MARKSCHEME

May 2002

GEOGRAPHY

Higher Level and Standard Level

Paper 2

Notes on individual questions

1. **(a)** **Define "overpopulation" and "underpopulation".**   *[4 marks]*

    Overpopulation occurs when there are too many people relative to the resources and technology available to maintain an adequate standard of living *[2 marks]*. Underpopulation occurs when there are far more resources in an area (such as food, energy and minerals) than can be used or developed by the people living there *[2 marks]*.

   (b) **Name *one* country which is overpopulated. Give reasons to support your suggestion that this country is overpopulated using specific data and factual information.**   *[8 marks]*

    The country selected should be one that generally conforms to the notion of overpopulation stated in (a); suitable examples include Bangladesh, Somalia, and many others. The data and factual information presented to justify the selection of the country can take many forms, including statistics and/or descriptions relating to poor living conditions, low incomes, poverty and high levels of emigration, famine and underdevelopment of resources. Where a country is selected that is patently not overpopulated, then a maximum of *[3 marks]* may be awarded. Examples such as China which display problems of rapid population growth with little reference to resources should gain a maximum of *[4 marks]*.

   (c) **Name a country that is underpopulated. Examine the problems that arise in this country as a direct result of its underpopulation.**   *[8 marks]*

    The country selected should be one that generally conforms to the notion of underpopulation stated in (a); suitable examples include Canada, Australia, and many others. Problems that are discussed will vary according to the example chosen, but may include surplus food production, abundance of mineral and energy resources without the necessary capital to develop them, high levels of immigration and high levels of foreign investment. In most underpopulated countries, it is possible that the standard of living would increase through increased production if population were to rise. Where a country is selected that is patently not underpopulated, then a maximum of *[3 marks]* may be awarded.

2.   (a)   Select *three* strategies from the diagram, and give actual examples of instances where the strategies have significantly reduced hunger.   *[15 marks]*

Any three strategies that have been selected from the diagram may be used. It is expected that in giving actual examples of instances where the strategies selected have significantly reduced hunger, responses will show an understanding of the mechanism by which the strategies described have worked. For example, a discussion of "impose land reform" which used the introduction of the Responsibility System in China during the 1980s and 1990s would explain why reallocating the decision making process from central planners to individual planners increased farmers' motivation, raised production and diversified farm produce, thus increasing farmers' incomes. As a general rule *[5 marks]* should be awarded for each of the three strategies and examples described. Where a strategy is described without reference to an actual example, then no more than *[2]* of the *[5 marks]* should be awarded.

(b)   Select *one* strategy shown on the diagram that you believe would *not* help relieve malnutrition. Justify your selection of this strategy.   *[5 marks]*

Unlike part (a), the response to part (b) does not require the use of actual examples, although it is expected that better responses will refer to such examples nonetheless. The reasons given by candidates as to why the strategy might be unsuccessful can either be based on historical evidence (in which case actual examples would be required) or on sound reasoning based on an understanding of the consequences of the strategy selected. Alternatively, a candidate might argue that while a certain strategy could increase food production, the costs of the measure would be so great that malnutrition would be unlikely to be reduced.

3. **(a)** **Draw a half page sketch map to name and locate *one* real example of a hazard event arising from a land-based hazard. (Examples might include an earthquake, volcanic eruption, rapid mass movement of land, soil erosion or coastal erosion).** *[3 marks]*

The example of a hazard event caused by a land-based hazard which is selected by the candidate may be contemporary or historical, but it must have actually occurred rather than being hypothetical or a generalization. The sketch map should be drawn at a scale appropriate to locate the incident, and would normally include latitude and longitude or some alternative means of precisely locating the incident (which is the purpose of the sketch map), together with a scale and key to obtain full marks. If a hazard event is described which does not arise from a land-based hazard, no marks may be awarded for this part of the question. Flooding is an atmosphere-based hazard and is unacceptable here, but can be credited in parts (b) or (d).

(b) **Evaluate how accurately the model above describes the human responses to the hazard event you identified in (a).** *[7 marks]*

Although other approaches may be possible, it is expected that most candidates will refer to each of the elements in the model, applying these to the hazard event selected. Having done so, the candidate will be in a position to evaluate the accuracy of the model in describing the human responses to the hazard event selected. Hazard analysis involves identifying the hazard, providing warning of the developing threat and ascertaining the vulnerability of the community. Prevention/mitigation involves either preventing the threat happening or minimizing the impact of the threat. Response preparation includes alerting people to the threat, raising awareness of the need to prepare, allocating responsibilities and stockpiling essential food and equipment. The response involves combating the cause and effect of the hazard, assisting people affected and minimizing the impact of repeated events. Recovery includes cleaning up and repairing damage, ongoing medical treatment, counselling victims, financial and legal support, revision of the hazard analysis, and evaluation of prevention and mitigation measures.

