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FOREWORD

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

GEOGRAPHY

Paper 0460/01

Paper 1

General comments

Following the style used in the examination in May 2005, all the questions on this paper were structured in a similar way to provide a common approach for candidates whatever the topic being tested. The main characteristics of the structure of each question were:

- Questions had an incline of difficulty, starting with relatively straightforward, resource-based tasks requiring brief responses and progressing to tasks requiring extended writing and the demonstration of detailed knowledge and understanding.
- Two different resources were used within each question, one within part **(a)** and the other within part **(b)**. Some tasks involved the direct use and interpretation of the resource whilst others used it to act as a stimulus to responses. However, marks were not awarded for the direct copying of sections of the resource.
- The final task involved extended writing and either required or invited candidates to demonstrate case study knowledge.

It is felt that this consistent style aids candidates and as this structure will be used in future examinations it is worth familiarising candidates with it. In particular, it is expected that candidates should, wherever possible, have knowledge of appropriate case studies to back up their generic knowledge and understanding. The syllabus is constructed in such a way that, wherever a Centre is located, there are likely to be opportunities to make use of local case study materials in many parts of the course and Centres are encouraged to make use of such case studies in conjunction with appropriate text book examples in order to provide a sound spatial balance for candidates during their course. A blend of small-scale, regional and national examples, within the context of the local area and from other countries, at different levels of economic development, is ideal. Candidates should be encouraged, wherever possible, to refer to real examples and include place-specific details in their answers. Where candidates develop their ideas they are likely to achieve a higher level of performance than listing simple points.

Overall the paper produced widespread differentiation. Therefore, when considering the candidates, almost the entire mark range was achieved. As always, the level of understanding of question requirements varied immensely between candidates as did their quality of written communication. Some candidates produced irrelevant answers to questions, as a result of misunderstanding the command words and specific requirements. However, as the standard of English was usually at least satisfactory, mistakes in interpreting the questions were mostly due to failure to read them carefully enough rather than to a lack of language skills. Excellent responses were seen to all parts of all questions. Whilst it is difficult to generalise, the following observations were made by several Examiners:

- Answers which were based on resources were generally clear and accurate, good use being made of all source materials. However, there were candidates who were satisfied with simply lifting materials from the source materials, or simply reading off figures from graphs, and were not always interpreting them in such a way as to answer the question as set. In some cases, candidates ignored not only the command words used but also the mark allocations, writing far too much, especially in earlier sub-sections of questions worth between one and three marks. The mark scheme works on the principle that if a question is worth three marks, for example, then three correct ideas are required to gain full marks. Some candidates are wasting time by writing at excessive length, producing in some cases over a side of writing for such answers. Often these answers included extra material which was not appropriate or which applied to another sub-section. This is unproductive and wastes valuable time, invariably resulting in later answers being rushed.
- The final part of each question invites candidates to demonstrate case study knowledge. There were some excellent responses where candidates were using case study knowledge from their local area or describing issues arising in their own countries. In contrast other candidates relied on making brief general statements, often using bullet points. As these final sections of questions are worth seven marks, extended writing is expected and candidates should be aware that they devote sufficient time and thought to developing these answers and using appropriate case study materials.
- Some candidates made good use of labelled diagrams which enhanced their answers. A number of excellent examples were seen, and those which scored well were those which were fully annotated, rather than left with brief labels or no labels at all. Where a diagram is fully annotated there is no need to repeat this information in written text.

Questions 1, 2, 3 and 6 were the most popular question choices.

There were a number of Centres where rubric offences were common, invariably these were from weaker candidates who answered all six questions very superficially rather than selecting three. Clearly this is to their disadvantage. Time management was good for the majority of candidates, though a significant minority of candidates spent too much time on one or both of their first two questions at the expense of the third question.

The following advice, repeated from previous Examiners' Reports should be given to candidates:

- Read the entire question carefully before beginning an answer. Decide which part requires which information, thereby avoiding repetition of answers and time being wasted. Answer questions in order, starting with the one which you are most confident with, and finishing with the one which you are least confident with, rather than automatically answering them in numerical order. Thus, if time is a problem towards the end of the examination, the question which is rushed will not be on the candidate's strongest topic.
- Take careful note of the command words so that answers are always relevant to the question.
- Use the mark allocation as a guide to the amount of detail or number of responses required. Be aware of timing, do not devote too much time to the first chosen question, or include too much detail in parts which are only worth a small number of marks.
- Aim to develop each idea so that answers do not emerge as a list of simple points, particularly in case studies where place specific information and details should be included wherever possible to give case studies authenticity.
- Use resources such as maps, graphs and photographs carefully in order to make use of the detail they include, and do not merely copy out parts of resources.

