GEOGRAPHY

Paper 9696/11
Core Geography

General comments

The aim of the paper was to test a broad range of physical and human topics in a manner appropriate to both the range and abilities of the candidates. The paper seemed to perform very well and marks obtained covered the complete spectrum. The level of performance exhibited a wide variety, with some excellent scripts at the top end. There were very few extremely poor scripts, but a significant proportion of the marks bunched in the 40s and 50s. Many of the candidates were not able to sustain their performance over 7 questions and would drop marks on at least one question. Few candidates demonstrated consistent ability in both Physical and Human Geography, most being more adept at one or the other. Wholesale omission of a question or questions in ***Section A*** was rare but did occur. As noted in previous reports many candidates experienced problems in interpreting data response questions, either because of a misunderstanding over the nature of the task or simply an inability to read and interpret graphs, tables, etc.

Whilst expression was often loose, credit was given where there was some semblance of an idea or the recognition of issues. Credit was also given if there was some knowledge of 'geography' in the answers. However, as in previous years, the use of geographical examples was highly varied. There were instances of the good use of geographical examples, but far too often examples were omitted or were used incorrectly. There is still confusion over the use of geographical and technical terms such as erosion and weathering. The lack of precision in technical terms still seems to be an issue in Physical Geography.

Comments on specific questions

Section A

Question 1

(a) The majority of candidates obtained the correct answers to both parts and very few got one right and one wrong. There were a few wrong percentages.

(b) Again, the majority produced the correct figures, but a significant number failed to include the units.

(c) Most correctly chose river basin A. There was some good reasoning based on size of drainage basin and overland flow, but only a minority recognised the significance of the geology. The characteristics of sandstone and shale were often completely misunderstood. The difference between porosity and permeability was often confused and some wrote about the channel rather than the drainage basin. Many inferred drainage basin characteristics from the data that were erroneous. Weaker candidates tended to simply quote data from the table rather than explain their significance and to omit direct comparison between the basins. However, in general, good marks were obtained for this question.

Question 2

(a) It was surprising how many candidates got some of the choices wrong, with many referring to 'polar bears disappearing', 'Maldives disappear', etc. when the question was about precipitation. A few included more than three specific examples. However, in general, this part of the question posed few problems.

(b) The vast majority established a valid reason, but most were weak on areas not being so severely affected. There was a tendency to concentrate on the areas most affected with no comparison. It was not sufficient to simply note that some areas were near the coast and other areas were highland areas. The examples shown on the map were often ignored.

(c) The response to this question was very mixed, with very few candidates showing a clear understanding of the greenhouse effect. Many confused the greenhouse effect with ozone depletion and some clearly had no idea and simply described the effects. The best identified reasons for increased emissions, explained heat retention and even discussed long-wave radiation and had some explanation of changes to precipitation. Most common, was the suggestion that greater evaporation due to higher temperatures, lead to more moisture in the air, and therefore more rainfall. Not surprisingly, considering its complexity, reasons for precipitation changes confused many candidates.

Question 3

(a) Sketches were generally not of a high standard, with many bearing no likeness to the photograph. Labelling varied, with some not labelling but including paragraphs of writing. Response to this question was disappointing when it is remembered that photographs are an extremely useful teaching tool. Many candidates identified the rock type as granite even though limestone is clearly stated in the question and as a heading for the photograph.

(b) The response to this question was highly variable. What was surprising was that, even with those candidates that recognised it as a limestone pavement, only a minority recognised carbonation as the principal process. Those who did identify carbonation did usually understand the process in general terms. However, the number that produced the correct chemistry was minimal. Freeze-thaw was quite commonly suggested and done well when linked to jointing. Organic action and chelation were also frequently mentioned. A significant number simply went through every weathering process and several mistook limestone for granite and discussed hydrolysis attacking feldspar and producing kaolinite.

Question 4

(a) More candidates identified the end of Stage 1 correctly than the start of Stage 3. The start of Stage 3 was generally poorly understood. Only a minority gave the correct reason, with more getting the explanation for Stage 1 correct than Stage 3. Overall, understanding of the demographic transition model was not impressive.

(b) Very few used data in their answers. Many did identify the changes in general terms, but did not support with evidence. Some examined population change rather than natural increase. A significant minority did not read the question carefully and examined the data from 1701. This was a very disappointing response.

(c) Some candidates did not understand the general concepts of demographic transition, but many did well, with most identifying the potential further fall in birth rate, producing a natural decrease. Many only gave one possibility. Overall, the response to this question was poor and many candidates lost marks accordingly.

Question 5

(a) Most candidates simply went through each region, quoting figures. Only a minority made the observation that all areas showed an increase, but most included some comparative comment, such as Africa and Asia having the highest increases. Very few included comments about comparative levels of urban population.

(b) Precise understanding of urbanisation was not secure in many answers. Most equated the question with rural-urban migration and answered in terms of push-pull factors. Very few recognised the position and significance of the early stage of the urbanisation cycle and related it to economic development.

Section B

Question 6

(a) (i) While most candidates recognised that pools are deeper water and riffles shallower, almost all these suggested that the flow of water over riffles was slower and was quicker in the pools. This emphasises the confusion over velocities in rivers. Most candidates seem to refer to maximum velocity and not mean velocities. The fact that, if the river is shallower, the velocity needs to increase to move the same discharge through a site seems to have escaped most candidates.

(ii) Many linked riffles and pools to the development of meanders, but only the best were able to explain the process. Those using diagrams were the most successful. However, riffles were often placed in the wrong position.

(b) This question produced a wide variety of answers. Many candidates drew reasonable diagrams to represent the Hjulstrom curve and the best supported these with comments about the relationship between size of particle and the velocities required to entrain, transport and deposit the particles. Some written descriptions did not score highly because they simply stated that there was a relationship, without illustrating it. A significant minority of answers contained inaccurate diagrams.

(c) This was generally answered well. All candidates could identify relevant human activities and link these to the amount of water flow, but links to speed were generally less convincing. The most effective answers tended to use urbanisation, deforestation and water abstraction. Some answers focused on activities putting more silt into the channel, with stream-bank cultivation to the fore. Some of these argued convincingly for the effect on speed, but also wrongly asserted an impact on volume. The role of channel alterations, dredging, straightening, etc. was also commonly mentioned.

Question 7

Answers to this question tended either to be good to very good or very weak.

(a) (i) Definitions of sensible heat were either good, mentioning conduction, radiation or convection, or were completely wrong. Latent heat transfer was rarely described in convincing terms, with many simply stating that it occurred during uplift of moist air. The association with a change of state was often missed.

(ii) The concept of reflection was understood in a very general way, but explanations were often confused. The most frequent example was reflection by clouds without explaining how this occurred. The most useful example, reflection by snow or ice, was generally ignored. Reflection was sometimes confused with radiation.

(b) Of those attempting **Question 7**, a sizeable number, perhaps half, did not attempt this part. Of those that did, less than half had a clear idea of what was required. Many produced a global map of wind systems not related to pressure belts. The best drew either the tricellular model or a sketch map of the world and explained the pattern. Quite often the tricellular model was drawn with no indication of pressure. Even the best, however, struggled to explain the seasonal variability.

(c) While a few candidates clearly did not understand what the question was about, most candidates did have an understanding of stability and instability. A significant number clearly understood lapse rates, drew effective graphs and linked these to appropriate weather conditions. However, the distinction between DALR, SALR and ELR was often confusing.

Question 8

(a) (i) Many definitions of island arcs were completely wrong placing them at constructive or diverging plate margins, while a few described sea arches. Definitions of ocean trenches were more effective with most recognising their association with destructive plate margins and associated subduction. Geographical examples, especially the Peru and Marianas Trenches, were often quoted. Useful diagrams were produced to show the location of trenches.

(ii) Most candidates understood sea-floor spreading, linking it to divergent plate margins where magma wells up, although only a few went further to link to the idea of mid-oceanic ridges. A significant minority did not attempt the question.

(b) Most candidates realised that mountains are associated with destructive plate margins and drew diagrams showing both collision zones and ocean/continental plate margins. But diagrams, in general, were quite poor. Many got the geographical locations wrong with plates named in error. A significant minority think that volcanic activity is associated with continent to continent collision such as the Himalayas. Many got no further than this collision, but the better answers introduced the idea of sediments on the ocean floor being compressed and forced upward by the convergent plates. A few described the formation of block mountains. These were relevant but the mechanisms involved were often confused and unclear.

(c) While candidates were able to identify a wide variety of human activities responsible for altering the shape of slopes, most answers simply asserted that they had an effect, without describing that effect or explaining how it occurred. Answers were more effective in discussing stability than shape. A minority of candidates did produce good answers with sensible geographical examples. Aberfan, the Vaiont Dam disaster in Italy and building on steep slopes in Hong Kong and Rio de Janeiro were good examples.

Section C

Question 9

(a) All candidates showed some understanding of the factors influencing migration, with only a few referring to international rather than internal migration. Many simply discussed migration in push and pull terms, with no reference to the stimulus material in the model. The best answers clearly understood that negatives and positives existed in both origin and destination. The use of specific examples to illustrate the points was limited but, where present, was very effective.

(b) Most candidates were able to identify and explain a couple of obstacles to international migration. Most frequently mentioned were issues relating to political factors, such as visas, passports and work permits, followed closely by economic costs. The best answers explained these factors in detail and related cost not only to moving but also to costs of documentation and distance travelled. Many candidates, however, drifted away from obstacles and discussed negative factors in the destination country, such as lack of accommodation, without making the crucial link to the perception of these being obstacles.

