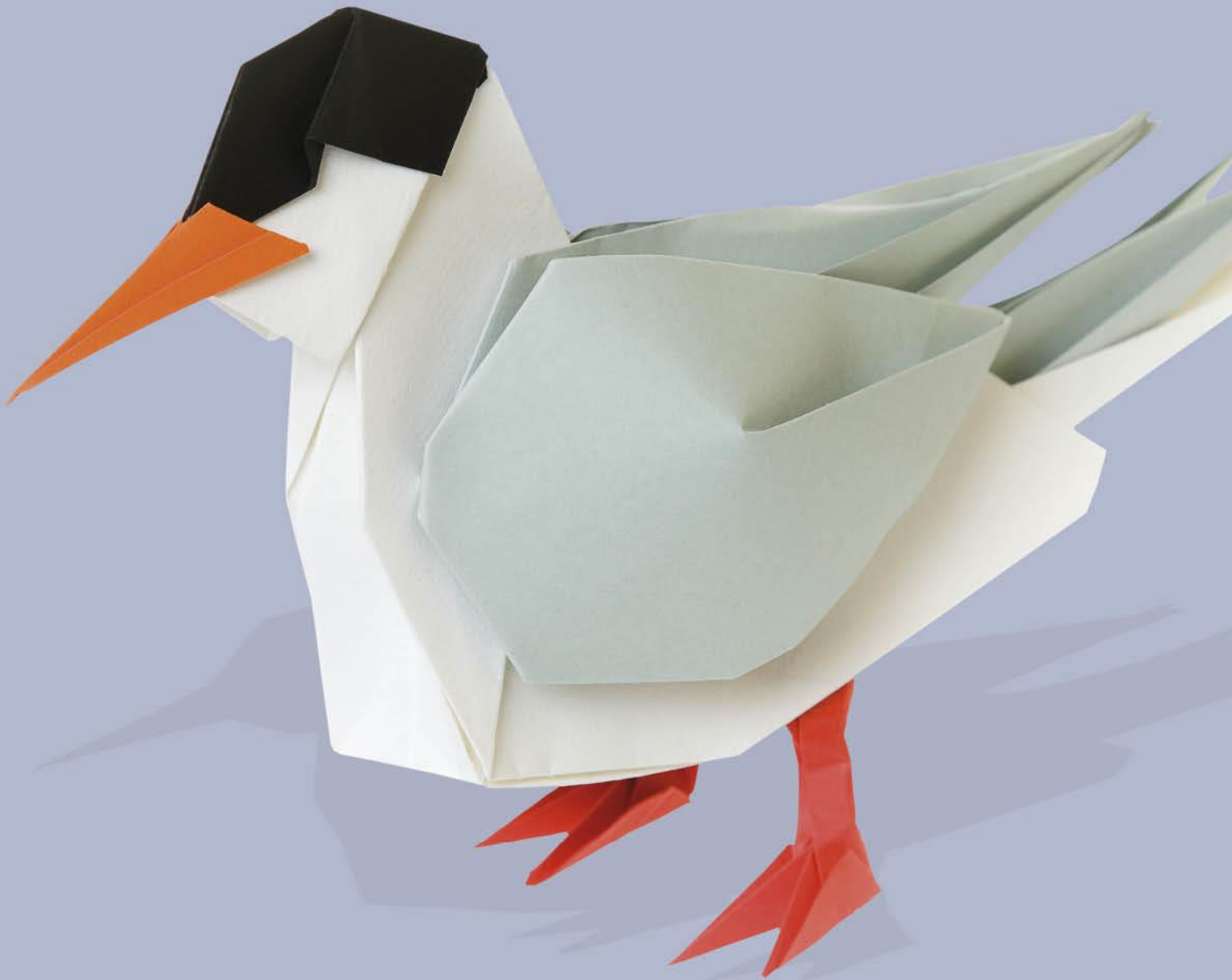


A Level Geography Examiner Marked Student Responses Paper 3



Pearson Edexcel Level 3 Advanced GCE in Geography (9GE0)

A Level Geography Examiner Marked Student Responses

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Introduction

This guide has been put together using student responses to our sample assessment materials in A level Geography Paper 3 (9GEO/03). The answers and examiner commentaries in this guide can be used to show the standards in the A level Geography assessment.

Paper 3 is a synoptic assessment of geographical skills, knowledge and understanding (within a place-based context) from compulsory content drawn from different parts of the course. The specification contains three synoptic themes within the compulsory content areas which will be key features in this part of the examination:

- Players
- Attitudes and actions
- Futures and uncertainties.

The synoptic paper will be based on a geographical issue within a place-based context that links to these three synoptic themes, and will be rooted in two or more of the compulsory content areas. The issue is set in an unseen, unfamiliar scenario, and consists largely of extended writing questions.

There is no required content to cover, but teachers should emphasise the synoptic themes in teaching throughout the course and ideas for where these synoptic themes can be included are indicated throughout the specification.

The exam duration is 2 hours and 15 minutes, but 15 minutes of this is allocated as reading time. The use of this time is up to individual students. The paper is marked out of 70 and accounts for 20% of the A level assessment.

The marks per question increase through the paper, culminating in one 18-mark and one 24-mark question. The initial questions focus on individual figures, followed by questions that require more holistic thinking based on multiple figures, until the final question which could lead to reference to any figure in the resource booklet. The marks awarded here include a higher level of expectation of 'analysis' of data, and test the student's ability to select from a range of data available, assess significance and draw meaningful evaluations and judgements.

Example 1 - Question 1

1 Explain why tropical rainforests are a globally important physical system.

Mark scheme

Question number	Indicative content	Mark
1	<p style="text-align: center;">AO1 (4 marks)</p> <p>Award 1 mark for identifying a reason why tropical rainforests are a globally important physical system, and a further 3 marks for expansion up to a maximum of 4 marks. For example:</p> <ul style="list-style-type: none"> • Key role in carbon sequestration (1) because, during photosynthesis, carbon from the atmosphere is converted into biomass (a carbon store) (1) which, in addition, means forests play a key role in climate regulation by balancing global CO₂ levels (1) and the 'lungs of the Earth' idea in terms of oxygen generation (1). • Key role in the water cycle (1), in terms of infiltration/interception and storing water rather than promoting surface runoff and flooding (1) copious evaporation/transpiration aids the production of clouds and maintains the equatorial climate (1) and the rainfall associated with the ITCZ climate belt (1). <p>Reject arguments based on mineral wealth/other resources that involve the destruction of the forest.</p> <p>Accept any other appropriate response.</p>	(4)

Student answers to 1

Rainforests are very productive and have been exploited by countries as a result. Figure 2 shows that vast areas of Africa are covered with it and it will provide many goods and services for the people living there. If that forest is removed those people will have to find other ways of living and may end up in cities living in slums or even migrating – this is known as environmental migration. This is likely to be happening in the DRC where TNCs are exploiting the rainforest and helping to destroy it. This is happening in many other parts of the world too e.g. Amazonia.

Examiner's comments

This response is awarded 0 marks.

This response has entirely missed the point of the question and especially, the 'globally important physical system'. The student presents an unsophisticated version of local exploitation.

There are several reasons why rainforests are globally important systems. Rainforests are known as the 'lungs of the world'. This is because they breathe in vital gases and create carbon from the air which helps limit the amount of carbon in general circulation which slows down global warming. If these forests are burnt down as is happening in many regions then they will produce more carbon dioxide as a result which will make global warming worse. So, the forests need to be globally protected or 'tipping' point might be reached when climate change will become out of control and it will be too late for mitigation policies to work.

Examiner's comments

This response is awarded 1 mark.

This student begins by repeating the question – a habit that wastes time, especially in these shorter responses. They also, significantly perhaps, omit the word 'physical' from this needless opening sentence. They do go on to recognise the role of forests as 'lungs' but the processes involved are muddled and carbon sequestration is not explained adequately.

Half way through their response they become distracted by the consequences of losing rainforests although here at least they actually identify one of the components of the 'air' as carbon dioxide. Only one mark here for the idea of 'lungs'.

Rainforests are vital to planetary health because of carbon sequestration. In photosynthesis plants take in CO₂ and give off oxygen to the atmosphere as a waste gas. The plants retain and store the carbon using it to live. When the plants die, the carbon ends up in the soil where it is recycled. Because forest give out oxygen and take in carbon dioxide they are vital to balance of atmospheric gases and to life in general.

Examiner's comments

This response is awarded 4 marks.