Centres should take careful note of the following points:

- The front page should show full details of the candidates along with an indication of the questions answered.
- There should be a margin of at least 2 centimetres on the left and the right side of each page. Apart from the numbers of the questions and parts of questions candidates should not write in these margins.
- Every part of every question chosen should be clearly indicated in the left hand margin.
- At least one line should be left between each part of a question, and at least three lines between each question.
- All sheets should be loosely tied together, with the sheets assembled in the correct order. Sheets should not be submitted loose, nor should they be tied or stapled together so tightly that they are impossible to turn over in order to read all parts.
- All sheets should be numbered by the candidate and placed in the correct order.
- Narrow lined paper, or exceptionally thin paper, should not be used.

Comments on specific questions

Question 1

This was easily the most popular question. Whilst the focus of the earlier parts of the question was on HIV/AIDS, the scope was widened in parts (c) and (d). Some candidates restricted their answers to HIV/AIDS in all parts, which in some cases caused them problems.

- (a)(i) Almost always correct, although a few chose Lesotho.
- (ii) There were few wrong answers to **A**, but quite a few candidates incorrectly chose Tanzania for **B**.
- (iii) There were some excellent comparisons, with candidates using figures to support their answers, but rather more candidates wrote two discrete accounts and others wrote about one country only. Candidates should be encouraged to use words like 'whereas' when asked to compare. The majority gained at least two marks by correct interpretation of at least one of the resources. Some candidates did not read the question carefully and compared Botswana with Zambia or Zimbabwe, rather than Tanzania. Others made errors in their interpretation of Fig. 1B, referring to 'the percentage of children' without mention that these numerical values referred to the percentage of children who were orphans as a result of AIDS.
- (iv) Where candidates had read the question carefully there were some perceptive and well developed accounts of how the economy would be affected in countries where levels of infection from HIV/AIDS were high. Many candidates, however, just described effects on the population in general which did not earn marks.
- (b) References to birth rates, death rates and life expectancy were not relevant here as the question asked for a description of likely impacts of HIV/AIDS on the size and structure of the population, not an explanation. Most candidates managed to write something about the likely reduction of the population size by 2020 as a result of HIV/AIDS, though many found the concept of describing how the structure would change more difficult. The pyramid was not always correctly interpreted, the white bars showing what the population would be like with HIV/AIDS were read by some as showing the numbers of people with HIV/AIDS.

- (c) There was a wide variation in quality of responses here. Some were excellent, others were poor and/or did not differentiate between developed and developing countries. Some merely stated that the dependent population were supported by the economically active which, whilst true, did not describe the different ways by which they were supported in developed and developing countries as the question asked. Others focused on support for people with HIV/AIDS which was largely irrelevant here.
- (d) Many candidates answered this question extremely well. Usually, they focused on HIV/AIDS, though they could refer to strategies used to reduce the spread of any disease (e.g. inoculation, provision of clean water and anti-malaria campaigns). A few candidates wrongly focused on family planning (e.g. China) referring to having fewer children, without linking these policies to reducing disease, whilst others made brief, unsubstantiated points (e.g. improve the health care, educate the people) without any form of elaboration or illustration. It was, however, most encouraging to read a large number of excellent accounts of the various strategies being used, frequently in the home countries of the candidate, illustrated by relevant specific examples.

