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Examiners' Report

June 2011

GCE Geography 6GE03 01

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# Introduction

## Question popularity in Section A:

Candidates attempted all questions in Section A, although there were differences in popularity. As in the past, Energy Security and Water Conflicts were popular choices. The Technological Fix topic was more popular than in previous series with slightly fewer candidates choosing the Superpower Geographies option:

- Q1 Energy Security – 30%
- Q2 Water Conflicts – 25%
- Q3 Biodiversity under Threat – 12%
- Q4 Superpower Geographies – 15%
- Q5 The Technological Fix? – 17%

## General comments on Section A:

The majority of candidates attempted two questions in Section A and rubric offences were very rare. Candidates in general seemed to divide their time between their two Section A choices fairly evenly although a minority spent too long on one of their choices. The quality of work in this part of the exam paper was generally good. The range of performances for the Technological Fix question was better than in the past, when it has frequently been polarised between very good and rather weak responses. General observations which centres may wish to consider include:

- A tendency by candidates to either **plan** too much i.e. very long, time consuming Unit 4 style plans, or not plan any answer to any question or sub-question. For the 15 mark essay style questions in Section A, a brief plan is advisable.
- Over-reliance on **descriptive case study use** (especially in the Water, Energy and Biodiversity questions) rather than selective application of data and information to the question.
- Very long answers to the 10 mark part 'a' questions and much shorter answers to the 15 mark 'b' parts – in other words the **balance** of a candidates answer in relation to the mark allocation is incorrect.
- Some **basic geographical misconceptions** e.g. the assertion that Ghana is 'arid' or a 'desert' because it is 'on the equator' – rainfall in Ghana ranges from around 1000mm per year in the north to over 2000mm on the southern coast.
- A tendency, by a significant number of candidates, to only see the **negative** side of 'consequences' or 'impacts'.

Many candidates would improve their answers in Section A if they:

- Focussed on explaining / giving reasons for the full **range** of geographical data provided in the Figures.
- Avoided long-winded, **generalised introductions** and began their answers with a succinct definition or brief statement providing a structure for the rest of their answer.
- Practiced using the **language of explanation** (*why, because, caused by, reasons*) and **assessment** (*however, on the other hand, whereas, overall etc*) and recognised that different command words demand different approaches.
- Used a **broader range of smaller examples** rather than being overly reliant on one or two major case studies which often do not relate well to the question.

## Section A

### Question 1 Energy Security

Figure 1 raised a number of issues. Some candidates did not fully comprehend the significance of electricity generation i.e. that the data was not for total primary energy use but the sources used to produce electricity. The difference between primary and secondary energy is important. A key aspect of Figure 1, ignored by many, was that total electricity generation tripled between 1973 and 2006. Reasons for this include population growth, industrialisation in Asia, rising affluence and changing technology.

It was also important to recognise the difference between relative and absolute change. For instance, the % of electricity generated by HEP fell between 1973 and 2006 but the actual amount generated increased – therefore arguments that the number of HEP dams had fallen were not correct.

Many candidates argued that peak oil was the main cause of the decline in the % of energy produced from oil whereas rising prices (especially during the 1970s oil crises) and the need to use oil for transport are more significant factors globally. A number of candidates dealt with either the overall rise in electricity or specific source changes, but not both. Better candidates offered a range of reasons including the continued cheap cost of coal, developments in renewable technology, the rise of environmentalism, the increased security provided by nuclear power in some countries e.g. France and Japan. The reasons for the large rise in gas generation were not mentioned very often despite these being highly significant to the UK in particular.

In Question 1b a range of examples were used to illustrate conflict, or the potential for conflict, over energy sources. Better responses made it clear whether these illustrated conflict within or between countries – others did not do this and often these answers lacked clarity and precision. A minority of candidates seem to equate 'conflict' only with warfare whereas from a geographical standpoint the word encompasses a spectrum from localised arguments to outright warfare. Common examples / case studies included:

- Russia / Ukraine and Gazprom – this was usually factually correct and related to the question.
- California blackouts – often described in terms of a problem rather than a conflict.
- Arctic oil and gas – generally well known and the main countries involved clearly stated.
- Middle East – frequently inaccurate especially in relation to the reasons for the Gulf Wars i.e. oil as a factor but not the only factor. Afghanistan was sometimes mentioned as being oil rich and therefore the UK and USA were fighting in that country.
- ANWR / Tar Sands – generally well understood and used with accuracy.

Overall, there was more limited use of relatively well-known, often quite local, conflicts within countries such as the NIMBY issues associated with wind farms, environmental debates over proposals such as Kingsnorth or the Severn Barrage (candidates might note that the Thames Barrage does not generate electricity) or the debate over nuclear power. Better answers assessed the significance of conflict, for instance arguing that conflict between countries was potentially more serious economically or else stating that conflict within countries was often about choice of energy source whereas conflict between was concerned with procuring a reliable supply.