Although the shortest of the three answers and totally preoccupied with the carbon cycle (no water cycle), this student understands the terrestrial carbon cycle and its importance. They split up the lungs of the earth idea and could have presented it more coherently but they 'get there'.

Example 2 - Question 2 (a)

- 2 (a) The table below shows data on income per capita and tropical rainforest forest cover loss for 10 countries.

The formula for Spearman's rank correlation coefficient value R is given below.

$$R = 1 - \frac{6\sum d^2}{n^3 - n}$$

Complete the table below and calculate the value of R for the data given.

Show your working.

(4)

Country	Income per capita (2014 US\$)	Rank	% forest cover loss 1990–2005	Rank	d	d ²
Brunei	36,600	1	11.2	7		
Costa Rica	10,000	4	29.4	3	1	1
Indonesia	3,500	6	30.8	2		
Kenya	1,400	8	5.1	9	1	1
Madagascar	450	10	1.5	10		
Mexico	10,700	3	15.3	5	2	4
Panama	11,100	2	18.0	4	2	4
Papua New Guinea	2,100	7	13.7	6	1	1
Senegal	1,000	9	9.2	8	1	1
Sri Lanka	3,600	5	35.0	1		
					Σ	

R =

Mark scheme

Question number	Indicative content	Mark								
2 (a)	<p style="text-align: center;">AO3 (4 marks)</p> <p>Award 1 mark for completion of empty d and d² rows:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>6</td><td>36</td></tr> <tr><td>4</td><td>16</td></tr> <tr><td>0</td><td>0</td></tr> <tr><td>4</td><td>16</td></tr> </table> <p>Award 1 mark for the sum of d² column (Σ) = 80</p> <p>Award 1 mark for the correct working of equation:</p> $1 - \frac{6 \times 80}{10^3 - 10} \text{ or } 1 - \frac{480}{990} = R$ <p>Award 1 mark for answers that round to R = 0.52 OR Award full marks for the correct value of R alone. Allow error carried forward from each step.</p>	6	36	4	16	0	0	4	16	(4)
6	36									
4	16									
0	0									
4	16									

Student answers to 2 (a)

-6	-36
4	16
0	0
4	16

$$\Sigma d^2 = 8$$

$$1 - \frac{6 \times 8}{10^2 - 10}$$

$$= \frac{48}{90} = 0.53$$

Examiner's comments

This response is awarded 1 mark (for the calculation of Σd^2). This student makes a common mathematical error so no mark for stage one. However, the calculation of sigma (Σ) is accurate based on the candidate's first calculation, notwithstanding the mistake. There follow a series of calculation errors although bizarrely the student arrives at a very similar R value!

4	16
0	0
4	16

$$\Sigma d^2 = 80$$

$$1 - \frac{6 \times 80}{10^3} - 10$$

$$= \frac{480}{990} = 0.48$$

Examiner's comments

This response is awarded 3 marks.

Here the student manages all the steps but falls at the final hurdle when forgetting the 1-.... part of the Spearman calculation.

-6	36
4	16
0	0
4	16

$$\Sigma d^2 = 80$$

$$1 - \frac{6 \times 80}{10^3} - 10$$

$$= \frac{480}{990} = 0.48$$

$$1 - 0.48 = 0.52$$

Examiner's comments

This response is awarded 4 marks.

The student is accurate throughout.

Example 3 – Question 2 (b)

(b) Explain why the value for R you have calculated, for the relationship between income per capita and forest cover loss, may be unreliable.

(4)

Mark scheme

Question number	Indicative content	Mark
2(b)	<p style="text-align: center;">AO3 (4 marks)</p> <p>For each reason, award 1 mark for identifying a reason why the value for R which has been calculated may be unreliable, and a further mark for an appropriate expansion. For example:</p> <ul style="list-style-type: none"> • The two sets of data are from different dates (1990–2005 versus 2014) (1), which means any relationship may be spurious/is questionable because the time periods do not correlate (1) because forest cover loss encompasses a 15-year period whereas income per capita is a snapshot of 2014 (1) and since 2004 rates of forests loss in some countries could have changed significantly either up or down (1). • The calculation is based on only 10 pairs of data (1) which is too small to be meaningful (1), especially as not all tropical forest countries are included (1) so the data is at best partial (1). • Forest loss data is likely to be a best guess in many cases (1), especially in LDCs with limited funds to monitor changes (1), and may be based on extrapolation from satellite data (1), which reduces its accuracy (1). <p>Do not credit statements such as 'I may have incorrectly calculated the equation' or similar.</p> <p>Accept any other appropriate response.</p>	(4)

Student answers to 2 (b)

I might have made mistakes when calculating the Spearman equation and got the wrong result. In any case the figure is quite low as it is pretty much half way between 1 and 0 which means that there isn't really any connection between the two things. It is also important to remember that correlation is not causation.

Examiner's comments

This response is awarded 1 mark.

The first part of this answer is not worthy of a mark but the student then offers two ideas, neither of which are developed. The first is a comment on the Rs figure itself suggesting (hinting) at a lack of significance. However, this misses the point of the question. The last comment is relevant but sadly not developed.

There are 10 countries on this list out of about 180 countries that belong to the UN so it isn't even a 10% sample. This makes it unreliable because we don't know why these countries were selected and whether they are the most important countries so forest loss which would obviously affect the result. We also don't know whether countries measure deforestation in the same way.

Examiner's comments

This response is awarded 3 marks.

The first idea about the size of the sample is not very coherently delivered (a 5% sample is perfectly acceptable assuming some stratification) but is credit worthy and is developed by the, once again rather clumsy point about 'most important countries' suggesting the possible lack of stratification. The final stand-alone point about the 'measurement' of forest loss is creditworthy – it is worth noting that it isn't addressed in the mark scheme but the important rider in all parts of these mark schemes is 'Accept any other appropriate response'.

The most obvious problem with this result is that if you look closely at the table you can see that there are very different timings. At the top of the nearly income column it says (2014 US\$) but at the top of the column of data for forest loss it says % forest loss 1990-2005. That is over twenty years before the income per capita data and lots of changes will have taken place. So we don't know what the income of Brunei was in 1990 or 2005 and if it was a lot lower then maybe the d figure which is currently 6 would be less, or even more. The same is true of all the other figures. Actually in some countries there seems to be more forest now than there was back then because they have had extensive projects to replant e.g. Indonesia where the government has changed its mind about palm oil. In other places, like for example Costa Rica they have also become much more worried about the environment and protect it more.

Examiner's comments

This response is awarded 4 marks.

This is a very convoluted response and it includes some factual errors, not least the rather positive view of Indonesian engagement in palm oil. It is a full mark answer but two points can be made – firstly candidates would be well-advised and well-trained to see what they can do about précising responses.

The opening 55 words can be trimmed down to 'Different time periods are used for the two variables' – it need not be spelt out in such ponderous detail. Secondly, errors don't really matter in that marks cannot be lost. Examiners are trained to discard 'wrong information' just so long as it doesn't introduce contradictions.

However, a third and ultimately most important point is that students need to watch the time throughout an exam. The final two questions need at least 70 minutes and writing 175 words for a 4 mark question is clearly not helpful.

Nonetheless this particular answer was awarded 4 marks.

Example 4 – Question 3

- 3 Study Figure 3 in Section B of the Resource Booklet, which shows data for three countries.
Analyse the differences in level of development for the three countries shown.

Development, economic and trade data

The DRC and Angola are classified as Least Developed Countries (LDCs) by the United Nations, and are two of 34 LDCs in Africa.

- 70%+ of people in the DRC live on less than US\$1.25 per day (40% in Angola and 30% in Congo).
- Only two countries in Africa (Botswana and Cape Verde) have managed to 'escape' the classification, since the LDC country classification was introduced in 1971.
- While these countries are poor by global standards, they are rich in terms of natural resources.
- The mineral resources of the DRC have been estimated to be worth US\$24 trillion and both Congo and Angola have \$ billions of crude oil still to exploit.

