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FOREWORD

This booklet contains reports written by Examiners on the work of candidates in certain papers. **Its contents are primarily for the information of the subject teachers concerned**.

GEOGRAPHY

GCE Advanced Level and GCE Advanced Subsidiary Level

> **Paper 9696/01**
>
> **Core Geography**

General comments

The response to this, the fourth Paper set at this level, was rather disappointing. Many of the candidates had difficulty in providing sufficiently substantial answers to the data response questions. This was particularly apparent in many candidates from some regions, who often produced very flimsy answers or even failed to make any attempt at all to some of the data response questions. The resource material within *Section A*, however, was seen as relatively straightforward and familiar (for example orographic rainfall and population pyramids). The balance of the Paper in *Section A*, was more towards human geography in terms of the data response questions, but it would seem that the preparation of the candidates had been reasonably spread across the whole of the syllabus. Very few rubric infringements were encountered and the general standard of English usage was good.

The main problem of the approach to data response questions remains the lack of attention given to the data and to the employment of the skills of its interpretation. Too often candidates seek to rely exclusively on their knowledge rather than the skill of applying that knowledge to the interpretation of the data provided. This often led, for example, to rambling accounts of lapse rates and convectional rainfall in **Question 1** or to generalised accounts of the effects of China's population policies in **Question 4**.

The appropriate allocation of time remains a problem. In many instances the final answer attempted, usually that from *Sections B* or *C*, shows signs of haste leading to the omission of significant parts of the answer. The cause of this is usually that too long has been spent in long discursive answers to the **(b)** parts of *Section A* questions. As *Section B* and *C* questions carry 25 marks, incomplete answers can impose a considerable penalty.

In *Sections B* and *C* of the Paper only **Question 10** received very few answers. These were often very weak due to the inability to identify a rural area or settlement, several answers discussing urban settlements.

In preparing candidates for the examination, attention to the following might be encouraged:

- *Detail within the data resources*. Marks are often awarded for detailed interpretation. This can be in the form of actual figures (e.g. **Question 4 (a)**), shape such as that of population pyramids or slope shapes, comparisons as in **Question 1** (cloud base, rising/sinking air).

- *The definition of key terms*. Marks can be earned by concise definitions of terms such as urbanisation, bid rent, water balance. It does not require a page of text to achieve 4 marks for a definition.

- *Attention to the demands of the question*. Marks are often forfeited by candidates addressing the general topic within the question rather than the question itself. Thus explanatory accounts are given instead of descriptions of data or outcomes of policies are described rather than the problems of implementation (e.g. **Question 4**).

- *Counter argument or contra – indications within data*. Candidates should be able to recognise a degree of complexity that is contained in many data forms (e.g. **Questions 4** and **6**) such that not all of the observable trends necessarily point in the same direction. Similarly, in *Sections B* and *C*, positive and negatives may exist in terms of effects and interpretations (e.g. **Questions 6 (c)** and **11(c)**).

- Effective use of time, such that the response matches the marks available.

Comments on specific questions

Section A

Question 1

Reasonably well answered.

(a) Candidates often found it easier to identify differences rather than similarities between the two diagrams. Marks were often lost through a lack of observation of the diagrams. For example similarities could be shown as air being *forced* to rise over the mountain barrier or that cloud base (or condensation level) was formed at the same altitude. Most answers pointed to the different vertical extent of the stratus and cumulus cloud as well as the continued rising of unstable air as compared to its lee side sinking in the case of stable air.

(b) Most answers correctly identified 1A as most likely to produce rainfall. Clearly those selecting 1B found it difficult to give convincing reasons for their choice. Some candidates did attempt to explain the greater rainfall of 1A in terms of adiabatic cooling, condensation, and the greater vertical extent of cloud allowing for the production of raindrops through coalescence. This could be contrasted with the conditions of stratus cloud and adiabatic warming of sinking air. Many answers, however, merely stated that cumulo-nimbus cloud (not shown) was associated with heavy rainfall whilst stratus cloud was not.

Question 2

Poorly answered, producing the worst response on the Paper.

(a) Few answers were able to give any appropriate terms for the parts of the slope. Indeed throughout the answer there was a general lack of slope terminology. Some defined the slope diagram as a long profile of a river whilst others merely referred to upper middle and lower parts of the slope. Even those using correct terms such as convexity, rectilinearity and concavity, often incorrectly assigned them to parts of the slope. Terminology again hampered the description of the movement of materials as considerable confusion existed between downslope and downward movement into the slope. The relative intensity of the movements was rarely described.

