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Examiners' Report
January 2011

GCE Geography 6GE03 01

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Introduction

This was the second January examination of Unit 3 Contested Planet and it had an entry of around 3500, up slightly on January 2010. The Section B Issues Analysis topic was Energy Security with the pre-release resources based on energy security issues in the North America region. Previous Section B topics were Superpower Geographies in January 2010 (the Small Gulf States) and Biodiversity under Threat in June 2010 (the Pacific S.I.D.S).

Question choice in Section A was perhaps a little more balanced than in previous series. This most likely reflects the absence of an Energy Security question in Section A, which was the most popular single question choice in June 2010. Roughly, question choice in Section A was:

- Water Conflicts = 28%
- Biodiversity under Threat = 21%
- Superpower Geographies = 28%
- Bridging the Development Gap = 12%
- The Technological Fix? = 11%

Overall performance was good, and comparable to previous exam series. Candidates demonstrated:

- Generally good question interpretation skills and most responses were focussed on the topics and themes expected.
- Good case study knowledge, especially in the Water Conflicts and Biodiversity under Threat topics.
- Some good up to date geographical knowledge of recent events e.g. the 2010 Gulf of Mexico oil spill.
- Joined-up thinking and an ability to transfer knowledge from one topic to support an answer in another.
- A good understanding of geopolitics and the role of the BRICS, USA and EU in the world economic and political system.

Many candidates write erudite, interesting and evaluative answers in Unit 3. Centres might wish to consider how best to develop this style of extended writing. Some suggestions would be:

- Encouraging debate in class, especially challenging ‘accepted’ views such as the idea that bottom-up development schemes are ‘the best’.
- Making less use of large case studies, and more us of smaller examples from a range of places and situations. Candidates armed with a wide range of examples often have more flexibility than those armed with a few large, detailed case studies.
- Encouraging selective reading of broadsheet newspapers and publications such as the Economist and New Internationalist.
- A general ‘so what?’ approach to learning which questions data, views, accepted truths and attitudes and seeks to delve deeper to find explanations.

It is very obvious that many candidates enjoy the Contested Planet and write passionately about many of its topics. Teachers are clearly stimulating students in class and enthusing them to learn. Teachers and candidates are to be congratulated for this.

Section A

Within Section A there are some issues which might be addressed:

- Some candidates spend too long on one of their Section A choices and leave less time for their second choice. This tends to lead to a significantly lower mark on their second choice.
- Candidates must recognise that the 10 mark 'a' questions are data stimulus questions. They are assessing a candidate's ability to interpret geographical data and explain it (graphs, maps, data tables, etc.). The majority of the candidates' answer should be based on explaining/suggesting reasons for the information in the Figure. While examples often aid explanations, case studies rarely do. This is because lengthy case study detail tends to preclude a range of explanations/ reasons.
- Teachers and candidates should anticipate that the 15 mark 'b' questions will always require assessment or evaluation. Candidates need to present both sides of a debate or argument, in a balanced way, and move towards a conclusion.
- As in past examinations, some key words such as 'consequences' are often interpreted in a wholly negative way.

Section B

The Section B resources, energy security in North America, were on a relatively familiar topic to many candidates. They contained a lot of detailed information. There was a tendency for candidates to be less synoptic than in previous examinations perhaps because the resources were very detailed and there was some 'obvious' and relatively easy to achieve synopticity in the form of the 2010 BP Deep Water Horizon oil spill and the Arctic National Wildlife Refuge – which many candidates have touched on at AS Level. It is important to use the pre-release period to research wider issues and themes. Other points relating to Section B include:

- The need for good timing; if timing is an issue it tends to be in the form of a shorter Q6c. There was some evidence that timing problems in Section B were a little more common in January 2011 compared to the 2010 exams.
- As in the 15 mark questions in Section A, some Section B questions demand evaluation and assessment skills; candidates need to focus on providing a range of points of view and moving towards a conclusion.
- Mark schemes always make reference to synopticity (wider links, links to other units/topics, parallel examples, conceptual synopticity through the use of models, theories and ideas) especially in Levels 3 and 4.
- Bland, unselective copying of the resource booklet information scores Level 1 or low Level 2 marks depending on how far the question has been answered.
- Many Issues Analysis resources are regional e.g. 'North America'. Candidates need to take care to recognise differences within the region e.g. between the USA, Canada and Mexico and not lump all countries together. This is often an issue in Section A where candidates talk of 'Africa' or 'Sub-Saharan Africa' as if the entire region was essentially homogenous.

Comments on Individual Questions

This report will provide exemplification of candidates' work, together with tips and/or comments, for a selection of questions. The exemplification will come mainly from questions which required more complex responses from candidates.

Section A

Question 1 Water Conflicts

Figure 1 was interpreted correctly by the majority, although a small minority seemed to believe that the data shown related to population growth or changing GDP rather than freshwater withdrawals. Generally some of the data were quoted and used to support the answer.

Many answers to **Question 1(a)** only saw negative consequences in Figure 1. The Figure actually shows increasing water withdrawals which could be positive for many. Strong answers structured their response around the **people** and **environment** key words in the question and some balance was needed. Candidates often outlined a range of environmental consequences that could result from increased withdrawals such as salinisation, saltwater incursion and subsidence. Many were stronger on environmental consequences than human consequences –only seeing tales of drought and famine for the latter. The strongest human consequence was the increased likelihood of conflict. A few weaker candidates viewed 'water withdrawal' as water being 'taken away' implying that the water was being shipped out of the region, perhaps overseas.

In **Question 1(b)** many candidates, perhaps surprisingly, focussed on **projects** rather than **players**. Whilst related, these are not the same thing as a water project involves numerous players in terms of planning, funding, construction and water use. A weakness with Water Conflicts essay questions is a tendency among many to write 'all they know' about key case studies such as the Three Gorges Dam. This type of approach is very unselective and shows weak application of knowledge and understanding to the actual question. In this case the focus needed to be on the role of players in securing water supplies. The role of TNCs in Bolivia and the role of NGOs via small scale water projects were generally the strongest examples of players used. Stronger candidates were able to move towards an assessment, i.e. which players are the most important in terms of securing water supply.

The Aral Sea

It is worth noting that, as in previous examinations, the Aral Sea was often used in an inappropriate way. Even when the Aral Sea was its natural size, the **saline sea** was not used as a freshwater source. The water had a salinity of 10-15 grams of salt per litre, well above the 0.5 g/l limit for freshwater. The diversion of the rivers flowing into the sea increased water supply to farmland in Kazakhstan. The shrinkage of the sea, and the loss of the once large fishing industry, is really an example of the destruction of a salt water ecosystem with the added problem of significant consequences for the health and economic wellbeing of local people. Recent attempts to restore the sea are best seen as an attempt at **ecosystem restoration** not the restoration of a freshwater supply. Even if the Aral Sea was fully restored it would be saline and the water not fit for human consumption.

Question 2 Biodiversity under Threat

Figure 2 was accessible to most and generally well understood. Some candidates made limited reference to either the Terrestrial or the Marine column so responses were somewhat unbalanced. There was occasionally a focus on one or two global regions rather than fuller coverage. Even candidates scoring maximum marks would not be expected to refer to all of the data in Figure 2 although some range of coverage was desirable to draw out key differences.

In **Question 2(a)** most candidates were able to suggest some reasons for the differences and there was generally sound understanding. The 'big three' reasons are:

The amount of money available/funding for conservation.

The value of what is being protected i.e. high biodiversity.

