Markscheme

November 2018

Geography

Higher level and standard level

Paper 1

Core theme – patterns and change

Section A

1. **Populations in transition**

(a)   Describe **three** characteristics of this projected population structure.   **[3]**

Any three valid, distinct and descriptive points of the structure for [3]. Quantification/use of data from the x/horizontal axis must be present for full marks.

Possible characteristics include:
- ageing or greying population
- few young dependents
- small economically active group
- imbalanced gender ratio in the ageing cohorts
- youthful gender ratio is more balanced.

Comments on rates (birth rates falling), trends (old age population growing) or life expectancy (females living longer), *etc*, are explanations as opposed to description and should not be credited.

(b)   (i)   Estimate the difference, in millions, between the projected numbers of males and females in the 75–79 age group.   **[1]**

Approximately 0.5 million more females than males **[1]** (*accept 0.4 to 0.6*).

(ii)   Suggest **two** reasons for the difference estimated in (b)(i).   **[2+2]**

Answers need to address why females live longer than males – they can be generic or specific to Japan.

Award [1] for each valid and distinct reason, and [1] for development and/or exemplification.

For example: Men tend to engage in more risky occupations (civilian) **[1]**, *eg* mining, construction, thereby increasing their mortality rate **[1]**.

Other possibilities include:
- most armed forces are mainly men / combat increases mortality
- high-risk occupations
- lifestyle choices (smoking, drinking, diet)
- females use preventative health measures –
  proactive health screenings, counselling and maintenance to prevent future illness and treatment, improved maternal mortality
- biological/physiological make-up of men compared to women – *eg* males have more visceral fat (more dangerous) / females have more subcutaneous fat / more active female immune functioning / the protective effect of estrogen / compensatory effects of the second X chromosome
- crime-related factors / high-risk behaviour.

It is important that the two factors are distinct and NOT a similar reason developed twice.

(c)   Suggest **two** reasons why governments need population projections.   **[2+2]**

In each case, award [1] for a valid reason, and [1] for further development/detail.

Possibilities include:
- ability to estimate future state revenue from taxes / size of future working population
- size of potential armed forces / age and sex ratio of future population
- allocation of services in the future / *eg*, elderly care for ageing population, nursery provision, housing provision
- healthcare planning
- need to apply or modify anti- or pro-natalist policies / if population shrinking or growing too large
- change of migration policies / if economically active population is shrinking
- need to provide more future employment opportunities.
- inform business projections due to requirement of various goods and services by the population.

2. Disparities in wealth and development

(a) Describe the pattern of financial aid flows from New Zealand. **[3]**

Award [1] each for three valid statements.
Some quantification is needed for full marks.

Possibilities include:
- most is going to islands
- very little is going to the continent of Asia
- most goes to Oceania
- most destinations are south of the equator / least are north of the equator
- in general, aid reduces from east to west
- there is some evidence of distance decay.
- extremes – Solomon Island most / Nauru least

(b) Explain **three** limitations of international aid. **[2+2+2]**

In each case, award [1] for basic explanation, with additional [1] for development and/or exemplification.

Aid can be interpreted broadly – allow food, emergency and financial aid.

Possibilities include:
- change of donor government may result in a change of policy and aid could be stopped thus making it unreliable
- increases dependency/especially food aid, *eg* Ethiopia
- corruption/aid may be utilized by an elite and not filter down to those who need it
- may be tied aid/conditions attached
- if aid is financial/it could increase the debt burden
- aid may be too short term/does not have the duration to be effective
- top-down aid projects/may not target the poorest communities.
- capital intensive may not provide adequate employment
- food dumping may cause supply problems for domestic producers
- aid givers use aid as a means of promoting/protecting their own interests
- maintenance of aid projects once donor has withdrawn.

(c) Suggest **one** advantage **and one** disadvantage of using global goals
(such as the Millennium Development Goals) to help countries develop. **[2+2]**

In each case, award [1] for a valid advantage/disadvantage of the use of goals, and an additional [1] for development/exemplification.

Possibilities include:

Advantages:
- Allows for targeted aid – goals can highlight problem areas.
- Quantifies, which allows for measurement of progress and comparison between nations.
- Global citizenship – some idea of "global goals" and our collective responsibility.
- Time specific – gives a deadline to aim for.