Country	Income per person (US\$)	Population aged 0-14 (%)	Population with electricity (%)	Infant mortality rate (per 1000 live births)	Life expectancy	Average annual GDP growth (%) 2003-2013	Gini co-efficient (income equality)
Angola	5170	48	35	102	52	10.3	58.6
Congo	2590	43	37	36	58	4.5	47.3
DRC	430	45	15	86	49.5	6.2	44.4

Figure 3: A table showing selected development indicators for the three countries, 2013-14

Mark scheme

Question number	Indicative content
3	<p style="text-align: center;">A01 (4 marks)/A03 (4 marks)</p> <p>Marking instructions Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <p>A01</p> <ul style="list-style-type: none"> ▪ development can be assessed using a range of measures, both human and economic but there can be issues of reliability with both single measures and indices to measure development ▪ indices such as Gini Coefficient which is the most commonly used measure of a nations inequality may be used as they show more detail than single measures ▪ economic development such as a higher income per person, can lead to further developments such as access to electricity ▪ youthful populations are likely to have high birth rates and low economic development <p>A03</p> <ul style="list-style-type: none"> ▪ Angola’s economy is growing much faster than the DRC/Congo; answers might argue this does not indicate level of development, only progress from a human development perspective, Angola looks weaker than Congo; it has a very high infant mortality rate (suggesting poor healthcare/access) and a low life expectancy – Congo is a full six years’ more ▪ credit the idea that, from Figure 5, Angola is almost wholly reliant on oil exports, which might suggest a very ‘simple’ economy ▪ answers might refer to the Gini Co-efficient, which is very high for Angola, suggesting a very unequal society – perhaps meaning the per capita income data is of little value ▪ a case can be made for Congo being the most developed; its per capita income is in the middle and the % living on less than \$1.25 per day is the lowest of the three countries; income distribution is better than Angola and life expectancy, access to electricity and infant mortality are the best; its 43% population 0-14 might suggest it is transitioning towards a higher development level <p>Accept any other appropriate response.</p>

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> • Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Investigates the question/issue to produce a limited analysis of data/evidence, making few connections to geographical ideas. (AO3)
Level 2	4-6	<ul style="list-style-type: none"> • Demonstrates geographical knowledge and understanding, which is mostly relevant but may include some inaccuracies. (AO1) • Critically investigates the question/issue to produce an analysis of data/evidence, making some logical connections to geographical ideas, which are mostly relevant. (AO3)
Level 3	7-8	<ul style="list-style-type: none"> • Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Critically investigates the question/issue to produce a coherent analysis of data/evidence, making logical connections to relevant geographical ideas. (AO3)

Student answers to 3

Angola

Angola has a high income and large population under 14 and it also has a high infant mortality and low life expectancy. Its economy is growing fast but it has a high gini coefficient.

Congo

The Congo has a medium income and a low population under 14 but it has a lot of people with electricity and a really low infant mortality. 58 is its life expectancy but its economy is only growing at just over 6%.

DRC

This has a low income and a medium population under 14. It has a low number of people with electricity but a high infant mortality rate; medium high actually. Life expectancy isn't very good but the economy has medium growth but it has a low gini.

Examiner's comments

This response is awarded 3 marks.

'Analyse...' is a command used uniquely on the A level papers. The command is asking students to use a resource or resources to break down an issue into individual components and then to establish connections on the causal connections between those components. The AO3 marks are based on the resource, in this case the table showing a series of development indicators using AO1 knowledge and understanding of those indicators as the jumping off point for making the connections and causal links.

This student has not 'read' the question correctly making its 'differences' into allegedly varying development scores within the country – 'medium' in some 'low' or 'high' in others although only in a league table of three countries. In a question that is asking for analytical comparison one would expect comparative language and this answer, despite its unhelpful organisation would have scored higher if instead of 'low' they had at least managed 'lowest'.

There are many differences in the level of development for the three countries. They are all pretty poor countries and none of them are doing great although Angola is growing really fast so it might be rich reasonably soon. Hans Rosling says that the quickest way to get developed is to get economic growth and Angola has that definitely with over 10% growth. Rosling says the goal of development should be social things and if that is right then Congo is doing best because it has better data for infant mortality. All three economies are growing fast by world standards although the growth may not be sustainable. They all have really young populations which can be both an advantage and a disadvantage for development. It is surprising that Angola has the highest % of people under 14 because of its infant mortality score. That could be something to do with its Gini coefficient which is a way of measuring income inequality which can be said to be a bad thing for development. In conclusion, it is a varied picture and all depends on how you define development.

Examiner's comments

This response is awarded 5 marks.

This is something of a curate's egg of an answer with critically in such a question, one country omitted altogether in the analysis. Points are raised and ideas asserted but not explained – an example is the tantalising concept of 'sustainability' which is inserted here but left wholly undeveloped.

There are other unresolved ideas in the answer in which relationships are suggested but not explained – a clear example is the comment relating the Gini coefficient to infant mortality without any demonstration at all that the student knows how they might be linked.

It is also worth commenting that the first sentence is redundant. Students should be actively discouraged from writing out the question. No mark scheme is ever going to allow credit for that.

All three countries are in the LDC category but there are real differences between them. By African standards Angola has a relatively high GDP/income per capita and might, superficially appear to be the most developed. However with all three countries having very high Gini coefficients the income data is unreliable as a result because of its very unequal distribution. But the social data tells a different story because it has a very high level of inequality and an exceptionally high rate of infant mortality. These are probably related because very few people appear to be benefitting from its large oil industry. By contrast the DRC with an average income less than one tenth of Angola's has a better life expectancy. It also has the lowest % under 14 which suggest that it might be at a higher stage of the demographic transition. However, the Congo seems to be the most advanced socially with highest electricity supply % and the best infant mortality, although not good by global standards. It all depends how development is defined. If it is simply economic then Angola is way ahead but this is not how HDI is measured. Some geographers believe that political factors should be included but these are hard to measure and not included here.

Examiner's comments

This response is awarded 8 marks.

This is comprehensive answer that covers all three countries and most of the variables in Figure 3. It is striking that no numeric data is quoted in the answer which is odd given the material in Figure 3 but the student does manipulate the data in their comparison and they clearly focus on 'differences'; for example the relative incomes of Angola and the DRC (one tenth). Differences are identified and the links are (partially) explained – the reference to demographic transition, for example, is helpful as is the link between the Gini figures (all high) and the reliability of the income data.

This answer would profit from a paragraph structure to order its ideas and offer an overview at the end.

Example 5 – Question 4

- 4 Study Figure 9 in Section C of the Resource Booklet, which shows data on natural resources exports versus income per person.

Analyse the relationship between income per capita and natural resource exports.

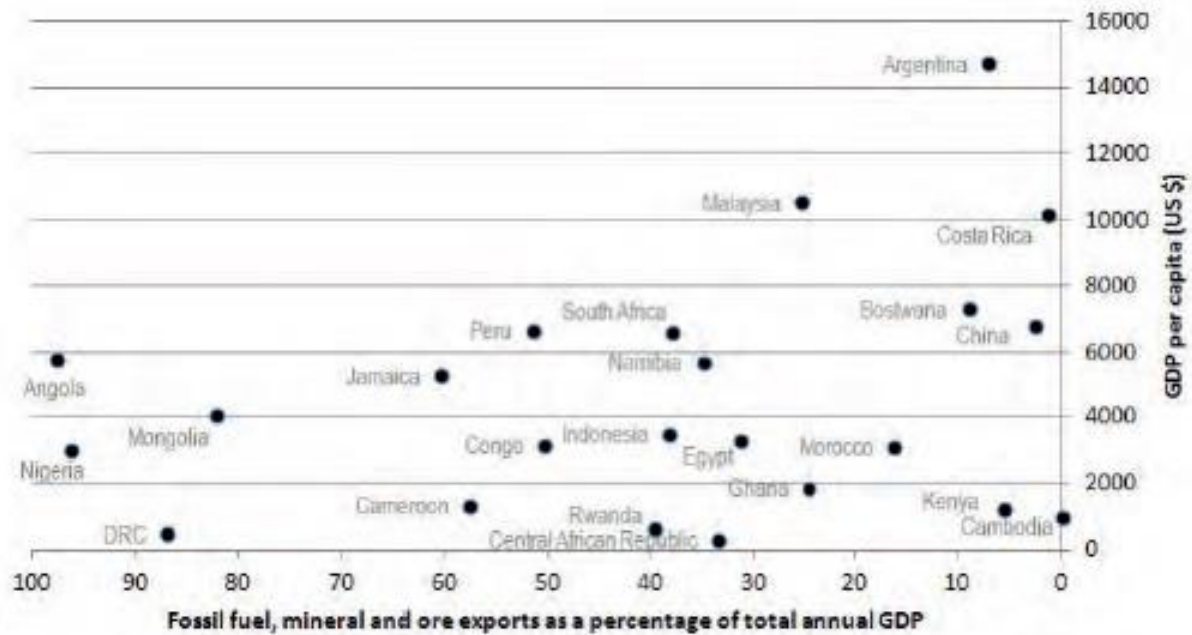


Figure 9: A scattergraph of natural resources exports versus income per person (2013)