(b) Slope processes were not widely comprehended and terms such as transportation of material, mass movement, debris, repose, deposition and even weathering were rarely employed. Even those making some reference to mass movement such as soil creep were unable to apply it to appropriate parts of the slope. More commonly the processes were expressed in terms of catastrophic slope failure.

Question 3

Reasonably well answered, although a high proportion of answers gained most marks in part **(c)**.

(a) Surprisingly few candidates were able to correctly identify the three age/sex pyramids. This was due to the candidates failure to note the varying nature of the horizontal scales even though attention was drawn to it in the caption to Fig.3.

(b) Many answers attempted to interpret Mexico's age/sex pyramid in terms of vital rates rather than to describe the pyramid as asked. Few answers recognised Mexico as a Stage 3 country with an intermediate pyramid.

(c) This was better answered, with approximately equal numbers selecting Iran and France. In the case of those selecting France there was some tendency to underestimate the social and economic impact of an ageing population.

Question 4

Successfully answered by many candidates.

(a)   Full answers required some recognition of counter indications in the generally direct relationship between policy and birth rates. Such features were reflected in the falling birth rate prior to 1971 or the rise in birth rates in the late 1980s, despite the mobilisation of the family reduction campaign.

(b)   There were many excellent answers that described the problems that the Chinese government had to overcome in rural and remote areas characterised by an often illiterate and tradition bound population. Equally the financial burdens as well as the resistance to and refusal of government policy were well described. Some candidates recognised the open nature of the question and very effectively included material from other cultures, for example within Africa. Weak answers were those that dwelt upon the outcomes of one child policies in terms of female infanticide.

Question 5

Generally poorly or indifferently answered by many candidates.

(a)   Few answers interpreted the land use zones effectively. This should have been achieved by dropping lines vertically from the diagonals in Fig. 5A. Many answers only correctly identified the CBD/high threshold retail area. The bid-rent explanation was poorly achieved with many candidates choosing to explain high rise development in the CBD as a product of the lack of space rather than competition for land use and the outbidding of non-competitive users.

(b)   This required candidates to identify three locations (out of a possible four) of economic activity in Fig. 5B and to give three reasons for these locations. Many recognised the significance of transport or of accessibility, but could not develop any detailed response to the resource material in the light of any wider understanding of the urban system.

Section B

The Physical Core

Question 6

A popular question that was often well answered.

(a)   Nearly all candidates demonstrated some appreciation of water balance as representing a balance of inputs and outputs within the hydrological system. Few, however, could define it accurately or concisely. Even those attempting to express it as a simple equation frequently got it wrong. Some better descriptions of the effects of seasonality were evident.

(b)   This was often successfully answered with accurate flow diagrams showing water flows/stores within a catchment system. When annotated with explanatory material these diagrams could earn full marks. Some answers, however, ignored channel flows whilst others dealt only with surface flows. A significant minority produced diagrams and descriptions of storm hydrographs.

(c)   This produced some excellent answers where land use changes and examples of surface engineering were employed to describe the impact upon stores and flows above and below the surface in catchment systems. Weaker answers only considered flooding and the attempts made to diminish its impact.

Question 7

Some excellent answers but overall demonstrating a wide range of marks.

(a)   The definitions were usually adequately, if at times rather lengthily, stated. The parts of the earth receiving most solar radiation was far less well answered. Many selected the equator and offered explanations given in terms of distance from the sun. Few answers mentioned the impact of equatorial cloud cover and the effects upon the receipt of solar radiation of the relatively cloud free inter-tropical high pressure areas.

(b) This was generally well answered, although attempts to explain the effects of latitude were often hampered by references to distance from the sun (rather than tilt and orbit of the earth) and confusion by some with the effects of altitude.

(c) This produced answers across the whole mark range. The best succinctly stated the nature of greenhouse gases and their effects in bringing about warming through the greenhouse effect. In the case of recent global warming this effect had been increased due to the exploitation of fossil fuels and the increasingly extensive nature of agriculture. Poor answers demonstrated confusion between the greenhouse effect and holes in the ozone layer and dwelt extensively on the effects rather than the causes of global warming.

