GEOGRAPHY

Paper 9696/11
Core Physical Geography

Key messages

There needs to be careful consideration of the precise demands of a question so that candidates do not lose the correct focus of the question and drift into generalities or irrelevance. Naming a feature or stating a cause (**Question 2(a)**), for example, does not require a detailed description. On the other hand, 'describing' features does require more than a simple list. The description does not necessarily have to be particularly detailed, and some concept of size or location (**Question 3(b)**) would be sufficient.

The command words used in the question paper can occasionally cause difficulties. Once again, some candidates simply described features when explanations were required, and some offered detailed explanations when only description was required.

In this paper, comparison was an essential component of **Questions 1(b)** and **2(b)**, but candidates too often made statements which were only implicitly comparative. Comparative points should be explicit and contained within the main text of the answers.

Defining terms is frequently required, as in **Questions 4(a)(i)**, **5(a)(i)**, and **6(a)(i)**, and conciseness is key. Some candidates gave detailed descriptions around the topic, without ever achieving a succinct definition.

Sketch maps and diagrams can often enhance answers. However, few candidates chose to illustrate answers, although **Questions 3(b)**, **4(b)**, **5(b)** and **6(b)** could all have benefitted from illustration. In fact, seasonal variations in global pressure (**Question 5(b)**) can be difficult to explain by text alone.

The use of examples is a requirement for many *Section B* questions, but simple place references are not very effective. A detailed case study is often a better option in illustrating valid geographical concepts. There were some very effective case studies used to support answers to **Question 4(c).**

An element of evaluation is an important aspect of all essay answers. Without such evaluation it is difficult for answers to reach Levels 3 and 4. Many candidates conclude their answers with some evaluation, and this can be effective. However, the most convincing answers incorporate assessment as an ongoing theme throughout the answer.

Candidates should try to make use of the mark allocations provided. They indicate the number of marks to be awarded, and that information can often indicate the number of points required. It may suggest to a candidate that if they have few specific points to offer, then they should try to develop these ideas in terms of detail.

General comments

There was a wide range of responses in terms of quality, but many candidates displayed good geographical knowledge.

There were few rubric errors. Generally, planning in terms of time allocation was effective. Most candidates answer questions in the order on the question paper. This can sometimes mean limited time available to complete the final answer, which is usually *Section B*. The nature of evaluation was referred to under **Key messages**, but it is worth emphasising the importance of a considered evaluation and assessment in order to achieve high marks. The issue can be when insufficient time is made available at the end of the examination for a meaningful and comprehensive assessment.

Comments on specific questions

Section A

Hydrology and fluvial geomorphology

Question 1

(a)   Most candidates got the correct answer.

(b)   As referred to in **Key messages**, comparisons of the two hydrographs were not always sufficiently explicit. However, there were various comparisons that could be identified, and many candidates achieved high marks.

(c)   Many candidates tried to relate the shape of hydrograph A to distinct rainfall characteristics and data but did not appreciate that both hydrographs were for the same precipitation event.

Atmosphere and weather

Question 2

(a)   Most described in detail what could be seen in Fig 2.1, whereas the simple statement of 'convection' was required.

(b)   As referred to under **Key messages**, this was an example of where many candidates described in detail what was occurring in the two diagrams, but without being explicitly comparative.

(c)   Answers were generally very weak. Many seemed to assume that 'frontal precipitation' was linked to one of the two diagrams provided in the insert, which was not the case.

Rocks and weathering

Question 3

(a)   Most candidates recognised that the mass movement was a slide or a slump.

(b)   Very few candidates attempted to illustrate the features with a diagram. Accurate observations of this mass movement were limited.

(c)   Weight, lubrication and undercutting by the sea, were the most common explanations offered.

Section B

Hydrology and fluvial geomorphology

Question 4

(a)(i)   The process of 'traction' seemed to be understood by many, but some candidates confused 'abrasion' with 'attrition'.

   (ii)   Many candidates obviously understood the process of suspension but were not very precise in relating this to finer grained sediment.

(b)   Levées were generally understood, and there were attempts to illustrate answers with appropriate diagrams. However, very few candidates were able to explain the formation of river bluffs.

(c)   There were some very detailed case studies used in answers to this question. Many answers concentrated on reducing impact rather than assessing the causes, but answers generally were of a good standard.

Atmosphere and weather

Question 5

(a) (i) Answers did tend to discuss the formation of 'hail' in very general terms, rather than identifying a succinct definition. Although 'dew' was clearly understood, the existence of cold surfaces was generally neglected.

(ii) The concept of albedo was understood and discussed by most candidates, and snow was frequently used as an example. Few candidates described the Earth's curved surface and the small amounts of energy experienced at high latitudes.

(b) There were very few effective answers to this question. Some identified the tri-cellular model as a significant factor but were unable to discuss seasonal variations. Few candidates produced valid diagrams which would have helped explain seasonality.

(c) There were some interesting examples of relevant industrial activities, and some of their damaging emissions. Discussion of the role of individuals was less effective. A few candidates thought global warming was largely associated with urban heat islands.

Rocks and weathering

Question 6

(a) (i) 'Vegetation root action' was clearly understood by most candidates, but 'heating and cooling' tended to be confused with freeze–thaw weathering.

(ii) Sheetwash was not clearly understood by many candidates. Although sloping surfaces and heavy rainfall were correctly included in many explanations, some simply identified this as an erosion process. Sheetwash may lead to sheet erosion, but not necessarily so.

(b) Both collision and convergent plate boundaries are relevant, although not many candidates included both. This was an example of where appropriate diagrams would clearly have enhanced explanations, but few candidates used them.

(c) Relevant human activities were generally identified, but exemplification was limited. Very few candidates made use of a detailed case study. The role of natural factors in reducing slope stability were not discussed in sufficient detail to allow a conclusive assessment to be made.

GEOGRAPHY

Paper 9696/12
Core Physical Geography

General comments

This examination once again produced a wide range of responses in terms of knowledge and understanding. There were some excellent responses, and it was clear that most candidates approached the questions with thoroughness and enthusiasm.

Description and thorough analysis of the resources are essential requirements of the questions in **Section A**. Candidates are increasingly aware of the need for careful reference to the data provided. **Part (b)** questions in **Section A** all require some reference to the information provided on the resource whether that is specific data or general observations of what is portrayed in the resource. This was sometimes lacking in the answers and was especially true of **Questions 2(b)** and **3(b)**. The other point to stress about the resource-based questions is that the **part (c)** questions, although partially related to the resource, do not need reference to the resource in the response. The information and ideas portrayed in the resource will usually be insufficient for answering the question. It must not be assumed that the **part (c)** questions are specifically related to the resource.

Most candidates appear to be familiar with the relevant geographical issues and concepts, and most were able to apply their knowledge and understanding appropriately. In most questions there was an opportunity to produce relevant diagrams that could have been used to enhance the answers, especially for answers to **Question 3(c)**.

As stressed in previous reports, examples and case studies do much to support answers. When using specific examples, it is important that sufficient detail is provided, and that the examples are appropriate. It is also important that the information provided is accurate and not speculative. Also, simply referring to a country without the specific location mentioned is often inappropriate. Answers to **Questions 4(c)** and **6(c)** all benefited from relevant and accurate specific examples.

Questions 4(c), **5(c)** and **6(c)** all required some element of evaluation and a conclusion based on the evidence provided in the answer was essential. Evaluation does not have to appear just at the end of the answer but, in many cases, continuous evaluation throughout the answers might be more logical, especially if there are many threads to the argument. The final evaluation was too often unconvincing and not related to the evidence and discussion in the answer.

There were very few rubric errors. Very few candidates attempted all three questions in **Section B** and planning in terms of time allocation was generally effective.

Comments on specific questions

Section A

Hydrology and fluvial geomorphology

Question 1

(a) (i) Meander was identified by most candidates.

(b) A sizeable number of candidates seemed not to understand what a cross-section entailed and provided a plan view of the meander instead. Some marks could be obtained by correctly identifying and labelling relevant features but nothing for the diagram. However, there were some excellent cross-sections with features labelled correctly. Occasionally the features were labelled

carelessly, and it was sometimes not clear where the features were supposed to be on the cross-section.

(c)   The question asked for an explanation of the landform labelled D on Fig. 1.1. It was almost unanimously identified as an ox-bow lake. Explanations for its formation were often excellent and good marks were obtained by many candidates.

Atmosphere and weather

Question 2

(a)   Candidates were asked to state the cause of precipitation shown in Fig. 2.1. The figure depicted precipitation caused by uplift of air at both a warm and cold front. The answer required a statement with front or frontal somewhere in the answer. Simply stating frontal uplift would have been sufficient to gain the mark. However, a significant number of candidates produced a detailed explanation of what happens when warm air rises not necessarily related to frontal uplift.

(b)   This question required a comparison of the causes of precipitation shown in Fig. 2.1 and Fig. 2.2. The comparison had to be based on elements visible in the figures. It did not require a thorough explanation of the processes shown. It needs to be stressed that in any such question, answers need to produce explicit comparison rather than two separate descriptions. Also, a comparison involves both similarities and differences. Very few candidates identified convection as the cause of the precipitation in Fig. 2.2.

(c)   A comparatively large number of candidates displayed little understanding of the nature of orographic uplift of air. Many confused it with convectional uplift. However, some candidates demonstrated a good understanding of the process, and this was an example where an accurate diagram enhanced answers considerably. Sometimes the precipitation was shown on the wrong side of the mountain and there was confusion over the terms windward and leeward.

Rocks and weathering

Question 3

(a)   The majority of candidates correctly identified a fold mountain range that had no active volcanoes.

(b)   This was another comparison question but based on map evidence. There were many good answers exhibiting a thorough analysis of the map. However, as noted above, some answers were essentially two separate descriptions of the respective distributions with little comparison. It is also worth stressing that noting areas where neither fold mountains nor volcanoes occurred was a legitimate point to make.

(c)   Young fold mountains are formed by the convergence of tectonic plates. Thus, answers needed to relate the distribution of young fold mountains shown on the map to convergent plate boundaries. The young fold mountains could then be explained in terms of the processes occurring at those plate boundaries. Analysis of both destructive plate boundaries and collision plate boundaries were relevant. This is another instance where accurate diagrams would have helped considerably.