Disadvantages:
- They are simply targets – countries are not obliged to follow them.
- Assumes the problems that developing nations face are all the same, can over-simplify something more complex.
- A lot of money is wasted on writing reports/media as opposed to being used for development projects.
- The goals are designed by the UN and are top-down as opposed to grassroot.
- There is a lack of funding to make some goals a reality.

3.   Patterns in environmental quality and sustainability

(a)   Outline what is meant by the term "environmental sustainability".   **[2]**

Environmental sustainability means development or utilizing resources in such a
way as to meet the needs of the present [1] without compromising the ability of
future generations to meet their own needs [1].

*Accept other valid responses that refer to present day use [1] and future
continued use by generations [1].*

(b)   Describe the distribution of countries that are using more than 60 % of their
renewable water resources.   **[2]**

Award [1] for each identification of an aspect of the distribution – concentration in
NE Africa [1] the Middle East [1] and South West Asia [1].
Allow [1] for description of a common detail (eg "all in northern hemisphere").

*Award **[1]** for examples (named countries) that illustrate a correct descriptive
comment.*
*There must be comment on an aspect of the distribution before credit can be
awarded to examples of countries.*

(c)   Explain **one** reason why economic water scarcity is relatively common in Sub-
Saharan Africa.   **[2]**

*Award **[1]** for correct reason and **[1]** for further development.*

High levels of poverty **[1]** mean that even though (clean/drinking) water is
available, it is not accessible (distribution) and/or affordable **[1]**.

Other possibilities include:
- lack of investment
- lack of technological development
- competition for funds between sectors – *eg* industry and agriculture
- heavy debt burdens
- insufficient domestic finance
- lack of coordination
- conflict affecting methods of distribution.

(d)   Explain **two** ways in which access to safe drinking water can be improved.   **[2+2]**

In each case, award [1] for a viable way and [1] for development/exemplification.

For example: Improved purification methods for public water systems **[1]** would increase the number of residents having access to safe water **[1]** (as they would no longer need to purchase safe water elsewhere).

Possibilities include:
• less pollution of the water system – *eg* sewage or run-off from agriculture or industrial pollution
• desalinization
• digging wells
• water transfer schemes
• sanitation
• dams
• household catchment systems
• increased awareness of consumption rates
• importing water
• reduction of consumption associated with a specific activity *eg* irrigation
• education.

4.   Patterns in resource consumption

(a)   Estimate the year in which global population peaks.   **[1]**

2025 (accept 2023 to 2027)

(b)   Describe the changes in the relative levels of non-renewable resources between 1900 and 2100.   **[3]**

*Award **[1]** each for up to three valid statements.*

- *s*table/slow decline [1] to 1950/70
- then drops steeply [1] to 2040/60
- after which the level stabilizes again/slow decline [1]
- overall decline [1].

(c)   Briefly explain how this graph shows a neo-Malthusian view.   **[2]**

Award [1] for identification of one characteristic of the neo-Malthusian view and [1] for comment on how the graph illustrates the characteristic identified.

For example:

Growing populations could outstrip the provision of resources [1] – population increases but the provision of food declines before the peak population [1].

Advocacy of birth control to ensure resource for future populations [1] – population reaches a peak and then declines [1].

Concern with environmental degradation [1] – as population rises so does pollution [1].

(d) Referring to **one named** resource:

(i) describe a strategy aimed at reducing its consumption; **[2]**

Allow a liberal interpretation of "resource".

For example:
Named resource: Oil.

Strategy: Substitution of oil power by solar power **[1]**. Less oil is required (oil can be left in the ground) as solar energy is used to heat homes / run vehicles **[1]**.

*Award **[1]** for valid strategy and **[1]** for further description of its operation.*

(ii) Explain **one** strength **or one** weakness of the strategy as a way of reducing consumption of the named resource. **[2]**

*Award **[1]** for valid strength or weakness and **[1]** for further development that links back to a correct identification of a valid resource and a strategy to reduce its consumption.*

For example: A weakness is that it is not available in all areas or at all times **[1]**, which means that we still need to consume oil in some places or at certain times **[1]**.