Question 2

- (a)(i) Surprisingly many candidates could not give a definition of an *urban settlement*. A large number defined urbanisation instead.
- (ii) Most candidates were able to identify a country where over 80% live in urban settlements, along with Africa in **B**, though here Asia was a common error. Errors made by candidates in part **A** (such as USA, Canada and South Africa) may have been the result of candidates answering from their knowledge rather than using information from Fig. 3A as instructed.
- (iii) In simple terms, whilst the urban population is increasing in both developed and developing countries, current and predicted rates are larger in developing countries than developed countries. Whilst some candidates made this comparison and illustrated it well by using appropriate figures from the graph (e.g. the percentage rose by 39% over the period shown in developing countries but only 24% in developed countries), the comparison was poorly made by large numbers of candidates. Many just compared figures at particular times and/or stated that a greater proportion lived in urban settlements in developed than developing countries which was not what the question was requiring.
- (iv) Sources of confusion to candidates here were basic words in the question like 'urban' (or rural) and 'developed' and 'developing'. The question differentiated well, with candidates who had identified the clear trends in the previous question often explaining these by reference to reasons for increasing urbanisation in developing countries and/or slowing rates of urbanisation (or increasing counter-urbanisation) in developed countries. Weaker candidates could usually make some comments about the reasons for urban population growth, though others simply wrote about population growth in general terms or made irrelevant references to migration between developed and developing countries.
- (b)(i) This was well answered by most candidates who were able to pick out features such as self built houses, unmade roads, water standpipes and open drains as being evidence that the area shown is likely to be a squatter settlement.
- (ii) Again, well answered by many candidates who were aware of a variety of reasons for rural to urban migration in developing countries. It is worth pointing out to candidates that the same point made in reverse (e.g. paid work is available in the cities, paid work is not available in rural areas) will only earn one mark and double credit will not be given for such statements. Also, candidates must strive to make their explanations as clear as possible and extend them beyond simplistic statements such as 'better facilities', 'there are better houses', 'it is more healthy' and 'their lives will be better'.
- (c) Generally, this was well done, especially where candidates could refer to examples and describe specific schemes in an urban area in their own country. This approach is to be encouraged, making the case studies clear and place-specific. Some answers were given as short lists of bullet points which often gained limited credit as they lacked the detail of exactly what had been done to bring about the improvements in quality of life. For example, 'Give them better health care, sanitation, education and jobs' identifies the requirements but does not illustrate how this has been achieved, which is what the question required.

Question 3

This was, overall, one of the best scoring questions with most candidates showing a good understanding of volcanoes.

- (a)(i)** This was usually well answered, though some candidates wrote definitions which could have been applied to either active or dormant volcanoes.
- (ii)** Most answered this correctly, but many candidates wrote far more than was necessary to identify the main hazards, the lava flow for **A** and the ash fall for **B**.
- (iii)** This question differentiated well with weaker answers referring to little more than people being killed, whilst some excellent answers referred in addition to issues such as the impact of eruptions on homes, the economy and infrastructures.
- (iv)** Most candidates managed two or three realistic ideas, typically the need to monitor and/or provide warnings to local people of impending eruptions and the need to evacuate. Candidates who were really well informed referred in addition to the need to educate the local population about procedures in the event of an eruption and strategies which could be deployed to restrict lava flow such as digging diversion channels and spraying water onto the flow. Weak, simplistic responses relating to making houses 'volcano proof' did not gain credit as the concept of a 'volcano proof' house is unrealistic.
- (b)(i)** The obvious differences were in the directions and lengths of flow and the heights of their origins. There were many full mark responses. The map was, however, not always studied carefully and some candidates failed to make comparisons, dealing with one of the flows only. Spot heights quoted were not always accurate, neither were the directions and lengths of flow. Vague answers such as 'the flows travelled in different directions' needed more precision to gain marks.
- (ii)** The processes which result in the formation of volcanoes at destructive margins were well explained by many candidates, some of whom included suitable diagrams, though others could do little beyond commenting on the subduction process. Some answers jumped from 'the plates colliding' to 'magma escaping' with no attempt to explain the intermediate processes. A few wrote about plates moving apart which flawed the rest of their logic.
- (c)** Weaker candidates tended to say little beyond a brief mention of 'fertile soil' and 'tourism' though, in contrast, others showed excellent in-depth understanding of why people live near volcanoes, covering a wide range of reasons from heritage, culture and physical benefits. Some referred to living in a warm climate or close to the sea which could not be credited. Some candidates made good use of examples, though some of those selected were not active volcanoes. Although tourist activity was an acceptable reason, few developed their answers giving specific job opportunities linked to tourism, which would have enhanced their answers.