Mark scheme

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> • Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Investigates the question/issue to produce a limited analysis of data/evidence, making few connections to geographical ideas. (AO3)
Level 2	4–6	<ul style="list-style-type: none"> • Demonstrates geographical knowledge and understanding, which is mostly relevant but may include some inaccuracies. (AO1) • Critically investigates the question/issue to produce an analysis of data/evidence, making some logical connections to geographical ideas, which are mostly relevant. (AO3)
Level 3	7–8	<ul style="list-style-type: none"> • Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Critically investigates the question/issue to produce a coherent analysis of data/evidence, making logical connections to relevant geographical ideas. (AO3)

Question number	Indicative content
4	<p style="text-align: center;">AO1 (4 marks) AO3 (4 marks)</p> <p>Marking instructions Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <p>AO1</p> <ul style="list-style-type: none"> • as countries develop and industrialise into the secondary and tertiary sectors their reliance on natural resources drops; China, Botswana, Malaysia might be seen as evidence for this • there are exceptions where countries income per capita is high due to the relative value of the natural resources exported • some countries can be trapped in poverty regardless of what they export, because low-income countries cover a spread from 5% to almost 100% of GDP from the export of natural resources • some countries may have none, or very few, natural resources yet have a high income per capita and such as Argentina, Singapore or Japan <p>AO3</p> <ul style="list-style-type: none"> • overall, it is possible to see a weak negative, i.e. as fuel, mineral and ore exports drop, wealth per capita rises correlation, as there is a trend but the spread is wide and there are anomalies • there are a number of countries with income p.c. under \$4000 and high exports (DRC, Nigeria, Mongolia, Cameroon) – however there are very low-income countries right down to 0% • Angola might be seen as anomalous as its % is almost 100% but its income p.c. is close to \$6000 • all the countries with a p.c. GDP over \$6000 have less than 50% mineral, ore and fuel exports and over \$10000 the % is always below 30% • credit the idea that the data does not include food/crop exports, e.g. Costa Rican and Kenya coffee; it also shows only selected countries so is not a full picture. <p>Accept any other appropriate response.</p>

Student answers to 4

The graph is quite complicated. It shows 23 countries going from Argentina at the top to the Central African Republic at the bottom. Lots of the countries are African and they are poor. The biggest countries in income have less exports but these might be anomalies, e.g. Argentina. China, for example, exports lots of computers and mobile phones which are helping to make it develop into a developed country although at the moment it is only emerging. China is a very large country with a big population so its GDP is bound to be higher than small places like Cambodia. Poor countries haven't had time to develop other industries yet and it might be that TNCs are doing the exporting in fact. This can happen so that it might be true of all countries.

Examiner's comments

This response is awarded 1 mark.

This answer never really addresses the relationship. Students should be coached to avoid truisms in their answer. Statements such as 'this is complicated' are very unlikely to be creditworthy. There are several *non-sequiturs* – the idea that TNC exports would not be counted in country based data is an obvious example. The confusion between GDP per capita and GDP is another.

The answer is brief. Resource based questions such as this one inevitably lead to slower writing speeds but 120 words is very much at the bottom end of the spectrum.

The mark awarded comes from the comment about 'The biggest countries in income...'

The graph shows a positive correlation so that higher exports lead to higher income. The relationship is weak with a number of anomalies. Not all countries have natural resources that they are able to export – for example Singapore has a very high per capita income but has no natural resources at all. Switzerland is another example. These countries have been forced to develop their human resources and their skills have made them wealthy. Countries like the Maldives have nothing to export but they have built a tourist industry bringing people to them to earn foreign currency. That might explain Costa Rica here which is also a holiday destination. It is obvious that not all countries that export fossil fuels are poor – Canada and Saudi Arabia both export oil and both a highly developed. They are not on this graph so the graph may not be a fair one.

Examiner's comments

This response is awarded 4 marks.

It is not uncommon for students to misinterpret graphs such as this one. With the y-axis placed on the right and not, as is more often the case on the left, they read the numbers back to front. It would appear that this student has done exactly that. Having made the error the quality of what follows is reasonably strong and in places shows quite a sophisticated understanding of the general topic. It also becomes clear that notwithstanding the opening sentence that they do grasp the nature of the relationship – the comment about Saudi Arabia and Canada makes this clear.

However, for the obvious reason that the student has hardly referenced the resource at all, very few AO3 marks are picked up (please see the commentary on Exemplar 1 of Question 3 for explanation of the AOs in these 'Analyse...' questions) – it gains some credit for the comment about the strength of the relationship. It is much stronger with the AO1 knowledge brought to their answer casting doubt on the validity of the 'relationship shown'. This material elevates it into Level 2.

There is a negative correlation between the two factors so it suggests that as the importance of natural resources as exports rises the income per capita actually falls. The relationship isn't strong and there are many outliers; Angola is one. It is possibly significant that for very low income countries there is no relationship at all. The thirteen countries on the table with incomes below \$4000 per capita range from 0% natural resource exports (Cambodia) to nearly 100% (Nigeria). In fact, if Costa Rica, Malaysia and Argentina were not in the selected list of countries there would be no relationship. In addition, we do not know how these countries were selected and whether the sample was fair. We are not told what they actually export. Costa Rica exports coffee for example. Some development theories suggest that to achieve economic development countries need to develop a manufacturing sector as have China and India otherwise they remain dependent on more balanced economies for all their needs. As they increase this sector and services too, the % of mineral and fuel exports will fall even if it remains important. It is also worth looking at Figure 8 which shows how risky it can be to depend on natural resource exports because the prices vary so much depending on demand.

Examiner's comments

This response is awarded 8 marks.

At over 200 words this is at the top end of the range for an 8 mark answer on this paper. In places the student could save words and time and as with previous examples it would profit from a paragraph structure. The AO3 skills are very refined with a high level understanding of what constitutes a 'relationship'. There are, of course, omissions as there always will be even in high level responses and markers are reminded that what a Year 13 student can achieve in something between 12 and 14 minutes under time pressure in an examination hall will rarely if ever be flawless and, more importantly, comprehensive. The AO2 material here is not quite as strong as the analysis of the Figure but it is thoughtful and comfortably 'enough' for Level 3.

Example 6 – Question 5

5 Study the resources in Section C of the Resource Booklet.

Evaluate the economic strengths and weaknesses of Angola, Congo and DRC.

Economic and trade data

This region of Africa produces resources that are important globally.

- In 2014 Angola was the world's 16th largest producer of **crude oil** and Congo the 39th.
- The DRC is the world's largest producer of **cobalt ores**.
- The DRC is the world's 8th largest producer of **copper ore**.
- The mineral **coltan** (or columbite-tantalite) is produced in the DRC and nearby Rwanda; the DRC is the world's 3rd largest source of coltan.

These metals are found in a wide variety of consumers products (Figure 4).



(Source: Image 19049807 – Sergeii Kolesnyk/123RF \ Image 19671147 – bloomua/123RF \ Image 14270106 - martm/123RF)

Figure 4: Detail of three resources from Africa used in consumer electronics

The region is connected to the wider global economy by its rich natural resources, which are exported globally (Figure 5).

- Raw materials make up a significant percentage of total exports.
- The largest import and export partners for the three countries are shown in Figure 6 and their main imports are shown in Figure 7.
- The price of mineral exports from the region is determined by global markets, on the basis of supply and demand.

Like all commodities, mineral prices vary from day to day and year to year. Figure 8 shows changes in crude oil, cobalt and copper prices between 2003 and 2013.