Section B

	AO1	AO2	AO3	AO4	Paper 1 Section B
Level descriptor	Knowledge/ understanding	Application/ analysis	Synthesis/ evaluation	Skills	Marks 0–15
A	No relevant knowledge; no examples or case studies	No evidence of application; the question has been completely misinterpreted or omitted	No evaluation	None appropriate	0
B	Little knowledge and/or understanding, which is largely superficial or of marginal relevance; no or irrelevant examples and case	Very little application; important aspects of the question are ignored	No evaluation	Very low level; little attempt at organization of material; no relevant terminology	1–3
C	Some relevant knowledge and understanding, but with some omissions; examples and case studies are included, but limited	Little attempt at application; answer partially addresses question	No evaluation	Few or no maps or diagrams, little evidence of skills or organization of material; poor terminology	4–6
D	Relevant knowledge and understanding, but with some omissions; examples and case studies are included, occasionally generalized	Some attempt at application; competent answer although not fully developed, and tends to be descriptive	No evaluation or unsubstantiated evaluation	Basic maps or diagrams, but evidence of some skills; some indication of structure and organization of material; acceptable terminology	7–9
E	Generally accurate knowledge and understanding, but with some minor omissions; examples and case studies are well chosen, occasionally generalized	Appropriate application; developed answer that covers most aspects of the question	Beginning to show some attempt at evaluation of the issue, which may be unbalanced	Acceptable maps and diagrams; appropriate structure and organization of material; generally appropriate terminology	10–12
F	Accurate, specific, well-detailed knowledge and understanding; examples and case studies are well chosen and developed	Detailed application; well-developed answer that covers most or all aspects of the question	Good and well-balanced attempt at evaluation	Appropriate and sound maps and diagrams; well structured and organized responses; terminology sound	13–15

5. "The best way to decrease global disparities is to encourage the free movement of people across international borders." Discuss this statement. **[15]**

The actual and hypothetical migrations that are used to address this question should be international in nature. The actual and possible consequences of the movement should address whether or not disparities are or could be reduced as a result of this movement. A broad interpretation of disparities is possible and can be related to, for example: standard of living; human rights; gender rights; access to services.

Answers are likely to acknowledge that most international migrants move because they perceive that their lives will be better in the host nation. This perception will vary depending on the nature of the movement, for example refugees from Syria are fleeing for reasons of survival whereas a woman from the Philippines may be moving to Hong Kong to work as a domestic worker to improve her disposable income.

Whether or not the migration helps reduce global disparities is debatable and there are arguments for and against this.

Possible arguments for: Some low-income nations have their GNI boosted by remittances sent home from migrants working abroad. For example, in Tajikistan this amounts to almost 50 % of GNI. These amounts are often greater than ODA (Official Development Assistance) and go directly to families on the ground, hence improving their standard of living and stimulating development. Migration may provide pathways that provide social enlightenment in the home country. Migration also provides diaspora networks and improved skills through return migration. The extent to which this reduces disparities between nations is questionable though.

Possible arguments against: Seeing migration as a solution to inequality is very complex. Most migrants from low-income countries move into neighbouring nations that are also low-income. This is especially the case for forced migrations. Despite media reports focusing on Europe, a large number (1 million) of Syrian refugees have been forced into Lebanon, a nation that is already struggling to develop. The conditions in which some migrants find themselves in the host nation are also far from improved, for example Nepalese migrants working on construction sites in Qatar or trafficked women. Remittances can take away the incentive for states to invest in necessary reforms. Migration of skilled population may have negative economic and social consequences for the home country – *eg* migration of nurses from the Philippines.

Stronger responses may acknowledge that there is no quick-fix solution to reducing disparities and that it is highly unlikely in the global climate today that international borders are going to become easier to cross – quite the opposite is happening (USA – Trump's attempted travel ban; Brexit). They may argue that there are better ways to reduce economic disparities (trade, aid, debt relief, market access) so that international migration is not perceived as the only solution.

At band D, expect responses to describe ways in which migrations could have an impact upon disparities.

For band E, expect either detailed explanation of ways in which global disparities can be decreased or some discussion of the effectiveness of free movement as a way of decreasing disparities.

For band F, expect both.

6. "Global climate change will reduce economic disparities." Discuss this statement. **[15]**

Responses need to address the actual and potential impacts of climate change. These could be negative, such as rising sea levels and more extreme weather events, positive, such as increased growing seasons, or unknown, such as possible changing rainfall patterns.