Section B

Hydrology and fluvial geomorphology

Question 4

(a) (i)   Answers to this question were generally sound and most candidates were able to describe at least two conditions which lead to overland flow on slopes with a significant number able to obtain the full 3 marks.

(ii)   Many candidates did not understand what the shape of a drainage basin entailed. Shape was often interpreted as size. Even if the analysis was in terms of circular and elongated drainage basin shapes, explanations for the effect these shapes had on the characteristics of a storm hydrograph were often inaccurate.

(b) There was a satisfactory response to this question. Most candidates were aware of the Hjulström curve and what it portrayed. Explanations as to how the curve could be used to explain erosion and deposition in a river channel were often confused. Most candidates were able to describe how the curve portrayed the basic relationships between the minimum velocity needed for sediment erosion and deposition. The anomaly of clay and silt was noted with suggestions that the reason was related to their cohesive nature, although stickiness was often the preferred description. However, the description of flocculation was not particularly relevant. The increased velocity needed to erode sediment larger than silt was noted but explanations were far more limited. The term erosion is confusing. In this instance erosion refers to entrainment and not physical erosion. Many candidates argued that erosion processes such as abrasion and attrition were needed to explain the relationship. This demonstrates a slight misunderstanding of what the graph is portraying. Also, the question asked for how the curve could be used. Answers were mostly an interpretation of what it was showing. A good answer would have been one which took either a specific sediment size and suggested how the curve could have been used to interpret the velocity needed for erosion, transport and deposition or took a specific velocity to suggest what sediment sizes would be eroded, transported and deposited. This information could then have been used to explain what was happening in river channels.

(c) This question received a generally good response and there were some excellent answers using a number of detailed examples. Some candidates recognised that 'amount' was a significant word in the question and discussed the influence of intensity as well. However, too frequently candidates assumed that, of course, floods were the result of rainfall but failed to explain why. Thus, there were many examples of drainage basins where high rainfall amounts had led to significant floods but without the connecting explanations. The question suggested that rainfall was the most important factor, so this needed analysis with respect to other factors that might lead to floods or which explained the severity of the flooding.

Atmosphere and weather

Question 5

(a) (i) The response to this question was generally sound with most candidates being able to describe two ways in which incoming (shortwave) solar radiation was prevented from reaching the Earth's surface.

(ii) This question was answered well with many candidates being able to explain some of the factors necessary for the formation of dew.

(b) Most candidates understood what the global energy budget entailed but a minority answered in terms of the diurnal energy budget. Most elements in the mark scheme were covered in answers with a combination of wind belts and ocean currents discussed. The effect of the intertropical convergence zone (ITCZ) featured prominently. However, explanations varied a great deal in accuracy and thoroughness.

(c) Many candidates found this a difficult question. The main focus of the question was the seasonal variation in global pressure. Most candidates were able to describe such seasonal variations especially with reference to the movement of the intertropical convergence zone (ITCZ). The problem was relating these variations to land-sea distribution. Pressure is related to rising and falling air thus the factors that affect this will affect variations in pressure. One of the main influences on pressure is temperature. This is related to the position of the overhead sun which varies throughout the year with latitude. Thus, the tropics have low pressure because of rising air but this zone moves north and south with the overhead sun. Temperatures are affected by land-sea distribution because of the differing thermal conductivities of land and sea. There is also the fact that there is more land in the northern hemisphere compared to the southern hemisphere. Thus, land-sea distribution will distort the latitudinal effect of the passage of the overhead sun and thus pressure. The main factor will be the apparent movement of the overhead sun and thus latitude, but land-sea distribution will distort this and cause regional variations. This needed to be part of the evaluation.

Rocks and weathering

Question 6

(a) (i) Many candidates saw this question as an opportunity to explain why flows and slides occurred rather than a contrast of their characteristics. Sometimes, there were elements in this approach that were relevant to the question but the clarity was lacking. The response required a description of the main differences, such as flows are like this whereas slides are like that.

(ii) Those candidates that understood what rills were, answered the question well. However, there was a sizeable minority of candidates who thought rills were terracettes.

(b) There were many good answers to this question with the role of climate in physical weathering well explained. There was an emphasis on temperature and precipitation. The better answers noted the term climate in the question and attempted to integrate a number of climatic parameters into a considered response rather than treating temperature and precipitation separately. The question also asked for the factors that influence physical weathering. Thus, it was not only climate that needed consideration. The roles of rock type and structure, unrelated to climate, were also relevant.

(c) There were many excellent answers to this question. Knowledge and understanding of the factors causing mass movements has been improving over the last few years, as well as the ability to discuss the factors with reference to individual types of mass movement rather than mass movement in a purely combined generic sense. This was reflected in answers to this question. The way that water influences both shear stress and shear strength, such as pore water pressure and lubrication, is now appearing much more frequently in answers. The question asked for examples, which could have been specific located examples or examples of differing mass movement types. Such examples were often present. It was encouraging to see a wide range of detailed examples from around the world. The example of Hong Kong featured prominently but there were many other excellent examples. The key to a good answer was the evaluation of the significance of precipitation to mass movement compared with other important factors. Sometimes these other factors were ignored.

GEOGRAPHY

| Paper 9696/13 |
| Core Physical Geography |

Key messages

There needs to be careful consideration of the precise demands of a question so that candidates do not lose the correct focus of the question and drift into generalities or irrelevance. Naming a feature, for example, does not require a detailed description of that feature. On the other hand, 'describing' a landscape does require more than a simple list of relevant features. The description does not necessarily have to be particularly detailed, and some concept of the size or number of waterfalls or the locational detail of the waterfalls (**Question 1(b)**) would be sufficient.

The command words used in the question paper can occasionally cause difficulties. Once again, some candidates simply described features when explanations were required, and some offered detailed explanations when only description was required.

In this paper, comparison was an essential component of **Question 2(b)**, but too many simply listed the values provided, or converted the figures into percentages, without explicit comparisons.

Defining terms is frequently required, as in **Questions 5(a)(i) and 6(a)(i)**, and conciseness is key. Some candidates gave detailed descriptions around the topic, without ever achieving a succinct definition.

Sketch maps and diagrams can often enhance answers. The use of sketch diagrams to explain how waterfalls form in **Question 1(c)** was very convincing. The sketches were often clear and sequential. However, the sketches used in answers to **Questions 5(b) and 5(c)** were less effective. Global wind patterns and their seasonality are difficult to identify and describe without relevant illustration.

The use of examples is a requirement for many *Section B* questions, but simple place references are not very effective. A detailed case study is often a better option in illustrating valid geographical concepts. There were some very effective case studies used in answers to **Question 4(c)**.

An element of evaluation is an important aspect of all essay answers. Without such evaluation it is difficult for answers to reach Levels 3 and 4. Many candidates conclude their answers with some evaluation, and this can be effective. However, the most convincing answers incorporate assessment as an ongoing theme throughout the answer.

Candidates should try to make use of the mark allocations provided. They indicate the number of marks to be awarded, and that information can often indicate the number of points required. It may suggest to a candidate that if they have few specific points to offer, then they should try to develop these ideas in terms of detail.

General comments

There was a wide range of responses in terms of quality, but many candidates displayed impressive geographical knowledge. Many answers were both detailed and appropriate.

There were few rubric errors. Generally, planning in terms of time allocation was effective. Most candidates answer questions in the order on the question paper. This can sometimes mean limited time available to complete the final answer, which is usually *Section B*. The nature of evaluation was referred to under **Key messages**, but it is worth emphasising the importance of a considered evaluation and assessment in order to achieve high marks. The issue can be when insufficient time is made available at the end of the examination for a meaningful and comprehensive assessment.

Comments on specific questions

Section A

Hydrology and fluvial geomorphology

Question 1

(a)   The majority of candidates identified 'plunge pool', but some chose the more general term 'waterfall'.

(b)   Answers to this question were generally weak. Too many candidates seemed to give a cursory glance at the photograph, and then entered into a description and explanation of waterfalls. Some answers simply ignored the landscape features beyond the waterfall or were perhaps uncertain of what could be included under the term 'landscape'. Some candidates could clearly identify a number of landscape features, but simply listed them without significant detail. The command word in this question was 'describe', and candidates needed to consider the resource more critically, and describe the features in appropriate detail.

(c)   Answers to this question were of a more competent and consistent standard than **part (b)**. Many displayed both knowledge and understanding, and accompanying illustrations of waterfall formation were often of a high quality. Many candidates achieved maximum marks.

Atmosphere and weather

Question 2

(a)   A majority of candidates were correct with their answers.

(b)   Reference was made to this question under **Key messages.** Many answers paid insufficient attention to the command word 'compare', listing instead components of incoming radiation and values or percentages, rather than comparing components. Many answers discussed total incoming radiation, or the sensible heat transfer as components, hence missing marks. Some simply repeated the data given on the diagram.

(c)   There was generally a good level of knowledge on how cloud cover and surface albedo influence the incoming radiation components. However, there were also numerous occasions where candidates drifted into longwave radiation and greenhouse gases, which was not appropriate.

Rocks and weathering

Question 3

(a)   Most answers were correct.

(b)   Many answers paid insufficient attention to the command word 'describe'. Some candidates simply listed the tectonic plates labelled on the map, and perhaps offered generic descriptors such as 'on the' or 'near the'. Attempts at more precise locational details were often confused. Better answers did identify converging plates and the Pacific Ring of Fire.

(c)   Many candidates were confused on this topic and did not identify that volcanic island arcs are related to the convergence of two oceanic plates. The subduction processes identified, frequently involved continental/oceanic plates. There was a clear understanding of most of the processes following the convergence of two plates, but it was not possible to relate these processes to volcanic island arcs if one of the plates was continental.

Section B

Hydrology and fluvial geomorphology

Question 4

(a) (i) Some answers referred generically to base flow as 'water flowing under the surface', and not clearly distinguishing between infiltration, throughflow and base flow. However, many displayed a clear understanding of the whole process, beginning with precipitation and ending with base flow towards the river channel.

(ii) There was generally a clear understanding of the correlation between porosity/permeability and infiltration rates, but not always a clear understanding of the differences between porosity and permeability. Examples offered were not always appropriate, concrete being specified by a number of candidates as an example of an impermeable soil.