Question 4

This was easily the least popular question and generally the lowest scoring, though some candidates did score high marks on all parts. It was felt that many candidates who selected the question were poorly prepared in terms of their knowledge and understanding of the appropriate landforms and processes.

- (a)(i)** Generally this was poorly answered, clearly the **X** on the map was between the isohyets at 1 200 and 1 400 mm, yet many candidates gave 1 200 mm as their answer. Any value in-between would have been acceptable.
- (ii)** Surprisingly many candidates could not provide the basic definitions required here and some reversed the two.
- (iii)** Few candidates managed to identify **Y** as having the higher discharge and even less could suggest valid reasons why.
- Discharge was not understood by many candidates (many assumed it meant speed of flow) leading to false reasoning and incorrect answers and some even assumed that the river started at the sea.
- (iv)** Most candidates could recognise the delta and offer some explanation as to how the feature had been formed. There is still confusion over distributaries, both what they are and how they are formed.

- (b)(i) Most candidates were able to pick out and describe features from the photograph and though some irrelevant explanation was often included.
- (ii) This differentiated well, though on balance marks were lower than expected. Typically, candidates made effective reference to the role of vertical erosion in forming V-shaped valleys. Beyond this many knew about the processes of weathering and erosion in isolation, however few effectively explained their role in creating landforms as the question asked. Definitions or explanations of hydraulic action, corrasion, corrosion and various weathering processes, even if accurate, did not gain marks unless linked with how they shape river valleys.
- (c) This was well done by many candidates, some of whom had found the earlier parts of the question difficult and the question differentiated well. Most could write about fertile soils and the dangers of flooding though some answers relating to the use of the river water or flood plain land were insufficiently developed. Reference was made to a number of good examples, the Ganges, Nile and Mississippi being the most popular ones chosen.

Question 5

- (a)(i) Most candidates could identify proximity to the canal as being the reason for the location of traditional industries.
- (ii) Most answers were correct in both parts. Where errors were made it tended to be in **B**, where St. Lambrechts-Woluwe was the most common wrong answer.
- (iii) The table was well used here and most candidates were able to score at least two marks by referring to the increase in the area of land and the reduction in land value per square metre. Copying out of the figures in the table was insufficient as some form of simple interpretation was required, thus answers relating to the use of 'an old existing building', for example, needed to be related to the need for a ground floor or easier access for deliveries/dispatch of products.
- (iv) A number of candidates appeared not to know what a science park is, many linking it with the tourist industry which meant that they had difficulty in writing a meaningful answer. Whilst there were some perceptive answers, there were few correct references to the significance of greenfield sites and universities. Whilst marks could be picked up for 'access to ring road/motorway for transport of products', and 'cheap land because it is close to the edge of the city', most candidates assumed that that they were areas of recreation.
- (b)(i) There was a mix of really good and very confused answers. This could have been the result of candidates not having much of a sense of place about 'Eastern Europe' as a geographical area, and many candidates seemed to assume that it consisted of developing countries. Whilst some candidates could make valid suggestions of at least one reason for plants being welcomed, as they could relate this to their own countries, far fewer had any idea of why Eastern Europe had been chosen beyond the simple notion of relatively cheap production costs. The idea of proximity to a major market area was mentioned by some candidates, though rarely developed fully as an idea, and the significance of government incentives was often overlooked. One would have expected candidates to have been able to apply their knowledge and understanding of motor vehicle assembly. For example, much was written about raw materials when a car is built (assembled) from components.
- (ii) This differentiated well. Most candidates were able to refer to the creation of employment and wealth, whilst better prepared candidates developed these ideas in relation to the improvement in the infrastructure which would result from the new assembly plants, specific improvements in standard of living and/or public services, along with the likely multiplier effect.
- (c) Responses here were generally disappointing. Despite the syllabus requirement to study craft industries, few good answers were written and large numbers of candidates wrote in generic terms about the location of industry or even worse about car assembly. Answers which did focus on the factors encouraging craft industries often did not go beyond a mention of the market created by tourism and/or the availability of local supplies of raw materials. There were some attempts to use examples, notably from candidates in African countries who referred to the production of wood carvings, though many just defined craft industries and described the advantages of such industries to local people which was not what the question asked.

Question 6

This question was answered well by many of the candidates who chose it with the exception of part (c).