A response which answers the question fully by referring to several steps in the model and drawing justified conclusions about its accuracy/relevance should be awarded *[6 or 7 marks]*. Responses that are adequate but somewhat generalized or descriptive, or which only refer to the model in a passing way, should be awarded *[4 or 5 marks]*. Responses that are weak, superficial or contain factual errors should be awarded *[2 or 3 marks]*. Responses that miss the point of the question or are extremely superficial should be awarded *[0 or 1 mark]*. If the candidate selected a hazard in (a) which did not arise from a land-based hazard, then the response should be treated on its merits, and no further penalty should be imposed, as such a candidate will have received no marks for part (a).

Question 3 continued

(c) Draw a half page sketch map to name and locate one actual example of an emergency that arose from an atmosphere-based hazard (examples might include a typhoon, tropical cyclone, tornado or drought).   *[3 marks]*

As was the case in part (a), the example of the emergency caused by an atmosphere-based hazard that is selected by the candidate may be contemporary or historical, but it must have actually occurred rather than being hypothetical or a generalization. Similarly, the sketch map should be drawn at a scale appropriate to locate the incident, and would normally include latitude and longitude or some alternative means of precisely locating the incident, together with a scale and key to obtain full marks. If an emergency is described which does not arise from an atmosphere-based hazard, no marks may be awarded for this part of the question.

(d) Evaluate the adequacy of human responses to the hazard event you identified in (c).   *[7 marks]*

Although it is expected that most responses will refer to the model in the question, there is no requirement to do so in order to obtain full marks. It is expected that candidates will describe the human responses to the hazard event identified in (c), and then draw conclusions about the effectiveness of these actions in ameliorating human suffering and reducing the risk of similar hazards in the future.

A response which answers the question fully by describing human responses to the hazard and drawing justified conclusions about the adequacy of these responses should be awarded *[6 or 7 marks]*. Responses that describe the human responses to the hazard but fail to draw conclusions about their adequacy substantiated by facts or reasoning should be awarded *[4 or 5 marks]*. Responses that are weak, superficial or contain factual errors should be awarded *[2 or 3 marks]*. Responses that miss the point of the question or which are extremely superficial should be awarded *[0 or 1 mark]*. If the candidate selected a hazard in (c) which did not arise from an atmosphere-based hazard, then the response should be treated on its merits, and no further penalty should be imposed, as such a candidate will have received no marks for part (c). Accept and mark flooding on this basis.

4.   (a)   Using the above diagrams, name *one* country where economic development has brought the same kind of substantial changes during the past twenty years. Discuss the benefits and disadvantages to the country brought about by these changes. *[10 marks]*

The focus of this question is the changes, positive and negative, that have resulted from economic development in a specific country. Candidates are free to choose the country to be discussed, but it should be a country experiencing the types of changes shown in the diagram. Candidates who describe a country which is either an EMDC or an ELDC where significant changes are not occurring will find themselves penalised by the difficulty in presenting information relevant to the question asked, and no further penalty should be imposed by the marker. However, candidates who only discuss the change in general without reference to a specific country may not be awarded more than *[5 marks]*. Candidates who refer to changes in a specific country without reference to the diagram should also gain a maximum of *[5 marks]*.

Responses are expected to focus on the most significant changes in the "after" diagram compared with the "before" diagram, including the loss of grazing land and traditional villages, modifying rivers and streams to generate power, irrigating farms and mitigating flooding, clearing of forests, constructing new urban centres (usually to non-indigenous designs), replacing subsistence cropping with commercial cash-cropping, constructing large-scale manufacturing industries with consequent environmental pollution, new patterns of transport and communications, and replacing self-sufficient industries (such as fishing) with industries which are integrated into the global economy. A response that answers the question fully by drawing conclusions and is justified by facts and arguments about the benefits and problems caused by economic development in the named country, should be awarded *[9 or 10 marks]*. Responses which describe the changes in the country accurately but fail to draw justified conclusions about their advantages or disadvantages should be awarded *[6 to 8 marks]*. Responses that are generalized or contain several factual errors should be awarded *[3 to 5 marks]*. Responses that miss the point of the question or are extremely superficial should be awarded *[0 to 2 marks]*.