(b) Many candidates confused annual hydrographs with flood hydrographs. The discussions should have focused on seasonal changes over the year, but many answers only considered a single flood event.

(c) Answers varied in quality, but there were some excellent answers. The better answers first discussed why it is difficult to prevent river floods, but then went on to discuss how it is possible to reduce their impact. There were some excellent and detailed case studies. Weaker answers focused on the impacts of flooding and a general awareness of hard and soft engineering, without much exemplification.

Atmosphere and weather

Question 5

(a) (i) 'Sublimation' was understood by most, and there were some effective answers. 'Clouds' were correctly defined by most candidates.

(ii) There was a clear understanding of latent heat by a majority of candidates.

(b) There were very few effective answers to this question. Some identified the tri-cellular model as a significant factor but were unable to discuss seasonal variations. Diagrams which were offered were often inaccurate. Most answers did not get above Level 1.

(c) Most candidates described and explained (some in effective detail) the formation of orographic, frontal and convectional rain. Only a small number of answers went beyond this, and examined other types of precipitation such as dew, clouds, snow, hail and fog. Evaluation was mainly absent, which tended to restrict responses to Level 2.

Rocks and weathering

Question 6

(a) (i) Very few candidates gave correct answers regarding the definition of 'heaves'. Many simply identified it as part of 'creep', and the movement of material down slopes. There seemed to be a much better understanding regarding the definition of 'falls', although some candidates did drift into discussions of the causes of this type of movement.

(ii) Candidates displayed a good level of understanding of this topic, describing thoroughly the conditions necessary for freeze–thaw to occur, as well as the main stages of the process.

(b) Most answers identified pinning, netting, grading and afforestation as relevant strategies, but not all provided detailed discussion or convincing exemplar material. Other possible strategies were not as clearly identified or discussed as they could have been.

(c) Stronger answers recognised the importance of rock type and rock structure in weathering processes, and then evaluated the importance of this in relation to other factors such as temperature and precipitation. This was an effective approach. Weaker answers identified some weathering processes but did not relate these clearly to details of rock type and rock structure.

GEOGRAPHY

| Paper 9696/21 |
| Core Human Geography 21 |

Key messages

The reading and understanding of the exact wording of questions is very important. Technical terms in the syllabus are frequently used and they should be well known. In this examination the term 'underpopulation' was often confused with 'ageing population'. Similarly, many candidates did not understand the term 'counterurbanisation'.

Good case study knowledge is needed, especially in **Section B** but it must be appropriately applied to the question. To achieve well in **part (c)** of questions in **Section B** a small number of detailed examples are usually more effective than many brief and general references such as 'e.g. in Brazil.' Some candidates gave 'Africa' as an example of a country. In this examination candidates who were able to give specific examples of the causes of urban to rural migration in specific areas of the USA were able to achieve higher level marks than those who only made a vague reference to the country. Candidates must appreciate that where questions ask for examples, they will not be able to access the higher levels of marks without reference to recognisable and relevant case study detail.

Candidates need to be reminded that the marks allocated to a question indicate the number of points expected. For example, a 4-mark allocation indicates either four basic points or two points well developed with detail and/or relevant examples.

Candidates need to read each question carefully. For instance, in **5(a)(ii)** the question specifically asked about <u>physical</u> obstacles faced by refugees, which was overlooked by many candidates and in **5(c)** some candidates discussed rural-urban migration in MICs and LICs.

General comments

Many candidates struggled with **Section B** questions due to inexact reading of the demands of the question. Candidates need to appreciate that the last part of **Section B** answers are worth 25 per cent of the total mark: the evaluation is often the key discriminator, so they should leave sufficient time to do themselves justice. It is also important that candidates evaluate throughout their answers in these questions, and not just leave it to the introduction or conclusion as an afterthought. A concluding sentence such as *'therefore I agree with the statement'* does not constitute an evaluative comment.

Comments on specific questions

Section A

Population

Question 1

(a)   There were few correct answers, as many candidates seemed unsure how to calculate the percentage and did not get marks for either their method or for achieving the correct answer.

(b)   Most candidates identified Africa and Asia as being the two continents that dominated the projected increase in population, and many described other elements of the diagram correctly.

(c)   Most responses did not go beyond a few simple statements. The best answers gave two or three points that had some development, for example *'Increased population will require increased food*

supplies. Some countries may not be able to produce more and will have to rely on imports or food aid.'

Population/Migration

Question 2

(a) Most answers included some comparisons, but many responses began to give explanations which were not required and gained no credit.

(b) Most responses included valid reasons, such as people in the 20 – 39 age groups were of working age and therefore most likely to migrate for work. Some candidates misread the title of the diagram and gave answers in terms of Australasia being the country they were discussing.

(c) Unfortunately, a high proportion of candidates missed the requirement for a <u>source</u> country, and instead gave answers about the benefits of a country receiving migrants. These answers gained no marks.

Valid responses gave advantages such as reducing population pressure and the value of remittances sent back by people who had migrated to other countries, sometimes with supporting examples or detail.

Settlement dynamics

Question 3

(a) Most responses identified features correctly, such as the size and variety of houses, many with gardens, and the recreational facilities that could be seen.

(b) Answers generally included one or two problems, often with simple statements such as 'there might be more pollution'. Some missed the focus on the environment and instead gave problems such as the effect on house prices and employment.

(c) This question was not answered well by many candidates, as few seemed to understand the term counterurbanisation clearly. Others overlooked the requirement to discuss its impact on <u>urban</u> areas and instead gave consequences for rural areas.

Section B

Population

Question 4

(a) The best responses described problems such as shortage of labour and the problems of recruiting skilled workers from abroad, and the difficulty of providing health and education for the population.

However, many responses confused underpopulation and ageing populations: these gained no marks.

(b) Good responses described areas with physical difficulties such as relief, desert and remoteness and gave examples such as Alaska in the USA or the Gobi Desert in China.

Many answers showed some misunderstanding of underpopulation, with some confusing this with an ageing population. Others included answers about whole countries rather than 'some areas' in HICs, and the use of MICs or LICs instead of HICs.

(c) This question was about issues involved in balancing food production and population, but few responses looked beyond the element of 'increasing food production'. Consequently, these answers were very unbalanced and gave little scope for evaluation.

Many responses interpreted 'increasing food production' as processing food in factories and selling food in supermarkets rather than increasing agricultural output, and these answers were somewhat limited in their analysis.

Some responses considered both the management of both food production and population and the few strong answers seen discussed a wider range of resources other than food.

Population/Migration/Settlement dynamics

Question 5

(a) (i)   Most responses included the key elements of the definition.

(ii)   Many responses missed the requirement for the obstacles being described to be <u>physical</u>, and so described obstacles such as visa requirements, health, age and financial constraints.

Those that did give physical barriers often simply described mountains or oceans. Better responses included details and examples of these, such as *'seas and oceans are a physical obstacle, e.g. refugees trying to enter Europe from Libya have to cross the Mediterranean.'*

(b)   The best answers explained the impacts of migration on rural areas with clear examples of recognisable locations and features, for instance from named areas in north east Brazil to cities such as Rio de Janeiro and Sao Paulo. However, many generalised accounts were seen, with little or no exemplification. Some responses missed the requirement to explain the <u>social</u> impacts and simply gave a description of a range of general impacts.

(c)   Most answers discussed causes of rural to urban migration in HICs. Better answers gave a variety of push and pull factors, rather than rewriting push factors as pulls and therefore repeating the same idea. The best responses were able to give accurate accounts of examples from valid case studies, most commonly from the UK and the USA. and New Zealand and assessed the importance of each – most coming to a balanced view that such migration is the result of a combination of factors.

Some responses were about rural-urban migration in MICs and LICs. These responses gained no marks as they did not answer the question.

Population/Migration/Settlement dynamics

Too few candidates chose to answer Question 6 to give meaningful comments about their responses.

GEOGRAPHY

Paper 9696/22
Core Human Geography 22

Key messages

The reading and understanding of the exact wording of questions is crucial. Technical terms in the syllabus are frequently used and they should be well known. The terms 'migration' and 'natural increase' seemed poorly understood by many candidates, and some candidates did not understand the meaning of 'constraint' in **Question 5**.

To achieve well in **parts (b)** and **(c)** of questions in *Section B* candidates should evaluate and use detailed examples. Detailed but relatively few examples are usually most effective, rather than simply the name of a place such as '*e.g. London*'. However repeating case study material can detract from the answer when it is not fully relevant to the question. In this examination China's One Child Policy was often included in a detailed description in **Question 4(c)** whether this was appropriate or not to the actual answer.

Candidates need to be reminded that the marks allocated to a question indicate the number of points and length of response expected. For example, a 4-mark allocation indicates an expectation of either four basic points or two points well developed with detail and/or relevant examples.

General comments

Many candidates struggled with *Section B* **part (c)** questions due to misreading or missing key words when reading the demands of question. Candidates still need to appreciate that this last part of *Section B* answers are worth 25 per cent of the total mark and it is often the key discriminator. As this requires an evaluation, they should leave sufficient time to do themselves justice. It is also important that candidates evaluate throughout their answers in these questions, and not just leave it to the introduction or conclusion as an afterthought. A concluding sentence such as '*therefore I agree with the statement*' does not constitute an evaluative comment.

Candidates must appreciate that all words in a question are important and so questions should be read carefully. For example, **Question 2 (c)** asked for the disadvantages of being a source area for international migration but many responses gave the disadvantages of being a reception area so did not correctly answer the question.

Candidates should avoid using blanket terms such as infrastructure, technology, resources, and quality of life, without any clarification of what they mean. For example: '*People move to Ghana to improve their standard of living*' indicates very little knowledge and understanding of the exact nature of the pull factors.

Comments on specific questions

Section A

Question 1

(a) (i) Most candidates correctly identified the year.

   (ii) Many responses described the changes in the birth and death rates rather than the focus of 'natural increase' so did not answer the question. Those which achieved three marks tended to divide the graph into three sections and then discussed the changes seen in each: a positive but declining natural increase at the start, and then a stationary period followed by a natural decrease.

Many described the start and the middle of the graph without reference to the middle or a third point which resulted in achieving two marks.