This is the opening part of an answer to question 1a, which gained a Level 3 mark of 9.

a) Suggest reasons for the changes to global electricity generation between 1973 and 2006. (10)

Global electricity generation grew by 12,900 TWh between 1973 and 2006 with coal increasing its percentage as a source for electricity generation by 3%.

The rise of the emergent nations (BRIC's) Brazil, Russia, India and China ~~then~~ created a larger global consumption of energy much of it sourced externally.

In 2003 China was opening 2 coal fired power stations a week to fuel its economy which was doubling every 8 years.

Gas as a source has increased from 12% to 20% of all electricity generated, this is largely due to Gazprom owning 92% of all Russia's gas fields, since the collapse of the USSR and a free market approach Russia's industrial economy has grown by 80% ~~over~~ with much of this being fueled by gas power stations.

With the advent of nuclear fusion growth in France, Germany and many other western societies it

has increased its production share by 12%. Between 1973 and 2006 an estimated 400 nuclear power plants came online, many countries saw this as a way of diversifying their electricity sources to enable higher levels of energy security, thus reducing dependence on energy hotspots such as the middle east for energy.



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Examiner Comments

This answer is analytical as it calculates the increase in global electricity generation between 1973 and 2006, then provides a clear reason for the overall increase. The answer then moves into explanations of the change in specific energy sources and this is supported by reference to examples such as China, Gazprom and nuclear power plants.



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Examiner Tip

Notice how this candidate writes out the question, and underlines key and command words. This is a good way of focussing your mind on what you need to write about.

This is part of an answer to question 1b, specifically the end of an answer and the conclusion. The whole answer gained maximum marks.

Although energy insecurity has a strong potential to cause tensions, the picture is not in black and white and there is evidence that countries and interest groups are able to foster cooperation on energy related matters. For example The Kyoto Protocol shows a unity of countries and the ability to make decisions together. With energy running out, it is clear that the core countries want to make loans to help the developing nations as well, such

as China's investment in Sudan pipelines.

Therefore there is potential for energy security to unite countries as well as alienate them.

To conclude, it appears that past evidence points to the fact that energy insecurity will always be a cause of conflict and increasing insecurity is only going to worsen the problem. Having said this, there is definite evidence of cooperation among and within countries as well.



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Examiner Comments

Having explained a range of conflicts within and between countries, this candidate assesses the extent to which energy security might lead to conflict by recognising that in some cases countries can cooperate. The Kyoto protocol example is not ideal, but the approach to answering the question is good. There is a clear conclusion, linked back to the question.



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Examiner Tip

This candidate's conclusion is only 7 lines, but it does 'round off' their answer and provides an overview of what they have argued.

## Question 2 Water Conflicts

There were a number of different ways candidates might have structured their answer to Q2a e.g. by water use type (domestic, industry, agriculture) or by country. Generally the former were more successful as this allowed for an explanation based on contrasts between selected countries. Some candidates failed to recognise that the data provided was per capita and not total water use – this led to some spurious reasoning based on differences in population size. The most common explanation provided was that of development level (wealth / poverty) and some candidates failed to move beyond this. Better answers related water use to economic water scarcity (in Ghana and Egypt), the presence / absence of water delivery infrastructure, the perceived wastefulness of water use in the USA compared to the (argued) more efficient system likely to operate in Germany. There was a place for discussing physical explanations such as high farm evaporation rates in Egypt, abundant supply in temperate Germany and highly seasonal / unreliable rainfall in northern Ghana – these explanations were seen much less commonly than might have been expected. Many candidates included global warming although most seem to believe that this will bring universally hotter and drier conditions; candidates should know from Unit 1 that the picture is likely to be more complex and regional.

In Q2b an issue that applied to some students was their apparent desire to answer a question on water conflicts, rather than the impacts of using transboundary water sources. Case studies of water conflict seem to be very much to the fore in some candidate's minds but they need to be aware that the question does not always have this focus. A common approach was to define transboundary sources and then describe two case studies in detail e.g. the GAP project and the Aral Sea. Within these accounts there were often examples of impacts on people and the environment but also a great deal of other detail which was marginal in terms of relevance. Many candidates seemed happy to leave it to the examiner to extract the impacts from their answer rather than stating them clearly. Other answers increasingly drifted from transboundary into water resources in general as their answer developed. Positive impacts were rarely seen, despite that fact that many transboundary schemes aim to increase water provision at least to some players. Better answers provided some assessment which often took the form of recognising that environmental impacts are more frequently negative whereas human impacts are more variable – the idea of winners and losers. Others made the valid point that international transboundary situations seem to produce more serious impacts as one party ignores the needs of another. Especially in the Water Conflicts question, candidates must choose their examples and case studies carefully and select information that is relevant to the question rather than taking the 'everything I know about X' approach.

This example is part of a Level 3 answer to question 2a on water consumption.