- (a)(i)** Most candidates correctly identified wilderness areas as having occupied most land in 1960.
- (ii)** Again, well answered by most candidates with relatively few errors being made, the most common wrong answer being Fiftymile Mountain for **B**.
- (iii)** Most candidates identified at least two changes between 1960 and 2000, typically the reduction in wilderness areas and the increase in the number of roads and tracks. The most common error was the identification of the Andalex mine site as a change, whereas the key clearly states that this was merely the location of a proposed site.
- (iv)** There were some well thought out answers but too many just listed the names of national parks or recreation areas from the map. The best candidates developed their answers, typically suggesting attractions of these areas or activities that could be carried out or seen by tourists. Some thought the proposed mine would be an attractive tourist site: whilst unlikely to be the case, it could be argued that if they had a visitor centre that would attract tourists. However, as previously stated, the mine site was just a proposal.
- (b)(i)** Some candidates answered this really well though, in contrast, some weaker ones simply copied out the bullet points in Fig. 11 without any attempt to integrate them into an answer to the question set. Some candidates' responses did not relate to arguments which the company might put forward as to why the proposal should go ahead. Even the obvious one of provision of jobs was missed by many.
- (ii)** Some candidates wrote about damage to the environment in general terms, but would have gained more marks for precision. Vague references to pollution, destroying the environment or upsetting the Navajo Indians needed more detail. In the last case the scale would indicate little effect, but few spotted this. Nevertheless, there were some excellent ideas expressed here, often linked to the visual impact of the opencast mine or the impacts of the transportation of the coal on local communities or ecosystems, along with the perceived consequences for the tourist industry.
- (c)** There were some very good answers to this question referring to local case studies but a large number of candidates misinterpreted this question, writing in great detail about the problems caused by tourism instead of writing about attempts being made to maintain, conserve or improve the quality of the environment. Most candidates chose tourism and often quoted an example, but the scale and precision of that example was sometimes disappointing. Most just stated a country, when really they needed to refer to a specific area within it which is at risk. Good examples for tourism included the Masai Mara in Kenya and the Lake District in England.

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Paper 2

General comments

Candidates demonstrated a good grasp of the essential geographical skills required by the paper, although there were comparatively few very high marks. As in previous examinations, **Question 1** was the most challenging on the paper for most candidates, although this particular mapwork question did not appear to be any more or less difficult than any other year. **Question 4** was the question where the candidates scored least well. None of the other questions were particularly easy or difficult.

Overall, candidates performed reasonably well. In some Centres, all the candidates left **Question 1** until the end; these often performed relatively poorly on this question. Generally though, the majority of candidates gave well-presented answers which showed a sound knowledge of the skills required by the syllabus. Some areas of the syllabus continued to present problems for candidates, notably, gradients on the mapwork section and other questions requiring mathematical skills. In some cases, keywords in the question were overlooked, e.g. physical features in **Question 1** and valley (not river) in **Question 4**. A few candidates re-drew the wind rose diagram for **Question 2** and even attempted to re-draw the triangular graph for **Question 3** and the divided bar graph for **Question 5** from Insert 1, instead of handing in the insert, which wasted time and led to inaccurate answers.

All the questions appeared to differentiate successfully between the more and less able candidates. Many Centres have given excellent training to their candidates in how to allocate time carefully, how to pay attention to the rubric of the questions, and how to present their answers in an acceptable manner. Most candidates seemed to have no difficulty completing the paper in the time available.

There was some evidence of confusion or vagueness where environmental issues are concerned. This was apparent in **Question 6 (c)** and **Question 7 (d)** and **(e)**.

Comments on specific questions

Question 1

- (a)(i) The vast majority of candidates were able to name the power station as the type of building.
- (ii) Answers to the grid reference continued to be disappointing. When candidates used the method described in the current syllabus, they gave the correct answer, 899025.
- (b)(i) The response to this question was mixed. Many candidates correctly noted that the water flowed out of the reservoir towards the west. However, some were confused by the minor irrigation channels shown on the map.
- (ii) Many candidates used the map key to correctly name the type of road as "Main A".
- (c) The correct answers were sugar, cultivation and other plantation and poultry. Some candidates quoted agricultural types from the key which were not actually shown on the map.
- (d)(i) Answers were generally quite good with most candidates answering in the range 137° – 140°.
- (ii) Answers to this part of the question were extremely disappointing. This particular skill does not appear to have been acquired by the majority of candidates. Only a minority of candidates were able to measure correctly and accurately the horizontal distance along the road. Even fewer were able to express their answers to the gradient correctly, i.e. as 1 in 26, or as 3.7%.
- (e) Most candidates were able to list several services provided in the settlement.