The level of threat i.e. the need for protection.

There was some good understanding that marine protected areas are difficult to set up, police and monitor. Weaker answers sometimes provided very stereotypical views of the developing world and referred to a lack of education and 'no understanding of biodiversity' as reasons for lack of protection. Occasionally, candidates did not fully understand the relative nature of the % data in Figure 2.

Question **2(b)** suffered from a number of issues. Some candidates essentially answered the question 'outline the range of human threats to biodiversity'. This approach tended to ignore the physical factors that promote high biodiversity in the first place and precluded answering the key idea of 'relative importance'. In a similar way to Q1b, some candidates were too quick to move into case study mode and described in depth the protection of old favourite places such as Korup and St Lucia. Stronger candidates argued that physical factors provide the context for the variations in biodiversity globally and locally, whereas human factors work to either preserve it or destroy it –especially a local scale, although increasingly globally i.e. climate change. Many answers were strong of human factors, but unbalance in relation to the question.

Question 3 Superpower Geographies

Figure 3 was perhaps the most prone to 'lifting off' as it was the only Figure which contained significant text, although not a great deal of text. Most candidates made some reference to all three scenarios. Some interpreted Figure 3 in relation to the 'futures' synoptic theme in the specification and equated 'Globalised' with 'Business as Usual' and 'Global Governance' with 'radical'. This was an acceptable and thoughtful approach.

Question 3 proved very popular. In **Question 3(a)** the key issues were whether the candidate covered all 3 scenarios –most did– and the extent to which the answer focussed on '*the planet and its people*'. Many elegantly written and convincing answers actually focussed on broad geo-political and economic issues and struggled to state what the consequences for people might be. Many of the planet and people consequences were implied rather than clearly stated. Overall, the question was answered well and a slight increase in the focus on the key words in the question would have pushed many up towards maximum marks.

There were many excellent answers to **Question 3(b)**. Trade's role in maintaining superpower status tended to be explained more clearly than the role of international decision making. There was good knowledge of IGOs such as the G8, G20, IMF and UN in terms of voting power and membership but less clarity on what these organisations actually do and what decisions they take. Generally knowledge of

current affairs and trends was good, although the importance of trade to China's economic growth (and hence ability to use its wealth globally) is not as well known as might have been expected. A minority of candidates produced a very energy focussed answer, using the Section B resources –this was usually narrow and not very successful. Candidates need to be aware that theories such as dependency theory are just one view of the world and there are others. Balance is important and this can be achieved by recognising a range of perspectives.

Question 4 Bridging the Development Gap

Figure 4 was usually interpreted correctly. A weakness was a tendency among some to group all 4 types of ODA together as 'aid' and fail to differentiate. Stronger interpretations used some of the data from the graph to support a discussion of good and bad news. Some recognised the subtleties in the data such as the overall decline in ODA in the mid 1990s and the dramatic fall in debt relief by 2007 compared to 2005.

The key issue in **Question 4(a)** was whether or not candidates took a broad over view of total ODA ('aid') or were prepared to discuss the 4 types shown on Figure 4. Good answers needed to be up-front about the '*good and bad news'* and ideally these words should have been used as part of the response. NGO aid was generally understood with many examples of good news small scale projects; many also recognised the not so good news that NGO is a small % of the total (although growing) and so has limited reach. Tied aid was often discussed but many were unsure whether this was multilateral or bilateral. Debt relief was often discussed in terms of SAPs or HIPC although the detail was not always clear. Some good examples were used and there was less tendency to drift into major case studies than in Question 1(a).

Ideally in **Question 4(b)** candidates should have outlined two contrasting strategies, such as top-down and bottom-up and briefly outlined how they differ, and then have used examples of specific projects or schemes to illustrate how these helped (or not) narrow the development gap. This link to narrowing the gap was crucial. Stronger candidates did this as part of an overall evaluation of which approach was best. Too many candidates described two projects with very little context and limited evaluation/link to the development gap. There was often too much of the '*all I know about the Three Gorges Dam'* approach and an unwillingness to be selective. Many candidates show good conceptual knowledge of development and can argue convincingly using a range of examples –an ideal approach.

Question 5 The Technological Fix?

Figure 5, as with many world distribution maps, was often seen in very broad north –v- south terms with a failure to recognise differences within regions and anomalies. Some very descriptive answers were seen which focussed on what the patterns were rather than attempting to identify reasons for them.

This question remains the most polarised in terms of quality of response. There is evidence that more candidates are making a positive choice to do the Techno Fix question, rather than choosing it as a last resort, and the quality of answers was better than in 2010 on average. In Question **5(a)** there was often good understanding of the factors that might influence internet access e.g. cost, infrastructure already present, education, political factors etc. Most candidates who answered this question were prepared to go beyond the north-south divide and refer to the more detailed pattern shown.

In **Question 5(b)** some candidates were unsure which examples constituted technological leapfrogging. Mobile phones were the most common example used either in India, Kenya or

Afghanistan. This example was generally understood well and was linked to positive outcomes in terms of the development process. Other well-known examples such as One Laptop Per Child or GM crops were seen much less frequently than might have been expected. A number of candidates only used one example which made assessment difficult. Other examples were less convincing –these included nuclear power in France, the Tata Nano (which could be used, but requires careful explanation of which 'stage' in the technology spectrum is being 'leaped') and almost inevitably, the Aral Sea.

Examples of Examination Techniques

This is an example of the beginning of an answer to Question 1a, the Water Conflicts topic. The question asked candidates to explain the consequences of increased water withdrawals for people and the environment, with reference to Figure 1 -a graph showing water withdrawal projections by region.

a) Water withdrawls are ways in which humans gain access to supplies of fresh water. This could be from Aquapers underground, or from groundwater supplies, like lakes and rivers. The graph shows the increase of withdrawls from 1995 to 2025; Subsaharan Africa has ~~an~~ the highest increase of 67% but still has the least amount of water at around 200 cubic km of water in 2025. Whilst ~~the~~ Asia, who uses the most water, is still increasing. This suggests that there could be overabstraction of water especially in countries like China, who are fast becoming industrialised. This ~~overabstraction has~~ projection can have a number of consequences both positive and negative.

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Examiner Comments

This answer immediately focuses on the question by defining 'water withdrawals'. Reference to Figure 1 is made early on, and a consequence - over abstraction - is mentioned in relation to China. The candidate, crucially, recognises that consequences can be positive or negative. This is a well focused opening.

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Examiner Tip

In the Section A, part 'a' questions reference must be made to the Figure, as these questions assess data stimulus skills. Frequent practice in class analysing graphs, data tables, maps and diagrams helps build data stimulus skills.

This is a fairly typical example of the first half of an answer to Question 1a, on the consequences for people and the environment of increased water withdrawals in different global regions. The exact question was "Study Figure 1. Suggest possible consequences for people and the environment of the projected changes in water withdrawals".

a). When looking at issues to do with water, there are 2 main arguments. ~~First~~ The first argument takes a Neo-Malthesian approach that water is a finite resource, and the other that water supply is dependent of human & technological advances.

If we look at the Aral sea, once ~~the~~ one of the worlds largest lakes (the largest), we can see both the affects it has on people & the environment when you dont properly manage water withdrawal. ~~This~~ Damming the river & diverting the water for agriculture not only reduced water supplies, it also contaminated the water source that was left, increasing the salt concentration, and ~~at~~ the addition of fertilisers from ~~plant~~ agriculture building up. This caused eutrification to occur & ~~the~~ nearly all endemic species died out. ~~that~~ All that left was a lake that is not ½ of the original size, and an area covered in contaminated soil. This has had huge affects on local people, removing their fish industry, causing the highest infant mortality rate in the world, and MASS environmental refugees (up to 10 million).