Egypt is an arid/semi-arid climate, that in itself creating issues of water supply. The high temperatures mean evaporation rates are high, and surface stores are low. Being a poorer nation, Egypt's exports rely heavily on primary ~~products~~ products and cash crops. This trade in virtual water has heavy effects on the water available to its own nation. The high temperatures mean irrigation of farmland and cattle water account for nearly 70% of its water use. Again ~~to~~ Egypt lacks the infrastructure to reach all its population, and the industry sector is slowly increasing.

China, one of the world's poorest nations has very little access to water supplies, being in one of the driest climates on earth, Sub-Saharan Africa. Its poor economic availability means the population faces both economic and physical water scarcity, and is in a period of water poverty. It has very little industry or farming, women walking for miles to collect water to support their families. These countries rely on NGOs like "water aid" to provide their water.



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### Examiner Comments

There are some good country-based explanations referring to both physical and economic reasons. Some direct reference is made to data from Figure 2 which is good. Like many candidates this example stated that Ghana is arid, which is not the case.



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### Examiner Tip

World maps are a common resource. In order to interpret them correctly candidates do need to have secure knowledge of global physical geography such as the position of major lines of latitude, climate zones and biomes.

This is an example of the end of a Level 4 answer to question 2b on the impacts on using trans-boundary water sources on people and the environment.

It must not be forgotten that transboundary water sources can be used harmoniously as the River Nile now is, as a result of an agreement

between several North African countries to use it responsibly. However, this is different to India and Bangladesh and the USA and Mexico (Colorado River) as the richest and most powerful country Egypt is at the mouth not the source. Overall the impact of transboundary water source usages is negative both environmentally and socially as smaller less influential countries suffer the effects of pollution, greed and industrial abuse by the larger more powerful nations.



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Examiner Comments

The end of this answer gives a strong clue as to which examples have been used in the main part of the answer (the Nile, Colorado and Ganges). It also makes an interesting assessment, recognising that some transboundary sources are used 'harmoniously' and that the physical position of most powerful sharing country matters. Notice that direct reference is made to social and environmental impacts, which is the focus of the question.



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Examiner Tip

Using key words from the question in the conclusion ties the answer back to the original question and helps show the examiner that the correct focus has been maintained.

### Question 3 Biodiversity under Threat

Figure 3 showed three ecological footprint scenarios. There was generally good understanding of what Figure 3 showed but in many cases a reluctance to link the three scenarios to consequences (positive and negative) for biodiversity. In some cases, while comments were made on the three scenarios, these were generalised and were focussed more on wider environmental issues (pollution, global warming) than specifically linked to biodiversity. Better candidates supported their answer with reference to a range of specific examples such as:

- Scenario 1 – deforestation in the Amazon, increased temperatures in the Arctic leading to disrupted food chains and extinction of key species, lack of time for species to adapt or migrate due to the pace of change, overfishing leading to marine food web collapse.
- Scenario 3 – named examples of ecosystem restoration, conservation and management.

Scenario two proved more problematic for some. Better answers recognised that it would be likely to result in a slowing down of the pace of destruction / extinction but not lead to recovery or even necessarily a halt to degradation. Many candidates argued that Scenario 3 would lead to an *increase* in biodiversity, which in reality is very unlikely as species which are already extinct cannot be recovered and many ecological areas cannot be restored. Terminology such as extinction, trophic levels, endemic, islandisation etc was not used with accuracy in many cases. It needs to be remembered that this topic does contain physical geography and an understanding of processes is important.

In Question 3b good answers chose two strategies and used examples to illustrate these. Weaker answers tended to choose two examples but never make clear what the strategy was. A wide range of strategies, at any scale, could have been chosen. There were many contrasts based on using ex-situ and in-situ as well as many others. Weaker answers tended to name examples such as Korup, Kilim, the SMMA or Campfire but not actually explain what the strategy was i.e. a marine reserve, biosphere reserve, total protection etc. Tourism was sometimes named as a strategy for managing biodiversity. While tourism, or ecotourism, is often part of a strategy (for instance, providing funds for conservation) it is not on its own a way of managing biodiversity. Some good answers were seen which used Debt-for-Nature swaps as an exemplified strategy. These often made clear reference to advantages and disadvantages, for instance arguing that incentives to protect were provided but that structures to ensure management was successful were less frequently in place. Better answers used a summative assessment to make a judgment about which strategy was likely to best manage biodiversity.

This is an example of part of an answer to question 3a on biodiversity and the consequences of different ecological footprint scenarios on biodiversity. The whole answer gained 8 marks.

Scenario 2, stabilisation, would see a halt to the rate of loss of biodiversity. Whilst the damage to the planet will be irreversible, it would stop the decline in health of many of the world's biodiversity hotspots. Conservation ~~are~~ areas would be maintained and overexploitation would be stopped. Measures may be put in place to make sure that resource harvesting is sustainable, eg. North sea fishing quotas, ~~but~~ but strategies will never aim to try and increase the populations number.