Question 4 continued

(b) **Some changes such as alterations in people's value systems, land ownership and tenure, patterns of wealth and poverty and environmental quality may not be shown on the diagrams. Discuss whether these changes are causes or consequences of economic development.** *[10 marks]*

Candidates may, in this part of the question, either discuss changes listed in the question, or introduce other relevant changes. It is not necessary for all the factors listed in the question to be addressed in equal detail, or even for all of them to be addressed at all. Similarly, candidates may introduce additional changes that are neither shown in the diagram nor listed in the question. Changes that arise from or are consequences of changes shown in the diagram are certainly acceptable in answering this question.

Social and economic issues which better responses may address are: what happened to the people in the village?; how much did the development cost and who benefits from the changes?; is there a large debt to be paid off?; what environmental changes often arise?; who owns the factories and what are the working conditions like?; who lives in the towns?; who owns the ships?; who controls the trade?; who owns and/or controls the farming?; how much wood is there for fuel: where do the electricity lines go?, and so on.

Having said that, the focus of the question is whether or not these changes cause economic development or are consequences of economic development. Although it is expected that most able responses will conclude that these changes are both causes of and are caused by economic development, arguments proposing other positions should be treated on their merits. A response that answers the question fully by drawing justified conclusions about the range of relevant factors for the named country, and whether they are causes or effects, should be awarded *[9 or 10 marks]*. Responses that describe relevant changes in the country accurately but which fail to draw justified conclusions as to whether they are causes or consequences of economic development should be awarded *[6 to 8 marks]*. Responses that are generalized or contain several factual errors should be awarded *[3 to 5 marks]*. Responses that miss the point of the question or are extremely superficial should be awarded *[0 to 2 marks]*. Responses that fail to focus on the country named in part (a) should not be awarded more than *[5 marks]*.

5.   (a)   **EITHER**

With reference to at least *one* large city in South-East Asia, evaluate the accuracy of the model. *[20 marks]*

Although several approaches are possible in answering this question, it is expected that most responses will describe the urban morphology of a large city in South-East Asia with reference to the land-use zones shown in the model. It is not expected that the examiner shall have a detailed knowledge of each city in South-East Asia to mark this question; arguments presented by the candidate should be taken on the basis of their overall reasonableness and not on points of error. In general, the model does apply effectively to most large cities in South-East Asia, although most cities will also display some exceptions according to the influence of local factors such as landforms and ethnicity. Candidates whose responses describe a town or village rather than a large city in South-East Asia will carry their own penalty. Candidates who refer to a large city outside South-East Asia should have their response marked as though it was answering part (b). Where candidates have answered both part (a) and part (b), each part should be marked as though it was the only part attempted, and the lesser of the two marks ignored. South-East Asia is generally taken to include Burma (Myanmar), Thailand, Cambodia, Laos, Vietnam, Malaysia, Singapore, Brunei, Indonesia and the Philippines. However, for the purposes of this questions, examiners should also accept responses which describe cities in countries in south Asia (India, Pakistan, Sri Lanka, Bangladesh, Nepal and Bhutan) and east Asia (Japan, China [including Taiwan, Hong Kong and Macau], North and South Korea).

Given these constraints, marks should be awarded on the following basis:

A mark between 18 and 20 inclusive should be awarded for an excellent response which shows clear reasoning and which gives explicit factual information, where the arguments are developed in a logical manner, with evidence provided from a variety of sources and using illustrative examples to support the arguments.

A mark between 14 and 17 inclusive should be awarded for an above average response which is consistent, factually correct, explanatory and which attempts to justify its generalizations.

A mark between 8 and 13 inclusive should be awarded for a mediocre to satisfactory response which is somewhat descriptive but relevant to the question, where there is some use of factual data and which shows limited reasoning. The conclusions should be consistent with the reasoning presented.

A mark between 4 and 7 inclusive should be awarded for a weak response which is somewhat vague and which uses little factual data to support generalizations. The conclusions are inconsistent with the data or no conclusions are drawn.

A mark between 0 and 3 inclusive should be awarded for a very weak response which misses the point of the question, has an absence of factual data, contains much irrelevant material, and is incoherent or incomprehensible.