(c) Most candidates recognised that men migrate more than women and linked this to status in society. However, knowledge and understanding of the different patterns beyond this simple statement was limited and many answers were characterised by statements and explanations based on subjective preconceptions about the differences between men and women. The use of examples was very limited. Some answers incorrectly tried to use commuting, shopping trips and such like as examples of migration.

Question 10

(a) Most candidates understood that carrying capacity was concerned with the link between population numbers and the resources to support them, but only a few included the idea of a maximum population. Very few developed valid arguments linking this to population increase. Only a couple of answers included the concept of J and S curves. The theoretical aspect of the second part of the question was lost on most candidates.

(b) The basic concept of underpopulation was demonstrated in most answers, with Canada most frequently quoted as an example, but few were able to make the link to standards of living. A minority focused on population density, missing the link to resources and technology.

(c) There was a generally meagre response to this question, with only very few candidates recognising the reference to Boserup in the quote. This led many responses to discuss the concept of 'necessity' out of the context of population and resources. Encouragingly, there were some candidates who demonstrated a good understanding of the ideas of Boserup and Malthus.

Question 11

(a) Answers to all parts of this question were weak. In part **(a)** few demonstrated accurate knowledge of the Central Business District that was being discussed. Many of the points could have been related to almost any town or city. The question seemed to be the last resort of the unprepared.

(b) There was a distinct lack of understanding of functional zonation in towns and cities. Many candidates related it to the broad zonation as outlined in the urban models of Burgess, etc. Few of the reasons, as outlined in the mark scheme, appeared in the answers.

(c) The response to this question was similar to those for part **(a)**. The answers were so generalised that they could have referred to any big city. The exception were the few answers that indicated a good knowledge of London Docklands.

GEOGRAPHY

Paper 9696/12
Core Geography

General Comments

This paper produced a wide range of responses effectively discriminating between candidates. The paper appeared as accessible as previous papers as it produced some excellent answers both from individual candidates and some Centres. Generally the use of English was admirable particularly from candidates for whom English is not their first language. Coherence and legibility were also good and the vast majority of candidates were able to express themselves effectively, although the level of the geographical knowledge displayed was far more variable. There were some questions that were the subject of misinterpretation, particularly by some Centres. Most prominently these were **Question 4(c)** where the term 'other information' was often ignored as was the term 'stages' in **Question 10 (b)**.

Most candidates have been prepared to carefully study the resource material provided in the questions in ***Section A*** and are thus successful in identifying and interpreting data in the early parts of the questions. Fewer candidates, however, made full use of the resource material in the more explanatory parts of the questions. This was particularly apparent in **Question 1** where the cross section could have been usefully employed in the description of the landforms required in part **(c)**. Another problem for many candidates is in the description of data from figures and tables in Human Geography questions. Marks are often lost because candidates fail to make any overall description of the data or trends, as the candidates concentrate exclusively upon the individual data items. Wholesale omission of questions did occur in ***Section A*** as well as omissions of parts of questions. In ***Sections B*** and ***C*** there was a marked concentration upon **Questions 6** and **9** with relatively few candidates attempting questions based upon other areas of the syllabus. There was some omission of parts of questions in ***Sections B*** and ***C*** but, by and large, both of the optional questions were attempted. Time allocation did not appear to be a problem as there were few examples of either hurried or notational types of response. Many candidates continue to lose marks by a lack of accuracy and completeness in the definition parts of the questions It is often clear from subsequent parts of the answer that the candidate understands the concepts involved, but has failed to give a complete or accurate definition in the part of the question where it was required.

Comments on individual questions.

Section A

Question 1

(a) Candidates had a surprising amount of difficulty in identifying the marked features of Fig. 1. Some recognized that the channel was braided, but few were able to identify with any accuracy the features of the channel. The distinction between vegetated bars appearing above the level of high discharge and the temporary bars below the high discharge level was recorded by very few candidates. Many appeared unaware that erosion could take place in such channels.

(b) Some candidates correctly described the channel as being braided, but then went on to explain the channel development in terms of meandering. Better answers recognised the occurrence of deposition within the channel but ascribed this solely to changes in velocity of flow. Very few pointed to the significance of variable discharge despite the fact that it was clearly indicated in the cross section on Fig. 1. The description of the channel features was almost universally poor, even in those answers which displayed some appreciation of the nature of braiding. There appears to be far less understanding of this part of the syllabus than is usually demonstrated in the case of meandering channels. Very few answers achieved more that 6 of the 10 marks available.

Question 2

(a) Most candidates were able to interpret the diagram and gain both marks for correctly calculating the units of short wave and terrestrial radiation.

(b) Many candidates provided useful descriptions of albedo, the better answers recognizing that it is short wave radiation that is being reflected. The process of the warming of the earth's atmosphere was less well understood although there were some excellent answers that were able to explain the heating of the atmosphere through the absorption of terrestrial long wave radiation by greenhouse gases and particulate matter. It was, however, this aspect of the greenhouse effect that was least well understood. There were some welcome signs, however, that many Centres have come to grips with a part of the syllabus that, in the past, many have found challenging. There was a wide range of marks, extending from those not attempting the question at all to those gaining full credit.

Question 3

(a) Most candidates identified the disparity between MEDCs and LEDCs, but not all used data to support the distinction. The high degree of variability between LEDCs was also noted, with many candidates repeating every piece of data that was given without really drawing out the contrasts. Almost all candidates obtained credit here, although many wasted time by including data and explanation that was not required by the question.

(b) Most candidates wrote at length about conditions in Sub-Saharan Africa that could lead to high mortality rates. Lack of health care, insanitary conditions, poverty and poor nutrition featured strongly in most answers. Whilst this was acceptable at a general level, only the better answers were able to target their response to the high lifetime risk of **maternal** death. Weaker answers assumed Sub–Saharan Africa to be a single country and couched their answers in terms of high rates of infant mortality. Most answers accumulated some credit on this question with the better targeted responses to **(b)** achieving full credit.

Question 4

(a) Most candidates achieved full credit for the description of net migration into Canada. Those who failed to do so were those that did not understand the meaning of net migration, despite its explanation in the stem of the question. These answers assumed that Fig. 3 showed total immigration and emigration in Canada

(b) Most correctly identified the relevant five year periods.

(c) Many candidates found this part of the question far more demanding. A significant number of candidates misinterpreted the question to mean the reasons why people migrated from Asia. Better answers were those that concentrated on information that could be obtained concerning the origins within Asia of the migrants and their population profiles. How such information could be of use for a fuller understanding was also identified by these candidates. Whilst most managed to gain credit in **(a)** and **(b)**, relatively fewer candidates scored well in part **(c)**.

Question 5

(a) Most correctly identified industrial land use.

(b) Although there were some relevant responses, a surprisingly large number of answers could only identify one correct reason for intense competition in the CBD. Many identified accessibility and then repeated the same point in a different guise.

(c) There were some excellent answers that made particularly effective use of local examples, such as Auckland, to demonstrate anomalies in the theoretical construct of the costs and uses of urban land. Outside of New Zealand Centres, far less use was made of examples and there was little understanding demonstrated of the bid rent diagram and its limitations. For many candidates this appeared to be a part of the syllabus that had not received much preparation.

Section B

Question 6

(a) Most candidates correctly identified evapotranspiration as a combination of evaporation and transpiration, although fewer were able to describe either with any accuracy. Antecedent moisture was less successfully defined, with many failing to even attempt a definition**.** The significance of these terms in the study of drainage basins was poorly described with few obtaining more than one mark.

(b) Most realised that drainage basins varied in shape (elongated, circular, etc.) and in size and often provided diagrams to illustrate them. They were, however, far less certain as to their impact upon patterns of discharge. Better answers explained the impact upon lag times, peak discharge and total discharge. Poorer answers made wild and confused statements concerning lag times with little comprehension of overall discharge patterns. Drainage density was understood by relatively few candidates. Most assumed it meant the number of tributaries.

(c) A surprisingly large number of answers failed to identify excessive input into the catchment system (rainfall) as a principal cause of flooding. They continue to view human activities in terms of land use change as the main cause rather than an exacerbation of flooding. Better answers explained that flooding can be a regular occurrence and result in the formation of river flood plains. A range of activities to limit flood effects were described although weaker answers merely suggested the reversal of catchment land use changes that they saw as the cause of floods. Better answers made good use of exemplification to illustrate various engineering and other attempts at flood limitation.

The most popular of questions in this section but often not well answered as many gained very limited credit from parts **(a)** and **(b)**.

Question 7

(a) Both condensation and water vapour were reasonably defined and nearly all of the candidates scored either 3 or all of the marks. The formation of snow was not well explained as many candidates could not get beyond the necessity for temperatures to be below freezing. Sublimation and the existence of vertical updrafts in clouds were rarely mentioned.

(b) Most answers contained acceptable diagrams demonstrating convectional and orographic uplift. Some candidates became confused with the nature and influence of lapse rates, although the general understanding of these has improved in recent years. The weakness of many answers came in the explanation of resultant weather. Weaker answers did not advance beyond rainfall or its absence. Even so, most answers were able to achieve reasonable amounts of credit.

(c) The nature of the urban heat island has become well known, although a significant minority persist in giving pollution as the main cause of raised temperatures. Better answers explained differences in thermal capacity and heat retention giving rise to the night time release of heat in urban areas. They were also able to explain the cloudier and wetter conditions in urban areas. Most answers achieved Level 2, but were often limited by their lack of contrast with rural areas.

Far less popular than **Question 6**, but one that produced answers that often gained more credit.

Question 8

(a) Hydration was very poorly understood and often confused with hydrolysis. In the description of oxidation, some marks were obtained by an association of oxidation with rust, though very few could describe this in chemical terms (i.e. iron to oxidised iron). In terms of pressure release, the removal of an overburden was described by some candidates although its impact in terms of sheet jointing was rarely mentioned. Many obtained little credit in this section.