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Examiner Comments

This answer has a general opening paragraph, relating to 'issues to do with water' rather than the precise question asked. It then moves into a case study of the Aral Sea without linking this to Figure 1. Consequences are mentioned but they are not linked to the 'people and the environment' key words in the question.

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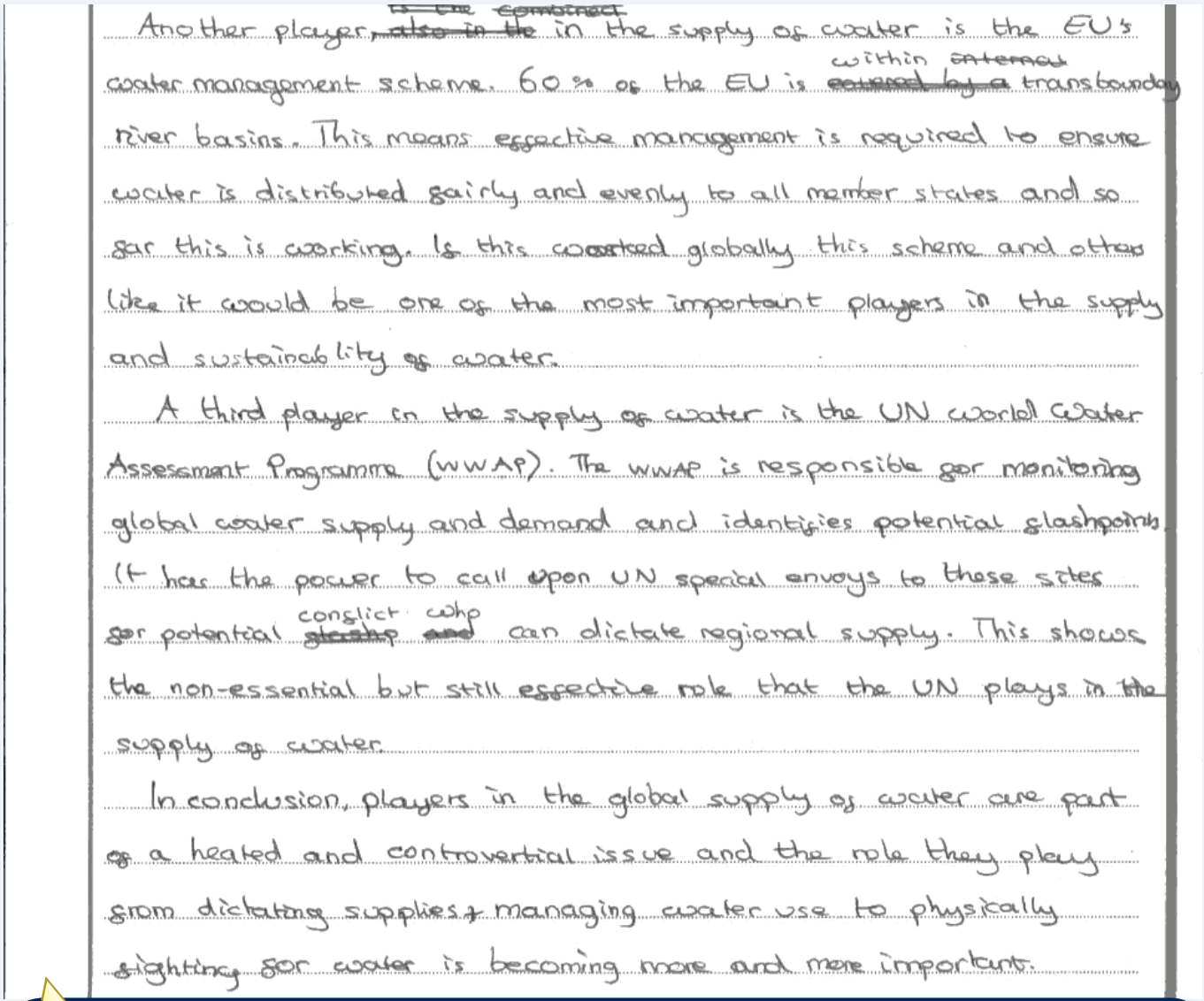
Examiner Tip

In the 10 mark 'a' questions, reference to a wide range of examples should be made. These support a broad discussion more strongly than one or two case studies.

Question 1b focused on the role of different players in securing water supplies. This could include government, local government, water companies / TNCs, individual consumers, IGOs and NGOs. Ideally reference should have been made to 3 or 4 different players although maximum marks could be achieved with reference to two only.



Another player, ~~is the contract~~ in the supply of water is the EU's water management scheme. 60% of the EU is within ~~external~~ ~~covered by a~~ transboundary river basins. This means effective management is required to ensure water is distributed fairly and evenly to all member states and so far this is working. Is this ~~counted~~ globally this scheme and other like it would be one of the most important players in the supply and sustainability of water.

A third player in the supply of water is the UN world Water Assessment Programme (WWAP). The WWAP is responsible for monitoring global water supply and demand and identifies potential flashpoints (it has the power to call upon UN special envoys to these sites for potential ~~flashp~~ conflict ~~used~~ who can dictate regional supply. This shows the non-essential but still effective role that the UN plays in the supply of water.

In conclusion, players in the global supply of water are part of a heated and controvertial issue and the role they play from dictating supplies & managing water use to physically fighting for water is becoming more and more important.

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Examiner Comments

This is part of a Level 4 answer. It makes the 'players' very clear and outlines their roles and responsibilities. The answer assesses the roles, making reference to 'one of the most important players' and 'the non-essential but effective role'. A brief summative conclusion is provided, which could have been developed further but is nonetheless sound.

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Examiner Tip

The part 'b' 15 mark questions benefit from a brief summary or overview at the end. Try to use this brief conclusion to return to the original question and answer it directly.

The Biodiversity under Threat question was a popular choice. This topic has technical physical processes within it and it is important to understand these and be prepared to use process terminology, correctly.

Suggest reasons for variations in the percentage of protected ~~habitat and~~ terrestrial and marine areas.

PLAN:

- Areas are protected if high BioD (edemic species)
- Coral reefs (marine) fragile Carribean (economic tourism). 3%

Protect for natural water lakes etc.

21 % south america (Topical Rain)

Fynbos Africa.

Areas which are protected by conservation or fenced off are areas which are most vulnerable to human interference. These areas include biodiversity hotspots. These areas are usually have over 50% endemic species and have fragile ecosystems. The protection of these areas are vital ~~bis~~ as human exploitation for goods and services can drive the biodiversity in these areas to extinction.

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Examiner Comments

This example has a number of interesting aspects to it. The candidate writes the question out, and underlines the key and command words. A brief plan follows. Both of these are good strategies, allowing some 'thinking time'. Both take time, so spending too long on planning may cause problems. The first paragraph of the answer does drift around the question a little, rather than focus on it directly. The candidate's whole answer gained high Level 2 marks.

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Examiner Tip

After a brief period of planning and thinking, use some of the keys words from the question as part of the first sentence of the answer.

Question 2b used the command phrase "assess the relative importance". This was also used in the June 2010 Section B. The phrase is not universally understood by candidates. In this case, the relative importance of physical and human factors in influencing biodiversity needed to be discussed.