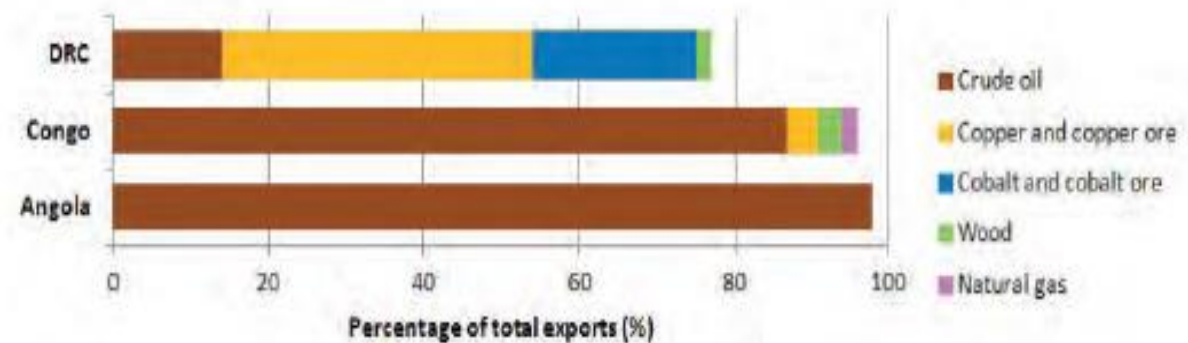


Figure 5: A graph showing major exports for the three countries in 2012 (for exports over 2% of total exports)

Imports from: (US\$ billions)	Country	Exports to: (US\$ billions)
South Africa \$1.6	DRC	China \$ 3.3
China \$ 0.8		South Korea \$0.2
Belgium \$ 0.4		Finland \$0.2
France \$ 0.7	Congo	China \$ 3.9
China \$ 0.5		France \$ 0.9
Brazil \$ 0.3		Australia \$ 0.7
China \$3.9	Angola	China \$ 28.7
Portugal \$ 3.8		India \$6.9
South Africa \$ 1.6		South Africa \$2.8

Figure 6: A table showing the three largest import sources and export destinations for the three countries in 2012

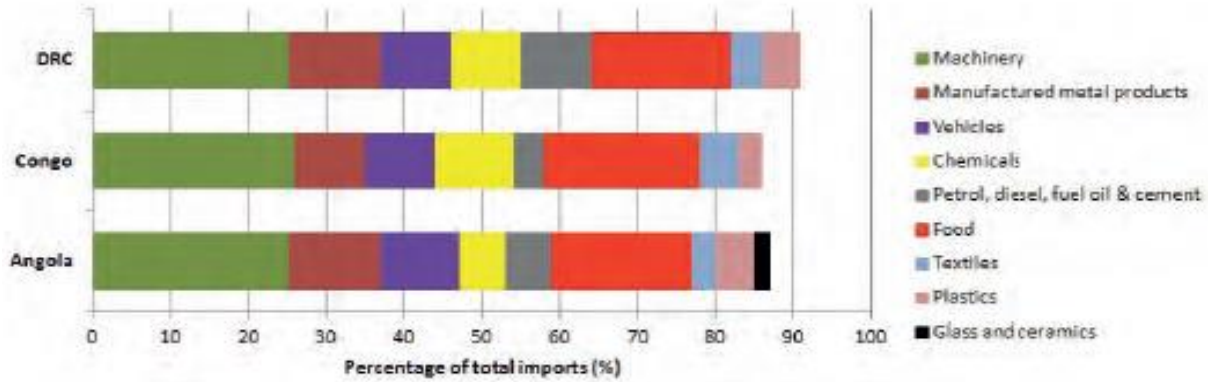


Figure 7: A graph showing major imports for the three countries in 2012 (for imports over 2% of total imports)

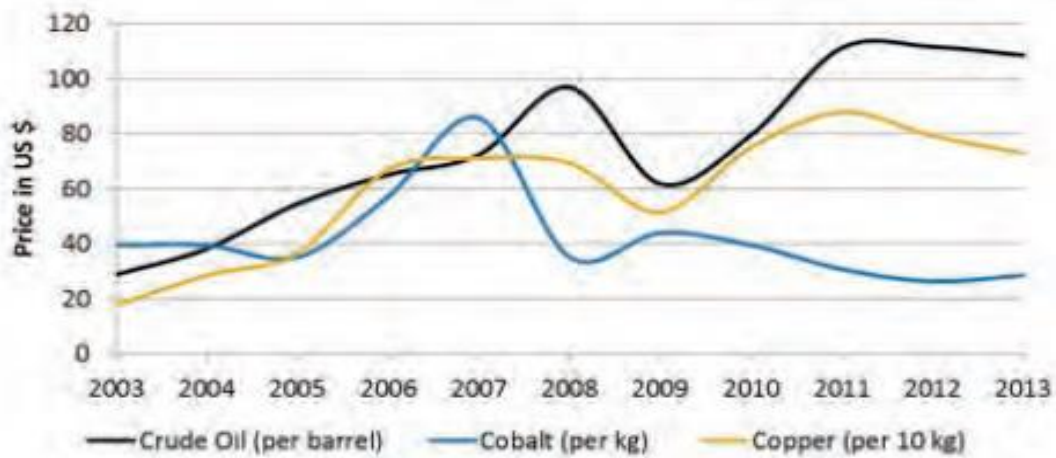


Figure 8: A graph showing crude oil, cobalt and copper prices 2003-2013

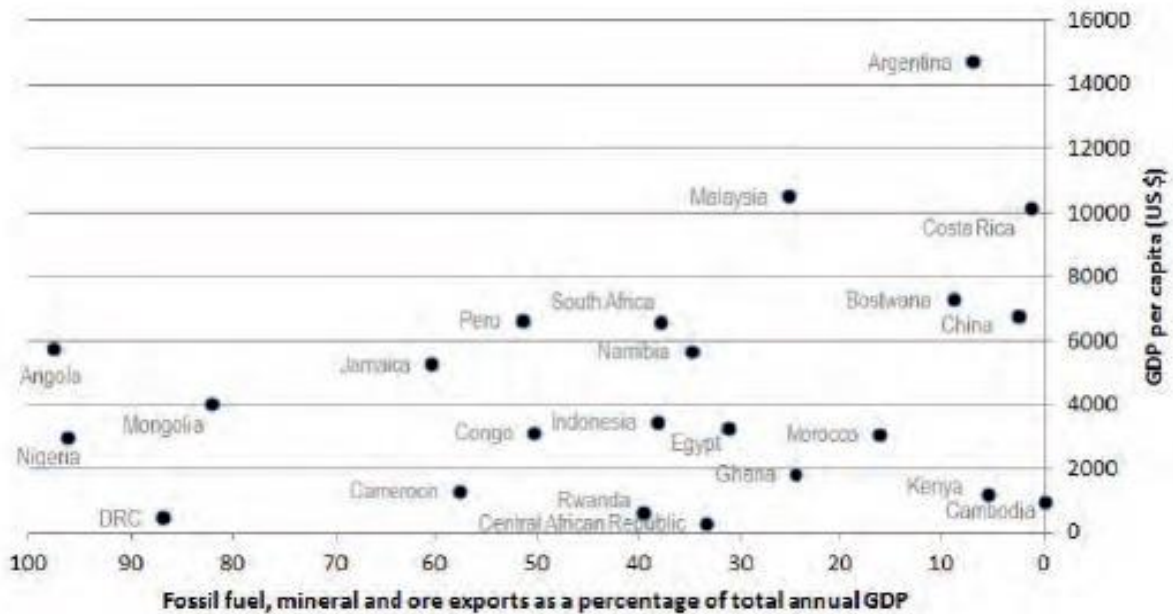


Figure 9: A scattergraph of natural resources exports versus income per person (2013)

Mark scheme

Question number	Indicative content
5	<p style="text-align: center;">A01 (3 marks)/A02 (9 marks)/A03 (6 marks)</p> <p>Marking instructions Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <p>A01</p> <ul style="list-style-type: none"> ▪ developing countries often rely on commodity exports, so their economies are not broad based and are likely to be vulnerable to price/trade volume changes ▪ mineral resources have the potential to create wealth as they are in demand globally for energy and consumer electronics ▪ developing countries have weak economies by global standards, lacking depth and breadth of connections (globalisation) which leads to weak consumer demand owing to low incomes <p>A02</p> <ul style="list-style-type: none"> ▪ a key advantage is that economic growth has been much higher than most countries and in the case of Angola similar to some of the BRIC such as China ▪ another important economic advantage is that there are a variety of trading partners - both developed countries and emerging economies which reduces the risk of reliance on one trading partner ▪ a trade surplus might be also be implied further creating economic advantages ▪ the DRC has some variety of exports which reduces the risk of commodity dependence ▪ the Congo and Angola do not have such a variety of exports and so might have economic disadvantages due to possible boom/bust in terms of export values, or difficult to manage fluctuations in revenues. There might also be issues of changes in terms of trade which would also negatively impact on the economies of the Congo and Angola ▪ another key economic disadvantage is that the imports are mainly manufactured goods which will be relatively expensive due to 'trade trap' issues ▪ food is also imported, which could be seen as creating dependency/suggesting a lack of self-sufficiency ▪ the low levels of development are also a key economic disadvantage as issues like poor healthcare and low levels of education/skills indicate a weak workforce which might deter FDI ▪ conflict might be a significant hindrance to economic development