- (f)(i) The better candidates were able to score three marks for describing the relief of the area, usually referring to steep slopes, cliffs, upland area, highest point 719 m and the high ground to the east. Only a minority referred to the ridge or spur. There were many irrelevant comments about vegetation and drainage.
- (ii) Answers to the description of the physical features of the coast were usually good, with a variety of features mentioned. Weaker candidates referred to human geography and inland areas and scored few marks.

Question 2

- (a)(i) Most candidates correctly identified **A** as a weather vane and **B** as an anemometer.
- (ii) Most candidates were able to state that the anemometer is used to measure wind speed.
- (iii) The majority of candidates were able to state that the reading of the weather vane was north. However, some candidates stated that the wind was blowing to the north or from the south.
- (b)(i) Although many candidates were able to name the diagram in Fig. 2 as a wind rose, there were significant numbers who were not aware of this term.
- (ii) Although the vast majority of candidates were able to complete the wind rose for 4 days from the south-east, the majority omitted to enter the three days of calm conditions in the centre of the rose.
- (iii) Most candidates stated the prevailing wind as east. However, there was some confusion as to whether this meant from the east or to the east, reflecting some of the problems candidates experienced in part (a)(iii).

Question 3

- (a)(i) The vast majority of candidates were able to name Burkina Faso as the country with the smallest percentage employed in tertiary industry. A minority of candidates named more than one country, in these cases Examiners credited the first country named.
- (ii) Almost all candidates correctly named France when completing Table 1.
- (b) The majority of candidates seem to have mastered the skill of completing triangular graphs. Only in a minority of cases did slight inaccuracy cause candidates to lose marks when marking the position of Korea on Fig. 3.
- (c) In comparing the employment structures of India and the United Kingdom, many candidates referred to each of primary, secondary and tertiary industry in turn and scored all three marks available. Some candidates failed to make a comparison for each type of industry and gained less credit. Examiners gave credit to comparisons using figures or using words. A small minority of candidates referred to the United States of America rather than the United Kingdom.

Question 4

- (a) In describing the physical features of Photograph A, many candidates lost marks through referring to the features of the river rather than the features of the valley as instructed. Candidates gained credit by referring to the deep valley, the gorge or canyon, the steep sides, the V shaped valley and the lack of vegetation. The bend in the valley was also noted. Occasionally candidates noted the eroded or gullied nature of the valley sides although they often found this difficult to express.
- (b)(i) Only a minority of candidates were able to identify both **A**, a river cliff, and **B**, a slip off slope.
- (ii) Many candidates were able to describe how the river flow was faster nearer **A** and slower nearer **B**. However, only the better candidates noted that flow was faster closer to, or just beneath, the surface.

Question 5

- (a) Most candidates noted that the city has not expanded towards the east because of mountains.
- (b)(i) Candidates generally, correctly described the location of the squatter settlements as being on the outskirts of the city.
- (ii) The location of the other commercial centres was described as either being in the residential areas or near main roads.
- (c)(i) The majority of candidates were able to complete the divided bar graph in Fig. 6 accurately and label it with the key provided.
- (ii) Candidates were required to suggest one reason for rural-urban migration which was not given on Fig. 6. Unfortunately, many candidates gave a reason, such as employment, which was covered on Fig. 6 as an economic reason. Examiners gave credit to a wide variety of possible answers such as natural disasters, famine, war, political reasons and population pressure.

Question 6

- (a)(i) The vast majority of candidates correctly noted that the rain forests shown on Fig. 7 were in tropical or equatorial locations.
- (ii) The main threats posed to the Amazon rain forest shown on Fig. 7 were mining and misuse of land by migrant farmers. Most candidates named these threats but others gave examples such as logging or cattle ranching which were not shown for the Amazon Basin.
- (iii) Candidates generally quoted Malaysia or Indonesia as the countries where logging is a major threat to the rain forest.
- (b)(i) The majority of candidates correctly named the amount of remaining rain forest in Africa as 5%.
- (ii) The majority of candidates correctly named the amount of remaining rain forest in Brazil as 60%.
- (c) In this part of the question candidates had to name a threat to the world's rain forest not shown on Fig. 7. Examiners credited a wide variety of responses including road construction, plantations, settlement, industrial development, development of water power, fire, tourism and population pressure. Most candidates gave one of these as their answer, although a significant number gave an environmental consequence of rain forest removal such as global warming.

