of locations which was a good base on which to construct an argument about the sustainability or otherwise of the schemes. However, too few focused on evaluating the sustainability of such management schemes. Thus examiners read many descriptive narratives of the details of schemes in places such as Arches National Park, Epping Forest and The Great Barrier Reef. Too few also took up the opportunity to discuss the nature of sustainability, relying instead on the well rehearsed Brundtland declaration. Sustainability is a highly contested concept and should elicit some strong discussion.

Climatic hazards

- This question gave candidates the opportunity to draw on the complete range of climatic hazards and those who restricted their response to a consideration of, for example tropical storms, tended to be self-limiting: their discussions tended to lack effective evaluation. Clearly most candidates had studied hurricanes in great detail and comments about these took their discussions so far, in particular when comparing storms at contrasting locations. For example, some effective material usually emerged when Katrina and Nargis were compared and contrasted. Regarding the former, those candidates who analysed the impact of different management strategies on different neighbourhoods within New Orleans, tended to be more persuasive. The best essays were those comparing a range of climatic hazards such as drought, heatwave, hurricanes, heavy snowfall, as much evaluation was generated.
- 12 Candidates discussing the suggestion that impacts from depressions are local whereas those from anticyclones are larger scale tended to generate either very convincing responses or those that were not. Some candidates offered some secure exemplification, often based on the 1987 low pressure system affecting southern England or the European wide heat wave of 2005. Regarding the former, some candidates made the sound evaluation that this low pressure system actually had quite devastating effects over a wide area of north-western Europe. Generally, though candidates did not make use of climatic hazards that they personally are likely to have experienced such as fog, snow and convectional rainfall and hail, all of which offer much potential in this Option.

Population and resources

Assessments of the way technological changes may alter how resources are defined were generally convincing. Interesting and effective use was made of how uranium, for example, has altered in its definition with advances in knowledge, understanding and use of its properties. Other energy sources were also discussed, wind for example, although here, candidates tended to suggest that it was only in recent decades that its potential for generating energy has been realised. There are times when a stronger historical perspective would allow a discussion to achieve a real depth of analysis. Presumably very few candidates have ever seen a traditional windmill. There was a tendency for discussions to slip into descriptions of how the 'new' resource was being used, rather than focussing on its definition. In addition, candidates tended to concentrate on process and use of whatever resource they were considering, ignoring the potential that extraction, transport and recycling offers.

There were many encouraging responses discussing whether a decline in birth rates is always beneficial, as much genuine evaluation was offered. Candidates were secure in their knowledge and understanding of the processes involved in birth rate reduction, in for example China and Kerala. There were those towards the top of Level 3 who confidently discussed the synergy between economic and social development and falling birth rates, exemplifying this through reference to the demographic transition as experienced by the United Kingdom. These were the same candidates who knew and understood the difference between birth rates and fertility, making sophisticated arguments about what is happening across the development continuum. They were secure and effective in their evaluations of the demographic situations in countries such as Russia, Italy and France. There was a tendency for some essays to wander away from the question with detailed narratives of the measures various countries have in place to counter falling birth rates.

Globalisation

- Discussions concerning the role international trade might have in offering opportunities and challenges were not that convincing. For many candidates, this was interpreted as a chance to discuss the advantages and disadvantages of trans-national companies and while this could contribute something to an effective debate, it was insufficient by itself. Those who successfully embraced this topic did so on the basis of detailed knowledge and understanding of the trading patterns of contrasting countries. Scripts containing convincing analysis made use of countries such as Angola, Botswana, China, Taiwan and United Kingdom. The use of China as an example had much potential but too often candidates tended to write all they could remember about China's recent growth rather than manipulating their material to focus on trade. It was encouraging to read in many of the convincing evaluations, of the challenges which deindustrialisation has brought to regions in MEDCs as a consequence of the loss of primary and secondary employment to overseas locations. Evaluations of the trade patterns predominant amongst sub-Saharan African countries also made significant contributions to the more secure essays. It was also encouraging to read authoritative accounts of the role trading blocs such as the EU and NAFTA have to play, both globally and within their own particular region.
- 16 Answers to the question 'Can globalisation narrow the divide between rich and poor' were very effective when they focused on the development gap at a variety of scales, internationally, regionally and locally. Although contrasts of different countries were important to the discussion, it was perhaps when discussing regional or even local impacts that candidates exhibited most convincing analysis. There had clearly been some detailed and probably passionate debate in classrooms about the issues raised by this question, with point and counter-point being traded. Answers to this guestion really did benefit from a strong plan at the outset as too many essays started well enough but then lost touch with the key issue. Some became distracted by lengthy accounts of individual TNCs when one would have delivered the points. More use might be made here of company web sites to obtain the latest possible facts and figures. Some material quoted related to circumstances quite different to today. It was a sign of mature debate when comments were read about poverty being relative and when TNCs were considered as offering some positives rather than simply being regarded as a negative force, the generation of a multiplier effect in a location for example.