Question 8

Frequently answered either indifferently or poorly.

(a) The definitions were poorly expressed. Neither joints nor bedding planes were widely understood. Commonly, joints were merely described as vertical cracks whilst bedding planes were horizontal. The origins of joints in the formation of either igneous or sedimentary rocks was described accurately by only a handful of candidates. Most erroneously ascribed joints to the operation of weathering processes such as freeze-thaw.

(b) This was generally well answered. Many candidates produced concise and well illustrated descriptions of two of the processes of freeze-thaw, thermal fracture, pressure release or even salt crystallisation.

(c) Produced wide ranging levels of response. Some excellent answers described the nature of carbonation and emphasised the role of joints and bedding planes with excellent use of examples that were variously drawn from Malham, through to cockpit country and the tower karst of the tropics. Poorer answers miscomprehended the chemistry of carbonation, were confused with granite weathering and produced no landforms other than stalactites.

Section C

The Human Core

Question 9

One of the two most popular of the human questions and often well answered.

(a) The definitions were often both accurate and succinct. Some definitions were inhibited by repeating the term migration rather than movement and by omitting a timescale (i.e. permanent or for at least one year). There were some good uses of examples, usually involving one of forced migration contrasted with one of voluntary (usually economic) migration. Occasionally candidates employed examples that contradicted their own definition, such as an example of international tourism or internal migration within a country (e.g. transmigration within Indonesia).

(b) Those candidates who took time to carefully inspect the resource material performed the best. In **(i)** candidates were expected to recognise broad patterns in the distribution of net sending and receiving countries. They were not required to name individual countries, although a recognition of continents and the balance of receiving and sending countries within them was expected. Some of the least successful answers were from candidates who ignored the resource and used the question as an opportunity to write in general terms about global migration.

(c) Prepared candidates were able to use the opportunity to employ a case study or to offer broader multi-national perspectives. There were some good answers on the USA and European Union immigration policies as well as accounts of the effects of immigration policies within the candidates' home country. Many better answers distinguished between the effects of policies on different types of migrant (e.g. refugees, skilled professionals, retirees) or, in the assessment, were able to demonstrate the impact of changes in policy over time.

Question 10

This was chosen by very few candidates. These commonly produced partial or very weak answers.

(a) Few were able to demonstrate any knowledge of a rural area or settlement and proved incapable of drawing an adequate map.

(b) There was insufficient knowledge of the condition of rural areas in MEDCs to make any realistic attempt to assess the impact of a desire for urban lifestyles. What little credit that could be afforded to these answers was usually gained from generic material relating to rural areas.

Question 11

A question that was as equally popular as **Question 9**, but not as successfully answered.

(a) The definitions were only moderately well achieved as many candidates saw urbanisation, not as a concentration of an increasing proportion of the population in urban areas, but rather as simply rural to urban migration. Counter-urbanisation was better defined, although few were able to offer a specific example.

(b) There were some strong answers based upon examples located in southern Africa, Brazil or Malaysia. Candidates described the manner in which development had been encouraged in rural areas in order to stem the outflow of population to urban areas. These were explained in terms of the provision of rural job opportunities, agricultural improvements, rural service provision in education, medical services or energy supply. Useful reference was also made to disincentives to urban migration in the form of prohibitive laws, taxes, inflated housing costs and the destruction of shanty towns. The resettlement of population in newly created towns (e.g. Brasilia) was not deemed as relevant to the reduction of urbanisation.

(c) Responses were found across the mark range. Weaker responses merely described the unsanitary and often harsh social conditions of spontaneous settlements, whilst middle range answers were able to point to poverty and natural disasters as being endemic and beyond the direct influence of the urban system. The best answers were able to put spontaneous settlements within the context of the process of urbanisation. Thus they could be viewed as working solutions within fast expanding and stressed systems of urbanisation. As such, some spontaneous settlements are supported by urban authorities with infrastructure and services. The use of located examples was another indicator of quality.