(b)   This topic was well known and many answers clearly linked each point to a decreased birth rate. Some candidates gave very lengthy answers which did not make the best use of their time. Where only two marks are given short concise answers are required such as '*children are seen to be costly, so people have fewer children*.'

(c)   Most answers offered a range of economic and social difficulties such as increased investment in services such as schools and hospitals, which in turn can divert funds from other areas of government spending or result in increased taxation. Weaker responses did not link ideas sufficiently to the youthful population structure or offered points that conflicted with the idea of a youthful structure. The focus should be on the immediate issues for the country, rather than a potential ageing population in 50–60 years' time.

Question 2

(a)   This was a generally well answered question and responses showed a good understanding of how to read population pyramids. There was some confusion in some answers, for example birth rates and death rates are not shown directly on a population pyramid as the youngest group are children aged 0–4 years rather than the number of babies born per 1000 per year (birth rate). A similar issue occurred around discussions of death rates and life expectancy.

The strongest responses gave either four comparisons, or two points supported with detailed data. When data is available in a resource, candidates should use the data to support their point.

Weaker responses either gave two separate descriptions rather than comparisons, and/or tended to explain the differences so included irrelevant material in their answers.

(b)   As in **Question 1(b)** short points were required. Many answers gave an example of both a push and a pull factor. Weaker responses were too vague to credit such as '*Ghana is a MIC so it offers greater financial support*', and references to better quality of living, better amenities etc., without saying what they were. Specific ideas such as better healthcare and higher level education gained credit.

(c)   Many answers referred to impacts on a destination country rather than the source country as the question demanded. Candidates would benefit from spending some time at the start of the examination highlighting command/key words to ensure that they answer the question correctly. Valid answers tended to focus on economic disadvantages such as brain drain and loss of workforce, with some good development and detail such as '*the country suffers a brain drain so loses the investment the government put into their education. The most dynamic element of the population is removed, so reducing innovation and expertise*.' When social issues were discussed, this included some interesting discussions about disruptions to family structure and relationships. Other weaker responses gave both advantages and disadvantages.

Question 3

(a)   Typically, answers referred to scrap materials and poor construction, whereas the majority of the houses in the photograph do not seem poorly built. Better answers recognised that there is a contrast between the buildings near the river and the rest of the buildings shown. Nearly all candidates correctly referred to the closely packed nature of the housing.

(b)   Answers often included issues which are not indicated in the photograph, such as lack of sanitation or clean drinking water, high crime rates and lack of employment opportunities. Instead, the focus was on likely problems for the people living in the area based on the visible details in the photograph, for example that disease could spread quickly as the buildings are close together. Some responses identified litter/rubbish along the water's edge but needed to link this to a problem for the residents such as smell or encouraging vermin.

(c)   This was a generally well answered question. The relatively few weaker responses lost the focus on 'cities in HICs' and saw it as the development of shanty towns on the urban fringe following rapid rural to urban migration. Stronger responses kept to the HIC focus and suggested a range of

reasons such as technology promoting the possibility of home working and a more pleasant environment. These often included a mix of pulls to the suburbs and pushes from the inner city such as '*to escape the congestion, overcrowding and the air pollution of the inner city areas.*'

Some answers discussed the numbers increasing in the suburbs being linked to the life cycle. This included a discussion of the fact that the elderly population tend to leave for the suburbs alongside families. Many of the responses to this question would have benefitted from specific examples.

Section B

Question 4

(a) (i) Most answers referred to the ideas of access to sufficient food, but tended to miss the secure idea and the ability to support a healthy and active lifestyle.

(ii) Responses showed a range of negative environmental consequences for example, '*with increasing herds of cattle needed to produce more meat, overgrazing occurs which in turn leads to soil erosion.*' This is an effective response that links cause and effect and is founded on increasing food production. It could have been stronger if there was explanation of how overgrazing results in soil erosion.

Other responses widened the environmental consequences to look at issues other than farming such as additional transport and food processing factories which would be required, and the greenhouse gas emissions associated with these.

(b) This is a question based around rising demand for food versus problems over its supply. The majority of answers examined the supply side linking shortages to climate change (drought and flooding), loss to pests and diseases. Many referred to recent examples of war and conflict such as '*In the current civil war in Sudan, food is used as a weapon with rival armies destroying food stocks to starve out the opposition.*'

Stronger responses considered why shortages were becoming more frequent, so focused on the effects of climate change and population increase. Often the distinguishing feature of a better quality response was the level of exemplification. Examples need to be recent to address the 'more common' element of the question.

Weaker answers described food shortages rather than providing an explanation.

(c) Many answers were unclear and focused on food supplies rather than the concept of 'optimum population'. Weaker responses tended towards Malthus versus Boserup arguments or gave accounts of China's one child policy as an attempt to achieve optimum population. Stronger responses considered both sides of optimum population – both population and resources. It was those responses that evaluated this balance that were most effective such as:

'*In conclusion as both population and resources are essentially dynamic, ever changing in quantity and quality, the chances that they will generate an optimum is unlikely or if achieved it would be short lived or may exist for an individual group or area*.'

Question 5

(a) (i) Most answers identified the movement of people from one area to another, and that this can be forced or voluntary. A more precise definition included the time scale too, '*a change in residence for the duration of one year or more.*'

(ii) This was generally answered effectively with most responses including one human constraint such as costs and emigration laws, and one physical constraint such as distance or oceans, although sometimes the difference was blurred. For example, '*the building of a frontier wall, such as Trump's wall to keep out migrants from Mexico, is both a human constraint as it is built by humans but also a physical barrier that migrants face.*'

There was also some uncertainty in responses about what classes as a physical or a human constraint, with some interpreting physical as an actual item rather than physical geography. A number of answers made reference to older people being unable to migrate, and whilst this may be

true in some instances it is not true that older people are unable to take flights or move homes. Candidates would be benefit from being more specific about what it is about that ageing person which creates a restriction. Some answers were focused on consequences rather than constraints.

(b)   This question was generally answered effectively. Many responses considered different economic, social and environmental pushes and pulls that move people from one urban area to another such as changing jobs or moving to a smaller and more peaceful urban area when they retire. Weaker responses tended to offer vague exemplification such as '*people move from London to nicer, safer urban areas such as Oxford.*'

(c)   Responses tended to identify rural pushes and urban pulls, often exemplified by Brazil, and many candidates discussed their opinion of the statement and whether they thought it was true or false. Fewer answers included evaluation of the extent to which the push factors are more important than pull factors. Some of the most effective responses pointed out that that both rural areas and urban had pushes and pulls, or that pushes may be matters of life or death such as war and famine meaning migrants have little choice. Some recognised that pull factors may be perceptions of life in a city rather than the reality for migrants.

Question 6

Question 6 was the least popular.

(a) (i)   Most answers identified people moving into towns and cities but missed the idea that this resulted in a greater proportion of the country's population living in towns and cities.

(ii)   Answers showed good understanding, with candidates referring to both rural to urban migration as well as high natural increase. Most responses referred to increased population, and some recognised the growth in area (urban sprawl) too, with examples including cities in Brazil and India.

(b)   The majority of answers addressed transport infrastructure. Those responses which were focused on the provision of infrastructure offered a range of environmental, economic, social and political challenges such as housing density, street patterns and the need for clearing existing dwellings, which would likely be opposed by local people. Answers which gave accounts of the challenges faced by users such as congestion, air pollution and longer journey times rather than the provision of gave little opportunity for credit.

(c)   To avoid double penalising candidates who had misinterpreted the nature of the challenges in **part (b)**, credit was given for evaluating the various attempts made to overcome the challenges explained previously, whether in using or providing the infrastructure. The key element was the link to the challenges explained in **part (b)**, however evaluation was often rather limited.

GEOGRAPHY

Key messages

The reading and understanding of the exact wording of questions is crucial. Technical terms in the syllabus are frequently used and they should be well known. Many candidates seemed unsure of the term 'urban renewal' and struggled to define or explain terms such as carrying capacity and voluntary migration accurately. Similarly, it was clear that a significant number of candidates confused the term 'underpopulation' with 'ageing population'.

To achieve well in **part (c)** of questions in **Section B** candidates should evaluate and use detailed examples. Detailed but relatively few examples are usually most effective, than a number of brief and general references to something in little more than name only, such as '*e.g. Brazil'*. However repeating case study material can detract from the answer when it is not fully relevant to the question. Detailed accounts of China's One Child Policy were often included in **Question 4(c)**. The strongest responses used the case study selectively to support points made (in this case, the history and the detail of the policy were less relevant).

Candidates need to be reminded that the marks allocated to a question indicate the number of points expected. For example, a 4-mark allocation indicates either four basic points or two points well developed with detail and/or relevant examples.

Candidates also need to read the questions carefully. For instance, in **5(a)(ii)** the question specifically asked about <u>physical</u> barriers to migration, which was missed by a large number of candidates.

General comments

Many candidates struggled with **Section B part (c)** questions due to misreading or missing key words when reading the demands of question. Candidates still need to appreciate that this last part of **Section B** answers are worth 25 per cent of the total mark and it is often the key discriminator. As this requires an evaluation, they should leave sufficient time to do themselves justice. It is also important that candidates evaluate throughout their answers in these questions, and not just leave it to the introduction or conclusion as an afterthought. A concluding sentence such as '*therefore I agree with the statement*' does not constitute an evaluative comment.

Candidates should avoid using blanket terms such as: infrastructure, technology, resources, and quality of life, without any clarification of what they mean e.g. '*Forced migration may put a strain on the resources of a receiving country*' indicates little knowledge of the impacts of migration.

Candidates should also avoid unsubstantiated generalisations. It was common to see 'higher crime rate' as a problem associated with refugees.

Comments on specific questions

Section A

Population

Question 1

(a) (i) Nearly all candidates answered correctly.

(ii)   Nearly all candidates answered correctly.

(b)   Most responses identified key ideas such as births always being higher than deaths, and births showing some fluctuations while the number of deaths was steadier.

(c)   Most answers included relevant issues. The strongest responses gave some development, many using Japan as an example.

Population/Migration

Question 2

(a) (i)   Nearly all candidates answered correctly.

(ii)   Most responses included valid comparisons with supporting information from the two pyramids (e.g. age groups and percentages). Some answers were simply descriptions of the pyramids without any element of comparison and these answers gained little credit.