Question number	Indicative content
	<p>although some TNC have a record of investing in unstable regimes</p> <p>AO3</p> <ul style="list-style-type: none"> • economic growth is strong with rates varying between 4.4% and 10.3% • Figure 6 suggests China is a major trading partner, perhaps suggesting dependency/over-reliance on one trading partner • neo-colonial relations could be seen in Figure 6 as imports tend to come from ex-colonial powers, indicating an overall weak economic position • figure 8 shows that there are exports with variable value, and dependency on a limited range of exports; import profiles suggesting limited domestic manufacturing capability and therefore poor terms of trade overall • there is evidence of economic dependency in a number of sources: Angola is wholly dependent on oil (price crash risk) and highly dependent on China for exports • Figure 9 can be used to argue that commodity dependency is associated with low income economies, but not in all cases • DRC does export a range of commodities but cobalt prices have fallen, so have earnings; DRC looks more 'informal' as TNCs are much less involved and vulnerable to internal unrest • Figure 2 and inference from other resources can be used to make evidenced judgements about individual countries and/or the region as a whole. <p>Accept any other appropriate response.</p>

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-6	<ul style="list-style-type: none"> • Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical information/ideas, making limited and rarely logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2) • Makes superficial judgements about the value and reliability of quantitative and qualitative data/evidence. (AO3) • Investigates the question/issue to produce a limited interpretation of quantitative and qualitative data/evidence, but lacks meaningful connections to geographical ideas from across the course of study. (AO3)
Level 2	7-12	<ul style="list-style-type: none"> • Demonstrates geographical knowledge and understanding, which is mostly relevant but may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas to find some logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a partial but coherent interpretation that is supported by some evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, partially supported by an argument that may be unbalanced or partially coherent. (AO2) • Makes some valid judgements about the value and reliability of quantitative and qualitative data/evidence. (AO3) • Investigates the question/issue to produce an interpretation of quantitative and qualitative data/evidence, making some meaningful connections to geographical ideas from across the course of study. (AO3)
Level 3	13-18	<ul style="list-style-type: none"> • Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas to find fully logical and relevant connections/relationships. (AO2)

Level	Mark	Descriptor
		<ul style="list-style-type: none"> • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is supported by evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2) • Makes valid judgements about the value and reliability of quantitative and qualitative data/evidence throughout. (AO3) • Critically investigates the question/issue to produce a coherent interpretation of quantitative and qualitative data/evidence, making meaningful connections to relevant geographical ideas from across the course of study throughout the response. (AO3)

Student answers to 5

The best way of looking at this is to set up a table showing the strengths and weaknesses of each country as a SWOT analysis. I have done this below;

Angola

Strengths	Weaknesses
<ul style="list-style-type: none"> • Very fast economic growth • \$ billions of oil reserves • Big exports of oil • High Gini Coefficient 	<ul style="list-style-type: none"> • Low life expectancy • Lots of shanty towns • High Infant Mortality • Had a civil war
Opportunities	Threats
<ul style="list-style-type: none"> • Money from oil • Can develop fast • China might help • Has a coastline to attract tourists 	<ul style="list-style-type: none"> • Population is very poor • And probably unskilled • Might have another civil war • Oil price might fall

As you can see Angola has some pretty strong opportunities over the next few years. Its main problems are to do with its population and are mostly social rather than economic but these might be solved if the country keeps on growing fast. Oil is always going to be needed and it can look forward to prices going higher although there is always a threat of the opposite happening. Many other countries have got really rich because of oil and the same could happen in Angola.

Congo

<p>Strengths</p> <ul style="list-style-type: none"> • Has oil and other minerals • Has low infant mortality • Has decent electricity supply • Has ports for export 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Doesn't trade as much as Angola • Very low income • Bad roads • TNCs take the oil
<p>Opportunities</p> <ul style="list-style-type: none"> • Exploiting their oil and minerals • Has a coastline to develop tourism • China might help • Ecotourism in the forest 	<p>Threats</p> <ul style="list-style-type: none"> • Mineral prices might fall • Cost of imports might go up

The Congo looks like quite a small country but surprisingly it seems to be doing OK with its economy. Although its income is quite low. With its coastline it could develop by encouraging tourists to come there which might work because it has a coastline and is on the Equator so the climate is good. They could also encourage ecotourism which might stop deforestation if the forest becomes an asset. This has happened in places like Costa Rica.

DRC

<p>Strengths</p> <ul style="list-style-type: none"> • Forest supports many people • Lots of different minerals for export • Huge country • Large producer of coltan 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Land-locked • Civil war going on • Child labour • Gorillas threatened
<p>Opportunities</p> <ul style="list-style-type: none"> • Develop ecotourism in the rainforest • Develop its own industries 	<p>Threats</p> <ul style="list-style-type: none"> • Country might break up • Demand for minerals might fall • Deforestation because of timber • Costs of imports might go up

The DRC seems to have quite big economic problems. Having a civil war going on is really bad for the economy. This has happened in a lot of failed states like Syria and Afghanistan and the same could happen here. Its big hope is probably coltan because with mobile phones growing all the time the demand is just going to go on going up and the DRC has plenty of it to sell.

Summary and Evaluation

These countries have lots of the same strengths and weaknesses. If I rated them as places that might have a good economic future it would be 1. Angola 2. Congo and 3. DRC. This would be important in attracting investors who would help these places off the ground and to get loans from the big IGO's such as the IMF and World Bank to help them develop. That way they could become emerging economies although probably not superpowers for a long time.

Examiner's comments

This response is awarded 6 marks.

The longer responses on this paper are rewarded with a mixture of the AOs. On this 18-mark question AO1 is capped at 3 marks, AO2 at 9 marks and AO3 at 6 marks whilst on the 24-mark question the division is; AO1= 4, AO2 = 12 and AO3 = 8 marks. So the balance is very similar.

AO1 is the demonstration of both knowledge and understanding of places, environments concepts and processes as well as interactions and change. These are rooted in the specification and readily identifiable as such. The AO1 points in the 'indicative' part of the MS is not intended to be exhaustive. Nor too the AO2 points which involve the application of knowledge and understanding in the interpretation of the resources (if used, as in the case here) and the success in using this knowledge and information in the interpretation, analysis and evaluation of the question asked. The AO3 marks are awarded for use of the resource booklet to provide evidence for the case being made.

The student has chosen a format to answer this question, which was once common but has become much more unusual in recent times. The use of a SWOT analysis for each country makes it impossible to deliver an overview; a problem addressed in the final 'Summary and Conclusion'. The SWOT analysis includes a series of bullet points which are inherently unsuited in an evaluative essay since the function of the 'bullet point' is to render down sometimes complex issues into simple, short summative points. Although some thought must have gone into the development of these points it is difficult to reward that analysis when it isn't made evident. A second observation is that this material is delivered in a frequently colloquial style which occasionally gets in the way of analysis. There are too many 'lots' and 'doing OK' – it is important for students to recognise that using geographical language should be an important element of their writing.

A third issue is the particular focus on the future of these places rather than their current status as the resource material tends to steer, given that the data offered refers to the past rather than the future. Of course the SWOT analysis with its 'opportunities' and 'threats' will necessarily lead to the sort of speculative approach adopted here. Finally, the question is focussed on 'economic' strengths and weaknesses but the answer strays into social issues which can, of course, be effectively linked to underlying economic causes but those links are not provided.

There is some AO3 material here largely related to the relative importance of natural resources and their potential. AO1 knowledge and understanding is demonstrated – the reliance on commodity exports idea is made, albeit rather clumsily, the potential of coltan and oil are mentioned specifically and for Angola they may be wealth creating. There is a little AO2 application – an example would be the landlocked DRC (not quite true but certainly nearly so) and the possibility of developing a coastline in the other two countries. The impact of conflict is also addressed in the context of Angola's future. The lack of references to any of the figures is unhelpful.

The response was marked at Level 1, there are some elements of Level 2 here, namely that there are 'some logical connections (Bullet 2 in the MS for L2) -it does 'come to a conclusion, partially supported by an argument' (Bullet 4 in the MS for L2) in the final 'Summary..' section and there are 'some meaningful connections' (Bullet 6 in the MS for L2). However, other than in these cases it 'fits' Level 1 descriptors and, critically, in some cases not even these (see bullet 5 in the L1 MS). This, and the superficiality of the general argument keep it in Level 1.

