Examiners' Report
Principal Examiner Feedback

May 2018

Pearson Edexcel International Advanced Level in Geography (WGE03_01)
Unit 1

Introduction

This was the second examination series for WGEO3 Contested Planet. Overall the standard of answers was good, and encouraging. Most candidates seemed to write full answers to all questions and there was limited evidence of timing problems i.e. few 'blank' answer spaces or rushed answers. There was very limited evidence that candidates writing in a second language limited their ability to express geographical ideas with clarity.

In terms of the questions that are optional:

- Question 4 Energy Security was more popular than Question 5 Water Conflicts
- Question 6 Superpower Geographies was more popular than Question 7 Bridging the Development Gap.
- The difference in quality of answers between optional questions was very small.

Some overall observations:

- Questions 1a, 2, 6a and 7a were data stimulus questions which directed candidates to a figure in the resource booklet. A small number of candidates wrote their answers with no, or very limited, reference to the figure. These questions test the skill of interpreting geographical data and answers which fail to show this will score low marks.
- Some candidates still waste time describing figures, for which there are no marks: the questions always use the command words 'explain' or 'suggest reasons' i.e. *why* not *what*.
- Question 3 is a Synoptic Question that seeks to encourage candidates to link two or more topics; answers that focus on only one of the indicated topics are not likely to score well.
- Mark schemes refer to 'evidence': this can come in the form of examples, case studies, data, facts, detailed reference to places, concepts and geographical theory. This is important in terms of overall mark.
- 15 and 20 mark questions that use the command words 'assess', 'to what extent' or 'evaluate' benefit from a conclusion which is often not included in candidate answers.
- Some case studies (the Akosombo Dam, Pergau Dam and others) pre-date not only the birth of candidates, but many of their teachers: these should be considered for retirement.

Country classification

Centres should note that the country classifications used in the Specification (see page 75 of the Specification) are:

- Developed
- Emerging
- Developing

These divisions are based on the Human Development Index. Many candidates use the terms MEDC and LEDC, or HIC and LIC. These are perfectly acceptable terms to use in answers, but centres need to be aware that they will not be used in examination questions, or mark schemes. In candidate answers the terms 'MIC' and 'NIC' are very rarely seen, and in addition reference to the 'North-South Divide' and 'Brandt Line' is relatively common. Some candidates seem to lack an understanding of countries 'in the middle' i.e. emerging countries. Centres should ensure candidates understand the use of the terms developed, emerging and developed.

Question 1a Atmosphere and Weather Systems

This question was generally answered well be many candidates. There was good understanding of what the data in Figure 1 showed.

A small number of answers spent a long time explaining the physical *causes* of cyclones, whereas the question focussed on physical factors that influenced the *impacts*. A long explanation of why one cyclone was more intense than another was not relevant to the answer. In general human factors influencing the impacts were explained more clearly than physical factors. Most candidates recognised that the USA was likely to be prepared and had good evacuation systems and places of refuge. Often population density was used as an explanation for the large numbers affected in the USA (and the smaller number affected by Nargis i.e. a rural area with lower population density). Some candidates made the point that the Philippines is so regularly hit by tropical cyclones that it is quite well prepared, despite its relative lack of wealth and that this limited numbers of deaths.

Although all of the data in Figure 1 does not need to be referenced to gain Level 3 marks, focusing on only 1 column such as economic losses does lead to a very narrow answer. Candidates should try and refer to the full range of data they are asked to study, whilst not slavishly including all of it.

There was a little more confusion about physical factors. Some candidates suggested some places were coastal, but others were not. Reference was made to the relative size of the different countries. Myanmar's coast was described as mountainous. Low-lying land was successfully used as a possible factor by many. The strongest answers made reference to other named storms, such as Typhoon Haiyan or recognised that storm duration could be a factor as well as intensity. Weak answers sometimes became confused by the complex nature of the data e.g. the fact that the most intense storm does not have the largest death toll, or the least intense storm has the highest economic losses. Better candidates explained this complexity.

Question 1b Atmosphere and Weather Systems

Questions concerning drought are often not answered especially well. There can be confusion over:

- Drought: a temporary natural hazard caused by a period of below normal rainfall.
- Aridity: a permanent climatic situation in which there is normally very low rainfall.

Good quality answers often defined drought in their first few lines: a sensible approach which focuses the answer.