> **Paper 9696/02**
>
> **Physical Geography**

General comments

The majority of candidates found the Paper accessible and there were only a few infringements of the rubric where candidates wrote their two answers from the same option. There was also the rare case where part **(a)** was written from one question and part **(b)** from another! This meant that credit could only be given to the higher scoring of the two. Although there was the usual wide range of quality across the entry, many candidates achieved good or very good marks on their papers showing an overall encouraging performance. Time was generally well managed by most candidates but too many devoted too much space to part **(a)** of questions for 10 marks at the expense of part **(b)** for 15 marks. There were many cases where candidates went beyond the specific demands to either 'describe' or 'explain' and attempted both and/or were keen to reproduce all that they had learnt about the subject in question instead of maintaining their focus on what was required. The clear distinction between 'explain' and 'describe' was still not realised by all candidates. It is recognised that in effective explanation there must be an element of description, and vice versa, but credit cannot be given for extended description when a question demands only explanation. Except for **Question 6**, there was no opportunity in this Paper for repetition of material in the two parts of questions; but there was evidence that some candidates may have chosen questions on the basis of their knowledge of part **(a)** for which they were able to provide a full and well credited answer, but could only make a limited or very generalised attempt at part **(b)**. This reinforces the constant reminder from Examiners of the necessity for candidates to read through carefully all the questions on their options and to weigh up their ability to answer both parts adequately and to bear in mind that part **(b)** carries more marks than parts **(a)**.

There was generally a good standard of written English and the vast majority of scripts were well presented, many with clear and effective diagrams. More detailed comment on the use of diagrams is included in the response to individual questions that follows. The importance of the use of appropriate examples must be stressed, even if not specifically demanded by the question, as is stated on the front cover of the Paper under 'Information for Candidates'.

The comments that follow highlight mainly the weaknesses in answers and are advanced in the hope that Teachers may be able to appreciate why some of their candidates may not have performed as well as expected. In all cases though, there were examples of excellent answers which reflected a high level of knowledge, understanding and preparation for the examination.

Comments on specific questions

Tropical Environments

Question 1

This proved to be the less popular choice of question for the Tropical Environments and was generally less well attempted than others on the Paper. Answers to part **(a)** were often much weaker than those to part **(b)** suggesting that the question was selected on the basis of knowledge of a tropical ecosystem rather than of tropical soils.

(a)   Many candidates confused soil forming factors with tropical weathering and some only gave extended accounts of deep regolith development resulting from chemical weathering and so on. Thus only limited credit could be given to weathering as a first stage in soil formation. Some candidates who did write on soil forming factors did so in very general terms with little or no reference to the tropical environments. The more relevant and better answers identified the role of climate, and especially rainfall and its seasonal distribution, as well as topography and parent material. Good answers also considered time and were accompanied by well-drawn and accurate profiles indicating typical ferralsols or ferruginous soils and in some cases semi-arid calcic or salinised soils.

(b)   The emphasis of answers should have been on assessing the success of management, and candidates who did this with the use of appropriate examples gained high credit. They recognised the fragility of the environments and the significance of nutrient cycling in each case. There were some excellent answers using case studies from the Cameroons (Korup), Brunei and Brazil. However too many candidates wrote solely and at length about the human activities in the environment, most usually the tropical rain forest, and the destructiveness of their impact, such as forest clearance leading to soil erosion, highway construction and so on.

Question 2

The overall standard of performance was higher in answers to this question.

(a)   Although there were some candidates who confused the ITCZ with a temperate frontal system and wrote about warm and cold air masses and frontal rain, the majority of answers revealed a basic knowledge of seasonal movement and the significance of the low pressure equatorial zone but made too little use of the data provided. There were some very good answers in which candidates integrated the operation of the Hadley Cell effectively. Conversely, it was disappointing to find that convection (free ascent) was still not well understood by most candidates.

(b)   This was a topic that had obviously been well rehearsed by many candidates but too often they were keen to write all they knew about the landforms without paying sufficient attention to the specific requirement of the question, i.e. an explanation of 'how deep weathering and the stripping of regoliths have influenced the formation of landforms'. The weathering and stripping were mentioned only incidentally in many cases, whereas the best answers focused on the processes and recognised the importance of long term climatic changes. Nevertheless landform development was well illustrated by most and diagrams were effectively included although geological control, such as lithology and jointing, was absent in too many instances.

Coastal Environments

Question 3

This was the more favoured choice from the two coastal questions.

(a)   The processes were generally well known although some still confused abrasion with attrition and terms such as hydraulic action, wave quarrying and pounding were often imprecisely understood. The sequence of cliff foot notch followed by cliff fall and the development of a platform was simply presented in many cases, although diagrams were generally adequate.   Good candidates recognised the wave cut platform as a planation service produced mainly by abrasion and that cliff recession would reduce as wave energy was dissipated across the surface.