Question 5 continued

(b)   OR

With reference to at least *one* large city outside South-East Asia, discuss the ways in which the pattern of land use zones usually differs from those shown in the model.   *[20 marks]*

Although several approaches are possible in answering this question, it is expected that most responses will describe the urban morphology of a large city outside South-East Asia with reference to the land-use zones shown in the model. The accuracy of the model to the city described will largely depend on the city selected, with cities in EMDCs being more likely to show significant differences than cities in ELDCs. It is not expected that the examiner shall have a detailed knowledge of each city presented by candidates to mark this question; arguments presented by the candidate should be taken on the basis of their overall reasonableness and not on points of error. Candidates whose responses describe a town or village rather than a large city will carry their own penalty. Candidates who refer to a large city inside South-East Asia (Burma [Myanmar], Thailand, Cambodia, Laos, Vietnam, Malaysia, Singapore, Brunei, Indonesia and the Philippines) should have their response marked as though it was answering part (a). Where candidates have answered both part (a) and part (b), each part should be marked as though it was the only part attempted, and the lesser of the two marks ignored.

Given these constraints, marks should be awarded on the following basis:

A mark between 18 and 20 inclusive should be awarded for an excellent response which shows clear reasoning and which gives explicit factual information, where the arguments are developed in a logical manner, with evidence provided from a variety of sources and using illustrative examples to support the arguments.

A mark between 14 and 17 inclusive should be awarded for an above average response which is consistent, factually correct, explanatory and which attempts to justify its generalizations.

A mark between 8 and 13 inclusive should be awarded for a mediocre to satisfactory response which is somewhat descriptive but relevant to the question, where there is some use of factual data and which shows limited reasoning. The conclusions should be consistent with the reasoning presented.

A mark between 4 and 7 inclusive should be awarded for a weak response which is somewhat vague and which uses little factual data to support generalizations. The conclusions are inconsistent with the data or no conclusions are drawn.

A mark between 0 and 3 inclusive should be awarded for a very weak response which misses the point of the question, has an absence of factual data, contains much irrelevant material, and is incoherent or incomprehensible.

6.   **(a)**   **Rank the four photographs from the most extensive to the most intensive farming. Justify your ranking.**   *[3 marks]*

In descending order from most extensive to most intensive, the photographs are B or D, followed by C or A *[1 mark]*. The explanation should refer to the inputs of labour and capital per unit area of farmland *[2 marks]*. Accept D as most intensive provided there is adequate justification.

(b)   **For each photograph A, B, C and D, suggest whether subsistence farming or commercial farming is shown. Support your conclusions with reasons.**   *[3 marks]*

Photographs A and C show subsistence farming, while photographs B and D show commercial farming *[1 mark]*. The reasons given by candidates should refer to the use of machinery to increase productivity to produce a commercial surplus in photos B and D, and the use of capital saving traditional techniques in photographs A and C *[2 marks]*.

(c)   **Describe the relationship between levels of economic development and types of farming.**   *[2 marks]*

It is expected that candidates will describe the close correlation between subsistence farming in ELDCs and commercial farming in EMDCs *[1 mark]*. Better responses should add to this observation, by for example identifying some exceptions, or noting the increasing commercialization of farming in ELDCs *[1 mark]*.

Question 6 continued

(d)   With reference to the differences you described in (c), suggest whether it is the type of farming that affects economic development, or whether it is economic development that affects the type of farming. Give reasons and examples in your answer.   *[12 marks]*

It is expected that candidates will argue that it is difficult to identify whether it is the farming that affects economic development, or whether it is economic development that affects farming, as the two are inter-related and there is a two-way cause-and-effect process operating. However, candidates' arguments should be treated on their merits and marked accordingly. Candidates who do not refer, at least in passing, to some illustrative examples, would not normally be awarded full marks. Given these constraints, marks should be awarded on the following basis:

A mark of 10 to 12 should be awarded for an excellent response which shows clear reasoning and which gives explicit factual information, where the arguments are developed in a logical manner, with evidence provided from a variety of sources if appropriate and using relevant examples to support the arguments.

A mark of 8 or 9 should be awarded for an above average response which is consistent, factually correct, explanatory and which attempts to justify its generalizations.

A mark between 5 and 7 inclusive should be awarded for a mediocre to satisfactory response which is somewhat descriptive but relevant to the question, where there is some use of factual data and which shows limited reasoning.   The conclusions should be consistent with the reasoning presented.

A mark of 2 to 4 should be awarded for a weak response which is somewhat vague and which uses little factual data to support generalizations.   The conclusions are inconsistent with the data or no conclusions are drawn.

A mark of 0 or 1 should be awarded for a very weak response that misses the point of the question, has an absence of factual data, contains much irrelevant material, and is incoherent or incomprehensible.