(b) Better candidates could describe the processes of heave and flow, illustrated by useful diagrams. Unfortunately these answers were relatively rare and many of these could not extend the nature of the processes to their impact upon mass movements on slopes. Many answers could only point to the existence of bent trees as a feature of mass movement. Some better answers were able to

deal effectively with flows, describing mudflows, speed, saturation and internal derangement. Heave was far less understood.

(c) The chemical composition and physical nature of granite was generally better described than that of limestone, although the explanations of carbonation were more convincing that those of hydrolysis. The best answers explained the role of jointing and bedding planes in the case of limestone and vertical and horizontal curving joints in granite to aid the ingress of water and the agents of weathering. Weaker answers merely saw granite as hard and limestone as soft, both of which were subject to the agency of freeze thaw weathering**.**

This was the least popular question in this section that was, apart from a few Centres, poorly answered.

Section C

Question 9

(a) Nearly all answers recorded that natural increase was derived by a subtraction of the death rate from the birth rate, but very few were able to describe it as excluding migration or that its calculation was per thousand per year: a lack of accuracy in definition that cost marks. Most answers showed that natural decrease occurred where death rates were greater than birth rates. Better answers exemplified this from relevant stages in the demographic transition model.

(b) Many candidates found this very difficult and progressed little further than describing continuing high birth rates in LEDCs. Family size was often completely overlooked or, at best, associated only with MEDCs. Better answers described declines in infant mortality and the influence of increases in life expectancy. Very few identified population age structure or global population momentum.

(c) Inevitably, China's one child policy formed the substance of most answers. As always, considerable detail was often given of the progress of this policy, but so often little attention was given to the success or failure in altering the birth rate, about which few gave any accurate data. India and Singapore were also offered by some candidates although they were often hampered by lack of detailed knowledge. Too often, details of the effects or outcomes of the policies were developed rather than the effectiveness of such things as the offering of rewards, punishments, mass media indoctrination or the different of approaches of democratic and command governments. If the candidates could have refocused their material, many could have moved up a level and gained more credit.

This was by far the most popular question with some excellent responses, but a question upon which many underachieved.

Question 10

(a) Most candidates successfully defined internal migration, the only blemish being the failure of some to record the duration of one year or more. Most accounts described a rural to urban migration in generic terms, although better responses were those that gave a real example.

(b) This part question was poorly answered as many candidates appeared to have little or no knowledge of staged migration, let alone staged internal migration. This suggests that this part of the syllabus has been overlooked by many candidates. Candidates from a few proved the exception, but even here the exemplification was often weak.

(c) This question was very widely misinterpreted as the candidates described movement to cities i.e. rural to urban migration, often in very general terms with no specific city named. In such circumstances very little, if any, credit could be given. Even where intra-urban movement was correctly identified the impacts of such movement were very weakly described or assessed. Again this appeared to be an area of the syllabus little studied in any depth.

There were relatively few answers to this question, with little credit being afforded outside of part **(a)**.

Question 11

(a) The few candidates attempting this question were mainly drawn from a few Centres, and either adopted a textbook example (e.g. Urchfont) or a rural area known to them. There seemed little evidence that a specific case study had been studied, which was often reflected in the marks achieved**.** Candidates found it difficult to describe either the location or the character of the rural settlement or area. Often the text book examples proved more effective here.

(b) This was usually the better answered part of this question. Most identified, changing functions from farming to commuter or holiday/second home occupation of property and its subsequent impact upon the structure of the rural community. LEDC examples could equally well have been used.

(c) Few candidates appeared to know how to approach this question. Some merely repeated the points made in **(b)**. Few seized the opportunity to develop ideas concerning the loss of rural character due to commuting and urban encroachment or of the "greening "of cities. There was clearly a lack of any specific case studies that candidates could draw upon throughout this question.

Studies of urban and rural settlements and rural areas close to schools could provide ideal case studies upon which candidates could base their answers to questions such as this.

GEOGRAPHY

Paper 9696/21

Advanced Physical Geography

General comments

The overall response to this examination was slightly disappointing although there were a number of excellent marks awarded. The response to the data stimulation questions, namely **4(a)** and **6(a)**, was especially disappointing. Answers were very partial with candidates highlighting just a small fraction of the information provided on the diagrams. There was a general inability to see the total picture and the way in which many of the elements and processes were interrelated. This was especially true of answers to **Question 4 (a)** where the integrated characteristic of sediment cells was very rarely realised.

The mix of subject matter within questions caused problems for some candidates. This was especially true of **Question 1**. This suggested that not all the elements in the syllabus had received equal attention and that there was an element of 'topic spotting'. There is always a logic in the linking together of the two topics in each section and the syllabus topics do possess internal cohesion. Thus the linking of a question on the Inter Tropical Convergence zone and Tropical Vegetation in **Question 1** is perfectly logical. Some candidates struggled with **Questions 5 (b)**, **7 (b)** and **8 (b)**; particularly the last two, both of which were attempted by many candidates. The result was a frequent imbalance between the marks awarded to parts **(a)** and **(b)**. A more detailed analysis of the responses to these questions appears later.

There was some indication of a more thorough use of geographical examples, but there is still great scope for underpinning answers with good, accurate examples. Far too often, the example was relevant but the detail and accuracy of the information provided was limited. There were often throw away statements such as e.g. Japan for the earthquake question with no specific information. The use and understanding of technical terms was still rather weak. The use of the term erosion when weathering was being discussed and attrition when writing about abrasion, were typical examples. The confusion between a factor and a process is also widespread and candidates still explained when all that was required was description.

The use of diagrams showed improvement, but many were still not used effectively. Candidates often repeated, at great length, information that they had already supplied in diagrams. This was clearly an inefficient use of time. Also, many candidates failed to allocate time according to the mark value of the individual questions. This may reflect the level of knowledge of a particular topic, but there were instances where extremely good candidates did not have sufficient time to develop their arguments in part **(b)** of a question. A better time allocation could have resulted in an overall better mark.

In case the report so far seems a little pessimistic, it is important to stress that there were a number of excellent answer papers with marks above 40. Hopefully, the comments in this report will help to ensure that a significant number of marks of this order will be obtained in the future.

Comments on specific questions

Tropical Environments

Question 1

This was the least popular question in this section.

(a) Answers, in general, produced mostly generalised points about soil factors that could have been related to any climatic environment. Very few candidates demonstrated accurate knowledge of soil formation in the humid tropics. The relationship between climate and weathering was quite well understood, but this knowledge was not transferred to soil formation processes. The answers were more about the development of weathering profiles rather than soils. The role of vegetation in soil development was only partially understood and the knowledge of leaching and chemical processes

in the soil was weak.

(b) Few answers produced a balanced account of both granite and limestone landforms although, there were some excellent exceptions. Granite landforms were covered in a more substantial way than limestone features with often good accounts. Surprisingly, the role of jointing was ignored by many. Diagrams did not seem to be as accurate this year as in the past. Many of the answers were weak on the operation of specific processes. Many candidates did not address 'to what extent' but recognised that they were different, although some did argue, quite lucidly, for the similarities between the groups of landforms.

Question 2

This was slightly more popular than **Question 1**

(a) There was a highly variable response to this question. Some candidates wrote excellent accounts of the operation of the Inter Tropical Convergence Zone, but many simply described its positions as shown on the maps. Some of this description was very imprecise with the phrases 'up' and 'down' being used instead of north and south. There was often little explanation for its seasonal movement nor the reason for rainfall. Answers rarely went beyond the fact that the zone produced rainfall. Candidates seemed to be attracted to this question because of part **(b)** and had to make what they could on part **(a)**.

(b) While many were able to draw and simply describe the layering of vegetation in the Tropical Rain Forest, labelling was weak and explanation for it was often very vague. There was a tendency to focus on species adaptation to climate and not structure. This largely accounted for the fact that accounts of structural features in Savanna vegetation were weaker than those for Tropical Rain Forest. The role of climate was recognised but related more to adaptation than vegetation structure. However, there were some excellent responses noting the gradation in vegetation structure as distance from the edge of the Tropical Rain Forest increased. Also, many recognised that understorey characteristics in Tropical Rainforest vegetation was denser where light was able to penetrate such as along river courses and in clearings.

Coastal Environments

Question 3

This was not a popular question.

(a) Most of the answers focused on profile with little attempt to discuss beach plan. Although many still got the relationship between wave type and beach profile wrong, there was an encouragingly greater number of answers that associated destructive waves with gentler profiles. The role of beach particle size was largely ignored. Some of the better answers produced good information on runnels, berms and similar beach features. Diagrams of beach profiles were overly exaggerated.

(b) The term 'fragility' caused some confusion with many answers concentrating on physical damage such as by boats and tourists. But there were good answers on the specific growth requirements of corals, although these were sometimes not related to the fragility idea. Detailed knowledge of specific aspects of conservation strategies was minimal with the measures suggested being usually based on prohibition of activities and marine zoning. Some candidates could relate to specific coral areas under threat, but these were in the minority.

Question 4

(a) This should have been a very straightforward question but was answered well by only a few candidates. Some candidates did clearly understand the idea of a sediment cell and the circulating of sediments but few answers examined the sediment cell in its entirety. Most simply examined a few of the components, such as the groynes, and discussed the immediate local effects, not placing them in the wider context. The significance of the dam in restricting sediment movement to the coastal zone was missed by many. The answers were mainly descriptive rather than explanatory.