The three countries have many similarities to their economies but also quite important differences. In this essay I am going to concentrate on both to help identify the strengths and the weaknesses of them. I will start to do this by going through the resources in Section C in turn.

Firstly Figure 4 shows that all three countries produce important fuels and minerals. Angola is a top oil producer (16th largest) and Congo is in 39th place. The DRC produces important minerals such as cobalt, coltan and copper (the three C's!) and coltan is especially important in the manufacture of batteries and computers.

Figure 5 shows us that the countries export mostly oil and other raw materials. Angola is totally dominated by oil, Congo less so and DRC least of all. The DRC and Congo both export four different natural resources although the DRC is better balanced. Prices are all settled on global markets.

Figure 6 shows us who the countries export to and import from. China crops up more often than any other country (6 appearances), South Africa is next with 3 appearances. Both of these countries are BRICS and India also makes 1 appearance. Angola trades a lot more than the other two but all three export a lot more than they import so they all have a trade surplus.

Figure 7 shows us what the countries import. These are surprisingly similar with machinery always the biggest category, closely followed by food. Only Angola imports glass and ceramics.

Figure 8 shows us what has happened to prices of crude oil, cobalt and copper between 2003 and 2013. All three have varied a great deal. Oil and Copper have generally gone up starting at between 20 and 40 and ending up at between 70 (Copper) and 110 (oil). At the same time cobalt has actually ended up lower than when it started although it peaked at over 80.

Figure 9 has already been analysed (see my answer to question 3). The three countries are all on the left-hand side of the graph towards the bottom because they are quite poor but have lots of natural resource exports.

Conclusion and Summary

It is obvious that all three countries are very reliant on natural resources for their economic survival. We know already and from Figure 9 that none of them is a high-income country nor are they socially very advanced either, which probably has an impact on their economies because of the lack of skilled labour available. This will be why they have to import so much machinery and other manufactured goods such as vehicles. It would be impossible for them to make these goods without a much better trained work force and so they would have to spend a lot more on education. Only in Angola with its huge oil reserves is this at all likely. Some countries such as South Korea have achieved spectacular economic growth having been really poor. South Korea was as poor as Afghanistan in 1962 but today is one of the largest economies in the world and features here as a trading partner with the DRC. It is possible that Angola could repeat this although interestingly South Korea had no resources at all whereas Angola does. This could be an example of resource curse concept which says that having natural resources can actually hold back proper economic development because countries become reliant on them and don't develop anything else. Not having any resources forces countries to expand other sectors which South Korea did through education.

All in all, it is fair to say that these three countries have more weaknesses than strengths as I have shown.

Examiner's comments

This response is awarded 8 marks.

In marked contrast to the first exemplar this takes the question literally and takes us through each figure in Section C, in turn. This framework, at least, gives the student a chance of gathering a few AO3 points although the commentaries offered here are often superficial, and once again delivered with 'lots of' colloquial language. It would be really helpful if the comments offered were more routinely supported by data and detail from the resource booklet. Having atomised the interpretative task in this manner the final section entitled 'Conclusion and Summary' by the student becomes vitally important in the acquisition of both AO1 and AO2 marks. If this essay did not include that final 'analysis' section then it is difficult to make a case for it being marked above 3 or 4 out of 18 on the basis of the AO3 marks gathered.

The summative section takes a very particular 'take' on these three economies in its focus on education. The student draws a legitimate inference that the importation of 'so much machinery' is due to the lack of the apposite skills in the work force to make this themselves. Narrow although that clearly is, they are obviously 'working' quite hard to make an evaluative comment. The use of the case-study material they have referred to (South Korea) is further evidence of their ability to think about the potential weaknesses of these three economies and they link this, legitimately, to the resource curse concept which is, of course, the focus of Question 6, the final question on the paper. So, there is merit in this approach although the quality of the delivery remains problematic – for example what is 'proper economic development'. The hint is intriguing but given that it is left as a hint there is no way of knowing what exactly the student intends.

With a few AO3 points picked up in their tour of the resources, the AO1 and AO2 points made in the final part are sufficient to raise this into Level 2, although only just.

The three economies have more similarities than differences although variations in their resources affect their trade patterns which probably affect their level of dependency on both world prices and their reliance of foreign help. The problem, and most important weakness, facing all three is that natural resource prices are very volatile whereas the price of manufactured goods tend to stay consistent and includes a value added of manufacturing that raw materials obviously do not. This makes the terms of trade unfavourable and makes future planning very difficult. In general terms these three countries probably need to diversify their economies but will all face obstacles in achieving that. This is a most significant weakness.

Angola is possibly the most confusing of the three. Despite its almost complete reliance of oil and comparatively high income levels (Figure 5 and Figure 9) it has pretty poor social conditions and data (Figure 3) and many below the poverty line (Figure 3). Classically it has a very high Gini coefficient suggesting that the benefits of oil are not spread very widely. This would be a major challenge for future

development because oil is a capital intensive industry that offers very few jobs and most of these will go to foreigners employed by the various TNC stakeholders. Unless the majority of the population can see some benefit from the money made from oil then there are serious risks. Angola has had civil wars in the past (Figure 10 text). Unfortunately, there is often a vested interest of those in power in oil rich countries to maintain the status quo which brings huge financial rewards to the elite in power who own most of the land and thus most of the oil in that land. This suggests that the strengths are likely to be short-term and not widely enjoyed whereas the central weakness is that such an economy is not sustainable.

Similar problems affect both the Congo and the DRC. In contrast to Angola the extraction of oil in the Congo is almost completely by foreign TNCs limiting the benefit to the country because those profits will end up back in France and Italy (Figure 10). The Congo has more variety in its exports but nearly 90% is still oil. The amount exported is much less than from Angola (Figure 6) with \$5.5 bn in total compared to Angola's \$38.4 bn which will make the Congo much less able to become a global player. Unfortunately, we do not know the population size of the three countries so proper per capita comparison is impossible.

The DRC is the most complex and probably the weakest economy. This is suggested not just by the income data (Figure 3) but also by its very small export figure (\$3.7 bn). It is, as the map shows (Figure 1) the largest of the three countries but it exports least. Figure 11 tells us that a good deal of the mining is 'artisanal' which suggests it is more backward although it also shows lower signs of TNC involvement which may be an advantage. However, the civil war obviously threatens this and will be a major obstacle to economic growth; a major weakness. All three countries show classic signs of dependency as neo-colonial states with China playing a vital role in all three as a market for their products. It is worth noting that all three both export oil but also import petrol, diesel and fuel oil suggesting that they do not have the capacity to manufacture it themselves. All three face the prospect of falling prices. This has actually happened to oil since Figure 8 was constructed. And with oil prices fixed elsewhere they have no control over their falling income. This is a significant weakness and can only be addressed by changing global trade rules.

One of the most shocking similarities is that all three countries import significant amounts of food at around 20% of their total imports. These countries will all have experienced very rapid population growth and probably have fast rising demand for food but historically they will have fed themselves through subsistence farming. They have probably experienced rapid rural to urban migration (see growth of slums) and rural areas might be both more dangerous (civil war in DRC) and offer fewer opportunities. However this has obviously led to a fall in food production and dependence on imports.

In conclusion, it is fair to say that all three countries face huge obstacles to economic development. They have many weaknesses which are not necessarily of their own making. They trade with emerging superpowers who are obviously going to look after their own interests. Historically African countries have been reliant on outside powers and have little trade with each other. Until they form regional

trading blocs and take greater control they will have more weaknesses than strengths.

Examiner's comments

This response is awarded 16 marks.

It is obvious that this final exemplar is by far the most impressive of the three. Its framework is a 'traditional' essay form rather than a mini-report style answer. That, of course allows the student to evaluate as they write with each point made being considered. The essay is topped and tailed with an evaluative introductory paragraph which clearly identifies what the student thinks to be the 'most important weakness' and returns to this in their (slightly abbreviated) conclusion. The intervening five paragraphs are mostly making single points, adding data to support those points and adding some evaluation to that point that reflects back on the title. That is not to suggest that report style writing cannot be evaluative and on-going evaluation is something that many students have done on the Edexcel Unit 4 report examination paper for many years. However this approach doesn't promote a debate quite so directly. The student is also capable of recognising that there are missing elements of data; most explicitly in final sentence of para 3 but also the point about oil prices in para 5. One of the most impressive aspects of the essay is the careful cross-referencing of the appropriate Figures – not essential but certainly very helpful.