Scenario 3, a return to ecological credit, would be the best result for biodiversity by far. It would take us back to a stage where our ecological footprint is not causing irreversible damage. So whilst we may be harvesting resources, they can be easily replenished. ~~It~~ This would see the earth's biodiversity increase as conservation efforts were increased and there was a drive towards using renewable energy leading to ~~the~~ a mitigated effect of global warming and not such a driver need for resources.



### ResultsPlus Examiner Comments

This is a reasonably good answer, with direct reference to the scenarios. It is well structured and has some support e.g. North Sea fishing quotas. There is also some use of good terminology. Like many answers, this one suggests that biodiversity might increase under scenario 3 which is unlikely; nevertheless this is a minor point within an otherwise good answer.



### ResultsPlus Examiner Tip

Many answers to Biodiversity under Threat questions tend to drift away from ecosystems, biomes and biodiversity into more general environmental concerns and pollution. Make sure answers stick to the focus of the topics in the specification.

## Question 4 Superpower Geographies

This question was less popular than in the past when it has appeared in Section A of this examination paper. This might be explained by Q4b which focussed on theory and may have put some candidates off. Nevertheless, the topic seems to genuinely spark the interest of many students and examiners often read interesting, knowledgeable answers where candidates are clearly engaged with the global shifts in power and prosperity which they are living through.

Question 4a used a table of data on various aspects of power. The question was answered well by many and the data was generally understood. This question asked candidates to explain why the data had been used to produce the superpower index. This question is different to:

- Explain how the data illustrates superpower status.
- Compare the status of the countries in the index.

Answering the two questions above might partially answer the actual question but will not wholly answer it. A number of candidates did not read the question carefully enough and wrote a somewhat tangential response. Candidates need to be aware of reading the question in conjunction with the Figure and not 'deciding' what the question is based on what the Figure looks like.

Some very good answers were seen commenting on the how workforces and military personnel depended on a large population and noting the cultural influence of TNCs. Many candidates were prepared to explain that other data might have been used, or comment that combining population and total GNP could yield per capita GNP. Weaker answers tended to be comparative and descriptive and lack reasoning.

The wording of Q4b was essentially taken directly from the specification. In general, knowledge and understanding of world systems theory and dependency theory was good. Many candidates outlined and explained the theories well but often in a rather 'static' way i.e. there was limited linkage to how the theories might contribute to changing patterns of power. Some were sidetracked into very deceptive accounts of how the relationship between for example, the UK and Ghana, showed how dependency theory worked but failed to link this to changing patterns.

Many candidates used the Rostow model effectively and were able to link this theory to changing patterns i.e. the recent growth of the BRICs, perhaps because this model includes a time element whereas dependency and world systems are spatial. There were many good answers which related dependency theory to China's recent internationalism especially its moves into Africa in terms of FDI. This approach often worked well as the overall shift in power towards Asia would be tied into world systems theory and then linked to the increasing dependence of Africa on Chinese money. Mention was often made of the way that the Asian Tiger economies had managed to 'break' the dependency mould and hence, it was argued, world systems theory had a greater contribution to make in terms of understanding changing patterns. Some answers were interestingly focussed on historical geography although often these failed to move forward and discuss more recent changing patterns.

This is the first page of a Level 3 answer to question 4a, which asked candidates to explain why a range of data had been chosen to be included in an index of superpowers.

Superpowers are world leaders, They are countries which have a large worldwide Influence and hold control over different areas. Five factors which should be included when measuring a countries influence are military, economic, Cultural, environmental and social power. Of all of these, in the time we are in now I would class economic power to be the most important. The table in Figure 4 is also largely based around economy to create a Superpower index.

First of all, why has a table judging aspects of a Superpower been created? It is useful, ~~to~~ using different aspects of a countries power to rate them against each other. This is an easy way to compare them and their strengths and weaknesses and see which areas have the most impact on being a superpower.

Population has been put in the table to see the size of an estimated workforce and also to compare where this puts them in terms of ~~deeper~~ size so you can see how many people the countries influence



### ResultsPlus Examiner Comments

This is a good answer. However, like many answers this one begins with quite a long introduction defining what a superpower is and some general reasons why the index might have been created. None of this is incorrect, but it is not really needed. Towards the end of the first page the answer begins to discuss population – one of the pieces of data in Figure 4. This answer went on to explain the inclusion of all of the data in depth. Spending time on a long introduction to the 10 mark data stimulus questions means some candidates run out of time on other questions.



### ResultsPlus Examiner Tip

Start your answer with a definition, taking up perhaps 2 or 3 lines, then get straight into answering the question directly. This candidate should have started explaining the inclusion of population data after the word "areas" on the third line.

This is part of a Level 4 answer to question 4b, which focussed on the value of theories in contributing to an understanding of changing patterns of global power.

b) There are different views on the changing patterns of global power. The world may become multipolar with the rise of BRIC countries and the dominance of the USA may diminish, or the USA will remain the world's only super power with other countries increasing in power. The theories on global power - World system theory, Dependency Theory and Rostow Model

will be discussed as to how they contribute to the understanding of global ~~pattern~~ changing patterns of power.