(b) This was a straightforward question that was not answered badly but was rarely answered well. The question asked for an examination of factors but the answers focused mostly on processes rather than the way in which factors and processes interacted to produce distinctive landforms. As in the past, abrasion and attrition were confused and sub-aerial processes were largely ignored. The role of rock type and structure was often forgotten and the importance of wave energy was downplayed. When waves were discussed it was largely in terms of constructive and destructive wave types rather than their energy and their impact on the cliffs. The most frequently discussed features were caves, arches, stacks and shore platforms. Headlands and bays were mentioned in some answers but the role of geology and wave refraction was often forgotten.

Hazardous Environments

Question 5

This was a very popular question that resulted in a large number of very partial answers.

(a) Many candidates spent too much time on earthquake wave types and bypassed the question's central focus with only superficial coverage of plate boundary processes and with very weak locational evidence. There was recognition that earthquakes can be caused by volcanic activity and perhaps human activity such as dam construction and reservoir infilling. Also, there was some recognition that earthquakes sometimes occurred in central plate locations and not just at plate margins.

(b) This part of the question was not answered well. It is clear that many candidates either hoped for a volcano question or an earthquake question related to mitigation rather than prediction. Knowledge of methods of prediction was weak with the Richter Scale often being quoted as a predictive tool, which it is not. Evaluation of the reliability of prediction was generally over optimistic, reflecting the lack of understanding. Many answers drifted from the question and mostly described mitigation. The impression was given that earthquakes had not received the attention that they deserved.

Question 6

(a) This was a straightforward question and some very thorough answers were produced. However, many answers were superficial and overly descriptive with many candidates only seeing the contrasts in urban density and overlooked the differences in infiltration rates and runoff between the two zones. Few candidates pointed out the different impacts of the 1 in 10 and 1 in 100 year floods.

(b) There was a mixed response to this question with some excellent answers both on the factors and processes leading to flooding and the consequences. Geographical examples were often relevant and detailed. However, it was surprising how many did not discuss the role of heavy rain. More 'exotic' causes of flooding, such as volcanic activity, snow avalanches etc. were covered in detail but rain was forgotten. This was also the case with hurricanes, tropical cyclones and typhoons. Coastal flooding was stressed, but the impact of heavy rain was ignored.

Question 7

This was a popular question within this section, but the response was highly variable. Answers to part **(b)** were usually far too generalised.

(a) The specific characteristics of hot arid and semi-arid areas were reported only in a very superficial manner. Quite often there was no distinction between the two environments. Answers concentrated on rainfall and temperature with the rainfall amounts received by the two environments being generally inaccurate. Some answers wandered off the question into the nature of the vegetation, soils and animals of the environments.

(b) Answers to this question were probably the most disappointing of the entire paper. Most candidates struggled with the concept of 'sustainability'. Few candidates possessed specific knowledge of geographical examples of sustainable management; most simply produced a wish list such as irrigation, afforestation, paddocking of animals, etc. Case studies of management of such environments should be used by candidates to answer questions of this type. Examples can be drawn from many areas of the world, such as The Sahel, Australia or California. However there are many other areas with similar issues and strategies.

Question 8

This was the least popular question in this section.

(a) It would seem that the use of photographs received very little attention in preparing candidates for the examination. Whilst photographs are not used in every question paper, they provide excellent resources for candidates to appreciate and understand environments. Few candidates were able to identify the features of the photograph. Most candidates seemed to be guessing and mostly guessed wrongly. Most assumed that the landforms that they knew most about, usually wind created features such as zeugen, yardangs and various dunes, must be somewhere in the photograph. Many landscapes in arid and semi-arid environments have been shaped by water to some extent. Description was largely ignored being replaced with lengthy explanations.

(b) Some candidates were able to identify features that might have been formed by water action and some recognised the importance of past fluvial activity. However, most ascribed all the features to wind action, including the wadis.

GEOGRAPHY

Paper 9696/22
Advanced Physical Options

General Comments

The overall standard showed a slight improvement from that achieved in recent past examinations although, as ever, there was a wide range of quality within it. As often commented upon in the past, the quality present in the better answers was a sound knowledge and understanding of the basic physical elements required by all the questions. This was apparent in all the environments, whether it be with the human exploitation of tropical biomes, managing coastal erosion or limiting the effects of hazards. In many of the weaker answers a sound physical basis was lacking or limited; thus, for example, the fragility of the Tropical Rain Forest ecosystem was not always addressed (**Question 1(b)**); the operation of marine processes was considered insufficiently (**Question 3(b)**); the physical properties of earthquakes creating hazards was limited (**Question 6(a)**). The use of appropriate terminology was often limited in the weaker answers. It is essential that candidates understand what is required by the command words used in the questions. Equally important is their need to understand the geographical terms used in the syllabus. This has been highlighted previously with examples such as erosion and weathering, profile and plan form, arid and semi-arid, beach and coastline, plagioclimax and climax vegetation and so on.

There was, in many answers, an imbalance in addressing parts **(a)** and **(b)** of the questions and also within questions where there were different demands. Generally questions in part **(a)** require responses in terms of basic skills, knowledge and understanding rather than protracted discussion. Too often answers were much longer than those to parts **(b)** and not infrequently included material repeated in **(b)**. Examiners appreciated that candidates were keen to display their knowledge, but this should be constrained to addressing the specific demand of questions. Comments by Examiners on scripts frequently referred to irrelevance, even though what was written was in itself accurate. Thus attention to the command words and their application was still a factor that limited some answers. Such attention to those aspects played a large part in effective time management. It was clear that there were many cases where answers to the second question had been limited with part **(b)** being reduced to note form in some cases. The lack of completing a section created a severe penalty in total marks awarded to a paper.

A frequent comment made by Examiners on individual questions was the value of well documented and detailed case studies being used to demonstrate appropriate knowledge and clear understanding. The candidates were reminded of this on the cover of the examination paper, as was the need to draw sketch maps and diagrams whenever they served to illustrate an answer. Attention to those aspects was reflected in the work of the better candidates. However it was encouraging that this was an area where there had been some overall improvement.

Generally the Examiners were impressed by the standards of written English especially where it was probable that it was a candidate's second language. The majority of scripts were well written and diagrams and maps generally well presented. There were very few infringements of the rubric.

Comments on Specific Questions

Tropical Environments

Question 1

This was the more popular choice from the two questions.

(a) Candidates were generally able to give satisfactory to good descriptions of Tropical Rain Forest as exemplifying climax vegetation. The better ones showed clear understanding of the term and described how the vegetation had reached an end stage of progression from a prisere. Kratakoa was often cited as an example of how progression might develop. Some chose to describe a

Savanna climax, but with generally less appropriate descriptions. It was with plagioclimax that candidates had difficulty. Most had no clear understanding of what was meant by the term. The common misconception was that it was vegetation introduced into a biome by humans rather than vegetation developing naturally from the result of human activities to reach a plagioclimax. Thus very few cited the development of secondary forest in a Tropical Rain Forest biome after the abandonment of clearings. Instead, candidates incorrectly referred to forest plantations and agricultural development as plagioclimax communities. Some candidates did appreciate that much of the Savanna probably reflected plagioclimax vegetation but generally with limited detail.

(b) The majority of candidates elected to use Tropical Rain Forest examples and the theme in most cases was exploitation without sufficient regard for the second demand of how sustainable are the types of exploitation. Thus there were many accounts of 'slash and burn' exploitation detailing the processes, but rarely with any evaluation as to its sustainability. There were some good answers where candidates appreciated that such activities might be sustainable and that population density was a factor. Similarly with clearance of rain forest for various commercial activities, little consideration was given to the issue of sustainability. Good candidates explained the fragility of the biome and had appropriate knowledge of the role of selective logging and careful replanting schemes with apposite examples. With much of the exploitation, such as mining, road building and wholesale land clearance for agriculture, candidates left it to the Examiner to assess the degree of sustainability. With so few examples from Savannas, generalisation on answers is limited. The common approach was to encourage sustainability through a reduction of nomadic grazing and the creation of safari parks. Exploiting the potential for tourism was also relevantly referred to in some answers for both areas.

Question 2

(a) The majority of candidates correctly identified the two types of climate, but too many then merely repeated the data from the graphs rather than describing the climate such as noting the double maxima of rainfall in Fig. 1A or the degree of seasonality in Fig. 1B. Many candidates used time in unnecessarily offering explanations of the climates, whereas explanation was required in the second demand on how 'vegetation might be affected by each type of climate'. Here too many candidates only gave descriptions, often too protracted, especially in the case of tropical rain forests. As ever, there were some very good answers in which candidates did focus on how vegetation had to adapt; either to seasonal drought in savannas encouraging grasslands and deciduous trees such as acacia, or how the competition for sunlight and high rainfall in rain forests led to layering and emergents and so forth.

(b) There were very few good answers to this question. There was a general lack of knowledge of weathering processes operating in tropical environments as well as of the mineral composition of granite and its typically jointed structure. Consequently very few candidates related, for example, high temperatures and rainfall to accelerated chemical weathering in tropical humid areas. The process of hydrolysis, so effective in the break down of the feldspar in granite, was rarely included or the role of humic acids from decaying vegetation. The few good candidates appreciated that jointing was a key factor in the development of landforms, linked to deep weathering to a basal surface, in both the formation of tors as well as the ruware/bornhardt sequence of landforms. There was some relevant input on the role of insolation weathering, leading to exfoliated landforms, relevant to the drier tropical environments. However too many candidates considered freeze thaw weathering a major factor. This was not accepted unless candidates related it to the few highland areas within the tropics where it might be significant. The role of erosion in, for instance, the removal of regolith was rarely linked to climate and there was some misunderstanding of the terms weathering and erosion.