Most responses are likely to disagree with the statement, as it is the developing world that is and will bear the brunt of the negative effects of climate change. Low-income nations tend to have a large percentage of their populations involved in agriculture and are hence dependent on rainfall and growing seasons for their livelihoods and food – characteristics that are impacted by extreme events and regional climate change. A large number of low-income countries have an element of subsistence agriculture as part of their economy. Many of these communities will lack the resilience needed to adapt to the vagaries of a changing climate. There are very few developing nations that have a geographical location that will benefit from longer growing seasons. Indeed many of the low-income countries are in locations that will be adversely impacted by climate change. Climate change can to lead to conflict over diminished resources which can lead to further impoverishment.

Climate change can also increase disparities at a national and regional scale. In the USA although large areas of the south will suffer economically and socially from heatwaves, storms and failing crops parts of New England and the Pacific north-west will do comparatively well, with balmier conditions reducing deaths from the winter cold and some crops responding well to warmer temperatures.

Many developing nations will lack the capital to use technological fixes to deal with changes such as rising sea levels, extreme weather or reduced/increased rainfall. Environmental refugees whose plight has been linked to climate change are mainly from low-income nations, *eg* Somalis to Kenya, Pacific islanders to New Zealand. In many cases the burden of hosting these refugees also mainly falls on low-income nations. Most of these nations are also not responsible for the anthropogenic contributions to the enhanced greenhouse effect.

Stronger responses may argue that many of the impacts of climate change are still unknown, as it is an evolving issue – and so this question is quite difficult to answer. They may also argue that the economies of the developed world may be impacted upon by climate change, causing an economic slowdown in these regions, which in turn which could help reduce disparities between themselves and low-income nations. Another approach might be to discuss impacts at different geographic scales. This approach may recognize that some regions that are poorer at present may gain from improved climate – warmer summers in the UK may encourage tourism in the poorer seaside towns of eastern England

At band D, expect responses to describe how climate change may impact upon global disparities.

For band E, expect detailed explanation of a range of ways in which disparities are affected <u>or</u> some discussion of the net impact of climate change on different economic disparities.

For band F, expect both.

7. "Our climate and Earth's biodiversity will benefit if we stop using oil as our main energy source." Discuss this statement.   **[15]**

Sources of oil are from traditional deposits or new sources such as tar sands and oil shale. The major benefit of reducing usage of oil is reduced carbon emissions with its implications for future global climate change. These may include changing climate belts, extreme weather episodes, increased drought and changing monsoons. Other benefits include reduced frequency/severity of pollution events from oil spills, and less damage to ecosystems such as tundra, coastal and coral reefs from oil exploration, development and tanker/pipeline transport. Some responses may recognize the link between climate change and biodiversity – warming/acidifying oceans and pressures on coral reefs, warming in UK leading to decline in mountain vegetation, warm water species in seas around northern Scotland.

A healthy biodiversity brings benefits in the control of flooding, climate regulation and the provision of genetic materials for medicine. These are negatively affected by carbon emissions and so the reduction of oil use will maintain or re-establish these benefits.

Increases in CO_2 may enhance the productivity of some plants in natural ecosystems and agricultural systems. These increases may not compensate for other outcomes of climate change.

Reducing dependence on oil implies the development/use of alternative sources of energy and raw materials (*eg* plastics/chemicals). Many of these alternatives have some negative environmental impacts. For example, hydro-electric power (HEP) may be considered a sustainable, non-carbon source of energy, but HEP dams have consequences for water and habitat/biodiversity both at their sites and downstream. Reducing dependence on oil may lead to more nuclear power stations, bringing their own environmental risks. Reduction of oil may not stop other contributors to climate and biodiversity change such as fuelwood.

Stronger responses may challenge what is meant by "benefit" and conclude that most impacts of oil alternatives are neither positive nor negative but environmentally benign (neutral). Another approach might be to use the concept of scale and discuss how more localized environmental problems, *eg* nuclear accidents, must be balanced against the threat of global climate change on account of oil use. Some may examine the spatial variation of benefits.

At band D, expect responses to describe some effects of reducing oil consumption.

For band E, expect detailed explanation of a range of effects on climate and biodiversity of reduced oil consumption/alternative energy sources or some discussion of the extent to which the reduction in the use of oil will impact climate change and biodiversity, possibly at varying scales.

For band F, expect both.