Many answers considered a developed versus developing world perspective, arguing that obvious long-term strategies like desalination, dam construction or river management (Australia) could work but were often inaccessible to developing countries due to cost and technology constraints. It was often argued that in developing regions the use of intermediate technology could be very successful, but was not available everywhere because it tended to be funded by NGOs. These latter methods are probably best characterised as long-term, because they require planning and implementation over several years – often as part of wider adaptive farming and methods to secure better water supplies to build resilience against future drought. It is worth noting that while drought and famine are often linked, they are not the same thing. Some answers focussed too heavily on a shortage of food rather than a shortage of water and how to deal with it. That said, many answers considered emergency aid and relief in detail and concluded that it was necessary but only effective in the very short-term and in some cases could work against longer term thinking and capacity building. FEWSnet was often mentioned as an early warming system that could indicate the build up of drought and offer the chance to take early action.

Other points to note are:

- A number of answers were essentially about water management schemes and strategies, with very little, if any, reference to the drought hazard and its management.
- Some answers were effectively random in their assignment of the ‘short-term’ and ‘long-term’ tags to particular management strategies.
- Better answers included examples: a range of examples was much more successful than one case study – the latter approach is usually very descriptive and becomes ‘the story of Australia’s Big Dry’ for instance.
- Occasionally there was reference to ‘importing’ or ‘buying’ water from other countries, without any qualification of what this meant or how it might be achieved.

A number of answers took a ‘mitigation versus adaptation’ approach. These argued, sometimes quite successfully that the best strategies were long-term ones that involved lifestyle adaptations to the risk of drought, and the least successful were those that attempted to mitigate the immediate impacts of drought, providing no long term reduction in risk.

Question 2 Biodiversity under Threat

This question was generally answered successfully by most candidates. The least successful answers often referred to a handful of countries from Figure 2 and thus their answers were very narrow in focus. Most, however, referred to a range of countries. Clearly there was no need to refer to all countries even for Level 3 marks.

It was pleasing to see frequent and generally accurate reference to the environmental Kuznets Curve. This was often used as structure for the whole answer, and led to an explanation of three groups of countries (developed, emerging and developing). Many candidates considered Brazil to be somewhat of an anomaly i.e. an emerging country protecting around 28% of its land area. Many explained this as a recent shift towards protection due to increased environmental awareness in Brazil, pressure to protect the rainforest from other countries and NGOs, and a desire on Brazil's part to improve its global image. There was also good knowledge of palm oil related deforestation in Indonesia linked to the low (14%) of land protected in that country.

Overall, the explanations provided were good. There was widespread understanding of the differing balance of priorities (economic development / exploitation versus conservation) between countries at different stages of development and the importance of particular economic sectors such as tourism / ecotourism in places such as St Lucia that might influence the decision to protect a large proportion of land. There were occasional weaker explanations such as the assertion that there is 'nothing to protect' in Kenya and Canada.

Question 3 Synoptic

The overall standard of answer to Question 3 was better than in January 2018, although the very small size of the entry in that series makes comparisons questionable.

The idea behind this question is to get students thinking beyond the narrow confines of one topic, and think more broadly and link different topics together. It therefore stands to reason that an answer to Question 3 that *only* focussed on the stated topic of global warming was likely to be very narrow and score mid-range marks.

There were a number of answers like this. They tended to explain the range of threats that global warming could bring focussing on sea level rise, the greater risk of drought and tropical cyclones and disruption to farming. Some referred to the risk of increased migration / environmental refugees. With this global warming only approach it is possible to do some '*to what extent*' by ranking the specific threats global warming might bring in terms of severity – however this was generally not done.

Centres might find the table below useful in terms of different approaches to this question and how successful each was likely to be:

Weak answers	Better answers	Best answers

Level 1 / Level 2	Level 3	Level 4
• List of threats that global warming might bring. • Descriptive with some explanation.	• Ranking / ordering of global warming threats by severity. • Recognition that some countries may suffer more than others, or there mat be benefits.	• Assessment of the severity of the global warming threat. • Consideration of other threats (e.g. poverty, poor governance, population growth) • Conclusion that judges global warming against other threats.

A useful rule of thumb might be to suggest candidates spend about half of their time (one page) considering the topic stated in the question (i.e. global warming in this case; in January 2018 the topic was population growth) and the other half (second page) considering other issues and ideas. This would provide ample opportunity to demonstrate depth of understanding of the topic, and then synoptic links and thinking.

There were some very good answers. These tended to recognise that:

- Not all low income developing countries would be equally threatened; some face huge threats, others minor ones – or could even benefit.
- Global Warming is not caused by low income developing countries, but the threats could be very severe there, and they have minimal influence in terms of reducing the threat.
- There are other threats (population growth, food and water supply, slums, exploitation, pollution, disease etc) and in many cases these are happening now – whereas global warming may be more a threat for the future.
- Different threats have different levels of significance in different countries.