Coastal Environments

Question 3

Generally more popular than **Question 4**

(a) The effective use of diagrams to explain the development of the named landforms was generally disappointing, although there were some very good cross sections showing the sequence of wave cut notch, cliff collapse and retreat to develop a wave cut platform with high and low tide levels indicated. However, there were many who omitted the cliff retreat. Too many candidates gave unnecessarily protracted descriptions of wave erosion processes without relating them to

explanation, whereas good candidates were selective and appreciated the influence of rock type and structure, especially joints, bedding planes and faults. Many candidates had an erroneous idea that solution was a major erosion process at coasts whereas it is a weathering process that operates only to etch into limestones, usually on an exposed platform. In the case of the cave, arch, stack sequence, the main weakness was the failure to indicate a headland, or some promontory from a cliff line, to show the effect of wave refraction. Good answers made use of real examples which indicated knowledge of both the form and geology of area. Too many candidates still wrote in terms of hard and soft rocks and/or used simplistic diagrams similarly labelled.

(b) Many candidates were good at detailing the civil engineering aspects of coastal management, both hard structures such as groynes, revetments, gabion cages and sea walls, as well as soft engineering such as beach nourishment. However, most candidates fell down with their use of examples and lack of evaluating the degree of sustainability. Examples should accurately demonstrate knowledge of the physical setting and the relevant marine processes that operate. Text book case studies were quite acceptable, but too often candidates revealed a lack of understanding of the situation or circumstances operating. An accurate locational map is often essential to demonstrate how engineering at one point of the coastline may impact on another Generally better answers were those from a candidate's home areas where the background detail was usually more accurate and it was clear that relevant fieldwork had been undertaken. In the best answers candidates weighed up the cost of alternative strategies, and the needs of any competing interests, in evaluating sustainability.

Question 4

(a) Many candidates failed to answer the first demand effectively, i.e. of 'how such movement of waves', shown in the insert diagram, occurs. Good answers explained the role of wind and the transfer of energy through frictional drag setting up the orbital movement of water molecules. Weaker candidates unnecessarily reproduced the diagram and simply defined the terms such as trough and wavelength. The forward movement of waves as they approach a shallowing shoreline was again only considered in the few better answers. Most candidates were much better at describing the differences between constructive and destructive waves usually with the help of appropriate diagrams, but again the better ones demonstrated the effects of gently or steeply shelving shorelines. There was confusion regarding the effect of the two types of waves on beaches with the diagrams sometimes contradicting statements in the text. Some candidates did not appreciate that the term destructive waves is applicable to beaches and not the erosion of rocky coasts. There was no need in this part of the question to extend the answer to consider the role of constructive and destructive waves in beach development which a number did and then repeated in part **(b)**.

(b) There were some good answers to this where candidates made use of annotated diagrams to demonstrate the role of wave refraction and longshore drift as well as the effect of destructive and constructive waves, i.e. following on from part **(a)**, in determining beach profile and landforms. Episodic storm events, which can radically affect deposition were only rarely considered. Some candidates devoted too much space to detailing landforms such as spits, bars and tombolos at the expense of the second demand to consider 'what other factors can affect the development of landforms of coastal deposition'. In this, many candidates wrote of erosional processes and landforms without making it relevant to supplying material for deposition. Better candidates did recognise that role as well as the importance of sediment input from rivers. Other factors recognised in good answers were wind in the production of dunes, conditions leading to salt marshes and human activities having both positive and negative effects on coastal deposition. Examiners did not expect a complete coverage of the wide range of possible inputs, but awarded good marks to a balanced approach with selected and well understood examples.

Hazardous Environments

Question 5

Generally the less popular choice of question in this section but yielding some very good responses.

(a) In good answers, candidates recognised the significance of the words 'nature of' as applied to avalanches. Some took this as explaining both rock/debris as well as ice/ snow avalanches. Either or both were accepted by Examiners. There were some excellent and detailed accounts on the nature of snow avalanches such as slab or loose snow, surface or full depth, airborne or wet snow.

Other relevant points were made about the relationship between shear strength and resistance, although too often inappropriately applied to non-avalanche types of movement. In the best answers there was also an appropriate range of causes given; rapid temperature change, excessive snowfall onto ice, earthquakes and other forms shock wave generation. Examples were well credited here as well as in the detailing of the hazardous effects. Weaker answers lacked the range of different types of avalanche, sometimes confusing avalanches with landslides or mudflows and lahars. Also in such answers there was a general lack of precision in such matters as slope angles and triggering effects as well as being limited in exemplification.

(b) As has of often occurred with this type of question, weaker candidates resorted to a catalogue of measures which was a 'fit all' to any type of hazard. For example; in some cases, candidates listed earthquakes as a common trigger and proceeded then to develop their answer as a response to earthquakes per se. Hence the better and well credited answers did address methods appropriate to avalanches and other forms of mass movement. In those, candidates gave examples of both defensive engineering and preventative measures. The former included the building of diversion barriers and roofing over roads and railways in prone areas, rock walls and slope regrading. The latter included artificial triggering, warning procedures, afforestation of slopes and implementing strict building codes. The good answers also had relevant and detailed examples with appropriate evaluation throughout as demanded by the question.

Question 6

By far the most answered question in the paper.

(a) Generally candidates were effective in using the data to draw the conclusion that magnitude did not always correlate to impact. Most also deduced that location in respect to population centres and density was an important factor and whether the earthquake was in a developed or less developed country. The point was appropriately made that in developed countries there would be better preparedness and measures in place to mitigate against the effects. However this often led in weaker answers becoming totally focused on developing the theme and detailing all aspects of the measures, from building codes to earthquake drills and so on including material to be covered in part **(b)** of the question. Although relevant to a degree it was at the expense of considering many physical aspects of earthquakes which were present in good answers. In such answers, the '2004 Indonesia (off the coast of Sumatra)' event was recognised as the tsunami and thus accounted for the very high number of fatalities. Similarly other secondary effects were presented such as liquefaction and the triggering of landslides and avalanches. The depth of the focus and nearness to the epicentre were further valid factors identified in the good answers. Thus the best answers were those that had a balance of both physical and human factors with the former being significant in a paper on advanced physical options.

(b) The weakness here was generally one of imbalance between the two demands of the question. Following on from the observation at the end of the comments on part **(a)**, this was a Physical Geography paper and Examiners expected candidates to display knowledge appropriate at advanced level in the physical content of the syllabus. Thus good answers included accurate and detailed explanations of both the origin and location of earthquakes whereas many of the weaker answers to this section of the question were limited to a few scrappy drawings of plate margins inappropriately or inaccurately labelled. Epicentre was often confused with earthquake focus and the Pacific ring of fire was the sole reference to location. The key words in the second demand were 'to evaluate' and this was sadly lacking from many answers. Again in the weaker answers, accurate detail on methods of monitoring earth movements and prediction, i.e. physical aspects, were sadly limited. Much of the content of such answers was a listing of measures including building regulations and zonation, fire outbreak prevention, provision of warnings, education and so on. All of these were relevant but detail and exemplification as well as evaluation were required to achieve good credit. Good answers addressed these limitations, mainly with well documented examples.

Arid and Semi-arid Environments

There were very few answers to either of the two questions in this option. In both cases the responses were extremely limited giving the impression that candidates had chosen them as a second question from an option for which they had not prepared. Any generalisations of performance are deemed inappropriate. The lack of take up of this option may well be because the majority of Centres are not located in or near arid or semi-arid environments. However, as noted in the report for Paper 21, it is vital that candidates use

photographs as part of their A level Geography course as they provide excellent resources and are used in question papers fairly frequently. Candidates should be prepared to describe what they see in the photographs and develop the skills of drawing and labelling or annotating sketches based on photographs. To be able to do this they need to be able to recognise relevant features.

GEOGRAPHY

Paper 9696/31

Advanced Human Options

General comments

As has been the pattern in recent years, the most popular questions were **Question 1** on agricultural change, **Question 3** on energy and **Question 6** on tourism. A small number of Centres deliver the option ***Economic transition***, and do so well, but, generally speaking **Questions 7** and **8** were attempted by candidates as a last resort, apparently from general knowledge, or because some marks could be achieved in **Question 7(a)(i)** through interpreting Fig. 3.

Examiners observed that whilst many candidates seemed to have at least satisfactory knowledge and understanding of the subject content of the chosen options, many demonstrated a lack of examination technique and/or limitations in the skills of knowing how best to approach a question.

For example, one basic element of examination technique is to read the whole of a question before choosing it and starting to respond. This is important as many of the questions on this paper do not have a part **(b)** which follows on directly from part **(a)**. Examples would be each of the most popular questions, **Questions 1**, **3** and **6**. Another basic element of examination technique is to follow the command word, for example only describing when asked to do so. It is particularly important in all parts **(b)** where assessment is always required, even if some other command is used, for example "Consider", as in **Question 3**, or "To what extent..?", as in **Question 6**. In the levels mark schemes used for all parts **(b)** descriptive or narrative responses without effective assessment remain in Level 1. So, whilst geographical knowledge and understanding, for example of nuclear power in **Question 3(b)**, receive some reward, the skills element is also diagnostic.

In terms of approach, one area of skill which could be usefully developed at this level is the ability to "stand back" from a resource or an issue and develop an overview, framing a response which gives an overall picture, rather than a piece-by-piece approach to detail. This demonstrates higher order ability and may also save time through lack of repetition. One part-question which benefited from this approach was **Question 3(a)** in ***Environmental management***. In part **(a)** better responses focused on the "reasons for the variations" in energy use, whilst most took a source by source approach, which meant that many points, for example in relation to finance, were repeated.

Examiners commented that almost all candidates used the time well and showed that they could answer two whole questions effectively in the time allowed. There were, however, many who wrote out quantities of learned material without making many points relevant to the question set, which is both time-consuming and shows low skills in terms of the selection and direction of material.

There were few rubric errors, although some candidates attempted three or four questions, to the detriment of all responses, which, as a consequence, lacked thought, detail and development.