The Dependency theory is a communist and pessimistic viewpoint ~~that~~ of the "development of underdevelopment". The theory suggests that developed countries exploit developing nations for their resources and in turn, developing countries become more dependent on this exploitation, almost in a colonial fashion. However, this theory is undermined by the rise of the Asian Tigers which ~~was~~ developed due to the economic input of the USA in return for reduced trade barriers (a free market). This theory however, may explain the poverty in Africa and its inability to develop well.



### ResultsPlus Examiner Comments

This answer includes good terminology such as 'multipolar' and 'BRIC'. In the introduction it sets its stall out by mentioning 3 theories and uses key phrases from the question such as 'changing patterns of power'. There is a good outline of dependency theory which avoids being diverted into a major case study. A very good aspect of this answer is that it recognises that the theory might explain the situation in Africa, but fails to explain the rise of the Asian Tigers - this is beginning to address the idea that theory is useful, but not entirely so.



### ResultsPlus Examiner Tip

A brief introduction to the 15 mark questions, which sets out the argument / direction of the answer, is a good idea as the examiner can see that the answer is likely to be logical and organised.

## Question 5 The Technological Fix?

Figure 5 showed the life cycle of a mobile phone and some stimulus text. As is often the case when a Figure contains text many candidates re-wrote it, sometimes in a rather elegant way, but failed to add in any of their own ideas and examples to support their points. Better answers set out a structure using the question as a cue i.e. positive and negative consequences, for people and the environment (rather like a mental 'grid'). This structure worked very well, although candidates do need to be aware that (for this and other questions) that the actual number of consequences in the 'grid' is likely to be unbalanced i.e. more negative environmental consequences than positive ones. As with many of the 10 mark data stimulus questions candidates need to provide a range of consequences and should be wary of being side-tracked into case studies e.g. mobile phones in Afghanistan. In some cases some consequences lacked real world understanding such as the health consequences of using mobile phones which in some cases were argued as similar to the health effects of being exposed to radiation from the core of a destroyed nuclear reactor. The best answers referred to a range of examples using Fig 5 as a 'springboard' to develop their explanations. These included reference to the health effects of heavy metals during disposal, the environmental impacts of mining for resources, emissions from manufacturing and transport, the benefits of receiving information on prices or natural hazards by text etc.

5b generated a very wide range of responses. It was pleasing to see that this question attracted more takers than in the past. Many candidates began by defining 'technology'. This is a good idea as the concept of 'technology' is broad. It would have been quite possible to answer this question with reference to only appropriate or intermediate technology and this approach might have helped some candidates focus – in some cases answers did become lists of technology and a narrower focus might have helped assessment .

An important aspect of the question was the balance between quality of life and environment; in some cases candidate used different examples to illustrate the contribution technology makes to quality of life to those they used to illustrate environmental points. Many good answers combined the two. An important aspect in terms of gaining Level 3 or 4 marks was to make some assessment. This could have been achieved by comparing between environmental and quality of life aspects and / or by recognising that some technologies inhabit a grey area and make both positive and negative contributions.

This is part of an answer to question 5a, which gained 10 marks, on the human and environmental consequences of the mobile phone life cycle.

A mobile phone is manufactured using many different materials + processes. ~~For~~ For example, a lot of a mobile is made from metals, metals come from ore's found underground. To extract these ~~ore's~~<sup>metals</sup>, firstly, the ore must be removed from the ground, this requires a lot of energy, machinery, and man power. By using large amounts of energy for the removal, this reduces fossil fuels supplies even further then where they already are, putting even more pressure on the environment. Using heavy machinery increases the level of CO<sub>2</sub> emmissions, which causes pollution problems, + can add further to the ~~pe~~ greenhouse effect + global warming. The men that are needed to operate this machinery may experience health problems from the possibility of hazardous chemicals being present in the ores extracted. # The process of extraction does ~~not~~ however, supply jobs, which are in need, so could improve the quality of life + standard of living for some individuals. Once extracted, the metal ore's have to be processed further to remove the metal, this can be done in factories, but using highly expensive, energy ~~emission~~ consuming, polluting machinery, this process also doesn't need to be as heavily manned; so is not as ~~then~~ beneficial to humans. There is also a lot of waste products ~~need~~ left over after this process, which create's problems as to how to dispose of it, without leaving too much environmental damage.



### ResultsPlus Examiner Comments

This answer used Figure 5 as a structure, but rather than copying out the text slavishly it did try to add in some of its own ideas, such as details on the impacts on mining resources, fossil fuel use and its consequences, the impact of manufacturing including the positive consequences resulting from jobs making mobile phones.



### ResultsPlus Examiner Tip

If a Figure has text on it, it is not sufficient to just reword the text. You must add value to your answer by using your own knowledge and examples.

