



MARKSCHEME

November 2008

GEOGRAPHY

Higher Level and Standard Level

Paper 1

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Core Theme: Population, Resources and Development

1. (a) (i) **Describe the relationship shown on the graph.** *[2 marks]*

The relationship should be described as a negative correlation *[1 mark]*, with the remaining *[1 mark]* allocated to some quantification.

- (ii) **Describe how the state of Moquegua is an anomaly to the pattern shown.** *[2 marks]*

Reference should be made to both values that do not fit the pattern: the very high mortality rate *[1 mark]* and the near 100% coverage by trained personnel *[1 mark]*.

- (b) **Explain why infant mortality rate is a better indicator of development than crude death rate.** *[4 marks]*

Responses would be expected to comment on the strength of the correlation of the IMR with level of development *[1 mark]* and the unreliability of the CDR as an indicator, as it can be affected by other factors *[1 mark]*, such as the age structure of a population. The remaining *[2 marks]* should be awarded for development of these two statements.

- (c) **With the aid of a diagram(s), explain how mortality rates can affect the population structure of an LEDC.** *[3 + 4 marks]*

It is most likely that the diagram(s) would show a population pyramid, which should be typical of an LEDC (broad base, concave slopes) *[3 marks]* and indicate how mortality rates could affect it in the future. The explanations, either as comments or as annotations, should cover both increases and reductions in mortality rates and their effects on the overall shape of the pyramid by emphasizing the concavity or by extending its height *[2 × 2 marks]*.

- (d) **Suggest why it is important for countries to predict changes in total population and population structure.** *[10 marks]*

A large number of reasons could be offered, but all should focus on the need to know the population projections in attempting to plan for the future. Total population projections are needed for policies involving overall economic growth and aspects such as health and transport requirements, whereas more detailed projections of age-specific changes are important in planning educational needs, care for the elderly, calculating life insurances, *etc.* Other reasons could be given and these should be accepted if considered to be valid.

The marks should be allocated according to the markbands.

2. (a) **Describe the trends in food output per person shown in the diagram.** [4 marks]

There is an overall increase in the output of food [1 mark], with the exception of sub-Saharan Africa, which shows a fluctuating decrease [1 mark]. The remaining [2 marks] should be awarded for quantification of these statements. Where responses simply describe each curve in turn, a maximum of [2 marks] should be awarded.

- (b) **Suggest possible reasons for the trends shown for sub-Saharan Africa and East and South-East Asia.** [3 + 3 marks]

It would be important to identify that the primary reason for the trend in sub-Saharan Africa is that the rate of population growth is so great that it always outstrips food output [1 mark]. Thereafter, candidates could comment on other causes, such as environmental (drought, flood, relief, poor soil *etc*), social (education, migration, *etc.*) or economic (access to training, fertilizers, machinery, *etc.*) [2 marks]. Should a response focus on population growth alone as the cause and develop this point in detail, it should be accepted.

In East and South-East Asia the main reason for the increasing output per person is the implementation of new technologies [1 mark], especially those associated with the Green Revolution and the re-organization of agriculture, especially in China [1 mark]. Any development of either of these two points should be awarded the additional [1 mark].

- (c) **With reference to a named resource, other than food, describe the spatial distribution of its consumption.** [5 marks]

The approach of the responses may vary according to the resource chosen. All responses should provide a clear description of the pattern of consumption, noting the variations in the levels of consumption at the global scale (and also possibly at the national scale) [5 marks]. Responses are not expected to include explanations, but those which do should not be penalized.

- (d) **Discuss the ways in which a named resource or resources can be managed sustainably.** [10 marks]

A clear definition should be provided of sustainable management. Whatever the chosen resource, candidates would be expected to examine how it could be managed sustainably through conservation, recycling and substitution. The emphasis placed on any of these processes would depend on the chosen resource. The discussion can include the challenges that must be met in order for a resource to be managed sustainably, such as overcoming resistance to the changes necessary and access to any appropriate technology. In order to achieve the higher range of marks, responses would have to show detailed knowledge and/or make use of developed examples.

Marks should be awarded according to the mark bands.

3. (a) **Describe how the map and diagram could be used to work out the population density of each country in 2006 (no calculations are required).** [3 marks]

Population density for each country could be worked out by finding the area of the country off the map [1 mark] and the population for 2006 from the table [1 mark] and then dividing population by area [1 mark]. Reference must be made to both map and table for the award of [3 marks].

- (b) **Define fertility rate.** [2 marks]

This should be defined as the average number of children [1 mark] per woman [1 mark] but also accept the number of live births, regardless of the age of the mother, per 1,000 women of reproductive age (as given in some US and Canadian texts).

- (c) **Name the country facing the highest rate of population growth and justify your choice.** [3 marks]

Somalia [1 mark], (where the population more than doubles between 2006 and 2025) with the justification (highest fertility rates, greatest increase in population) [1 mark] and some quantification [1 mark]. Answers suggesting countries not shown on the map should be treated on their merits.

- (d) **Explain one model or theory based on population-resource relationships.** [7 marks]

It is probable that Malthus or Boserup would be discussed. Responses need to show a clear and accurate understanding of the way in which the theory suggests that the relationship between population and resources will change over time [7 marks].

- (e) **With reference to one named country, evaluate the social and economic impacts of an anti-natalist policy.** [10 marks]

Initially clear reference would need to be made to the identified country, with a brief description of the policy. The social and economic impacts should be clearly stated and explained and the advantages and disadvantages of them then evaluated. Should China be chosen, for instance, a very short description of the one-child policy would be all that was required before examining in greater detail the social and economic impacts (short-term economic benefits from the reduction in population growth rate, the longer term economic consequences of an unfavourable dependency ratio and the social consequences of an uneven sex ratio and a rapidly ageing population).

The marks should be allocated according to the markbands. Answers that offer explicit evaluation are likely to be credited at bands E/F.