(b)   The majority of candidates were able to describe effectively the three main types of coral reef, i.e. fringing, barrier and atoll. The best gave clear and accurate diagrams with some indication of scale and an example. Some took the second demand to mean an explanation of the conditions in which coral will grow rather than theories advanced for their formation.   Naturally, conditions are significant in both Darwin's and Daly's theories and needed some understanding, but only the better candidates were able to provide a clear account of the sequences of either a submerging island or glacial eustatic changes of sea level.

Question 4

This coastal question provided much more of a challenge in both parts and was consequently less well attempted.

(a)   Many candidates found difficulty in relating the diagram to real beaches and what they had learnt about the action of constructive and destructive waves. Descriptions could have made use of the scales provided on the axes of the diagram, but this was rarely done.   In explanation, some confused the ridge with a sand dune, but better candidates were able to relate the ridge to the accumulation of coarser material by storm waves, the berms to similar but lower energy waves and the bar to either back combing or more acceptably to a wave break line offshore. The relationship between beach profiles was rarely well accounted for by different wave actions.

(b)   There were two approaches to this question, one focused on hard engineering to counter coastal erosion and the other on human activities resulting in the pollution of the environment or disturbance of a coastal ecosystem. Either approach was acceptable, but as usual, the better answers were based on a good understanding of a well-studied example either from a text or fieldwork. Those who provided such answers revealed some understanding of the coastal system and littoral processes, e.g. the knock-on effect of hard engineering, both locally and down coast, or the destruction of coral and the erosion of dune systems and their ecological effects.

Hazardous Environments

Question 5

This was accessible to most candidates, but perhaps was selected on the basis of a better knowledge of Part **(b)** than Part **(a)**.

(a)   Some candidates saw hurricanes and tornadoes as the same phenomenon, merely hurricanes proceeding overland. Some others confused hurricanes with depressions and were explained in terms of the interaction of polar and tropical air masses. Many were only able to attempt hurricanes and left tornadoes unanswered. In addition, too many of the accounts of hurricanes focused on description and the destructive effects of the storms, which were irrelevant in this case, and often good candidates who had completed a satisfactory explanation of formation, wasted their time in such a way. This equally applied to tornadoes where only rarely was there an adequate understanding of their genesis.

(b)   This was generally more fully and effectively treated. Volcanoes and earthquakes figured strongly with varying levels of sophisticated technology cited, although Chinese animal behaviour fitted less convincingly here. Past history, seismology, gravity anomalies, evidence of preliminary activity and ground movement measurements were all well understood in the better answers and the best candidates were able to draw on examples. Many selected hurricane prediction for one of their choices which provided scope to demonstrate the effectiveness of satellite tracking and radar imagery. Many were less able to demonstrate 'how successful' such methods of prediction had been. Although most candidates made use of examples, there was a wide range of accuracy in documenting hazard episodes.

Question 6

Generally this question was better attempted due to a largely more even performance over both parts of the question.

(a)   Most candidates were able to link hazard distribution to tectonic zones along plate margins; in some cases this would seem to have been done with little reference to the given map as answers too frequently continued with descriptions of constructive, destructive and conservative margins ignoring actual global distribution per se. Consideration of 'areas at most risk' was also often answered from their own knowledge and covered material to be repeated in Part **(b)**. The better answers recognised the importance of the urban agglomerations shown on the map to justify the areas selected.

(b)   The weaker answers covered merely the proximity of populated areas to either tectonic or meteorological events. Better ones included a consideration of population density. The best answers progressed to explain the importance of available technologies and policies involving prediction, protection, evacuation and education. The problems of communication was recognised and the contrast between LEDCs and MEDCs was often made. The very best candidates exemplified extensively, sometimes basing their answers on contrasting case studies. Examiners did not require treatment of all the factors for full credit; this was a question which required candidates to select from their obvious large store of knowledge and a couple of well worked examples could and did gain high credit. As in **Question 5**, although copious reference was made to actual hazard events, there was a wide disparity in the accuracy of some of the reporting.

Arid and Semi-Arid Environments

Question 7

This question was generally not well answered by the majority of candidates who chose this alternative.