This is part of an answer to question 5b, assessing the contribution technology might make to improving the environment and peoples' quality of life. The whole answer gained 14 marks.

Another project, aimed at using technology to overcome environmental and social problems, is the 'Green Wall of China' megaproject proposed by the government. This project started in 1978 and is expected to run through to 2050, costing around US\$8 billion. It involves a 4500km, 3 million hectare planted forest belt aimed at preventing further spread of the Gobi desert - which itself is increasing by 3500km<sup>2</sup> each year. It also helps by increasing food security as farming would seem to be more sustainable, and it is expected to relieve China from annually paying US\$50 billion for the problems of crop failure, soil erosion and dust storms. However, there are many fears about whether or not the project will actually work. The South-North water transfer project, which began in 2002 and is expected to run till 2050, costing US\$60 billion is another project aimed at improving people's quality of life. It involves diverting 45 billion m<sup>3</sup> of water from the Yangtze River to the Yellow and Hai rivers, for industrial and agricultural use.

Although this may help with issues like food security and help the economy (thus improving the population's well being), it could involve the displacement of at least 250,000 people and the biodiversity damage of the Yangtze drainage basin due to declining water levels.

Therefore, it can be seen that technology can be used to overcome environmental and social problems. However, it seems that it generally seems to be more successful in improving people's quality of life than the environment. Furthermore, technology seems to have many unintentional implications that seem to affect people and the environment, especially when talking the form of mega-projects. It should also be noted that other technology, such as DDT, CFCs and dams - which are used for economic purposes - seem to be most detrimental.



### ResultsPlus Examiner Comments

This answer has good detail. The example of the 'Green Wall of China' includes some key facts and figures which adds weight to the answer. There is recognition that this project has laudable aims, but that it may not be a success. The South-North water transfer is also assessed as both positives and negatives are stated - again with some specific details. The candidate includes useful conclusion which provides and overview of the benefits and costs of technology.



### ResultsPlus Examiner Tip

At some stage in revision, facts and figures do need to be learnt as detail is an important component of a very good answer.

## Section B issues analysis: which way for the Maghreb?

### General comments on Section B:

The issues analysis was based on the Bridging the Development Gap topic and specifically the Maghreb region on North Africa. This region, in late 2010 and 2011, became convulsed with what some commentators have referred to as the 'Arab Spring'. Given the contemporary nature of this Specification it is perhaps not surprising that pre-release resources occasionally appear to be 'moved on' by current affairs. In fact, most candidates made useful and often interesting references to current events and only a very small number appear to have been 'side-tracked' by them. It is worth making some general points about pre-release resources which appear to be strongly linked to a current event or events:

- Students should base their pre-exam research squarely within the context of the Resource Booklet they have been given.
- Reference to 'current affairs' is sometimes relevant, if geographical and selective – candidates should refer to the source of their information / research.
- As the resources (and questions) are written some time before the examination is sat, centres should be aware that questions cannot refer to very recent events, as the questions would have been written before the events have occurred.
- In an internet age, candidates are very likely to be able to find more up to date data than that which appears in the Resource Booklet. There is no expectation that they will do this, but may if they wish – this would be credited as synoptic research.

It was good to see that centres and candidates had used their common sense in relation to the Maghreb and most students were well prepared and focussed on the resources provided.

### Synopticity:

Candidates must demonstrate wider geographical linkages in order to access the upper Levels in the mark scheme and especially in top Level (3 or 4). This can be done in a variety of ways:

- Reference to parallel examples e.g. comparing tourism development in Morocco to development in Spain or Turkey.
- Reference to wider geographical themes e.g. global warming as an environmental threat to the Maghreb.
- Conceptual synopticity e.g. the use of the Rostow model as a structure to discuss the development of Morocco.
- Reference to an example or idea from another Unit e.g. the IPCC climate projections from Unit 1, or water stress / scarcity from Water Conflicts in Unit 3.

There is no need for candidates to actually state "*this is a synoptic link*" or similar. Candidates need to be wary of how they approach synopticity, especially when they only have 70 minutes to complete Section B. Specifically:

- Major parallel case studies (as opposed to smaller examples) do not usually work as candidates do not have time to include these.
- Some synopticity is what might be called 'false' or 'forced' synopticity i.e. the candidate refers to a wider link or example but it actually makes little geographical sense e.g. comparing tourism development in Morocco to eco-tourism in the Arctic; used carefully even seemingly unconnected geographical situations can be used to support a case, but often the supposed synoptic examples are not used carefully.

## Specific Questions: 6a

In common with some previous examination papers question 6a was a relatively straightforward question using the command word outline, which asked candidates to consider the strengths and weaknesses of tourism as a development strategy. Many candidates produced a good quality Level 3 answer which made good use of the resources provided.

Good answers sometimes began with a definition of development and / or tourism – a useful way to focus the start of the answer. Although not stated in the question, many used a social / economic / environmental strengths and weaknesses structure – which often worked well. Obviously there may be – for instance – no obvious environmental advantages in which case students would be well advised not to try and invent one.