Development and inequalities

- While there were some very convincing discussions evaluating the role of political factors in the development process, there were also those who did not offer persuasive arguments. There were some very effective and detailed considerations of Japan's rise from the end of the 19th century through to today as well as discussions of China's changing attitude towards economic development over the past fifty years. Regarding the latter though, there were rather too many discussions that had what can best be described as naive knowledge and understanding of China's history and evolving political situation. Essays considering the role colonialism might have played both on the colonised and the colonising had much potential. Very few, however, engaged with neo-colonialism which also offers much potential in the context of this Option. That said, there were encouraging references to some of the models dealing with the development process, prominent amongst these were the ideas of Frank. The truly evaluative responses tended to extend their considerations into factors other than political. Thus references to natural resources, whether a country was land-locked or/and demographic trends for example, were helpful.
- Assessments of the role economic development has to play in bringing about improvements in quality of life were not generally convincing. This seemed to be the result of a lack of planning as those who did keep a sharp focus on the actual question, tended to follow a strong framework. There was some effective use made of the role and status of women to the development process, relating this not only to social factors such as education but also political influences such as emancipation. Ideas about wealth creation did not seem to be that well grasped however, and its link with material benefits such as the provision of clean water and power were not prominent. Debate about the economic developments in some countries such as India, Indonesia, Brazil and China for example could then be linked with assessments of the quality of life in terms of such factors as degree of over-crowding and air quality for example. Comments of income distribution were relevant and picked up by a minority of candidates. There were some interesting discussions of the resource curse theory here which advanced evaluations.

F764 Geographical Skills

General Comments

Performance varied widely across the candidature. Those who achieved marks in the upper mark range did so by directly answering the question, using detailed examples taken from their own investigations and keeping tightly focused on the requirements of the question. Those who did not score as highly had two or more of these essential elements missing. There were relatively few at the highest level as candidates struggled to evaluate effectively or seemed unclear of the concepts being examined:

Fewer than usual seemed to see this as a 'write all you know about' paper, though there were still some, especially in Q4 and Q5, who missed the key demands to justify and evaluate in many of the questions. Too many failed to include in investigations some linkage to spatial or locational dimensions. This is what distinguishes geographical investigations from those of other subjects. Centres should remember this when devising investigations and appropriate titles although there were far fewer examples of inappropriate titles than in previous examinations.

Essay questions will be set that come from different stages of the investigation and candidates are expected to know what constitutes each of the six stages. At times the poor level of English and lack of geographical knowledge left the candidates very exposed, but generally there was evidence of quality fieldwork which candidates clearly understood with aspects which they were capable of evaluating effectively.

Comments on Individual Questions

Section A

This section is testing the candidates' basic understanding of the 'tools' of a geographer. Overall, this was answered less effectively than Section B.

Answers were broadly effective but many found it difficult to suggest two limitations in depth rather than a list of many limitations with little depth or development. Many chose generic points about the limitations of secondary data eg 'It has been measured and recorded by someone else at a different time.' Whilst perfectly valid it needed more development and top level responses did tightly focus on Fig. 1 and quoted data from it eg 'Time periods for the measurements are unclear eg1st and second of March get a measurement per day but then 3rd to 10th are put together for the next reading.' Generally this is good practice to quote from the figure in questions (a) or (a)(i). Too many got focused on minutia especially the rounding up of data eg 'It is inaccurate as data should be recorded to at least two decimal points.'

It is important to appreciate that this was data actually used as secondary data in a stream investigation by a candidate so answers that questioned whether this was pure secondary data needed to justify that by referring to its level of processing or even question the choice of the data made by the individual.

(b) This was answered effectively by most candidates. The 'why' was usually sound but some produced superficial explanations. This then was not developed or explained – risks to whom or what? A number did point out that risks could refer to faulty data collection or even to the environment. Few mentioned the legal requirement that schools' have to carry out such a task. The 'how' was tackled either via the nature of a risk assessment grid or in a more generic way such as reference to the use of pilot surveys. The chief weaknesses were a tendency to include large sections on mitigating those risks and losing sight of the need to link it, as the question states, to an investigation. Too many answers were purely theoretical.