Both human and physical factors affect the Biodiversity of a region. Human factors tend to decrease animal and plant diversity whereas physical factors can increase it or decrease it.

Physical factors such as the climate of a region can be ideal for many species to live there, increasing biodiversity. The tundra ecosystem of the Arctic areas is ideal for only certain species such as the Polar Bear and Arctic Fox which are adapted for this climate. Rainforest regions also make for a biodiversity hotspot such as the Daintree Rainforest. The hot, humid climate is ideal for many plant and bird species. If the climate of an area is not ideal for many animals then the level of biodiversity will be low, so climate is a very important factor in influencing biodiversity. Endemism increases biodiversity and is affected by the location of an area. For example Oceanic Islands such as the Galapagos Islands have many endemic species because their species have evolved away from the mainland.

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Examiner Comments

This example starts well, focusing on human and physical factors and commenting on the role of both. This succinct start suggests the candidate understands the question. Within the main body of the answer a range of physical factors are mentioned, supported by brief examples and good use of terminology. The whole answer gained Level 4 marks.

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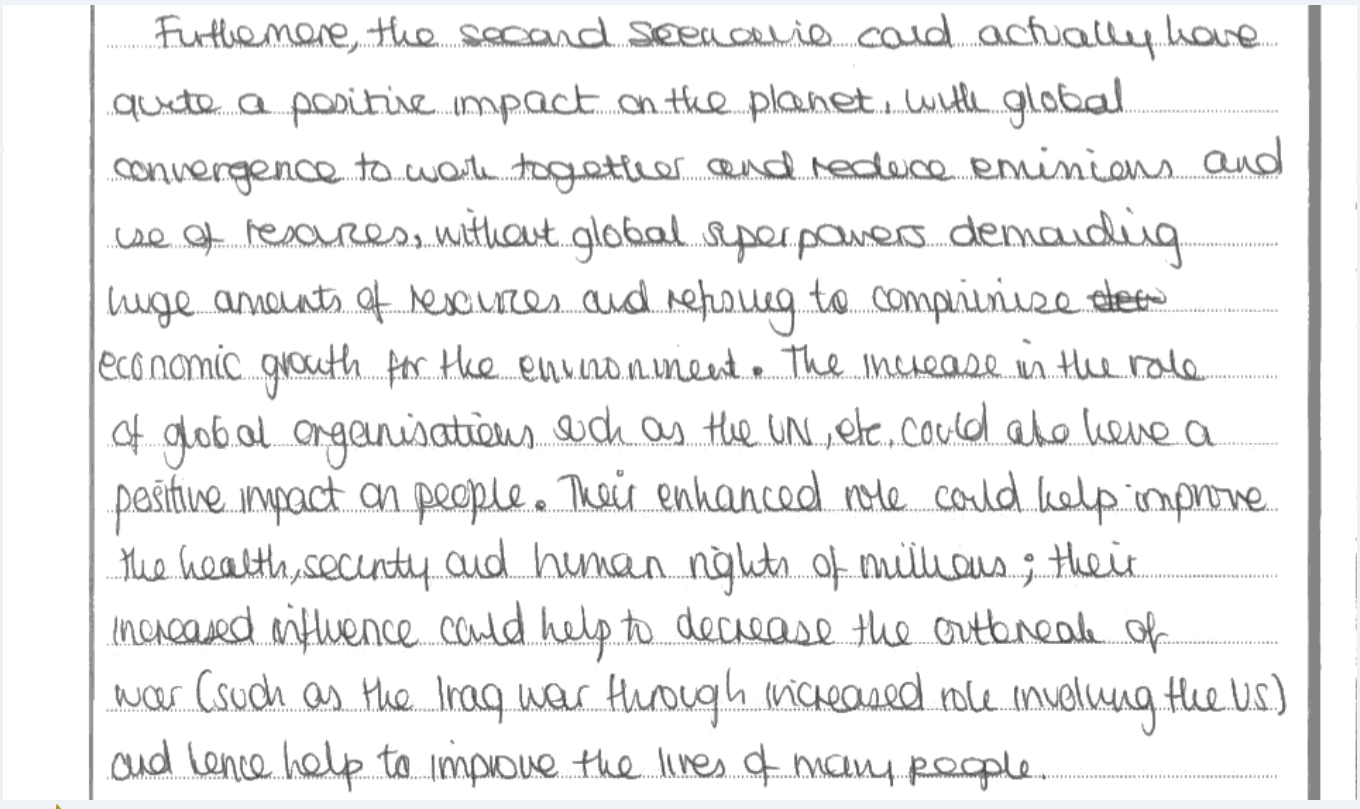
Examiner Tip

Notice how this candidate refers to the Arctic tundra, Daintree and the Galapagos as examples but does not get bogged down in descriptive case study detail. The candidate is being very selective and choosing only information that is relevant to the question.

Question 3a had a similar structure to Question 1a, in that there was a double focus on 'the planet and its people'. Candidates often miss these 'doubles' and focus on one aspect or the other. Ideally, candidates should use these key words in their answers i.e. 'people' and 'environment' in Q1a, 'planet' and 'people' in Q3a and 'good news' and 'bad news' in Q4a.



Furthermore, the second scenario could actually have quite a positive impact on the planet, with global convergence to work together and reduce emissions and use of resources, without global superpowers demanding huge amounts of resources and refusing to compromise ~~their~~ economic growth for the environment. The increase in the role of global organisations such as the UN, etc. could also have a positive impact on people. Their enhanced role could help improve the health, security and human rights of millions; their increased influence could help to decrease the outbreak of war (such as the Iraq war through increased role involving the US) and hence help to improve the lives of many people.

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Examiner Comments

This is part of a well written Level 3 answer. This section focuses on the 'global governance' scenario in Figure 3. Direct reference is made to both 'people' and the 'planet' in terms of human rights, conflict reduction, emissions and the balance of economic growth with environmental concerns.