Most responses were well produced; clearly laid out, following the conventions of the question paper in labelling parts **(a)** and **(b)** and any sub-parts; and expressed in English language of a satisfactory to good standard. Where meaning is less clear, Examiners are instructed to give candidates the benefit of the doubt and to credit evidence of geographical understanding even where the vocabulary may be limited or unusual or expression a little hard to gauge. As some candidates write point- or note-form responses routinely, teachers are reminded that, whereas in some cases this may be acceptable in response to parts **(a)**, in parts **(b)** of all questions, which are levels-marked, note-form answers are only awarded credit within Level 1, i.e. up to 6/15.

Comments on specific questions

Production, location and change

Question 1

A very popular question. Part **(a)** used a resource adapted from published fieldwork on an unfamiliar context, Burkina Faso, a country from which no schools entered candidates.

(a) (i) No credit was given for describing the relevant data in Table 1, although many candidates did draw on it appropriately, in support of their reasoning. Whilst it was necessary to refer to differences in both organic and inorganic fertilisers, comprehensive answers were not expected. A surprising number of candidates did not refer to cost as a factor, given that the households were termed low income, medium income and high income in Table 1. Looking at other information available in the table, many candidates did make the connection between availability of organic fertiliser and manure from draught animals owned or used. Some suggested that fertiliser use related in part to crop type or to the type of system; staple foods/subsistence; or cash crop/profit-motivated commercial. It was creditable to observe that high income households' heavy usage of organic fertiliser meant that less inorganic fertiliser was required. Some candidates missed the fact that the data for fertilisers were per hectare (unit area). Total area cultivated was, therefore, not creditable as a reason for variations in usage.

(ii) Soil erosion was understood well. Most candidates identified two appropriate reasons, the most frequently seen being linked, again to Table 1: the removal of trees and the high usage of draught animals. However many candidates did not provide sufficient reasoning, for example, that the removal of trees means that the binding effect of root systems on the soil is lost and, so, that the soil becomes vulnerable to erosion by agents of wind or heavy rain leading to surface run-off. Credit was given to other valid reasons not discernible from Table 1; for example that profit motivation leads to intensive cultivation and may mean less care is taken about soil conservation through seeking to maximise yields.

(b) The full range of answer quality was seen in response to this straightforward question. In the question, there were three key elements to making a successful response. These were the use of actual examples in some detail, rather than just "e.g. Zimbabwe"; the clear identification of obstacles, such as lack of finance or farmers' traditionalism and resistance to change; and some element of assessment or judgement as to what were "major", that is, significant, obstacles. A high proportion of candidates produced responses which were either narrative of change, for example during the Green Revolution in India, or amounted to developed lists of hypothetical or supposed obstacles. Weaker candidates tended to drift into problems affecting agriculture, especially physical problems, rather than staying focused on agricultural change. There were some very good responses detailing obstacles at different scales and involving different groups of people, from political obstacles at national government level, to the cultural traditions or attitudes of local farmers. These were associated with effective exemplar detail in support of the general points made, which was highly creditable. It was possible to use one context of agricultural change in depth, for example in relation to land redistribution and resettlement in Zimbabwe, or to draw on a number of different contexts to consider different obstacles.

Question 2

This was taken directly from the case study required in the syllabus in ***section 1.4***, but was not a popular question. There were some very effective responses using China or Malaysia as the case study.

(a) Credit was given for knowledge and understanding of industrial policy in the chosen country and for an appreciation of what management in the context of manufacturing and related service industry, is and involves. Although candidates attempting this question knew something about industrial change in the chosen country, fewer had the truly national perspective that was expected.

(b) This is a rare form of question for this syllabus, where success in this part depended on an appropriate answer to (a). Responses tended to be superficial and very general, for example about raising or obtaining finance to overcome a lack of capital, or providing infrastructure, without clarifying what that meant or involved. Most responses were narrative or explanatory. Evaluation tended to be perfunctory as to whether something worked or not, which is far less than is required at A Level.

Environmental management

Many candidates who responded to these questions seemed to lack knowledge, understanding and, in some cases, skills for the more demanding piece of extended writing in part **(b)**.

Question 3

(a) Although being data from real countries, the identities of the MEDC and the LEDC in question were hidden to ensure that candidates developed responses in terms of their understanding of the supply of energy rather than attempting to use knowledge of, or make up ideas about the two countries (Australia and Bangladesh). Better responses developed around "reasons", such as resource endowment, capital availability or environmental policy, using data from Fig. 1 in support of the suggestions made. Weaker candidates tended to provide narrow responses, about say finance, omitting other reasons; to repeat themselves about, for example finance and technology, source by source; to focus on minor issues, such as the tiny percentage for hydro; or to waste time on irrelevant issues, such as seeking to explain the great difference in total energy supplied. There was some perceptive comment on the use of combustible renewables and waste in the LEDC from those who recognised these to be animal dung and fuelwood providing domestic fuel in rural areas and for the urban poor.

(b) The stem linked the resource for **(a)** to the subject matter for **(b)**: nuclear power. Better-scoring responses offered some differentiation between MEDCs and LEDCs rather than treating them as the same in terms of arguments. For example, some observed that levels of capital, technology and expertise vary greatly, and that stringent safety precautions would be difficult to provide in many LEDCs. A few candidates made reference to contemporary international concerns about the development of nuclear technology in some LEDCs such as Iran and North Korea, given its weapons potential. It was highly creditable to identify what may be regarded as the main arguments; both "for", such as the environmental argument of replacing old technologies and reducing greenhouse gas emissions; and "against", such as safety concerns; and other, lower order, arguments. Weaker responses often included faulty understanding of the nature of nuclear power and a descriptive approach based on thin or inaccurate material, such as about the Chernobyl disaster in 1986.

Question 4

(a) The full range of answer quality was seen. At the upper end, candidates provided examples of a number of ways and kept the reduction of land pollution as the clear focus. Such examples included city authorities' provision of litter bins and improved waste removal services; voluntary clean-up campaigns; recycling of certain materials such as glass; and education initiatives in schools and the media about "the three Rs" (reduce, re-use, recycle). This was a straightforward way to build up a high-achieving response. Apart from superficiality, the main weakness observed was the inability to define *land pollution* effectively. For example, many candidates wrote about soil erosion or about environmental degradation broadly, including the media of air and water, which were seldom relevant. Others lacked knowledge of examples, so either wrote generally, hypothetically or provided examples in name only "e.g. USA". General responses of high quality could achieve a maximum mark of 6/10.

(b) The majority of candidates found this part question challenging, because of lack of knowledge of the accidents or incidents needed, or because of the assessment linking them to the wider issue of environmental degradation, or both. Some effective work was, however, seen, for example, when it was observed that after an accident in which pollution enters a river, there is the potential for disruption to the whole ecosystem and for impacts downstream. On the positive side, a few candidates observed that, in some cases, degradation is avoided through rapid and effective intervention and mitigation, for example after an oil spill near a coastline. Some candidates were unable to define accidents appropriately and so wrote responses which consisted largely of routine pollution, for example from domestic wastes, inorganic fertilisers or motor vehicles. In such cases

some generic credit was available. Major accidents most frequently covered were the Chernobyl disaster and its aftermath and oil incidents relating to pipeline bursts and tanker shipwrecks.

Global interdependence

Question 5

There were a small number of responses to this, despite the appearance of tourism as well as trade in **(b)**.

(a) Candidates seemed to find this straightforward, but many omitted innovation and so limited the potential to achieve credit. Most knew something general about trade agreements and how they operate and could offer one or more specific examples, such as agreements with China, or in relation to a primary product, such as bananas. There was suitable coverage of both "trade flows", in terms of scale, strength and duration, and "trading patterns" spatially. Most candidates who included it approached innovation in terms of changes in transport and communications technology and what these enable. Some referred to product innovation and therefore changes in markets, for example in relation to electronic goods such as cell phones. This is an area which teachers could develop more, for example by looking at changes in the world market for copper as a result of new types of cable.

(b) This classic question elicited some very good and some rather weak responses. High-scoring responses assessed the certainties and uncertainties of trade and tourism, considering the nature of both demand and supply. Some integrated knowledge of the life cycle model of tourism, or of world events, such as the collapse of the world market for a good, or the effects of the Asian tsunami on some countries' tourist arrivals and receipts. Fashion and seasonality, are, for example, factors which may affect both trade in visible exports and tourism. Links to development were less well made, but some mentioned sustainable development or the issue of dependence. Weaker responses tended to state an opinion rather than assess how and why, or provide narrative which had limited focus on the actual question set this session.

Question 6

This was the most popular question on the paper this session and yielded the full range of responses. Fig. 2 for part **(a)** was about an, intentionally, unfamiliar context, so that understanding of tourism needed to be used to interpret it, rather than knowledge of the region.

(a) (i) Candidates can use the mark allocation to guide them as to how much to write. A response saying that tourism went up and agriculture went down was clearly inadequate at this level for the 4 marks available. Credit was given for the trends, accurate support (data, dates) and the acknowledgement of variability, either in rates of change in different decades, or the slight fall in employment in tourism between 1961 and 1971. Many candidates wasted time by including total employment, which was not in the question, or by seeking to explain the changes. Teachers should note that the command word "Compare" only involves description.

(ii) This was answered well by many, who showed they could apply knowledge and use understanding. The best answers made clear links between agriculture and tourism. So, for example, rather than simply saying that agriculture provides food, saying that it provides foodstuffs demanded by local hotels and restaurants, or regional foods that tourists would want to sample. Some derived the potential for alternative employment from **(i)**. Other creditable ideas included the contribution of farm buildings and landscapes to the attraction and quality of the countryside, or the potential for farm visits or farm accommodation for tourists.