Some candidates used the term 'working class' to describe the 20 – 64 age groups. Candidates should be encouraged to use the term 'economically active' or 'working age'.

(b)   Most candidates were able to give two valid answers.

(c)   Most responses included explanation of at least one problem, the most common being the cost and logistical issues involved in providing shelter, food and water. Candidates should avoid using general terms such as 'resources' without further qualification. Some candidates developed their answers by referring to real world examples such as refugees from Syria or Ukraine arriving in European countries or Rohingya refugees in Bangladesh.

Some answers referred to social issues such as problems with assimilation and potential disharmony between different cultural and religious groups. However, many made sweeping and unsubstantiated statements such as 'the crime rate will increase', and statements such as these are to be avoided.

Settlement dynamics

Question 3

(a)   Most candidates were able to give three advantages.

(b)   Most answers suggested two issues, the most common being raising the capital to fund its construction and having to demolish houses and other buildings to create space. However, a significant minority overlooked the construction and instead described problems arising from its operation.

(c)   Overall, this was not answered well and the term 'urban renewal' seemed poorly understood. Most responses gave general descriptions of urban changes without referring to the concept of renewal. Furthermore, some candidates missed the HIC element of the question and instead gave accounts of improving informal settlements in MICs and LICs.

Section B

Population

Question 4

(a) (i)   Most answers included a simple explanation and some mentioned ideas such as sustainability by preserving resources and the environment for future generations.

(ii)   Most responses made general comments about pollution, the impact on habitats and resource depletion. Stronger responses included further development on pollution types and soil erosion using valid examples.

(b)   The best responses had a clear understanding of the term 'underpopulation' and were able to give valid examples (most commonly Australia) in addition to well-developed ideas, such as:

'During the 1950s–80s Australia's population was small in relation to its size and resource base and the government encouraged migration to fill jobs. This has continued in recent years, but now there is a points-based system to manage the number of migrants.'

However, a significant proportion of responses confused 'underpopulation' with 'ageing population' and gave accounts similar to those given in **Question 1(c)**, with examples from Japan and some European countries. These answers gained little credit.

(c)   This question was about issues involved in balancing population and resources, but few candidates looked beyond the element of 'managing natural increase'. Consequently these answers were unbalanced and gave little scope for evaluation.

Many responses were based on a detailed account of China's One Child policy. These answers lacked focus on the question and rarely gained more than half marks. Better responses considered both the management of both population and resources and discussed the use of technology in improving the supply of resources such as agricultural advancements increasing food production.

Population/Migration/Settlement dynamics

Question 5

(a) (i)   Nearly all candidates included 'free choice' in their definition, but few answers explicitly mentioned change of residence and a duration of more than one year.

    (ii)   Many responses described barriers such as visa requirements, health, age and financial constraints, rather than physical barriers. The strongest answers gave specific examples of physical barriers such as '*The Pacific Ocean is a barrier for Pacific islanders migrating to New Zealand and Australia*' or '*the hot desert and mountains are a barrier for Mexicans migrating to the USA.*' Some candidates recognised that physical barriers may also include walls and fences built along national boundaries.

(b)   The best answers explained the impacts of migration on rural areas using specific examples, such as named areas in north east Brazil to named cities in the south east, or from rural areas of Thailand to Bangkok. However, examiners saw many general accounts with limited exemplification. Some candidates also missed the requirement to explain the <u>economic</u> impacts of migration and simply gave a description of a range of general impacts.

(c)   Most answers discussed causes of urban to rural migration in HICs. The best responses were able to give accurate accounts using valid case studies, most commonly from the UK and New Zealand, and assessed the importance of each; most came to a balanced view that such migration is the result of a combination of factors. Stronger responses presented a variety of push and pull factors: candidates should avoid listing reasons as push factors, then rewriting the same ideas as pull factors.

Settlement dynamics

Question 6

(a)   This was a wide-ranging question, and most candidates were able to give a number of changes/trends. Some candidates took the approach of a brief mention of multiple trends, the most commonly cited being suburban growth, changes in retail location, changes in the CBD, increased working from home, environmental initiatives and regeneration of old industrial sites. Others chose two or three aspects and developed their answers with detail or exemplification. Either approach was valid, and most answers gained more than half marks.

(b) and (c)
    Most candidates answered these linked questions well, and examiners saw some strong answers based on well-learned case studies, the most common being Nairobi, Mumbai and Rio de Janeiro.

Weaker responses were general accounts of squatter settlements, either without exemplification or limited to a brief name. As these answers lacked sense of place they did not score well.

GEOGRAPHY

Paper 9696/31
Advanced Physical Geography Options

There were too few candidates for a meaningful report to be produced.

GEOGRAPHY

General comments

The response of many candidates was creditable but there were many incidences where answers were misdirected and unbalanced. It is important to stress that questions need to be analysed in full rather than concentrating on a few terms as this can lead to responses not fully answering the question. This is especially important in the evaluation essay questions. It is also important to recognise key elements in the question that will direct the answer to a comprehensive evaluation. This was true of the interpretation of **Question 11**. The question was not directly about management solutions but about problems faced. Management would constitute part of any answer, but the focus of the question should have been about problems.

It is worth making a few general comments, some of which will be explored in greater detail later. There appears to be a tendency to use concepts and processes in the wrong context, thus demonstrating incomplete understanding. Detailed examples are useful, but simply stating a general location where some issues might occur, such as an entire country, is often not. This was especially true of answers to **Questions 9** and **11**. Also, as noted in previous reports, it is important that discussion of specific events, such as earthquakes and mass movement examples, is reasonably accurate.

General performance was variable but there were many excellent responses which showed a broad knowledge and secure understanding of physical geography. There was only the occasional rubric error but no more than in previous examinations.

Comments on specific questions

Tropical environments

Question 1

(a)   Candidates had to describe the movement of the monsoon across India as shown on Fig. 1.1. Answers needed to produce a general description. However, some candidates simply described the progression of the monsoon date by date rather than a general synthesis. Some candidates were under the impression that each timeline of the monsoon represented a separate monsoon or that the monsoon progressed in the direction of each line rather than advancing *en masse* across India. Overall, there was a weak response to this question.

(b)   Few candidates were able to explain the development and movement of monsoons adequately. Most assumed that the movement of the intertropical convergence zone (ITCZ) north in the northern hemisphere summer was involved with the monsoon's development. This was a generic question thus, while there was an emphasis on the Indian monsoon in **part (a)**, the question provided an opportunity to discuss the development of monsoons in general. Monsoons are governed by the same set of circumstances. With respect to India, low pressure is created to the north of the Himalaya by the summer heating of the land surface whilst there is high pressure over the Indian Ocean. This creates a pressure difference between land and sea causing moisture laden winds to move from the Indian Ocean to the Indian sub-continent. Many candidates seemed unaware of this development. It would also have been appropriate to discuss the winter monsoon where conditions are reversed with high pressure over the cold Tibetan Plateau leading to a reversal of wind directions.

Question 2

This was the most popular essay question in this option. This question asked for an assessment of the influence of climate on the characteristics of vegetation in tropical ecosystems. Thus, it was expected that both the humid tropical (rainforest) ecosystem and the seasonally humid tropical (savanna) ecosystem would be discussed. Many candidates answered with respect to one or other of the ecosystems. In some answers it was not clear which ecosystem was being discussed. Also, the influence of climate on the vegetation could only be evaluated if its influence was considered alongside other influential factors such as altitude, topography, underlying geology and especially human action. However, there were some answers with detailed descriptions and analysis of the role of climate.

Question 3

This question asked for an evaluation of the view that the sustainable management of a tropical ecosystem is made more difficult because of the characteristics of the soil. This was with respect to a case study of one tropical ecosystem. The examination of the characteristics of the soils and their influence on sustainable management was determined by the nature of the chosen ecosystem. Soils in tropical rainforests are essentially infertile and tend to be acidic and heavily leached. On destruction of the rainforest most of the nutrients contributed by the decaying vegetation is lost making agriculture difficult to sustain. Soils in the savanna ecosystems are characterised by upward capillary action in the dry season leading to lateritic surface horizons. This makes management difficult. It was not necessary to have a detailed knowledge of the respective soils. It would have been sufficient to make a few statements about fertility and why this made management difficult. However, many candidates dismissed soil as not being important, without discussing why, and concentrated on other aspects of management. Case studies analysed were often relevant and detailed with factors such as climate, nature of the vegetation, erosion and human exploitation, but without mention of soils.

Coastal environments

Question 4

(a)   Some answers reflected the same issue with respect to the interpretation of pattern as has been discussed in previous reports. Many answers described land lost and land gained location by location which was not a pattern. However, most candidates were able to identify some patterns with the resulting credit in good marks.

(b)   Most candidates were able to produce two relevant reasons why coastlines lost or gained land. Much of the emphasis was on wave characteristics with a description of the contrasting effects of constructive and destructive waves. The significance of rock type was often mentioned but many answers still refer to hard and soft rock without qualifying what that meant. Accounts of the influence of human activities, such as installation of sea walls and groynes, on erosion and deposition were more detailed and accurate.

Question 5

This was by far the least popular essay question in this option. Many answers were unbalanced, focusing on the processes, mostly marine, with little reference to cliff characteristics. Many answers focused on shore platforms, caves and stacks rather than general cliff form and other characteristics. Characteristics of coastal cliffs are the result of the interplay of a number of factors of which marine processes are one. However, marine processes will in themselves also be controlled by other factors such as climatic factors (e.g. storm frequency) and wave energy. Sub-aerial processes of weathering and mass movement will also be factors as will location, rock type and structure, and human impact. Many candidates still report that limestone is a soft rock. Although limestones vary, some limestones are almost as physically hard as granite, with which it is often compared. Assessment of the influence of rock type has to be in terms of what processes are operating on it and the rock would be better described as resistant or less resistant to the processes discussed. Thus, marine processes play a part, but the characteristics of coastal cliffs are the result of the interaction of a variety of factors.