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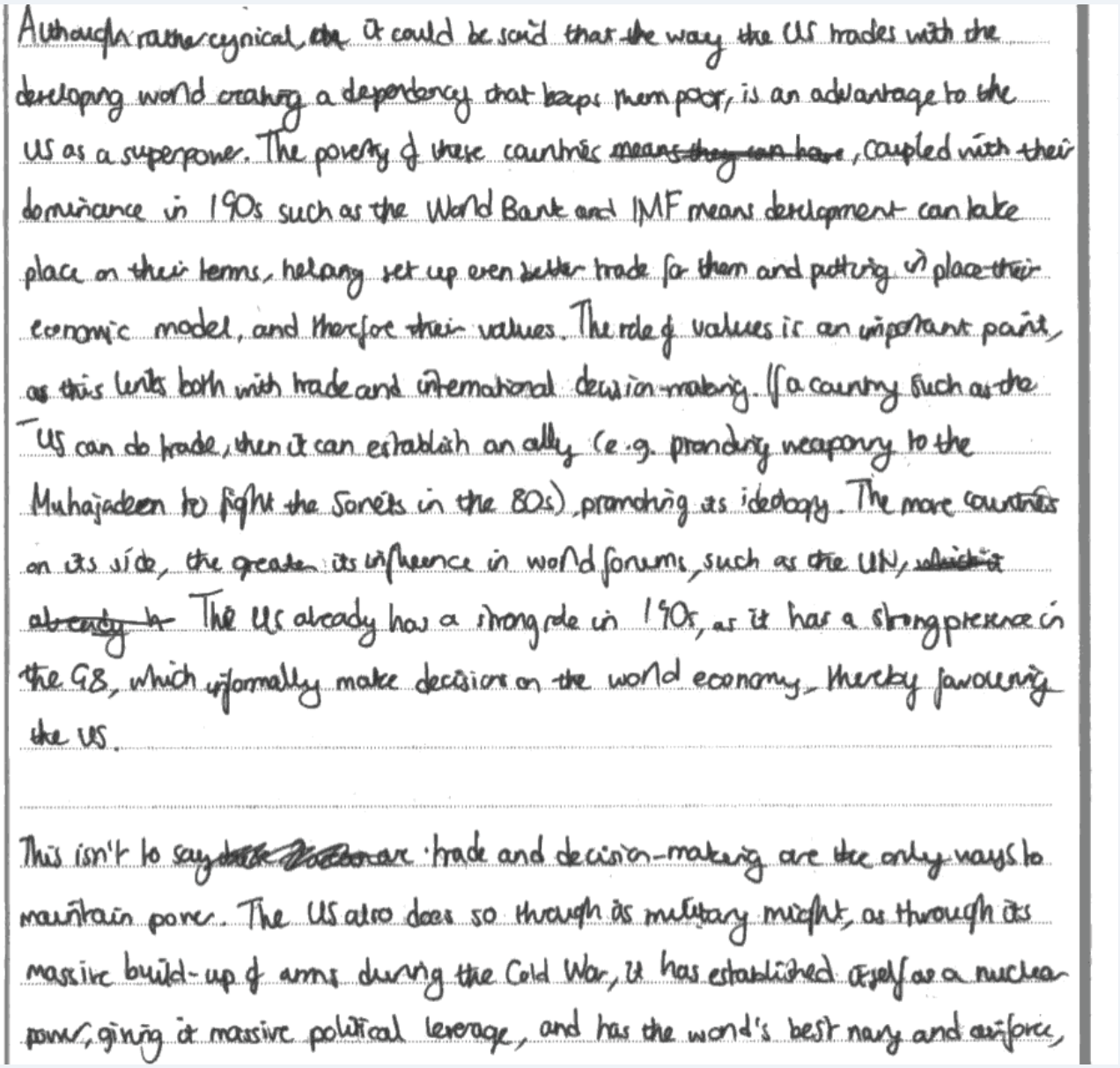
Examiner Tip

In the Superpower Geographies questions it is easy to drift from the specific focus on the question set, into general (and very interesting) geopolitical themes. Keep looking back at the question to check the correct focus is being maintained.

Superpower Geographies is a popular topic. Candidates need to have some knowledge of the 'contenders' i.e. the USA, EU, BRIC countries and perhaps even Mexico and the oil rich Gulf States. All are very different countries / groups, with their own particular strengths and weaknesses. Question 3b demanded a focus on the role of trade and international decision making in maintaining superpower status.



Although rather cynical, it could be said that the way the US trades with the developing world creating a dependency that keeps them poor, is an advantage to the US as a superpower. The poverty of these countries means they can have, coupled with their dominance in IGOs such as the World Bank and IMF means development can take place on their terms, helping set up even better trade for them and putting in place their economic model, and therefore their values. The role of values is an important point, as this links both with trade and international decision-making. If a country such as the US can do trade, then it can establish an ally (e.g. providing weaponry to the Muhajadeen to fight the Soviets in the 80s), promoting its ideology. The more countries on its side, the greater its influence in world forums, such as the UN, which it already is. The US already has a strong role in IGOs, as it has a strong presence in the G8, which informally make decisions on the world economy, thereby favouring the US.

This isn't to say that trade and decision-making are the only ways to maintain power. The US also does so through its military might, as through its massive build-up of arms during the Cold War, it has established itself as a nuclear power, giving it massive political leverage, and has the world's best navy and airforce,

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Examiner Comments

This Level 4 answer is well written and makes the link between trade and international decision making rather than seeing them as separate. Examples are used frequently and in the second paragraph the candidates moves beyond trade and IDM to consider other aspect of power.

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Examiner Tip

Remember to see each question as a 25 mark 'package'. Do not choose a question based on a 'nice' part 'a' only to later realise that the part 'b' is nasty, and that choosing another question might have been a better idea!

Question 4a focussed on Official Development Assistance or 'aid'. Figure 4 was a graph showing aid in dollars over time. Graphs need to be analysed, and referred to directly by quoting some data as part of an answer. Most candidates made reference to the 4 types of ODA shown on Figure 4.

Although aid from Nongovernment organisations is a small fraction this has almost doubled since 1990 This aid often involves small scale bottom up approaches which listen to local peoples needs and help provide basics. For example Oxfam a NGO help countries in Africa such as Chad by providing building materials and help to build schools and good quality shelters. Water aid help provide access to clean running water and basic sanitation. These small gestures help meet basic needs and increase devpt. by improving health + education

The amount of debt relief rose sharply in 2005 but it appears to be falling back down to previous levels. This may be because of campaigns such as Live8 and the Jubilee debt campaign which persuaded govt. to reduce/~~the~~ wipe out the debt developing countries owed. It is bad news that this is decreasing as debt helps to maintain the development gap This is because developing countries spend more on debt repayments and can spend little on social development programmes which makes them reliant on aid.

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Examiner Comments

This example, which scored Level 3 marks, shows good real-world knowledge. It makes direct reference to the graph, uses examples to support points and makes the 'good and bad news' clear. It is balanced and provides good explanations for both NGO aid and debt relief.

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Examiner Tip

Each topic in Unit 3 has its own 'language'. Notice how in the example shown here, the candidate uses language such as basic needs, bottom up, sanitation, campaigns, reliant on aid, development gap – this is the language of development and it gives the answer weight.

The Technological Fix question, when it is present in Section A, should only be chosen as a 'positive' choice. Too many candidates appear to choose it as a last resort. This does lead to some weak answers which usually only cover some aspects of the question or drift into irrelevant areas. On this occasion, Figure 5 was a world map of internet access. World maps often lead to very descriptive answers which lack explanation.

a)

Figure 5 shows the digital divide, using the brandt line. It shows that the rich north have a higher percentages of the population with internet access, and the poor south don't have much access, there are however a few outlyers in the theory. Many factors may have lead to this global pattern.

Firstly Internet use is expencive to set up in a country, and you need good infrastructure to do so, many countries in the continent of Africa don't have any infrastructure, therefore selting up a national network is pointless.

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Examiner Comments

This example begins with a descriptive paragraph. It then moves into some relevant factors e.g. infrastructure and companies, as well as education.