- This was well answered with most candidates linking their two advantages to an (c) investigation. Many persist in offering a list of advantages and go on to offer four or more. There is no point to this. Examiners are instructed to credit the best two. When two aspects are demanded by the question it is in the belief that candidates can then give two in depth aspects with detail and effective linkage to an investigation. Many gave undeveloped answers eg 'It is cheap as it is free from the internet.' A valid statement, although the veracity of some internet sites is suspect, but one where it was not developed to say why that was an advantage. Candidates must not assume the examiner will do their thinking for them and so they should state the obvious. The main limitation was when candidates did not appreciate that the question was asking about the use of secondary data in an investigation. In other words, their advantages needed to relate to how it fitted in to an investigation. Saying it was 'cheap' is fine but in what ways does this help the investigation? Some took the definition of secondary data to add real application to an investigation eg 'As secondary data includes maps the 1:25000 OS map is useful in showing footpaths and field boundaries so can greatly help in the planning stage of an investigation.' The candidate went on to say why an OS map was so much better than a sketch map drawn by the investigator.
- 2 (a) Clearly candidates prefer to be negative in their comments on effectiveness but at times they go beyond the reasonable eg 'This is a weak conclusion as it fails to state the statistical strength of the relationship between rock type and land use.' Broadly it was an effective conclusion as it re-visited the initial hypothesis, outlined the main finding with the main explanation. Very few suggested there needed to be an evaluation with a review of any limitations and suggestions for follow up or improvements. Too many demonstrated they were not clear on what is normally included in a conclusion eg 'They also needed to go and collect more data.'
 - (b) Most had no problems describing two aspects of an investigation although some seemed confused by the wording of the question so concluded that the investigation had been a success. Others considered that an investigation wasn't a success if the hypothesis had not been proven. Some took a very practical approach referring to equipment (quality or quantity), sampling strategy, analytical tools used, whilst others took a more philosophical approach typically looking at accuracy, reliability and response to the hypothesis used. Very few questioned the nature of their title or the usefulness of the underlying concept or model. Few really got hold of the justification aspect of the question why were these aspects important to evaluate. Many offered poorly focused comments eg 'Choice of sampling units was important as we took too few to give a good coverage of the area.' If only the candidate had linked this to the number of points needed to give reliable results or to the number needed for a statistical test of relationships.
 - (c) This was well done although some saw this as not linked to the use of questionnaires so looked at risk assessment. Many chose to focus on the ability to pre-test the length (or time taken), wording or type of question eg 'By asking the questions it was possible to see the range of possible responses. In some cases this meant we could change open questions to closed to increase the ease of data analysis further along in the investigation.' Others linked it to the location of asking the questionnaire, the method (eg door to door v a mail shot), the timing, or the ability to identify subgroups. The latter was often linked to comments on stratified versus random sampling demonstrating a real appreciation of the use of questionnaires.

- Commenting on effectiveness is another way of asking for an evaluation so both negative and positive points should be considered. Many chose to be rather negative suggesting issues of lack of scale or title etc. All too many gave generic points on dot maps in general rather than focus on that shown in Fig. 3. Such answers were unlikely to get into the higher level. Candidates should appreciate that if the Fig. is referred to in the question then some reference to it is expected in the answer. More effective answers focused on the value of the dots and their location on the map eg 'Populations of less than 5 people will not show up and a population of 9 will be represented by one dot so understating the value.' Answers that commented on scale, key or title tended to be low level responses.
 - (ii) This proved to be a very effective discriminator. The stress was on such data - ie population data over space which many ignored so suggesting quite tricky ways eg 'You could use isopleths to join up places of equal population value.' Isopleths could be used but not with the data used in Fig. 3. Some did try to explain how it could be used in that context and were credited for their effort. More sensible suggestions were located symbols and choropleth maps. The latter often showed some basic confusion especially over the use of colours. Some chose to ignore the spatial aspect of the map and looked at the area as a whole eg 'You could use a pie chart where each of the 5 areas was assigned a percentage of the total population of the whole area.' As this was well justified, such an answer well explained, could gain full credit. Few offered diagrams which would have greatly aided descriptions and many ignored the explanation aspect of the question. This is a challenging question, chiefly to be full yet concise, and candidates needed to get the balance right for both techniques. Hence the use of annotated diagrams would have saved much time.
 - (b) This was by far the least well answered question. Many left it blank, suggesting they had not read all parts to the question before they started it. Others totally confused stratified sampling with systematic eg 'It is ideal for collecting data along a line to show how variables change with distance.' Evaluation, as usual, was variable. Some clearly understood this type of sampling and linked its usefulness to the need to collect data from pre-determined subsets or areas whilst others compared it with random or/and systematic sampling to bring out its relative strengths: 'Unlike random sampling it ensures that data is drawn from all parts of the area whereas random may miss significant parts.'