Question 6

The question asked for an evaluation of the extent to which hard engineering was more successful than soft engineering in coastal management. There were some very good examples with detailed accounts of the various types of hard engineering (sea walls, gabions, groynes, cliff drainage and regrading) and soft engineering (beach replenishment, vegetation stabilisation such as on sand dunes, and mangrove development). Such analyses were often very detailed. However, evaluation of the success of such

strategies was more limited and somewhat speculative. Success could have been assessed in terms of how permanent such strategies were, such as a need for replacement (e.g. beach nourishment), how they reduced coastal erosion or increased coastal deposition. The protection of vulnerable infrastructure, the enhancement of tourism and general cost-benefit analysis were also worthy of discussion.

Hazardous environments

Question 7

(a)   Most candidates were able to compare the duration of precursors and events for the different natural hazards shown in Fig. 7.1. Full marks were achieved by many candidates.

(b)   There was a very weak response to this question with few candidates demonstrating knowledge or understanding of reasons for the duration of precursors for the natural hazards. It may have been because of unfamiliarity with the term precursors, but a definition was provided on the resource. Many candidates interpreted the question as meaning the ability to predict when the hazards were likely to occur whereas precursors are the signs that the hazard is imminent. Earthquakes are the sudden release of stress and there is usually little or no indication of potential movement before the event. Hurricanes take time to develop (days/weeks) in the open oceans because of the processes involved but atmospheric changes leading to the development of hurricanes can be observed. An earthquake is usually the precursor for tsunami and waves can be seen approaching the shore. Volcanoes vary in the length of precursors but there is usually a build-up of magma pressure with telltale signs before the main eruption. This is the sort of detail that was required to answer this question.

Question 8

This essay question was the least popular in this option and responses were highly variable. There needed to be an assessment of the degree to which different mass movement hazards varied in the extent to which they could be predicted and prepared for. There was often no differentiation of types of mass movements and hazards in the answers. Thus, many candidates interpreted the question as whether mass movements, in general, could be predicted and prepared for. Hazard mapping was often mentioned as a procedure but with little indication as to what it entailed or how it could be used. Monitoring was also mentioned with little justification of its use in prediction and preparation. Evaluation was often in a negative sense implying that if certain procedures had been undertaken then the mass movement might not have occurred but without explaining how such procedures would have helped.

Question 9

This was a very popular essay question and there were some good answers. Areas subject to possible earthquakes can adopt measures that could minimise the impacts of earthquakes such as structural engineering (retrofitting aseismic designs), regular earthquake drills and education. Once an earthquake has struck, efficient rescue operations will reduce the impacts to people. Most of these elements were discussed but often in a very basic way, almost in a list form. There was often little discussion about their effectiveness. Hazard mapping again figured prominently but its usefulness was extremely speculative. Many candidates seemed to think that it was possible to identify precise locations where earthquakes were likely to occur rather than broad areas. Suggestions that populations could be moved from hazard areas were often made. In contrast there were answers which used detailed and accurate earthquake events such as Japan, Haiti and Christchurch, New Zealand, to form excellent evaluations of the question.

Hot arid and semi-arid environments

Question 10

(a)   This question was answered extremely well. Most candidates were able to describe sufficient characteristics of the vegetation to obtain good marks. The only inconsistency was the failure to describe the vegetation. Thus, basically stating that there was a cactus was not a description but just a statement.

(b)   Candidates seemed to enjoy this question and there were many excellent answers. The adaptation of vegetation to drought in semi-arid environments is well understood.

Question 11

There were three issues with answers to this question. Firstly, many candidates did not follow the either/or instruction and wrote about both hot arid and semi-arid environments. Secondly, other candidates did not recognise that the question was about problems and not just sustainable management. Finally, other candidates ignored the variations in precipitation element of the question and wrote about other problems. Specific geographical examples given were often very general, such as the Sahel in general, and even stating just China with no specific location. In contrast, there were a few good case studies showing detailed knowledge and understanding, but these were in the minority.

Question 12

This was a popular essay question and there were many excellent accounts of landforms that were formed by wind action. The question asked for the role of wind in the formation of the landforms. Thus, wind action needed to be compared with landforms that were created by other processes such as water or weathering. This was often absent from the answers and thus the evaluation component not present.

GEOGRAPHY

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Paper 9696/33
Advanced Physical Geography Options
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General comments

The response of many candidates was creditable but there were many incidences where answers were misdirected and unbalanced. It is important to stress that questions need to be analysed in full rather than concentrating on a few terms as this can lead to responses not fully answering the question. This is especially important in the evaluation essay questions. It is also important to recognise key elements in the question that will direct the answer to a comprehensive evaluation. This was true of the interpretation of **Question 3**. The question was not directly about management solutions but about problems faced. Management would constitute part of any answer, but the focus of the question should have been about problems.

General performance was variable but there were many excellent responses which showed a broad knowledge and secure understanding of physical geography. There was only the occasional rubric error but no more than in previous examinations.

Comments on specific questions

Tropical environments

Question 1

(a) The photograph provided the candidates with a clear opportunity to make descriptive comments on a wide range of characteristics of the vegetation. These included the trees and leaves as well as more general aspects such as density and layering. Specific elements such as buttress roots, lianas and drip tips were also evident. However, the question commanded a description of these elements and not a simple acknowledgement that they were present in the photograph. Many candidates had enough descriptive points to gain full marks.

(b) Most candidates correctly chose two characteristics they had referred to in **part (a)** although some wasted time by considering more characteristics than required. The focus here was an explanation of why and how the characteristics of the vegetation had developed in response to the many features of the tropical environment. Responses often varied according to the level of accuracy and detail contained in the answer, but there was a good level of understanding demonstrated by many candidates.

Question 2

This was the least popular essay question in this option and responses were generally weak. The question gave candidates the opportunity to show their knowledge and understanding of deep chemical weathering, especially hydrolysis operating on the feldspar minerals within granite. Subsequent stripping of the weathered material by agents of erosion is vital in revealing the granite landforms such as bornhardts and tors. The evaluation allowed a consideration of this exhumation process along with other theories such as pediplanation and parallel retreat.

Question 3

Candidates generally performed better on this essay question. After an initial choice of either a rainforest ecosystem or savanna ecosystem, candidates were given the opportunity to demonstrate their full understanding of sustainability. As mentioned in previous reports, many candidates struggled with a full appreciation of sustainability with its environmental, economic and social elements. In addition, the question

had a focus on the actual problems of management and their relative significance. Consequently, there were a few subtle elements that the candidate needed to unravel in order to access the higher levels of response. Factors that could have been discussed included the climate, soils, vegetation and human exploitation of the chosen ecosystem. Some candidates chose to discuss a specific case study within their chosen ecosystem, and this was a valid approach and proved useful in illustrating and elaborating on their ideas.

Coastal environments

Question 4

(a) There were two elements to this question which was based on the detailed map shown in Fig. 4.1. The general distribution of all categories of impact showed a concentration on the eastern side of the island. No impact from extreme weather events was evident in the south-west and north-west coastal areas. Candidates often used the named areas within Kosrae State to identify the distribution of specifically high, moderate and low impact within the general distribution. Most candidates were able to gain at least half marks.

(b) This was a question where candidates could demonstrate their knowledge of the role of geology, wave energy, marine processes and human activity in influencing coastal erosion. The better answers identified and responded to the command to explain and to consider rates of erosion. Consequently, reference to hard rock developed into the idea of a low rate of erosion due to the highly resistant nature of the rock. These elements needed explaining to access the highest level of response, which not many candidates achieved.

Question 5

This was by far the most popular essay question in this option. Candidates showed a good knowledge of a range of threats to coral reefs which included enhanced global warming, ocean acidification, increased sedimentation and human activity. However, only a minority of responses related these threats to the conditions required for healthy coral growth and hence what was the actual threat. Many candidates demonstrated a knowledge of certain management strategies that are used in areas of coral reefs. These included global strategies and more local strategies but not always both. Controls on water pollution and human activity were often rather simplistic and reductions on carbon emissions very pessimistic.

Question 6

Relatively few candidates chose this question and responses were generally weak. The tendency was to focus on certain phrases and elements contained in the question and develop ideas connected to them without a careful analysis and appreciation of the exact wording of the question. Consequently, many answers described the causes of sea-level rise and the formation of depositional landforms without connections. A similar problem arose when considering erosional landforms. As a result, any evaluation was either very simplistic or absent.

Hazardous environments

Question 7

(a) It was clear from some responses that more time should have been given to carefully studying the graph in Fig. 7.1, along with the wording of the question, as there was a tendency to simply describe the trend of each hazard separately without comparison to the others. Clearly there are some general similarities, but relationships change with different recurrence intervals. If this was articulated with reference to the data it was possible to achieve the maximum mark, which a significant number of candidates did.

(b) This question gave candidates the opportunity to demonstrate their understanding of the relative impacts of volcanoes and earthquakes. Most responses achieved Levels 1 or 2. The best answers considered physical, economic and social impacts along with the ability to prepare for these hazards.

Question 8

Although this was not the most popular essay question in this option, most responses indicated a good range of knowledge and understanding. Candidates that developed specific case studies and events were able to

illustrate their assessment of the relative significance of high winds as a hazard. Most candidates were able to consider the significance of other hazards associated with large-scale atmospheric disturbances such as storm surges, intense rainfall and coastal flooding. Some of the best answers assessed secondary hazards including severe river flooding and landslides.

Question 9

This was a popular question and produced a wide range of responses. Some of the weaker answers did not distinguish between different types of mass movement and consequently contained very generic points lacking in depth and detail. However, those that considered different mass movements such as rockfalls, mudflows and avalanches demonstrated a far wider range of techniques used in different parts of the world. The best responses often based the assessment on specific examples and events.

Hot arid and semi-arid environments

Question 10

(a)   Fig. 10.1 showed data indicating the relative influence of three factors in the formation of different types of sand dune. Candidates showed a good level of skill in using the triangular graph to illustrate their descriptions of certain types of sand dune.

(b)   Few responses built on a basic description of one type of sand dune. Three had been named in Fig. 10.1 but some of the better answers considered barchans and star dunes. Whichever dunes were discussed it was important to emphasise why and how each type had been formed in arid environments.

Question 11

Although candidates generally showed a sound knowledge of plant adaptations in hot arid and semi-arid environments, it was only the better responses which provided a sound evaluation. Clearly there is some overlap in adaptations to drought and extreme temperatures although adaptations to drought are probably more significant. The use of examples to illustrate ideas was effective, especially with reference to succulents, cacti, acacias and baobab trees.