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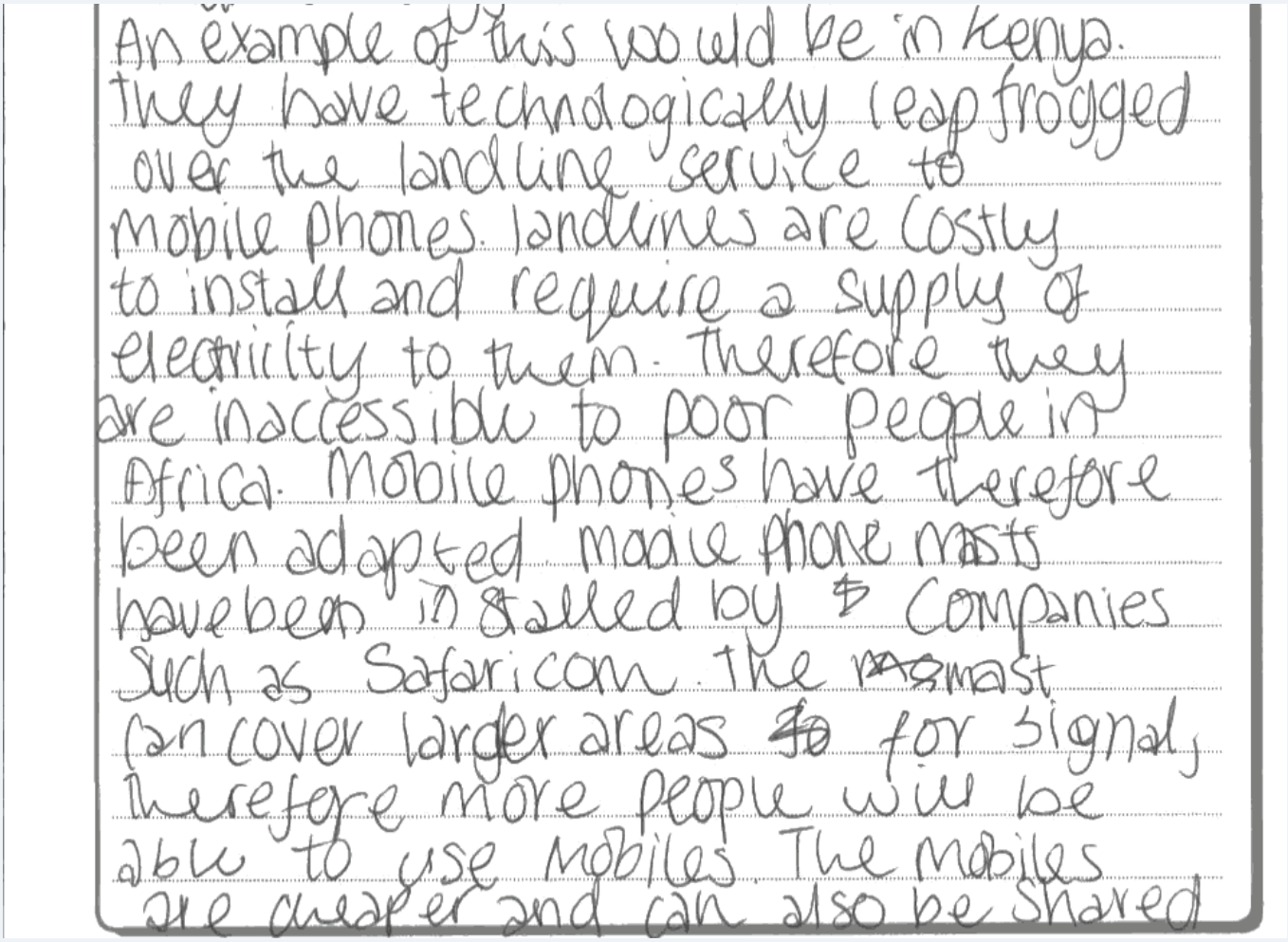
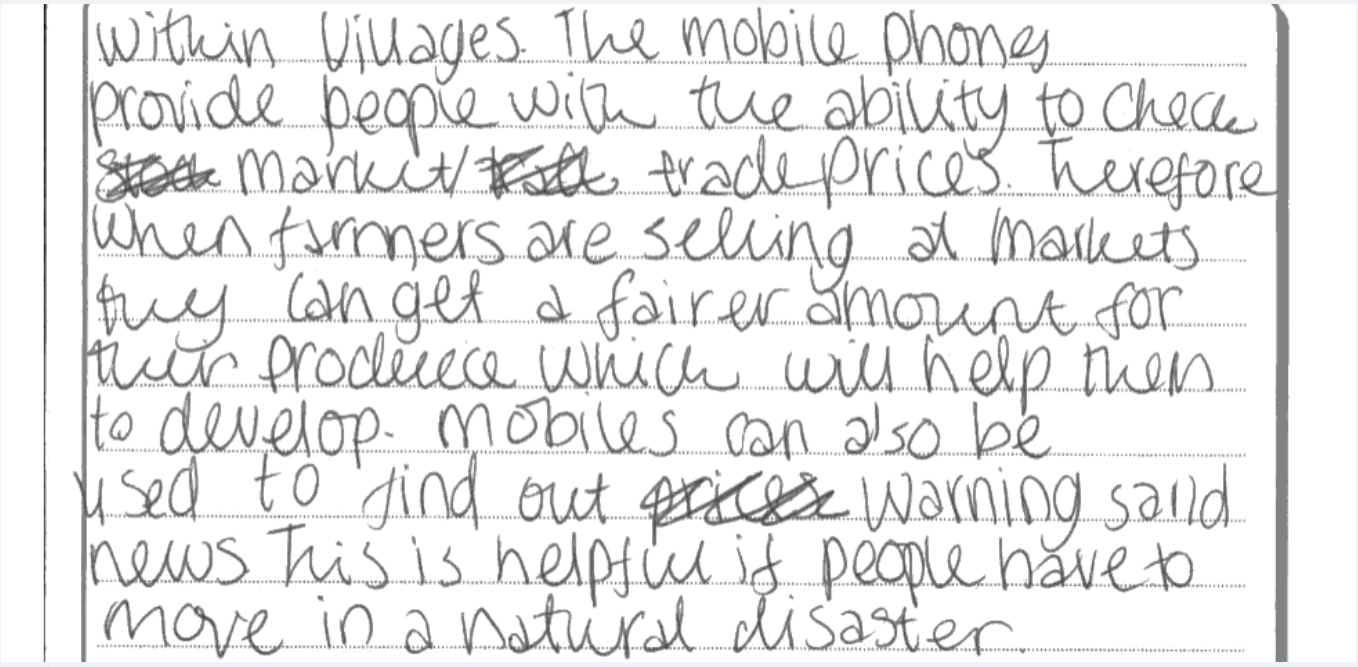
Examiner Tip

Be very careful with 'Africa'. It is a highly varied continent physically (deserts and rainforests), politically (democracies and dictatorships) and economically (PPP GDP per capita ranges from $18000 in Equatorial Guinea to $300 in the DRC).

Question 5b focused on technological leapfrogging. Many answers suffered from having only 1 example of this, usually mobile phones. Many answers described the process but failed to comment on how effective leapfrogging is, or is not, as part of the development process.



An example of this would be in Kenya. They have technologically leapfrogged over the landline service to mobile phones. landlines are costly to install and require a supply of electricity to them. Therefore they are inaccessible to poor people in Africa. Mobile phones have therefore been adapted mobile phone masts have been installed by companies such as Safaricom. The mast can cover larger areas for signal, therefore more people will be able to use mobiles. The mobiles are cheaper and can also be shared


within villages. The mobile phones provide people with the ability to check ~~stock~~ market/~~fish~~ trade prices. Therefore when farmers are selling at markets they can get a fairer amount for their produce which will help them to develop. mobiles can also be used to find out ~~prices~~ warning said news this is helpful if people have to move in a natural disaster.

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Examiner Comments

This example, part of a Level 4 answer, makes reference to mobile phones in Kenya and a specific mobile company. The answer goes on to identify the benefits of mobiles for farmers in terms of access to markets and does link to development.

ResultsPlus
Examiner Tip

Question 5b, like many questions, would have benefitted from being 'turned around' so that leapfrogging was not only explored as 'effective' but also less than effective i.e. leapfrogging works well for mobile technologies but not 'static' ones, and the technology is costly and may be 'western'.