(a)   As in many previous examinations, a proportion of candidates confused the terms 'weathering' and 'erosion', thus no credit could be given to abrasion or deflation by wind or the work of running water. Exfoliation and granular spalling from large diurnal temperature ranges was the basis for the better answers. However the occurrence of freeze thaw action could earn little credit unless limited to some specified highland area; even so it would not be a significant process under arid and semi-arid conditions. For many, physical weathering was the sum total of processes presented, with salt crystal growth added in some instances. The best candidates recognised the importance of chemical weathering, notably hydration and oxidation, with moisture provided by dew or the occasional desert showers.

(b)   Many candidates failed to explain the physical limitations to human activities except in the most limited and generalised terms. This question demanded the use of examples, but these were rarely more than names, although there were, as ever, those candidates who had obviously studied this aspect of the syllabus with reference to relevant and specific areas. Too often there was merely reference to cultivation along rivers such as the Nile and ill defined groups of nomadic herders. Only in the better answers was there some understanding of contemporary settlement in such areas and the significance of power supplies, communications and effective management of the soil, natural vegetation and so on, backed up by effective exemplification.

Question 8

Although this was not the preferred choice by most candidates, the quality of response was somewhat better.

(a)   There were some very good answers to this where candidates revealed sound knowledge of both the processes operating, weathering and fluvial, and a basic understanding of one or more theories of pediment development. This coupled with a clear description scored high marks. Some candidates drew effective generalised cross sections of the piedmont zone and these were well credited. However there were many much weaker answers where candidates were unable to get beyond a very limited description and could add little by way of acceptable explanation.

(b)   Examiners were generally impressed by the very good knowledge revealed by the majority of candidates with respect to the adaptation of plants to hot arid and semi-arid conditions. There was much detail on a range of xerophytic plant characteristics and there were valid attempts by many to cover the range of environments. Those that scored most highly also added relevant examples. The adaptations of animals were similarly well detailed by many candidates, but it was the treatment of soils that let most answers down. Some omitted soils altogether, others described essentially weathering material and that desert soils were essentially sandy. Only a minority wrote convincingly about desert grey soils (aridisols such as solonchaks), i.e. where evaporation exceeds precipitation by a considerable margin and where soluble salts accumulate both on the surface and within the soil layer; also where there is a very low organic content but a high content of calcium and sodium chloride (salt) and sodium sulphate.

| Paper 9696/03 |
| Human Options |

General comments

In the second examination of this Paper to be offered on the 9696 syllabus it was good to see responses to the full range of questions across the Paper and of the full range of quality.

Within the production, location and change Option comparatively few candidates chose **Question 10**, on export processing zones, rather than the more familiar, and perhaps more accessible, **Question 9**, on agricultural change. Likewise, in the economic transition Option, **Question 16** on regional development was by far the more popular choice, the alternative, **Question 15**, on the services industry, being more unusual and less anticipated. As Question Papers are intended to cover the syllabus in its entirety over the period of a few years, such variety is, however, normal and to be expected. Examiners reported that they found the questions to be comparable across the Paper, irrespective of the combination of two questions chosen by candidates.

A significant proportion of candidates were disadvantaged by their use of time, as was the case in the May/June examination. This was true across the ability range. It was most often seen in the production of one full and one incomplete response. It seems likely that candidates, in answering it first, spent too long on Paper 2, Physical Options, and Teachers are advised to encourage them to be disciplined in the division of the three hours between the two. Leaving any part of a question unanswered seriously limits a response's potential. If absolutely necessary, and only then, note form or bullet points may be used, rather than offering a blank part.

There were few rubric errors, but given the preparation of the candidates and the clarity of the Question Paper's layout, these could be avoided.

Standards of written English, of language use and of expression contributed both to the candidates understanding of the questions and the accompanying resources in the Insert, and to the clarity and quality of their responses. There was evidence of candidates being familiar with the terms and concepts of the syllabus topics, although some were newer and less well-known, such as export processing zone in **Question 10**, and others, such as carrying capacity in **Question 14** would have been more familiar in another context, in this case, population and resources.

Candidates seemed ready to respond to a variety of resource materials within the data response or data stimulus elements of this Paper. The materials in this case were a correlation graph, a world distribution map, a newspaper cutting and a classification diagram. As with Paper 1's Human Core, there is the intention to set a diversity of resource materials for the Human Options. Teachers should continue to put before candidates, throughout their course, a variety of materials and forms of representation for interpretation and critical comment in the light of their geographical knowledge and understanding.