It's worth noting that some answers focussed very heavily on Brazil, China and other emerging countries. These do not fit the phrase 'low income developing countries' in the question. The majority of answers focussed on countries in Africa, Haiti, Bangladesh and others that were much more closely aligned with the sense of the question.

Question 4 Energy Security

This question was answered well by a fairly small number of candidates; very good answers were rare. Many candidates lacked a clear understanding of 'radical technologies' and 'energy conservation' which are stated in the Specification content:

Radical technologies (Specification Page 35)	Energy conservation (Specification Page 35)

Carbon Capture and Storage (CCS), hydrogen fuel cells, EVs.	Homes, industry and transport

Many answers focussed on other types of energy resource such as nuclear, biomass / biofuels, renewable energy and unconventional fossil fuels. These clearly are relevant to a question that uses the command phrase 'to what extent'. However, a number of answers made no mention of radical technologies or energy conservation and this limited their mark. The best answers began with a consideration of radical technologies and energy conservation, and then moved on to discuss whether other options would be better for a future without cheap fossil fuels. Many concluded that renewables were the best option, having explained the limitations of radical technologies or energy conservation: a perfectly justifiable judgement. Good answers often argued that the low cost and availability of renewables to developing countries made them much more useful than unproven, expensive radical sources.

There was generally good understanding of Electric Vehicles and their costs and benefits, and some answers referred to energy conservation (LEDs, BedZed, insulation etc) in detail. CCS was generally poorly understood. To some, the CO_2 captured was seen as the source of energy, whereas it is of course simply storage of the CO_2 emitted by fossil fuels to reduce carbon emissions. There was occasionally misunderstanding of the cost of renewables. These have fallen dramatically in the last 10 years, especially for solar PV and wind turbines.

The best answers recognised that EVs were only likely to be useful if the energy used to charge batteries did not come from fossil fuels – both on cost and environmental grounds. Some answers outlined in detail the limitations of hydrogen fuel cells as the technology currently stands. There was much less discussion of energy conservation than might have been expected and it was absent from many answers.

The 'to what extent' questions do require a conclusion, which was often but not always present. Based on the evidence presented it is possible to conclude in a number of different ways (none of which is more 'correct' than others):

- Radical technologies / energy conservation have very little contribution to make, whereas renewables could contribute.
- Some types of radical technology / energy conservation could contribute more than others / in some places but not others
- Radicals / conservation / renewables might make a contribution, but unconventional fossil fuels, nuclear and biofuels are likely to be the future.

This is not an exhaustive list. The conclusion depends on the evidence presented and the examiner is ready to be convinced.

Question 5 Water Conflicts

This question was, like Question 4, a little disappointing in terms of answers. There were few Level 4 answers. They key issue was a lack of understanding of water conservation. This is outlined in the Specification on page 36. It refers to national schemes (such as Singapore), household level, smart irrigation and grey water recycling.
Many candidates seemed to consider that dams and their reservoirs were examples of water conservation. These are examples of water storage. Increasing the storage of water may increase water availability to humans but it does not necessarily lead to better / more sustainable use of the supply (in fact, in may lead to increasingly wasteful use).
Whereas in question 4 many candidates too quickly moved away from radical technologies and energy conservation and into other types of energy source, in this question few candidates moved beyond desalination and water conservation. There was an obvious opportunity to consider other ways of meeting future water demand such as:

- Intermediate technology
- Dams, reservoirs
- Water transfer schemes

Quite a small number of candidates moved on to consider these alternatives. The strongest answers had specific examples of water conservation and often used Singapore's Four Taps and Newater as a detailed example, while arguing that this approach may not be applicable in developing countries with limited funds and less urbanised populations. In general the costs and benefits of desalination were much better understood and outlined in detail. Some candidates argued that while desalination is questionable in terms of sustainability it is arguably the only realistic option to increase supply in very arid countries where demand is soaring.

With both Question 4 and Question 5, it may be worth looking at the part of the Specification that the question is rooted in, to recognise that other parts of the Specification are relevant to an answer. For instance, Question 5 is rooted in 3.6.3 bullets 4 and 5 on page 36, but other aspects of the 3.6.3 content are relevant to the answer.
These 20 mark questions are by their very nature broad, and content other than that specifically signposted in the question (i.e. 'water conservation and desalination') is relevant to a consideration of 'extent'.