Section B

Question 6: Energy Security Options for North America

Question 6(a) asked candidates to focus on the concerns over North America's energy security. Ideally candidates should have begun by defining what 'energy security' means. Although the resource booklet is focussed on energy security it does not define it – this might have been something that could have been addressed as part of research during the pre-release phase.

There was a tendency for candidates to discuss North America in general terms and not differentiate between the three countries mentioned. Canada is actually very energy secure, Mexico somewhat so, and the USA much less so. This differentiation is a key aspect of the question which many candidates missed.

Concerns outlined regularly included rising demand –some argued Mexico, as an NIC, had the potential for huge demand growth– and falling supply in some locations for some energy sources i.e. the USA. Many answers focussed only on oil, at the expense of gas and coal. An obvious synoptic point that could have been developed from research is the dramatic rise in shale gas exploration and use in the USA which is in the process of making US gas supplies much more secure than they were even a few years ago. In general, the resources were well used and most candidates identified a range of factors.

Many of the answers to question 6(b) were good. Generally there was good understanding of the tension between the economic arguments to develop the fossil fuel resources and the environmental consequences of doing so.

Some candidates did cover only 1 or 2 of the three resources outlined in Figure 7. Some went further and had researched the ANWR as a synoptic example which was good. Mention of the BP Deepwater Horizon disaster in 2010 was almost universal in terms of a synoptic example. The impact of the oil price on the decision to extract each resource was not fully understood by many.

If anything the resources were overused in this question, with much slavish re-working of the information provided and much less in the way of evaluation. Many candidates would have improved their score if they had provided a summative statement which evaluated which, if any, of the unconventional and technically difficult resources should be used –and whether they could actually improve energy security. Better answers often argued that, despite the risk, Mexican deep water oil was a tried and tested technology but that the volume of oil was relatively minor and there was no guarantee it would secure the energy future of the USA.

A minority of candidates did drift into biofuels, nuclear power and other energy resources in this question. The question does clearly state '*fossil fuels*'.

A drift into coal and CCS was common in Question 6(c). The question focussed on 'renewable energy' which coal is not, even with CCS. Nuclear paper was accepted as part of the answer, and better candidates did explain that it was not strictly 'renewable' but was often considered so.

Several different approaches to answering the question were seen. The most common was structured around different renewable resources and their advantages and disadvantages. This quite often led to good use of the resources, with some synoptic examples used, but a set of stand-alone paragraphs with less coherence in terms of the question asked.

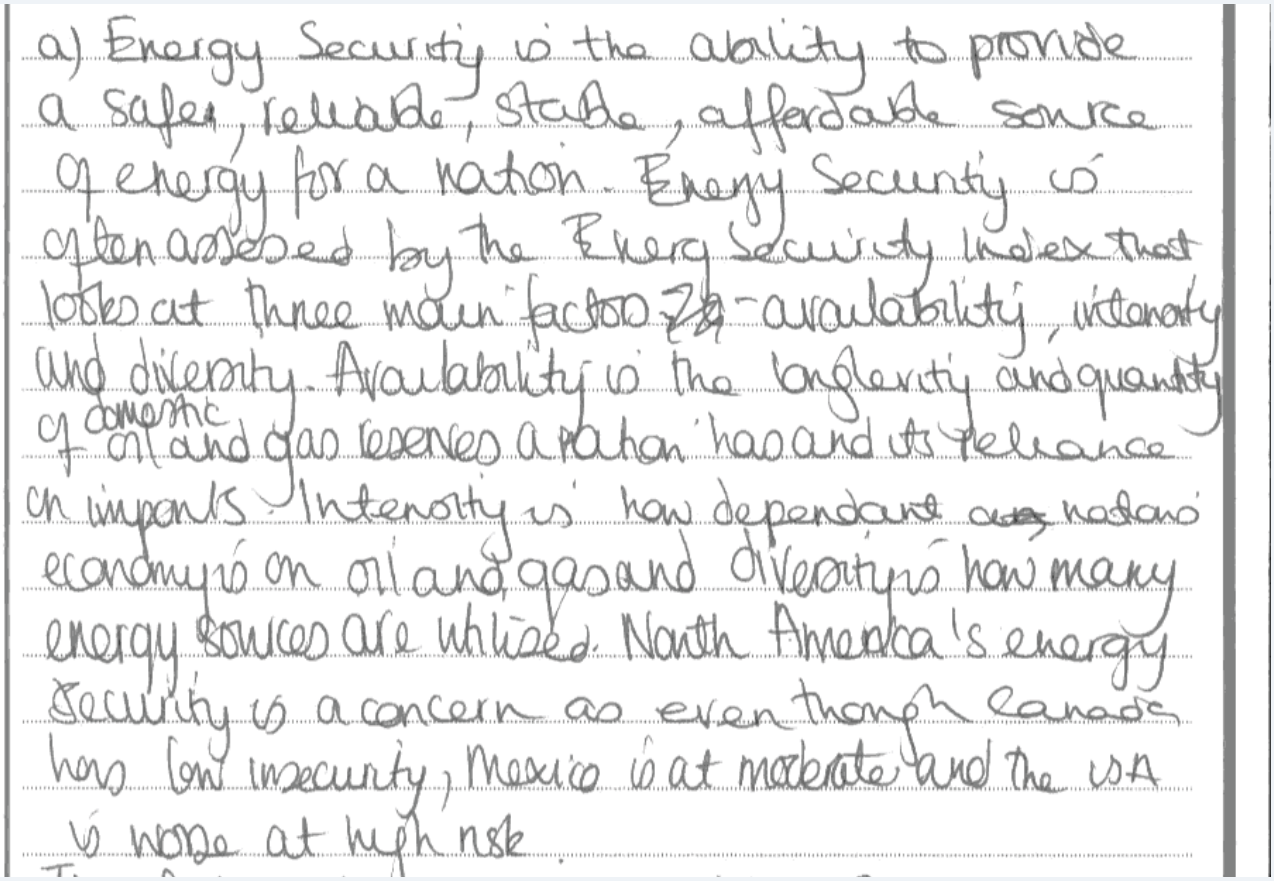
A better approach was often to identify some criteria on which to judge the contribution different renewable energy sources might make to energy security, such as:

- Cost and viability –especially in relation to fossil fuels
- Environmental impacts/'green-ness'
- Reliability/physical constraints

Stronger answers, as in Question 6(a), tended to recognise the differential geography in terms of the fact that some countries/regions would be able to use wind power whereas others were more likely to use solar. A more general issue is that some candidates struggle with the difference between 'energy' and 'electricity' data and tend to see them as essentially the same. Figure 10 was a projection for electricity generation, not total energy use.

Examples of Examination Techniques

The first question in the sequence for Section B often uses the command word 'explain' or similar. It is also a question which is often broad, and asks candidates to identify a range of reasons or factors. Candidates need to take care not to simply list these and rely over-heavily on the resource booklet.



a) Energy Security is the ability to provide a safe, reliable, stable, affordable source of energy for a nation. Energy Security is often assessed by the Energy Security Index that looks at three main factors - availability, intensity and diversity. Availability is the longevity and quantity of domestic oil and gas reserves a nation has and its reliance on imports. Intensity is how dependant ~~on~~ nations economy is on oil and gas and diversity is how many energy sources are utilised. North America's energy security is a concern as even though Canada has low insecurity, Mexico is at moderate and the USA is more at high risk.