Question 12

As with **Question 3**, a reasonably secure understanding of sustainable management was an important element in any response to this question. However, the main focus was on the solutions to the problems of sustainable management and material on this element of sustainability was difficult to find in most answers. Problems clearly relate to the extreme physical environment, but other human factors could have been considered such as population pressure, level of development, conflict and political considerations.

GEOGRAPHY

Paper 9696/41
Advanced Human Geography Options

There were too few candidates for a meaningful report to be produced.

GEOGRAPHY

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Paper 9696/42
Advanced Human Geography Options
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Key messages

1. Candidates are more likely to be able to recall case study details when the examples are familiar to them historically and have some relevance. This may be local or at least from their own country and be based upon detailed place support and evidence, so that they can apply the details to the terms of a question. Case studies from textbooks should be updated with details to support questions and to give a sense of dynamism to enable candidates to deal with changes in the locality chosen. Some very detailed and highly appropriate case studies were used to support **Question 2**. In **Question 3** some very dated case studies from India and Taiwan were seen, with candidates mixing up time periods and losing the thread of the question.

2. In resource-based questions **part (a)** in **Questions 1**, **4**, **7** and **10**, candidates should investigate what the data is showing. In **Question 1(a)** for instance candidates should note that a percentage is a value out of 100 and cannot be compared directly with a numerical amount where there is no upper limit. In **Question 7(a)** the data did not display a definite relationship, but candidates did not recognise that 'no relationship' between two variables is a valid comment.

3. Essay questions always have a discursive, evaluative element. Sometimes candidates do not note what this evaluative element is. For example, in **Question 11** candidates were asked to evaluate the factors which influence the global spatial organisation and operation of one transnational corporation (TNC). This means that they should evaluate which factors are more important than others and the part of the organisation's spread or operation this applies to. This may differ for functions such as headquarters, production, marketing etc. **Questions 2**, **6** and **8** had a similar evaluative element where the candidates were asked to consider 'is always greater' (**Question 2**), 'is the main factor' (**Question 6**) and 'more than' (**Question 8**). Evaluation can be offered via on-going comments within each paragraph and certainly should feature for a major part of the conclusion. It is also useful to formulate an overall view (based on some planning of the response) of the question and to state this within the introduction.

General comments

Most candidates were able to complete the paper and rubric infringements were rarely seen. Essays above Level 2 were less commonly seen. Key elements for successful essays are: case study, exemplar details, recognition and coverage of the elements of the question, and an evaluative element throughout.

Comments on specific questions

Production, location and change

Question 1

(a) Where candidates understood that the second column was a share (per cent), and the third column was a numerical value, the task was straightforward. Ranking of the regions in each column was the best way to approach the question. Credit was awarded for recognising that the regions were not in the same order/no relationship and using supporting comparisons to illustrate this point. Candidates who only compared the numbers from one column to the other noted that the largest in each column was not the same region (Oceania and North America).

(b) Better responses chose two factors which are social and linked the factor to clear influences on both land use and practices. Factors which were clearly economic or environmental were not credited e.g. the 'cost of labour' is clearly economic but 'using family labour' is social and was acceptable.

Question 2

One of the most popular essay questions on this paper and what should have been quite a straightforward question still proved challenging for many candidates. Most could distinguish between intensive and extensive and provide suitable examples. One key to success was firstly an understanding that productivity is more than output total and secondly sound exemplar or more detailed supported examples. Some candidates confused output with yield. Yield should be considered in terms of an input such as yield per unit of area, yield per unit of labour/capital/chemicals, etc. Candidates had a better understanding of intensive systems than extensive systems. Some candidates, however, thought that in intensive systems there is automatically high inputs of capital, machinery, chemicals, irrigation, quality seeds, etc. This might be true for commercial farming but does not fit subsistence rice cultivation in the Ganges valley for example. Extensive systems were less well understood in terms of productivity. Most candidates rightly considered the inputs of extensive systems to be low and the area to be high. Better responses understood how inputs, area and production are linked to productivity. Extensive systems have high inputs of capital, usually expressed through highly mechanised practices and sophisticated levels of technology necessary for commercial production across large areas. In general, most candidates did not consider how the physical qualities of an area influence inputs and outputs along with production and productivity. One route to a higher-level response was to consider how productivity per unit of input varies for subsistence and commercial systems enabling evaluation of the 'always' in the question. For this question there were some very useful and sometimes detailed examples of agricultural systems from the home country of the candidates.

Question 3

This question was attempted by very few candidates and most approached it by giving very descriptive accounts of government policy for economic change rather than for manufacturing industry. Responses improved where there were clear references to manufacturing industry, though this was mainly very broad without specific examples of located industries or even types of industry. The question lends itself to an historical approach, but candidates do tend to find a chronology of events difficult to manage under exam conditions. Better responses focused on the evaluative element which was to identify and evaluate the relative importance of the issues faced during periods of change. Most only focused on issues faced by government.

Environmental management

Question 4

(a)   Most candidates recognised that all three groups had rising trends overall, but few noted that the rates vary, which was important to gain credit. This comparative approach would have enabled a further 3 marks with comment such as greatest increase in HICs, only LICs have a period of decline, all slow down towards the end of the period and the order changes. Describing the trend of each line was also valid with overall comments such as: MICs have a steady/constant, gradual increase; LICs increase is variable/fluctuating; HICs increase was steep overall/increased significantly. Most candidates, commendably, did not attempt to describe minute changes for each group.

(b)   Almost all candidates offered two 'constraints' as per the question. Better responses understood the difference between a constraint on improving the quality of a specific degraded environment degradation and a cause of environmental degradation. Some responses were limited to 3 marks because there were no links to a specific degraded environment.

Question 5

Candidates had a reasonable knowledge of why energy consumption is high in some MICs, but few realised that this is not true for all MICs and so missed an evaluative opportunity. Some candidates used China as an example of a high energy consuming MIC and had good knowledge of the causes. Few however realised that despite China's attempts to move into cleaner ways of using fossil fuels and renewables, their use of fossil fuels is still expanding. Again, this limited the evaluative element. Some candidates considered China as an HIC, whereas it is an MIC or more specifically an Upper middle income country. The key to the question was to consider the extent to which the energy consumption of MICs has become a global issue. The most common issues being resources running out and global warming, with some candidates widening the scope to consider transboundary issues such as acid rain. A valid approach taken by some candidates

was to consider the responsibility for global issues from high energy consumption by HICs and the impact on other countries such as LICs or small island states.

Question 6

Two key elements in this question were a sound understanding of urbanisation and a focus upon urban degradation. Better responses demonstrated a clear understanding that urbanisation is the increase in the proportion of a population living in urban areas leading to an increase in population in urban areas and consequently clearance of land for housing and other urban functions, increased vehicle use, and expansion of the urban area. Some candidates also considered how the impact of the increased numbers can affect the urban landscape and its social geography. The two other factors from the syllabus are industrial development and inadequate waste management. Some candidates considered these as independent factors whilst others discussed their links to urbanisation. Both approaches offered possibilities to widen the evaluative element. Level 3 and better responses were clearly based on urbanisation, urban degradation, supported with specific examples and had a discussion of the relative importance of the causative factors. Weaker responses lost focus on urban degradation with this commonly seen where alternative factors, such as unexpected natural or human events, were introduced into the discussion.

Global interdependence

Question 7

(a)   Fig. 7.1 did not show any clear relationship between the variables. Candidates found this difficult to express as they were possibly expecting either a positive or negative relationship. Credit was available if a candidate noted that the number of pairs of data were too small to identify a relationship. So, they could have scored two marks for a comment along the lines of: 'no clear relationship, insufficient pairs of data.' and an additional two marks for data support such as: bananas and cotton have large differences in production (highest and lowest) but similar numbers of farmers and workers, and coffee has highest number of farmers and workers but only a moderate production (third highest). Marks were available for stating and illustrating either a positive or negative relationship between certain products, expressed along the lines of positive relationship shown by cotton, tea and coffee (and arguably cocoa); or a negative relationship between bananas, sugar and coffee or bananas, sugar, cocoa and tea. In each case anomalies supported by data were credited.

(b)   The quality of response here was influenced by whether candidates displayed evidence of what Fairtrade is. Two key areas here are the guaranteed minimum price and the Fairtrade premium. Weaker responses used principles of fair trade not Fairtrade. Some responses did use evidence from specific Fairtrade examples such as Kuapa Kokoo in Ghana.

Question 8

Better responses were able to clearly define and explain how different types of aid lead to specific benefits for differing groups within donor and receiving countries and discussed who benefits the most. One approach, at the national scale, was to contrast a clear example of tied aid, with a clear example of successful development aid. Another approach was to contrast top-down with bottom-up schemes. Disaster or emergency relief aid examples were frequently used with some sound support details but there appeared to be a misconception that Haiti was given aid in the form of loans from the UK and that Haiti failed to repay these loans. This is not to say that a case study of Haiti should not be used as it would illustrate some of the complex views about the role of aid within a country.

Question 9

Most candidates had a simple notion that carrying capacity is about numbers of tourists and gave examples of impacts where there were too many tourists and a more positive view where the numbers were managed. Centres should explore what is meant by the tourism carrying capacity rather than the simple definition seen quite frequently that carrying capacity is the balance between numbers (population) and resources (which might originate from Paper 2 Core Human Geography section 4.3). Tourism Carrying Capacity may be defined as the maximum number of people/level of human activity in a tourist destination without causing destruction or deterioration of the environment, economic, socio-cultural environment and an unacceptable decrease in the quality of visitor experience. Most candidates did appreciate that there are three dimensions to this: environmental, economic and socio-cultural but few were able to argue that the carrying capacity might vary from one to another, from place to place or over time. There was little evidence that candidates

link the carrying capacity concept to the quality of visitor experience. There is scope for centres to broaden their approach to the teaching of the impact of tourism by using carrying capacity as a focus for discussions. Other evaluative opportunities might have come from arguing that different groups have differing ideas of when carrying capacity has been reached and that sometimes the carrying capacity is unknown until it has been exceeded and damage has begun to appear. Some candidates did argue that the concept of carrying capacity can be useful in the management of tourist destinations. Not many candidates were critical of the concept or that other concepts such as the life cycle model and irritation index are useful tools which can be used alongside or as well as carrying capacity.