Question 6a Superpower Geographies

There was a tendency in many answers to this question, to describe the situation shown in Figure 3. When reasons were offered, they tended to be quite generalised in many cases such as "because being a member of an IGO gives them more power". There was often a lack of focus on the types of power or status the specific IGOs might bring e.g. influence over trade and economics in the case of the WTO , or political influence through

membership of the UN Security Council. The mark scheme for questions 6a and 7a indicate that answers should include extended explanations, not just a list of reasons and in many cases these extensions were absent.

Question 6b Superpower Geographies

This was a popular choice of question, usually answered quite successfully. The 'pillars of power' concept was often used as a structure for candidate answers with consideration of economic, political, military and cultural strengths and weaknesses of China.

Many answers took a comparative approach and considered the strengths and weaknesses of China in relation to those of the USA, in order to make a judgment about how strong China is: a successful approach for many.

An issue for some weaker answers was that the content of their answer was weakly related to the idea of superpower status. Some were really answering a question about the costs and benefits of globalisation for China, or the pros and cons of living in modern China. These answers were more about the internal features of China (pollution, human rights, internal politics and freedom) which were not related to China's global role in any meaningful way.

Better answers focussed more on China's international role and its tense relations with some countries in wider Asia, as well as its growing military strength and its economic ambitions. The One Belt One Road (New Silk Road) initiative and China Pakistan Economic Corridor were sometimes used to illustrate China's growing global economic strategy. China's lack of global cultural influence was a regular theme which was usually explained clearly.

Perhaps inevitably, there was a lot of 'Trump' in many answers. Often reference to the US President was not very relevant, and not very accurate. Reference to current news events is probably best avoided – at least until teachers have had a chance to digest it and decide what is relevant and what is not.

The command word 'assess' does benefit from a conclusion; candidates could very usefully have made a judgement about the relative strengths versus weaknesses of China. Some did this, but a large number of answers did not.

Question 7a Bridging the Development Gap

This question, although less popular than question 6a, was sometimes answered more convincingly. Many answers made the point that the three goals in Figure 4 are linked – or are in some way a hierarchy i.e. if poverty could be solved then hunger would reduce and health increase. Several answers made the interesting observation that perhaps the top 3 SDG goals reflected the fact that similar goals from the 2000-2015 MDGs have not been achieved. There was generally good understanding that poverty, hunger and poor health meant that economic opportunity and earning power

would be limited, and that these goals needed to be met to unlock economic development progress. As with question 6a, extended explanations are needed as indicated by the mark scheme, not simply a list of basic reasons.

Question 7b Bridging the Development Gap

The understanding of aid in question 7b was generally good. A small number of answers did not differentiate between different types of aid, leading to a very generalised answer. There was some confusion about Fairtrade, which is not usually considered as a type of aid: it is really a different model for trade. Most answers broke aid down into bilateral, multilateral, NGO aid and perhaps emergency aid / relief. This provided and structure for many answers, with the strengths and weaknesses of different types of aid considered in turn.

Examples were often used for NGO aid, but less so for other types of aid. As stated in the introduction, some of the examples used dated from the 1960s and could do with being retired in favour of something more contemporary. The question does provide the opportunity to consider other solutions to the development gap and some answers briefly considered Fairtrade and FDI as alternative models. Many answers would have been improved by a clear statement of what is meant by the 'development gap' as this was often implied by not directly addressed.

Exam format reminder

It is important to understand that the examination question types and mark tariffs for WGE03 do not vary from one examination series to the next. However, within Sections A, B and C the questions will vary from one series to another. This variation is random and does not conform to a pattern. Some important points to note are:

- In Section A, Question 3 is a synoptic question and it will always be a 15 mark essay question.
- In Section A, there will always be a 10-mark data stimulus question on both A1 Atmosphere and A2 Biodiversity. The 15-mark essay question could be on either A1 or A2.
- In any exam series, Section B will either consist of a 5 mark stimulus question plus a 15 mark essay question, or a 20 mark essay question.
- Section C will be the opposite structure to Section B in any given examination series.

Please see the WGE03 Contested Planet Assessment Guide for further details:
https://qualifications.pearson.com/content/dam/pdf/International%20Advanced%20Level/Geography/2016/Teaching%20and%20learning%20materials/Contested-Planet-Unit-3-WGE03-Assessment-Guide.pdf

Lee this last bit is from a document we already have online, and I'd like to include it here just to reinforce the point about how the structure of the Paper varies from series to series. It was also in the 01/18 PE report.