Question 7

- (a) Candidates usually chose diagram **V**, wind power, and diagram **Z**, solar power, as examples of renewable energy sources. **Y**, hydroelectricity was less frequently chosen.
- (b) Candidates found this slightly more difficult. Usually **U** or **W**, oil or gas, was chosen, although diagram **T**, coal mining, seemed to confuse some candidates.
- (c) Wave power, geothermal power and tidal power were most commonly named as renewable sources not shown on Fig. 9. Some candidates chose wind which was on Fig. 9.
- (d) Many candidates seemed confused by Fig. 10A. Few named land reclamation (or alternative expressions) as the reason why open cast mining has little harmful effect when mining has finished. Other candidates misinterpreted the question and gave disadvantages of the mining operation.
- (e) Few candidates named subsidence or visual pollution as environmental problems shown for the deep mining on Fig. 10B. Here, as in part (d), candidates often resorted to any environmental issues they were aware of, such as global warming or acid rain, which were not linked to the mining operation.

Paper 0460/04
Alternative to Coursework

General comments

Examiners were generally impressed by the overall improvement in the use of data as evidence by the candidates and the greater understanding of fieldwork skills shown by some Centres. However, many answers did not gain marks this year because of the candidates' uses of the words 'accurate' and 'different'. Please encourage the candidates not to use the word 'accurate' without clarification. For example '08.00 hours gives accurate results' is insufficient reasoning to gain the marks on **Question 1** as is 'sampling may be accurate but results may not be accurate' on **Question 2**. Throughout this paper the misuse of the word 'accurate' led to restriction of marks. The word 'difference' also restricted marks because the Examiner was looking for more than 'big difference' when comparing two sets of data; it does not describe the difference or pattern sufficiently to gain the marks. If candidates were taught the skill of comparing sets of data in preparation for this component then their achievement levels would increase significantly. This is in addition to other key areas which the candidates should all be aware of to be successful in this paper i.e. sampling, the route to enquiry, hypothesis design and evaluating data collection methods.

Candidates were still not looking at the number of marks for each question as guidance as to how much they should write as an answer. This will hopefully improve with the introduction next year of the question booklet so that the effort will be appropriate for the marks available.

This paper clearly demonstrated the real need for Centres to adequately prepare their candidates for this paper by exposing them to simple investigations where hypotheses are devised, data is collected, methods are discussed and criticised, data is graphed and then described and a conclusion made, thus increasing the success of their candidates.

Comments on specific questions

Question 1

Meteorology should be a familiar topic to all candidates and the reading of all weather instruments is an essential part of the IGCSE Geography Syllabus. Therefore it was no surprise that the candidates generally explained the characteristics of the Stevenson screen well but were less successful in the analysis and explanation of temperature data.

- (a) Most candidates had a working knowledge of the Stevenson Screen characteristics but the reading of the Six's thermometer was disappointingly poor suggesting that many Centres had not undertaken simple weather data collection in preparation for this paper. Most candidates struggled to explain why the data was collected at the same time each day i.e. to be able to compare and for it to be a fair test. This type of question is often posed on this paper and is appropriate to many investigations.
- (b) The majority of candidates correctly calculated the average temperature as 34°C and completed the line graph by accurately plotting the data and using the appropriate key for the line. The highest and lowest temperatures were usually correctly annotated although there was less success identifying the smallest range as being on Friday. The most able candidates recognised that the average figure was easier to use than two sets of data and gave a broader overview of the temperature pattern.
- (c) Many candidates heeded the requirement to quote relevant data to support their comparison of temperature on Monday and Thursday. It was however important to do more than just list the data. The comments needed to refer to both days by using the words cooler or warmer supported by the data. Stating that the days were 'different' or 'vary' did not gain any marks. Greater care needed to be taken to compare the correct days as Examiners reported lost marks due to carelessness. The most able candidates were able to suggest that maybe Monday and Thursday were anomalies or that student error may have caused the data not to be representative. This is a key word in this paper and candidates should be taught its meaning.