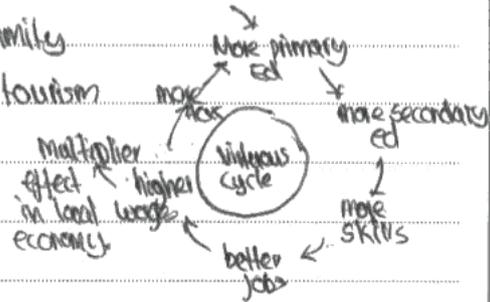
Most answers were relatively well balanced and considered a wide range of issues, with better answers often providing a summary / conclusion which made a judgment about the likely overall benefits or costs of the development strategy. Synopticity was often seen in Q6a with reference being made to other developing world locations which have also gone down the tourism route such as Kenya, the Seychelles or the Gambia. There was also reference made to the recent bombing in Marrakesh in the context of wider security fears which could potentially de-rail tourism. Some candidates had clearly researched the Vision 2020 plan and made useful references to this.

This is an example of an introduction to an answer to Question 6a. The whole answer gained 12 marks (top of Level 3).

Development is the improvement in quality of life, in terms of economic, social and political well-being. Tourism is a way in developing the Maghreb in order to increase its HDI (human development index) which focuses on educational attainment, life expectancy, GDP per income or PPP (purchasing power parity). Tourism in the Maghreb brings strengths and weaknesses to the region.

Tourism in the Maghreb would bring strengths such as the economic products. The development of Plan Azzur figure 8a, is a major development investment with the region. The Sidiel coastal resort is expected to create 8,000 jobs similarly to the flagship projects in Cornwall where the Eden project is creating the multiplier effect in the local economy due to taking in 50,000 visitors implementing destination tourism. The

Plan Urban will develop the 'multiplier effect' throughout Morocco economy which could then spread and develop into the virtuous cycle. The Maghrebs strategic location is in close proximity with the EU, therefore the influence of tourism in the area could attract FDI (foreign direct investment) from the EU's TNC's spreading wealth. Morocco has already signed an Open Sky agreement with the EU in 2006 encouraging cheap flights eg easy jet. This allows Africa to become



## ResultsPlus

### Examiner Comments

The answer begins with a definition of development, a useful way to start. There is then a clear focus on the strengths of tourism, which makes good use of the data in the resource booklet. The inclusion of the virtuous cycle, in diagram form, is an example of conceptual synopticity. There is good use of terminology such as 'FDI', 'destination tourism' and 'multiplier effect'.



## ResultsPlus

### Examiner Tip

Diagrams, such as the one shown here, can be effective if they are simple and make a clear point.

## Specific Questions: 6b

This question proved challenging to many candidates, although many good answers were seen. Ideally, a range of environmental problems needed to be outlined such as desertification, water issues, degradation of ecosystems and climate change. A large number of candidates made reference to their knowledge of global warming from Unit 1.

Most could relate some or all of these environmental changes to economic development. Many argued that farming would become less viable in the region, especially where it is an important part of the economy (Morocco, Tunisia, Mauritania) and this could lead to issues of food insecurity and a need to import more food and / or spend more money on irrigation and ensuring an adequate water supply. The cost of desalinisation was referred to – often with reference to the experience in Algeria. Many argued that the costs of supplying water would mean less money available for health and education – a minority linked synoptically to the Millennium Development Goals here.

In order to access Level 3 of the mark scheme the *extent* of the problems needed to be considered. Some achieved this by arguing that in the oil wealthy countries of Libya and Algeria the receipts from oil sales would ensure that the problems could be overcome, whereas in Morocco environmental change could damage tourism and leave the country poorer and not in a financial position to overcome the issues by applying technology to find a solution.

Most candidates had a weaker link to ecological wellbeing, although some recognised that the goods and services provided by ecosystems would be degraded and that this would eventually lead to lower human wellbeing.

This is the beginning on an answer to Question 6b. the whole answer gained maximum marks.

b) ~~On the~~ Environmental change is a challenge to the ~~economic~~ economic development and the ecological wellbeing of the Maghreb and it can be seen as threatening its development due to the fragility of its ecosystems already.

Environmental change is largely threatening the Maghreb's economic and ecological wellbeing, for example the lack of water (physical scarcity) is leading to an increased vulnerability to desertification. It is this desertification which is having an adverse effect on the region's agricultural industry which is bad for the overall economy as 45% of Moroccan and 71% of Mauritians work within this industry, which is deterring investment from the arid landscape due to the rising threat to the terrestrial ecosystems. In fact, economic growth and urbanisation is exacerbating the environmental change, as was the case in China with rising levels of desertification and 70% of rivers being polluted due to industrial growth. The wider environmental change, has made the climate more extreme with an almost constant temperature of 25°C in Agadir, though a long dry season with no rain in July and August, which increased the threat from drought and desertification. In Algeria, this has decreased the annual growth by 2% according to Francis Ghiles or is a factor in the increased hostility and a lack of cooperation between the regional players as they battle for ~~resources~~ <sup>resources</sup>.