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Examiner Comments

This example, from a Level 3 answer, begins by defining energy security and refers to the Energy Security Index (this is synoptic, as it is not in the resource booklet). This may seem like an obvious way to begin a question that was focussed in 'energy security' but it was not very common. Crucially the candidate comments on the energy security of the USA, Canada and Mexico so their answer is not rather generally focussed on 'North America'.

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Examiner Tip

During the pre-release phase, focus on different countries within the region, not just the region overall.

A danger in Question 6b was that Figure 7 was overly relied upon and essentially copied out. The question did not ask for this, it required an evaluation of the arguments for and against development of unconventional and technically difficult fossil fuel resources. This should have led towards a decision / judgement about which of the resources (if any) might be developed.

The main arguments for exploiting these fuels is resource nationalism - to increase domestic supply of energy to reduce reliance on foreign imports. The USA's oil shale fields could potentially do this. The USGS estimates that five times the stated reserves of Saudi Arabia's oil fields are lying deep beneath the surface of the Colorado Basin, 1.5 tn barrels that are potentially extractable. This could meet America's oil demands (presently 23 m barrels a day according to figure 2 and the NAEW G) for a century, and would mean that the USA wouldn't have to compete with other massive oil consumers such as China in their quest to meet their own oil needs. Companies such as American Shale Oil LLC are eager to extract this oil by methods such as pyrolysis, but this is very environmentally damaging because it involves mining - this would have severe impacts on the Ranger Petrified banks of the Colorado river, of which the Green River (where the shale is) is a tributary - 2m acres have already been lost, infuriating conservationists. Furthermore, South California, already water-stressed, depends on this river for 60% of its water supply - if the water became contaminated, this valuable and increasingly scarce resource could be further depleated, and this could even spark regional tensions between the USA and Mexico, with whom this transnational river is shared. However companies such as Shell claim to have developed costly 'in situ' methods of extraction that involve heating the shale in the ground and then pumping the oil to the surface which would reduce the environmental impacts.

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Examiner Comments

This candidate develops the argument in an evaluative, and detailed, way. There is evidence of synoptic research (American Shale Oil LLC) and links (to the Water Conflicts topic) and concepts (resource nationalism) in the discussion of fossil fuel development.

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Examiner Tip

Synopticity, as in this example, works best when it consists of small points and examples woven into the answer. These add weight and value and show that the candidate was prepared to go the extra mile in the pre-release phase.

Some answers to Question 6 are simply too brief. They tend to skim over the detail of the resources and randomly select information which may or may not be relevant. Some key information is missed. This is often the result of lack of preparation in the weeks before the exam.

(B)

As Energy security becomes more and more difficult, more risky ways of getting energy will start looking more appealing.

The U.S.A has an abundance of retrievable oil in the ANWR and in deeper water off the Gulf coast.

With the recent B.P. oil spill on the deep water horizon these projects will see looking unlikly to go ahead.

North America also has other unconventional resources in land waiting to be exploited. At current prices The U.S.A's production of oil shale would be more expensive than importing foreign oil. In the future however this will no longer be the case and oil shale will become economically viable.

In the current market the argument for not exploring unconventional oil by using alternative (green) methods is being used as bioethanol plants have increased production rapidly over the past 10 years, from 2000 to 10,000 million gallons a year. In The introduction of other fuel types have also been explored such as wind, solar and Hep and are set to increase into the future with a projected 1,500 more wind farms by 2050.

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Examiner Comments

This example of 6b is sketchy. It gained a mark on the Level 1 / Level 2 boundary. It is really an overview of the economics of development and fails to get into the detailed environmental, social and economic arguments for and against development. The answer drifts into renewable resources even though the question clearly states 'fossil fuels'.

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Examiner Tip

For a major 14-16 mark question, the 'average' candidate would write about 2 – 1 ½ sides. One side is rarely enough to get into the detail of an argument.

Using the Resource Booklet is essential in Question 6. It can be used in a rather descriptive, workmanlike way. On the other hand adding in some synoptic ideas, facts, concepts and themes quickly adds value. The former approach is not entirely without merit so long as information in the booklet is used selectively and applied to the question. This kind of approach will generally lead to a mark on the L2/L3 boundary for a higher tariff four level question.

As shown in figure 9 & North America has a fair potential for renewable energy - especially wind power and solar power. Wind and solar bring numerous benefits - they are both easy to install, have a long life (approx. 25 years) and are cost effective once set up. However they are both weather dependant - energy from them cannot be generated everywhere, or all the time, meaning an unreliable supply. They are both very costly to set up (costs are increasing still due to high demand and supply bottle necks) proving to be as costly as coal, according to the economist. There are also NIMBY issues associated with them and wind turbines are a danger to birds, affecting biodiversity, but they don't produce carbon dioxide.

Biofuels are also considered to be renewables as they can be re-grown, and they only give out the carbon they take in so are considered to be carbon neutral. However, growing biofuels uses up land that would otherwise be used to grow food, leading to increasing food prices, adding to the worldwide

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Examiner Comments

This example of a question 6c is relatively selective and uses some own knowledge and understanding to examine the advantages and disadvantages of wind power and biofuels. There are a few synoptic ideas such as NIMBY and the life span of wind farms. What the answer lacks is a clear link to 'securing North America's energy future'.

Question 6c, inevitably in some ways, tends to done less well by a significant number of candidates. For, most it is the last question attempted and 'running out of steam' as well as specific timing issues often combine to yield partial answers.

improving efficiency of agriculture. Lastly, renewable energy fuels would need North America to develop a new, more advanced, power grid. this will take huge amounts of investment and time which will mean there is a need for intermediate energy sources before the fuels become available. However a new power grid will have long-term advantages in terms of efficiency and ~~energy~~ electricity blackouts.

In conclusion, renewable energies have huge potential for Americas secure energy future however as the technology is still developing intermediate sources will be needed. But they are a more viable long-term fuel than fossil fuels.

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Examiner Comments

This example of the last part of 6c at least has a conclusion and does refer back to some key words from the question i.e. 'secure energy future'. As a conclusion it is a little bland, but it makes a good point that some of the renewable technology is not yet ready but that fossil fuels are not reliable on long time scales. Even this brief conclusion is evaluative and as such moves the answer from Level 2 into Level 3.

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Examiner Tip

Make sure that 'assess' and 'evaluate' questions always have a summary / conclusion as this will usually be enough to provide some evidence of higher level skills i.e. an ability to weigh up different perspectives and move towards a conclusion.

There are no fundamental issues with Unit 3 that commonly prevent a significant number of candidates under-achieving. Rubric offences are rare, full answers are the norm and timing issues affect a small percentage of the entry. When preparing for future Contested Planet exams some areas that should be considered are:

- Recognising intra-regional differences within the Issues Analysis resources in the pre-release phase.
- Preparing to be synoptic in Section B; this needs to be done as part of preparation in the pre-release phase as it is difficult to achieve ‘on the hoof’ in the examination.
- Focusing on a range of examples in class, that illustrate a range of different issues and perspectives, rather than relying on one or two major case studies.
- Practicing assessment and evaluation skills, especially under timed conditions in tests and mock exams.
- Practicing data stimulus skills through the interpretation of geographical data and the explanation of patterns, distributions and trends.
- Practice 'unpicking questions' to pick out key words and phrases which form the question focus, such as 'consequences' or 'people and the planet' or 'relative importance'.

An important aspect of exam preparation is ensuring that candidates see examples of mark schemes from previous exams to fully understand their demands.

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