Comments on specific questions

Production, location and change

Question 9

(a) Response to **Fig. 5** was satisfactory to good. The syllabus has a dateline of 1960 and the graph was a 'historical' approach to the impact of the Green Revolution in Asia.

    (i) Most candidates could identify the Philippines and China, although a significant number chose Japan and Korea, mistakenly, as being at the "top" of the diagram. The key diagnostic for the correct answer was the greatest horizontal extent of the country's plot.

    (ii) Few candidates got beyond seeing the broadly positive relationship between rice yields and the percentage total paddy area irrigated, as indicated by the black line. At this level a more thorough approach to statistical information is required, in this case, observing that countries with similar percentage irrigated area have different rice yields, that there are some decreases, and/or that yields do increase without an increase in paddy area. Any of these points could be supported with country names and data from the figure.

    (iii) Response here was sound, candidates needing to provide three pieces of information about other inputs, such as climate, or the context, such as the agricultural policy, or both.

(b) Most candidates were careful to focus on the extension of the cultivated area, as required, rather than the increase in productivity. Better quality responses were distinguished by their coverage of several reasons, such as food demand consequent on population growth, profit motivation, national export, resettlement in new areas and the impact of diminishing returns or land degradation. Some, however, seemed to take the word problems too freely and wrote of the problems of agriculture more generally. Candidates scored well if they covered problems in more than one dimension, not just the environmental but perhaps economic and/or social, if they could differentiate different outcomes for different groups of people and if they supported the discussion with examples.

Question 10

(a)(i) A suitable explanation of the term export processing zone is a designated, planned or government-established area, where foreign companies import raw materials, manufacture and export finished products without paying tax. Most candidates achieved only one or two of these elements.

    (ii) The global distribution was described reasonably, the key features being mainly LEDC locations, coastal or on islands and largely in a tropical or central belt. There was scope for another observation of the candidate's choosing such as mainly single sites or few within Africa.

    (iii) This was generally well answered with candidates suggesting a range of valid factors including government incentives, large potential low cost labour supply and nearness to USA.

(b) This was answered well, some candidates appearing to weather part **(a)** in order to access the more familiar part **(b)**. Most candidates covered home country, which was suitable and one of the design features of this syllabus. The highest quality answers identified several issues and used specific named examples of industries, firms, locations or initiatives in an assessment which identified what had, and what had not been, achieved.

Environmental management

Question 11

(a)(i) The meanings posed no difficulty, renewable being that which can be used repeatedly or which is constantly replenished and non-renewable being finite, exhaustible or subject to depletion. A full answer provided an example of both but did not need to go on to consider such issues as conditional renewability or the desirability of the sources.

(ii) This was answered well by most candidates, renewable resources being seen as appropriate because of concerns over the depletion of reserves of fossil fuels and their environmental impacts, especially global warming. Other possible issues to cover were their vast potential, the costs/vulnerability of reliance on imports and political agreements on world energy futures.

(b) This part was less well answered than **(a)** as many candidates found the word policy hard to interpret, or lacked the material to do so despite its being a syllabus topic. Others were, however, able to make an assessment considering the balance and trade off between the environmental and the economic. There were some good answers on LEDCs possessing coal for whom environmental concerns are an uneconomic luxury and on China, where change is happening in the pursuit of more environmentally-friendly options at considerable economic expense. For a good mark some detail of the energy policy and some locational material from the chosen country were needed.

Question 12

A most popular question, although, where candidates had also answered **Question 9**, answers could be narrow.

(a) The term, desertification, not found in the syllabus, is given to help candidates.

(i) Almost all candidates identified deforestation, overgrazing and overcultivation correctly, noting the discontinuity in the data set in **Table 1**.

(ii) Whilst many candidates answered this effectively with appeal to a combination of factors such as population pressure and, in the case of deforestation, the lack of alternative fuels, some spent their time simply giving the meaning of the three terms, answering 'how' rather than 'why'. There was also much repetition: combining the three causes, where possible, worked better.

(iii) There were numerous good and diverse answers on all of the three causes. The better quality responses rather than just suggesting 'planting trees' to reduce the impact of deforestation might, for example, have made reference to an initiative, a suitable fast-growing tree type or to the rate at which they need to be planted ideally.