Section B

Both questions are compulsory and must show evidence of candidates carrying out real investigations. Generally this was very effective with some good reference to their real experiences but at times weaker responses made it clear that candidates were quoting all of their own practical experiences rather than selecting the appropriate sections needed by the question.

Answers had to be relevant to the title of the investigation. There is no need to use the same title for both questions although about 90% did. Titles were much more effective and clearly geographical this series but candidates should still be encouraged to state a place in the title eg 'To investigate if longshore drift is operating on the beach.' would be better worded: 'Does longshore drift occur on Chesil beach, Dorset.'

Those candidates who achieved the highest marks:

• Demonstrated consistently good evaluation – not just the problems;

- Showed detailed locational knowledge
 — there was a clear sense of place and a sense of a real investigation;
- Gave good evidence of their investigation;
- Used appropriate and accurate geographical vocabulary;
- Showed they understood cause-effect relationships they knew why they were doing a
 particular activity;
- Wrote in a coherent style;
- Used diagrams to illustrate their points/methods.

It is not expected that answers will be of equal length in Section B. In this case it was quite possible to evaluate the relative role of their methods of analysis in Q5 in a fairly concise way whereas Q4 might require a greater length. It is the depth of evaluation that is critical in determining the level of the responses.

Many candidates listed a vast range of valid or appropriate factors but then did not evaluate their relative importance in the choice process. There were some outstanding answers that progressed the choice from broad topic, to exact location, to precise site and then the wording of the title of the investigation. In this they demonstrated how different factors influenced their choice. Too many did not explain their choice of topic. Candidates seemed to be reluctant to state reality. There is nothing wrong in writing eg 'My choice of investigation was limited as we had to select one from a list that our teachers had drawn up as relevant to this area in which we were to do our fieldwork.' But then this factor needed evaluating as to its importance and probably to its justification such as it allows repeat longitudinal studies. Few really started at the beginning eg why they chose to investigate a river, so didn't examine why the broad topic was chosen.

Many candidates adopted a SMART approach where they used:

S = Specific (although some used sensible or simple)

M = Measureable

A = Achievable

R = Realistic (some used risk-free)

T = Timed - in a range of senses such as the time available or the time of year.

This could work well but this usually comes into play after the broad topic has been chosen and candidates seemed to struggle when evaluating the relative importance of each of the aspects for their investigation. Others looked at the need to find a sensible location, avoid undue risks, link to a geographical concept, or the nearness of the location to their centre.

This was generally answered well with few weak answers. Some chose to do a few factors in depth whilst others offered a very extensive range of valid factors. Either approach could have been successful, as long as they were evaluated. Some got the wrong interpretation of the question and saw it as the factors that generated their results such as the range of vegetation or pH on a dune complex. Those that performed more effectively were those answers that demonstrated they understood the role of the aspect often illustrating it with an example eg 'Time was an important factor. It would be no good choosing an investigation based in a location more than two hours travel time from the school as this would leave us little time in which to carry out the investigation before we had to return to school.'

This question demanded an evaluation of the 'ways' – did they work effectively to advance the analysis of the data collected into a meaningful form? Too many saw this as an excuse to write about the way they presented their data. Whilst others did use such, essentially presentational, techniques in a way that allowed analysis of the data eg 'By putting my data in a scatter graph with a best fit line it showed me that was a positive trend and also highlighted anomalies in my data.'

There was no expectation or requirement to use statistical techniques although many did refer to the use of mean, range and inter-quartile range. Many did refer to Spearman's rank but often did not evaluate it or did so in a very generic way, rather than link it tightly into how it advanced the analysis in their investigation. Too many candidates drew scatter graphs after they had carried out their correlation test. Others typically ignored or omitted anomalies in their data to achieve a better fit to a model. This is not good practice.

Some candidates tended to list a vast range of techniques suggesting over-complex investigations or a pre-learnt list. In many cases two ways would have sufficed and there was little point in referring to the repeated use of scatter graphs and Spearman's for each of their many hypotheses.

Evaluation was often weak. Was it effective and why or why not? Some offered very superficial evaluative comments. Many candidates approach questions like this by giving large sections on what they would have done if only they had used a different statistical technique etc. This is not a good approach and gains no credit – it is speculation. These questions, unless worded to invite improvements, focus on what was done in the investigation not would or could have been done. Evaluation assesses the effectiveness of something in delivering a particular goal or aim. Examiners expect to see candidates use terms such as:

- Very or most important as ...
- This was very accurate/reliable as ...
- This was key in ...
- It was effective because ...

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