(iii) This was the least well answered part of the question. Whilst most candidates had some understanding of the operation of the general tourism multiplier, few were able to link the idea of a multiplier specifically to employment in tourism. Those who could, showed how employment in the tourism sector provides income for the workers, raises tax revenue, increases workers' purchasing power and, as a consequence, demand for products and services, which stimulates further development of the economy.

(b) The initial statement provided a stimulus to candidates to think. In the best responses, Examiners found evidence of an understanding of poverty and of such ideas as the vicious cycle of poverty, and of realities of life for the poor (those living on less than US$1 per day). There was some adoption of the military metaphor of the question ("weapon" and "battle") in a critical manner. All good responses, in assessing extent, considered what tourism can deliver, and what it perhaps cannot. Whilst the arguments for the benefits of tourism as a cure for economic ills were expected and seen, the counter-argument, as to how tourism can leave or even increase poverty, was highly creditable. For example, candidates linked the seasonality of tourism, its being subject to fashion, and events such as cyclones and terrorist attacks to downturns which lead to unemployment, business failures and the loss of government revenue. Others showed how leakage and enclave resorts reduce the power of tourism to impact local poverty. Some provided case evidence of where land or rights had been taken from indigenous people by tourism TNCs, to the people's detriment, or where environments had been polluted and degraded by tourism, impoverishing some. As part of the assessment, some candidates considered sustainable tourism initiatives, such as eco-tourism, with its long-term objectives and focus on improving the lives of local people. Weaker candidates tended almost to ignore the statement in the question, or to reproduce material on the advantages and disadvantages of tourism, which was not quite the question set, in an unselective and undirected manner.

Economic transition

Few candidates attempted questions in this the least popular of the four options.

Question 7

(a) Examiners credited any valid links made between development and food consumption. Whilst changes in the agricultural sector were to be expected, there was diverse material on the quality and quantity of food consumed and changes in diet. Candidates who had some knowledge often lacked examples that could be used and so were limited to a maximum mark of 6/10.

(b) The world map in Fig. 3 provided a stimulus. As an unusual measure of development, there were three core ideas which candidates could consider in relation to limitations of using the percentage of undernourished population. Almost no candidates considered the concept of undernourishment, what it means and what it covers. Undernourishment is both the overall lack of food and hunger, leading to starvation, and deficiency diseases resulting from the lack of a key element, e.g. kwashiorkor in children, from protein deficiency. Most candidates attempted to consider the second idea, relating to the statistical issues surrounding this index (and many others); from data collection to the nature of relative (percentage) data. The third idea was about measuring inequality as Fig. 3 was at the national scale. Some observed that this masked the potential for significant rural/urban or regional inequalities. The "other measures" suggested were both single criterion and multiple criteria-based, with GDP, demographic indices and the Human Development Index (HDI) most often seen and satisfactorily presented.

Question 8

Prepared candidates knew how to approach this question, but several candidates who chose it appeared to do so as a last resort, without specific knowledge of either aspect.

(a) The definition in **(i)** could be separate from or integrated with **(ii)**. It needed to explain the two elements of the term, addressing both *international spatial* and *division of labour*. The simple reason why this changes over time is that as costs change, so the spatial margins to profitability move. This is linked to the process of globalisation, competitiveness and changes in a number of things from products and production to government policies in attracting investment. With the exception of candidates who may have also been studying a subject such as economics or business studies, the few who chose this question seemed only able to offer broad responses and not to have a technical geographical understanding of the subject content.

(b) Responses about the growth of TNCs ranged from weak and misconceived to good. Some candidates had the global perspective and subject background to write about mergers, penetrating new markets such as China, R&D and innovation, etc., but did not always have suitable exemplar material to offer in support of the general points except in just naming one or more TNCs.

GEOGRAPHY

Paper 9696/32
Advanced Human Options

General comments

As in recent years, the most popular questions were **Question 3** on energy from ***Environmental management*** and **Question 6** on tourism from ***Global interdependence***. A much smaller number of Centres deliver the other two options, some very well. Teachers are reminded of the need to teach the whole of any option both in order to give candidates a choice in the examination and to ensure that they have the material to deal with a broader question if set. This was the case, for example in **Question 3 (b)**, where knowledge and understanding of pollution and environmental degradation, the other element of the ***Environmental management*** option, enhanced responses about the choice of renewable energy.

All Examiners commented that, although many candidates had some background in the relevant subject area, only a small proportion had both the examination technique and the skills to select, direct and apply that knowledge to the actual question set. Simply recalling learned material, regardless of its relevance, earns few marks at A Level.

In terms of approach, one area of skill which could be usefully developed is the ability to "stand back" from a resource or an issue and develop an overview, framing a response which gives an overall picture, rather than a piece-by-piece approach looking at the detail. This demonstrates higher order ability and may also save time through lack of repetition. One part-question which benefited from this approach was **Question 6(a)** in ***Global interdependence***. In part **(a)** better responses focused on the factors which helped to explain changes, whilst many attempted almost a country by country approach to Fig. 3, which meant that many points were either repeated or speculative.

Candidates should always be made aware that this syllabus requires no knowledge of any specific named place, location, country or world region. As such, questions set on resources about the Prairies of Canada, Fig. 1 for **Question 1(a)**; tourism in Australia, Fig. 3 for **Question 6(a)**; and unequal development in China, Fig. 4 for **Question 8(a)**, only require geographical understanding of the content of the syllabus and not that these locations have been studied. Many candidates across the ability range, attempted to use knowledge, or supposed knowledge. **Question 6** was especially prone to this treatment; Examiners saw a lot of responses about everything from kangaroos to Sydney Harbour, despite the fact that such attractions do not, themselves, change over time (although their promotion may do).

Examiners commented that almost all candidates used the time well and showed that they could answer two whole questions effectively in the time allowed. There were, however, many who wrote out quantities of learned material without making many points relevant to the question set, which is both time-consuming and shows low skills in terms of the selection and direction of material.

Most responses were clearly laid out and followed the conventions of the question paper in labelling parts **(a)** and **(b)** and any sub-parts. The quality of expression varied greatly. Where meaning is less clear, Examiners are instructed to give candidates the benefit of the doubt and to credit evidence of geographical understanding even where the vocabulary may be limited or faulty and meaning a little hard for Examiners to understand. Teachers are reminded that, whereas in some cases bullet point or note-form responses may be acceptable in response to parts **(a)**, in parts **(b)** of all questions, which are levels-marked, such answers are only awarded credit within Level 1, i.e. up to 6/15.

Comments on specific questions

Production, location and change

Question 1

It was common for candidates to perform better in **(a)**, where the resource, Fig. 1 and the three sub-parts helped them to achieve some marks, than in part **(b)**, which required extended writing, an assessment and the interpretation of the word "extension".

(a) (i) Almost all candidates identified Saskatchewan correctly.

(ii) Judging by the responses seen, this proved to be more challenging to candidates than **(iii)**. Whilst many realised that increasing transport costs would mean lower profits, few were able to develop this point, or to recognise wheat as an example of a bulky, low value crop. Many responses had irrelevant material, such as about the difficulty of obtaining trucks or the attraction of speciality crops, both of which were beyond the creditable content.

(iii) This was answered satisfactorily to very well by most who attempted the question. It was recognised that additional agricultural products, such as meat, mean the potential for higher income for farmers from new sources. Many candidates explained how the agricultural practices could be integrated, such as animal manure fertilising fields, or pigs feeding on harvested fields. Some saw the enterprises as complementary, for example allowing more efficient use of labour and equipment through the year. A few recognised that diversification in production reduces risk.

(b) The full range of answer quality was seen in response to this fundamental issue. Although not expressed in that way, one approach that the question invited was the simple comparison between what extending cultivation and intensifying agricultural production may offer. Better responses maintained a clear focus on the extension of agriculture, i.e. the bringing of additional land into cultivation, through such means as irrigation of dry areas, drainage of wet areas or clearance of bush or forest. There were some effective responses explaining how increased land area may challenge farmers as it requires increased inputs of labour, seeds and fertilisers and the acquisition of machinery which may be difficult because of poverty, indebtedness or problems of supply. Others were able to use examples to show that additional land may simply not be available because of physical constraints, land tenure systems, or population pressure which takes land with agricultural potential for settlement. Examiners commented that weaker candidates appeared not to know how to approach either the issue or the element of assessment, tending, instead, to write down what they knew about say, the Green Revolution. This kind of response, which leaves the Examiner to do the work in picking out what is relevant, only achieves limited credit, usually within Level 1, the mark range of 0–6/15.

Question 2

(a) Some good understanding of the informal sector was shown, even if simply expressed. Candidates worked out the reasons why small, new businesses in the informal sector can be successful, from the nature of the activities they conduct, such as repairs, hawking and production reusing waste materials, and the conditions in which they operate, such as without licenses and premises. The other element of the question, why the businesses find it difficult to grow large, differentiated outcomes rather more. Some candidates showed developed understanding of constraints and setbacks, such as the implications of a lack of training, debt, and cash flow problems or the sector's general vulnerability to changes in the market. A few used, or just mentioned, Jua Kali in Kenya as an example in support of their explanation.

(b) All candidates made the change to the formal sector appropriately, but most struggled to develop a suitable response about location in relation to other factors affecting manufacturing industry. Most seemed to reproduce what they had learned about manufacturing, with varying degrees of accuracy. Examiners were, again, largely left to do the work in working out the relevant content from the rest. Better responses did write about location, for example near motorways in Europe or in China's SEZs, and demonstrated what location can offer. This could be at a number of scales; the site, so the availability of infrastructure or a pleasant working environment for personnel; the locality, so a location allowing linkages with other companies or receiving financial incentives from government; and more widely, for example locating in proximity to a primary resource, or to an

airport or seaport. Most of the better responses were, however, more explanatory than truly evaluative and so received Level 2 rewards.