- (d) This question assessed the candidates' knowledge with understanding of factors which affect temperature, namely latitude, continentality and altitude. Examiners reported a disappointing response to this question. The minimal answers referred to the fact that distance from the coast and the sea affected the temperature but did not say how or why thus limiting the marks to Level 1. Some candidates excelled themselves with their knowledge of thermal capacity and insolation but this was all too rare and most candidates failed to concentrate on temperature and erred into rainfall and humidity changes. The command words 'explain in detail' were also ignored hence many candidates could not gain the six available marks.
- (e) Generally this question was well done with many candidates quoting data to support their comment that July temperatures were cooler than December. This was not suggested in the question but was a good description thus gaining an additional mark. The second command word to explain was largely ignored even by those candidates who had recognised the seasons in the previous question.
- (f) This question really showed those Centres which had practised and used hypotheses in preparation for this paper. Overall candidates struggled to suggest a more complex hypothesis. The question structured the answer and if candidates followed the wording of the question then they tended to gain full marks. Those Centres who had carried out a small weather investigation usually enabled higher success in this part of the question.

Question 2

- (a) This question enabled the more able to show their understanding of the investigation introduction. Other candidates copied the wording of the question and therefore failed to gain the marks. Again the success tended to reflect those Centres who had included hypothesis design in their preparation for this paper.
- (b) A pilot survey is an essential part of an investigation as preliminary data collection to test out the suitability of the method. It is not an aerial survey as suggested by many candidates. This was easy marks for the candidates who were well prepared. The simple instructions for the environmental survey required the candidate to be fully aware of how the bi-polar sheet should be used. Many candidates suggested Table 2 was a questionnaire but the more able recognised that it required the student to (i) observe an area and then (ii) decide the environmental quality by ticking the appropriate box. Many candidates continued successfully to suggest that the survey depended on the time of day or the student's subjective opinion. The key word to understand was 'reliably' and there appeared to be an improvement in candidate's responses to this type of question.
- (c) The use of the photograph was generally good. The labels were clear and usually appropriate. Some candidates did not gain the marks because they failed to follow the command words 'use the features listed...' and many candidates tried to suggest noise levels which of course cannot be ascertained from a photograph. The photograph was chosen purposely because the impact of tourism is unclear (even though the location is a tourist destination) and the candidates were required to state their opinion as to the extent of the tourism impact. The more able candidates suggested either that there was a positive impact, stating the evidence of lack of litter etc., or that there was no impact/unclear impact and that perhaps residents had more of an impact. This tried to introduce the idea that gaining conclusions from fieldwork can be complex and required decisions to be made based on the evidence provided. This skill cannot be taught from books but is gained by experience from undertaking investigations in preparation for this paper.
- (d) This question was attempted well with most candidates gaining full marks for the successful completion of the bar graph and an appropriate comparison of sites A and B.
- (e) The two key words here of 'sampling' and 'secondary data' need to be defined for this paper. Secondary data was far better known and applied and most candidates suggested the hotels or the ministry of tourism as a source for secondary data. Sampling was commented on disappointingly. A good answer was that 'sampling does not take much time but if not enough hotels are sampled then it will not be representative of the real situation'.

- (f) The five marks available for this question should indicate that a detailed response is required. The question aims to assess the candidate's knowledge of the impact of tourism on a town. Some candidates developed their answer well, commenting on foreign exchange, profit from tourism, employment and the change in land use to both increase the number of hotels but perhaps decrease agricultural land. However, other candidates were distracted by the pie chart and tended to be repetitive in their answers. The pattern description of the pie chart was simply that the highest % of land was used for clothes shops and the least % for offices and banks. No explanation was required. This was surprisingly poorly completed and, again, practice of describing graphs is useful preparation for the paper. The final evaluation clearly showed the candidates who had previously evaluated and criticised data collection. They were able to suggest the limitations of only 68 buildings, only one street, limited classification, the use of 'other' and commented on the use of the shops also by residents making the impact of tourism harder to identify. Examiners expressed improvement in this area and often full marks were awarded for this section.