### ResultsPlus

Examiner Comments

This candidate used key words from the question in their opening statement, and usefully recognises that the ecosystems in the region are fragile. The issue of desertification is linked to agriculture (economic development) and there is also a parallel example used (China).



### ResultsPlus

Examiner Tip

Make sure data from the resource booklet is used directly and remember to include brief synoptic links.

This is an example of the end of an answer to question 6b. The whole answer gained 10 marks.

However the prospects of environmental change can be overcome through investment in infrastructure with large scale water management projects. Libya's great man made river diverts water from the south to the saline coastal region, ~~where however~~

however this too in a paleo aquifer and as such is unsustainable, furthermore it is a very expensive project and so could be a hindrance to economic development. Similarly Algeria has invested vast amounts of money in coastal desalination plants converting sea water into drinking water. These plants are looking to 2.3 billion cubic meters a day. This is very costly however and will likely slow development. In conclusion environmental change as a consequence of human activity ~~is~~ threatens economic development and environmental well being greatly. However these challenges of this environmental change can be overcome but not without complication of it's own. Perhaps technological advances will facilitate ~~greater~~ in desalination for example will help the Maldives overcome the threat.



### ResultsPlus Examiner Comments

This candidate recognises that environmental change, whilst a threat, can be overcome by using technology and provides two examples of this. There is a clear overall conclusion, which uses evaluative language.



### ResultsPlus Examiner Tip

Certain words and phrases, such as however, whereas, on the other hand, but, etc make up the 'language of assessment and evaluation' and should be used if the command word is assess, evaluate or discuss

## Specific Questions: 6c

The signpost at the very start of the resource booklet was picked up by many candidates but by no means all. Although this question could have been answered with respect to the three directions indicated it was very possible to argue for an entirely different set of directions such as education to improve women's participation in the economy, or regional development or tourism. A minority of candidates did argue for tourism but often this was a more generalised version of Q6a without reference to specific countries other than Morocco.

Some good synoptic examples were seen in this section, such as the Desertec proposal for North Africa to provide solar energy to Europe. Many answers made useful reference to recent events in the region.

The signpost was used as a structure by many candidates who wrote cogent arguments outlining the costs and benefits of the Maghreb moving in the direction of either Europe, Africa or the Middle East. The costs and benefits were generally understood well in both political and economic terms. As the command word was 'evaluate' it was useful to provide a summary judgment as to the 'best' or 'worst' direction and many candidates did this. As in the past, many very good answers recognised the key differences between countries in the region and argued that while they might all lean in the same direction, their different economic structures meant they needed different development directions.

This example is the last section of an answer to question 6c, on the possible directions the Maghreb might take in terms of future development. The whole answer gained a Level 4 mark of 13.

Whilst this could be beneficial as Algeria and Libya will receive huge sums of money as the price of oil continues to rise and Morocco and Tunisia should benefit from a tourist trade which increases in size every year, it is important to remember that to avoid economic disaster, countries need to diversify their economies with ~~Algerian exports being 90%~~ Algerian exports being oil then a fall in oil price or an unforeseen event means that the country is in a poor position to deal with it. Likewise, Tunisia is just as vulnerable to a slump in the tourist trade which it relies on. In conclusion I believe the best

political and economic decisions that all Maghreb countries can make is to make a transition to democracy and a decision to diversify their economies. This is because diverse economies ~~that~~ are able to deal better with unforeseen circumstances and democracies attract more investment as investors feel their money is safer and tourists are more likely to visit a stable democratic country than an unstable, totalitarian, authoritarian one.



### ResultsPlus Examiner Comments

This answer recognises that countries within the region might benefit from taking different routes to develop, while also recognising that more general economic diversification would make the region more able to cope with future change.



### ResultsPlus Examiner Tip

Usually, the Section B resources are based in a region, which contains several different countries. It is important to understand both the similarities between countries that contribute to the region's unity as a whole, as well as the differences between countries.

## Summary:

Overall performance on this examination paper was similar to previous series. Some very good answers were seen across all questions demonstrating up to date knowledge of the contested planet. The most successful candidates, which future candidates might aspire to, tend to have the following characteristics in terms of exam skills:

- Good time management between Sections A and B, and within Section A questions.
- Repeated reference to the Figures in Section A, to tie their explanations to the data / information provided.
- Natural use of examples, data and facts to support points which gives answers a certain 'weight'.
- In the 15 mark Section A questions, use of examples and selective use of information from case studies rather than 'the case study' approach.
- A summary paragraph, which comes to a 'view' for any question which uses the command assess or evaluate.
- Some lateral thinking, which turns a question around and sees a different perspective – a good example would be in Q5b where some candidates argued that in some cases technology does not contribute to quality of life at all.
- Frequent, but normally quiet brief, synoptic links in Section B.

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