Environmental management

In this popular option, **Question 3** was chosen more than **Question 4**. Both elicited responses across the whole mark range, including some work of outstanding quality.

Question 3

(a) (i) It was important for candidates to look carefully at the information given about Fig. 2 and to note that the index was per person, and that it was "toe" explained as tonnes of oil equivalent, and not, therefore, restricted to oil itself. Credit was given either for limitations of the index or for limitations of the map, i.e. the cartographic representation. One key limitation of the index is that it only showed commercially traded fuels and yet in most LEDCs combustible renewables and wastes, such as fuelwood and dung are very important, but not bought and sold. Limitations of the mapping included the breadth of classes and the way that inequalities were masked, such as between urban and rural areas. Examiners saw a very wide range of suggested limitations, such as that it does not show which are MEDCs and which are LEDCs, or which countries are endowed with which energy resources, but this type of other information, fell beyond the creditable content.

(ii) In general, this was answered better than **(i)**. There was no credit available for describing the distribution of countries with energy consumption of 6.0 toe per person or more, but candidates who did identify which and where they were, could then build up suggestions relating to high levels of economic development and manufacturing and service industry and personal affluence. Some recognised the energy demand of heating in cold countries and/or resource endowment in the Middle East. One pitfall was the failure to understand that the "per person" index meant not just people's personal domestic consumption of energy by appliances and vehicles, but that it also reflected the national economy. The highest scoring responses often included some comment on the political stance taken towards energy consumption, for example in the USA.

(b) This was familiar ground for most and was generally well answered. Qualities which characterised good answers were thorough knowledge of the advantages and disadvantages of individual energy sources, accurate exemplification and informed argument related to energy development. The very best responses were skilled in weighing arguments and comparing ideas, using constructions such as "one the one hand … on the other", or pointing out how different groups of people or stakeholders have different opinions about renewables. Poorer answers named just one energy source, usually HEP, writing in only very basic and general terms, offering a description rather than any actual arguments. Some lacked examples, whilst others described a scheme, usually the Three Gorges Dam in China.

Question 4

Although there were many good and some very high quality responses to this question, it was clear to Examiners that many candidates still find identifying a suitable environment difficult. This has been the subject of this report previously, but is repeated here. Many responses were simply too broad to be effective, such as "forest" or "the atmosphere". Others included several environments, suggesting that the response was, in effect, the globe. Whilst the syllabus encourages study of different environments, both rural and urban, this question was intended to examine ***section* 2.4 The management of a degraded environment** which requires a detailed case study. As such named and located examples of degraded environments, such as an area of tropical rainforest, a national park, a lake or a catchment, performed best.

(a) Candidates did well to describe the nature of the environment, its importance and the threats to it. Many observed the need for intervention and growing environmental awareness and political will as significant. Weaker candidates tended to describe the environment in a general way, but not state why it needed protection, other than incidentally. The very best responses included detail such as data relating to scale and severity of degradation or trends over time, and comments from stakeholders, such as landowners, environmentalists or politicians about the problem or the need to address it.

(b) A creditable response depended on knowledge of the measures in place to protect the chosen environment and of their effectiveness. Responses varied from the vague, through the descriptive and explanatory, to the truly evaluative, in which assessment was the organising principle and had become the filter for the inclusion of content. In the mark scheme levels descriptors are framed both to reflect the quality of subject knowledge and understanding, and also the quality of the assessment offered. As such, responses which gave little or no indication of whether measures were effective received rewards within Level 1; those which offered some assessment, rewards in Level 2; and those which offered a thorough assessment of the measures presented individually and their overall effectiveness in the protection of the chosen environment, rewards in Level 3. Those candidates who had had difficulty defining or identifying a suitable environment in **(a)**, found **(b)** hard to handle as a consequence.

Global interdependence

Question 6 was the most frequently chosen question on the paper, which meant that Examiners saw comparatively few responses to the alternative, **Question 5**.

Question 5

(a) This was effectively answered by most of the candidates who chose this question. It would be unlikely that any country would retain the same trading partners over time, so there was plenty of scope to build up an explanation in a number of dimensions. As expected, economic reasons and political reasons dominated the responses. Apart from some breadth of reasoning, credit was awarded on the basis of the quality of the examples used. This varied from examples in name only, such as "e.g. USA", which is inadequate at A Level, to well-judged specific thumbnail examples of named and dated trade agreements between countries, or the details of specific events, which were integrated into the explanation well. It was necessary to consider "countries" (plural), as in the question, so a response explaining the shifts in trading partners in a single country, usually the home country of the candidate, without any wider explanation or context, could achieve a maximum mark of 7/10.

(b) Many candidates recognised the question for what it was: the issue of dependency. However, it was evident from the content of some responses that the question had been misunderstood, so that rather than writing about "a small number of products", the candidates had written about a small amount of products. This took them, mistakenly, into another set of issues, such as poverty and a negative balance of trade, in which Examiners found little relevant content that could be credited. The vulnerability of LEDCs' economies to changes in such things as weather, fashion and international agreements was, however, treated satisfactorily to well by some. Some spotted the opportunity to include tourism, an invisible export, along with visible exports such as agricultural products or minerals. The consequences of collapse, short-term knocks, longer-term downturns or major crises were recognised by some, and, by the best, supported with recent examples.

Question 6

(a) Most candidates restricted themselves to the content of Fig. 3, although the subtlety in the question of the inclusion of the phrase "such as", did allow more wide-ranging responses. Some did not recognise that the data was percentage changes and, therefore, relative, not actual numbers of tourist arrivals. Examiners looked for accounts which addressed both increases in tourist arrivals and decreases, as evidenced in Fig. 3. The best accounts combined reasons relating to demand, to supply and to a variety of factors which facilitate tourism. Demand is affected, for example, by changes in disposable income; increasing amongst the middle class in emerging economies, such as India and China, or decreasing in MEDCs as a result of the global economic recession, as seen in Fig. 3. Supply could relate to the development or closure of resorts and attractions. Other factors included changes in visas, the relative value of currencies and the amount of promotion and advertising done. Many candidates conveyed effectively the way in which there are fashions in tourism and linked this to such changes. Weaker responses tended to be limited in scope, for example all about money to spend on holidays, descriptive of Fig. 3 or anecdotal.

(b) Examiners observed that there were a number of valid approaches to this question. Sustainability was interpreted in a number of ways: as continuing to prosper into the future, without experiencing decline, as outlined in the life cycle model of tourism; or in more precise social, economic and environmental terms, following the Brundtland definition. Most candidates chose appropriate locations as the "tourist area or resort", however those who attempted a country scale location,

such as Kenya, inevitably found it harder to handle than, say, Mombasa or a named eco-tourism initiative in one of the country's savanna areas. There is a balance to be achieved in selecting a case study, so that it is not so small that it is restrictive in what it offers, nor so large that it is hard to handle in the 25 plus minutes available for any part **(b)** and leads to loose generalisation rather than specificity. Any question which asks "To what extent…" requires the presentation and weighing of evidence on both sides of the issue. As such, even in the most sustainable cases, such as eco-tourism, the identification of circumstances in which sustainability was not achieved, or was potentially problematic, such as when carrying capacity was breached or providers and tourists did not follow guidelines, was highly creditable. As with other questions, weaker candidates tended to reproduce their learned material without selection or application. This included descriptions of the life cycle model stage by stage and profiles of tourism unrelated to sustainability. Such responses received some credit within Level 1.

Economic transition

In this, the least popular option, there were more responses to **Question 8** than to **Question 7**.

Question 7

(a) Most candidates managed to provide a suitable outline of the international spatial division of labour, demonstrating that they understood the term in so doing. Few could offer a truly global perspective, however, and there was little recognition of functions other than manufacturing and assembly and company HQs. Most explanations consisted of no more than for TNCs to save costs and/or maximise profits, whereas Examiners were looking for some development of these ideas as part of the process and phenomenon of globalisation.

(b) Whilst requiring careful thought and planning, this was an open question inviting candidates to show their understanding of development and ability to conceive and organise a response. It was poorly answered by most candidates as they seemed to find the need to devise a response, rather than reproduce learned material, challenging. One senior Examiner suspected that candidates may find it easier to develop the factors which make economic development difficult for countries, rather than those which help. A little good work was seen, for example considering the role of oil as a resource, or of good governance, or taking China as a worked example.

Question 8

(a) (i) Descriptions given of Fig. 4 usually consisted of nothing more than that life expectancy increases with GDP per person. This is an inadequate response in terms of skills. All resources chosen for use in 9696 paper 3 variants have an element of straightforwardness and an element of complexity. As such, any candidate who identifies the element of straightforwardness has only got part of the picture and can only receive some of the credit available. Only rarely did a candidate make any comment about the line below approximately 8000 yuan, which is quite flat, although life expectancy varies from 64 to 73 years, or about Xinjiang which is an anomaly or outlier.

(ii) This was also answered poorly. Few candidates seemed to be able to offer critical appreciation of their chosen measure. Examiners observed that GDP per person was better understood than life expectancy. If a candidate did both, they were credited with the better mark.

(b) Whilst candidates wrote something in the correct subject area, it was largely undifferentiated recall rather than an attempt to answer the actual question set. Examiners saw much material which was poorly remembered and muddled in presentation. Most related to economic development, with social development in key areas such as education and healthcare, largely ignored. The best answers were characterised by a clear, informed narrative focused on the measures, initiatives or attempts themselves, rather than their outcomes in terms of the reduction of regional disparities. This was frequently done in relation to Brazil, a classic study.