(b) Answer quality was high overall here, especially where a specific located degraded environment was chosen (usually rural but possibly urban). Answers on very large areas such as Sub-Saharan Africa, the Amazon Basin or tropical rainforests globally, were less certain. Some candidates failed to recognise the two demands of the question and either did not answer the 'why it is so difficult' element or simply explained how the environment had become degraded, which was not, in itself, required. Others suggested an explanation using factors in a number of possible dimensions such as the scale or severity of the problem (physical), the lack of finance (economic), the operation of vested interests (various) or corruption (political). Most candidates were better informed on solutions and some evaluated these very well indeed. Evaluation needs to embrace what has been achieved, what has not and what the challenges and opportunities are, either that remaining or which are new.

Global interdependence

An encouraging number of Centres are preparing candidates for this Option, although **Question 14**, on tourism remains the more popular of the two.

Question 13

(a)(i) This posed no problems, although better outlines gave specifics rather than just terms such as raw materials, manufactures or food. It was permissible to include services, both tourism and financial services and banking being mentioned in some lists.

(ii) Weaker candidates tended to identify why the country was involved in trade, usually on the basis of having some commodities and lacking others, whilst better answers appealed to a variety of factors, depending on the country chosen, such as membership of a trading union political instability, currency fluctuations or catastrophe.

(b) Responses tended to be unbalanced here, for a question asking for extent. Many were focused entirely on political factors as the explanation for inequalities in global trading patterns and neglected other factors such as variations in resource endowment or the level of economic development reached by the countries concerned. Few candidates gave much indication of an appreciation of the inequalities beyond that of 'rich North' and 'poor South'.

Question 14

(a)(i) The term carrying capacity was not well understood although most candidates could link it to the idea of the number of people that the resources of an environment can support. Very few could apply it to the nature of mass tourism (high capacity) and eco-tourism (low, so as not to damage environments or indigenous peoples).

(ii) Reading and interpreting the newspaper cutting posed no problems although some candidates did not give it sufficiently close attention, there being four impacts for **B**, and others chose to use their general knowledge about "Spain" rather than to apply themselves to the material provided.

(b) Many candidates ignored the word 'local' in the question and produced a general answer on the benefits of tourism. Better quality responses tended to come from those who chose a specific named tourist area, such as a coastline, island or small region or the single resort, rather than those who selected a whole country, for which 'local' was hard to interpret. Answers which were wholly positive and which recognised no downside to tourism were limited to a maximum of nine of the fifteen marks, an assessment of extent being required. Some of the best responses were able to offer place detail, such as hotels or initiatives, to quote local sources such as the media or to use the results of their own field work.

Economic transition

Question 15

(a) Responses were surprisingly poor, given the detail and the quality of the resource **Fig. 8**. Most candidates did not appreciate that the term 'varied character' was the key to success. What was needed in each case was a brief outline of the diversity of the sector, for instance in the case of **(i)** for qualifications and training that the services sector embraces those with little or none such as delivery boys to those who are highly qualified and who have an ongoing training component such as doctors.

(b) Responses were disappointing in that most candidates restricted themselves to two points, that more personal wealth meant more services purchased such as recreation and that more wealth may lead to businesses being set up to exploit this. It was hoped that a fuller consideration would include issues such as the diversification of TNCs into services and the massive growth of producer services, i.e. those demanded by businesses rather than just by individuals (consumer services) as delineated on the figure.

Question 16

(a)(i) This was soundly answered, although some candidates chose to explain the meaning of the term core-periphery instead, as appeared in a previous examination. Simply, regional disparities are inequalities, contrasts or differences occurring between regions of a country in both social and economic development.

(ii) Answers tended to be thin here and general, with insufficient attention to specific criteria such as literacy rate or fertility rate (social) or average income or unemployment rate (economic). A full response required the inclusion of at least one multiple criteria measure such as the Human Development Index (HDI) or the Physical Quality of Life Index (PQLI).

(b) This more familiar part to the question produced some answers of very high quality and others which were notably rushed or part-remembered, sometimes confusing the detail of two countries at the weaker end. The most popular choices of countries were Brazil, Italy and Venezuela. Some choosing Brazil had difficulty handling the wealth of material or getting away from a rather urban response about favelas and the building of Brasilia. All did, however, recognise the need for evaluation and many had developed skills beyond the simple observation of what worked and what did not, to establish the ongoing or resultant needs and challenges.