Economic transition

Question 10

(a)   Most candidates could contrast the two areas identifying basic differences such as Rocinha appears unplanned, whereas Zona Sul is organised in a block system of streets or Rocinha has little vegetation, whereas Zona Sul has lots of trees and a park area. Linking these basic observations to evidence of social inequality was less frequently seen such as: density of housing is higher in Rocinha, suggesting overcrowding might be an issue.

(b)   Better responses were founded on accurate definitions of the measures or indices and could link this to economic inequality. One way to do this for each measure/index was to explain the scale it works at: between countries, within countries, for groups of people. Whilst a second way was to comment on how easy (or not) the measure/index is calculated.

Question 11

There was some good knowledge of how TNCs operate globally and the fact that they are driven by profit maximisation. The key was to have sufficient detail about the chosen TNC to illustrate the response and to evaluate the factors which influence the global spatial organisation and operation. Factors commonly described included: labour costs and skills, avoidance of environmental or labour regulations, market changes including regional preferences, overcoming trade barriers and government incentives.

Question 12

The most common country used for this question was Zimbabwe. Better responses were well founded on specific policy initiatives for clear regional disparities, with clear support and appropriate place detail and evaluated the extent to which the disparity changed or not. A reasonable approach to this question would be to start by defining the regional disparity under consideration and to explain how the disparity is regional in context rather than simply urban/rural or is a national development plan. This latter point needs clarification within centres and this is applicable to other case studies frequently used by centres, such as the UK or Brazil, where regional development has been replaced with national policies focusing on support for education, poverty reduction, rural–urban differences, etc.

GEOGRAPHY

Paper 9696/43
Advanced Human Geography Options

Key messages

1. For **part (a)** questions candidates are encouraged to look for patterns and anomalies. When there is a wide range of data, they are encouraged to try to group data in to sets. For example, Fig. 1.1 for **Question 1(a)** had 7 data sets split in to 2 sections and comment on each individual set would be time consuming and shows limited skill. Grouping similar data sets together is a skill and centres should be giving candidates as much opportunity as possible to practice these questions from past papers, of which Cambridge International makes a wide number available for download.
2. For **part (b)** questions there are many candidates still simply giving the name of a place when using examples. There must be context given for any examples stated – why did the candidate choose that place as an example? How does it apply to the question? The Level 3 descriptor states 'clearly explains…well founded in detailed knowledge…strong conceptual understanding of the topic.' Few candidates are answering **part (b)** questions in a way that shows their full knowledge and understanding.
3. For essay questions, it is useful to formulate an overall view (based on some planning of the response) of the question and to state this within the introduction. Candidates who plan out essays (where a plan can be seen) continue to do better than those who do not. Better essays are evaluative throughout, constantly applying understanding to the demands of the question.

General comments

Question 9 on tourism was particularly popular. However, few candidates were able to answer this essay question well as there were gaps in knowledge. Centres are reminded that all the content within this topic should be taught, not just the tourism section, enabling candidates to access **Question 8**. This applies to all other options within this paper.

Comments on specific questions

Production, location and change

Question 1

(a) Most candidates made comments on China as having the most of both, but fewer candidates were able to do much more than that. Candidates should try to identify patterns and groups when presented with data such as this. For example, is there an overall pattern and anomalies? Or is the data more random? A good starting point is to look for the highest data set, then the lowest and compare these. However, this question asked for producers and consumers to be compared and few candidates did this effectively.

(b) Most of the candidates who answered this question gave conflict as a factor and there was little range of other factors given, particularly ones which could have been seen as more positive political factors. Few candidates explained subsidies, which was expected as it had been given in **(a)**, which raises the question of whether candidates know what subsidies are, and their influence on agricultural land use and practices.

Question 2

This was not a popular question, and answers tended to focus on quite dated examples, such as Soviet Aral Sea. This was acceptable if candidates use up to date case study detail. Some candidates did give detail of

more recent attempts to improve the desertification and salinisation of this region, and the length of time that the issues have been present can be assessed as a difficulty and contributing to the lack of improvement. Most of the examples used included the use (or misuse) of water, either over-abstraction and related issues, or pollution. Centres should encourage candidates to ensure that they know the most up to date attempts at management for places such as these, which may be found beyond textbooks. This could be given as extended reading/research tasks outside of the classroom with centres suggesting websites and articles that candidates could read and access.

Question 3

Answers to this question tended to be reasonably well assessed. The most obvious way to approach this question was to assess government policy against other factors for one or more locations, however there were some good responses which took a broader approach and considered the impact of different governments in different contexts, and how outsourcing and offshoring has had a role to play and is influenced by government incentives or disincentives. Few candidates included detail on related service industry, such as sales departments, logistics, financing, etc. and it would be great to see candidates showing a deeper understanding of these types of industries which come alongside manufacturing.

Environmental management

Question 4

(a) Most candidates described the trends reasonably well, using words such as fluctuating, gradual, etc. and also made descriptive comparisons between the lines. 3 marks were available for describing each line separately in this case, however, better responses described the trends in relation to each other, finding similarities between them at different points over time.

(b) Almost all candidates offered two 'ways' as required by the question but sometimes these ways were variations of the same idea and were therefore undeveloped. For example, putting a limit on the number of people could be said to be one 'way' and creating reserves (without further detail) could be used as the same way or a different way. These kinds of answers were often limited to 3 marks because there were no links to a specific degraded environment.

Question 5

Candidates tended to focus on energy production in their answers which limited them somewhat. There were three parts to this question which ideally would have equal consideration; transport was least well covered, if at all, with usage often being given a small paragraph before the conclusion. It could be viewed that production within a home and usage can be seen as the same thing and this was taken into consideration with marking. However, the simplest way to approach this question was to consider production at the extraction/mining and power plant stage, transport as being either the produced electricity moving along power lines, LPG in tankers, etc. or transport could be seen as use within the transport sector which has cross over with usage. Usage could also be regarding energy efficiencies with the manufacturing sectors or domestically. Better answered considered whether the improvements technology brings are large-scale enough to reduce environmental impacts to any meaningful extent.

Question 6

This was a popular question and one which most candidates were able to answer well. Better responses were able to give evidence of times when there was a lack of capital to begin or sustain an attempt. The degraded environments were mostly well defined, rivers being a popular choice. It was expected that other factors would be included, and this was mostly seen, with scale and education/awareness often featuring as other reasons that attempts would fail. Many candidates knew their case studies in detail and could explain how the attempts would improve the issues faced.

Global interdependence

Question 7

(a) Most candidates identified four similarities and/or differences between the organisations. This resource will hopefully provide a useful teaching tool in the classroom, to help centres when covering the syllabus content on 'The nature and role of Fairtrade' (section 13.1).

(b)   The majority of candidates gave two factors but remained in Level 2 as the detail was lacking from their explanations. The Level 3 descriptors states 'clearly explains' and 'detailed knowledge and strong conceptual understanding'. Centres need to be clear with candidates when practicing these questions that their answers should contain the same level of detail as they give to their essays. That is level of detail, not length of response. Too often, candidates make a point, explain it, and then simply give the name of a place as an example (known as the PEE – point, evidence, explain – writing tool). This very rarely allows the candidates to access Level 3 marks. However, it can be used as a foundation for a more detailed response.

Question 8

Most candidates had a sound understanding of aid dependency that was enough for them to attempt assessing whether it is the main problem of international aid or not. There were some good up to date examples of countries which have become dependent on food or military aid to support its people or government. Many candidates were able to use their understanding of development aid and its usefulness for long-term development and in reducing dependency by enabling self-sufficiency. Some candidates showed limited understanding of dependency, or only wrote about dependency in a generic manner. Place examples to use as evidence are so important in essays and this type of essay allows a range of examples to be used, either for or against the statement.

Question 9

This question should have been straightforward, but it was clear that many candidates had limited knowledge of the reasons for the growth of international tourism (section 13.3). Quite a few essays were limited, as they either focused on transport only, ignoring communication completely, or discussed transport within a city or region without showing how this encouraged international tourism. Many candidates tried unsuccessfully to use Blackpool, UK as their case study. Blackpool is an historical example of the growth of domestic tourism, not international to any significant extent. Blackpool's tourism declined partly due to post-WWII availability of cheap flights to the European continent, the exact opposite of what the question was asking. Therefore, Blackpool does not work as a case study in this question, unless it is used briefly as a place which illustrates decline due to the rise of international tourism. Centres are encouraged to make sure that they cover a range of destinations which can be used to illustrate the growth of tourism, and that they fully cover the 'Reasons for…the growth of international tourism.' These are not listed in the syllabus, and depending on the destinations chosen, reasons may vary, but some ideas are; developments in transport, developments in ICT, increasing tourist TNC presence and activity, greater interdependence between countries, online payments/finance, government policies, education and awareness, migration leading to visiting relatives, alternative/niche tourism, etc. Despite this being a very popular question choice for candidates, very few did well as they did not understand the importance of transport and communications.

Economic transition

Question 10

(a)   Most candidates identified the negative relationship and then illustrated this with cities from the graph between the line formed by joining Sydney and Paris. It was good to see that most candidates were comfortable with this skill. Candidates are encouraged to look for patterns and anomalies beyond the regular or dominant pattern.

(b)   Most candidates answered this with two social measures, and a good range was seen. However, the subsequent explanation was usually limited to explaining what they measured, not how they showed social inequality, within or between countries.

Question 11

Some candidates clearly did not understand what a market is, or how it influences the location of a TNC. Markets are one of a range of factors that influence TNCs and should have been the focus of the question. Most candidates were not secure in their knowledge of this factor, therefore answers tended to focus on other factors, such as cheap labour or government incentives. Few essays kept the necessary focus on markets needed.

Question 12

This question most often included content on Canada and the different solutions to its disparity, but there was also reference to Brazil, Italy, and the UK. China would be an interesting country to study in this context as its disparity is relatively recent since its rapid industrialisation in the late 20th and early 21st century. It would also be good to see more candidates using the theories of core–periphery and spread and backwash to demonstrate their conceptual understanding within their essays, as appropriate.