However, the essay does have one significant flaw that inevitably impacts on the final mark; there are no explicit references to 'strengths'. The focus is almost entirely on the weaknesses that are a consequence of an over-reliance on natural resource extraction/exploitation. The indicative content includes several 'advantages' but the candidate only hints at these and often by the implication of the weakness that follows (for example in para 2 – '...suggesting that the benefits of oil are not spread very widely'. Of course, the generic descriptors do not make reference to either strengths or weaknesses but phrases such as 'partial but coherent' (Level 2 b3) and 'argument that may be unbalanced' (L2 b4) are obviously appropriate here. However, the quality elsewhere is sufficient to satisfy bullet points 1,2,5 and 6 in the Level 3 descriptors.

Example 7 – Question 6

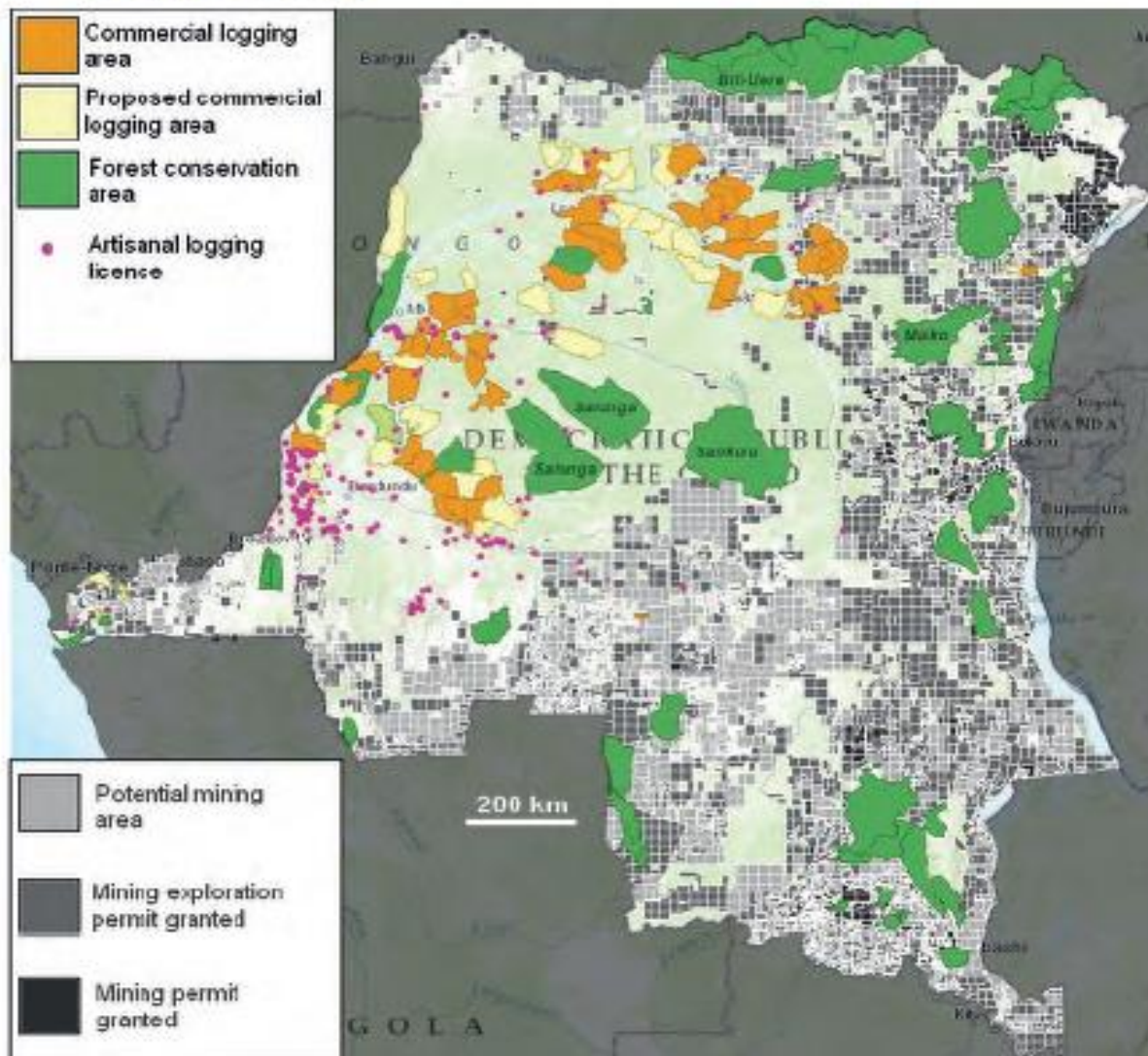
You are advised to read Section D of the Resource Booklet before attempting this question.

- 6 Evaluate the view that the natural resources found in the three countries shown are more of a 'curse' than a 'blessing' for their people and environment.

(24)

Some natural resources in the region are, or have been, examples of **conflict minerals**.

- Minerals extracted in a conflict/war zone with the profits used to fund the conflict.
- Control of mines and mining areas is a key goal within the conflict.
- Even today, many mining areas are controlled by military groups in eastern DRC as part of the ongoing Kivu Conflict between the government of the DRC and rebel Rwandan Hutu forces.
- In Angola both oil and diamonds played a key part in funding the civil war between 1975 and 2002.



(Source: Taken from: <http://www.wri.org/applications/maps/forestatlas/cod/index.htm#v=atlas&i=fr>)

Figure 10: A map showing logging, mining and forest conservation areas in the DRC



Artisanal mining	TNC mining and oil drilling
<ul style="list-style-type: none"> Up to 12 million independent miners work in the DRC, 20–30% of whom may be children. Coltan and cobalt are mined on a small scale with basic hand tools in open pits. Successful miners can earn US\$50 per week, more than can be earned from either farming or timber cutting. A complex chain of trade moves ores to warehouses many of which are Chinese owned. The minerals are used by global electronics TNCs. 	<ul style="list-style-type: none"> French and Italian TNCs Total and Eni extract 70% of oil production in Congo. In Angola the government oil and gas company Sonangol has joint-venture operations with TNCs Total, Chevron, ExxonMobil, BP, Statoil, and Eni. Chinese companies Sinopec and the China National Offshore Oil Corporation are increasingly active. In the DRC mining companies from Australia, the UK, USA and Canada extract copper and other minerals.
 <p>(Source: http://www.fairphone.com/2014/10/02/research-trip-visiting-tin-tantalum-and-tungsten-mines/)</p> <p>Artisanal mining in the DRC</p>	 <p>(Source: © Christopher Poe)</p> <p>Offshore oil rig, Angola</p>

Figure 11: Photos of Artisanal miners and TNCs

<p>View 1: Angolan oil</p> <p>Next to the sleek skyscrapers and luxury apartments (<i>in Luanda</i>), ramshackle shantytowns and crowded slums spread for miles in every direction, housing millions of people living on less than \$2 a day. In many cases, even basic necessities like water and electricity are lacking.</p> <p>(CNN report on Angola, 2012)</p>	<p>View 2: Coltan mining in the DRC</p> <p>Illegal mining exploits child labour as well as destroying the habitats of many species such as chimpanzees and gorillas that are already in grave danger due to poaching and deforestation.</p> <p>(The Jane Goodall Institute, 2014)</p>
<p>View 3: China in Africa</p> <p>It is rather difficult to answer whether Chinese-African relationship is a win-win or one-sided deal. There is no doubt that Chinese cooperation with Africa is a well-thought-out, wise and strategic decision of the Chinese government and Chinese market players. But what is in it for Africa in the long run?</p> <p>(Economics Student Society of Australia, 2013)</p>	<p>View 4: African economic growth</p> <p>Economic growth in Sub-Saharan Africa continues to rise from 4.7% in 2013 to a forecasted 5.2% in 2014. This performance is boosted by rising investment in natural resources and infrastructure, and strong household spending. Growth was notably buoyant in resource-rich countries.</p> <p>(World Bank, 2014)</p>

Figure 12: A table showing some views about resource exploitation in the region

Mark scheme

Question number	Indicative content
6	<p style="text-align: center;">AO1 (4 marks)/AO2 (12 marks)/AO3 (8 marks)</p> <p>Marking instructions Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: There is no 'correct' answer here, although answers that argue 'more curse than blessing' are likely to be the most common; answers should present both sides and use evidence from the Resource Booklet to support their assertions.</p> <p>AO1</p> <ul style="list-style-type: none"> • mining and other extraction industries support direct jobs as well as further employment opportunities through the multiplier effect and cumulative causation • jobs are low paid and exploitative, with poor/dangerous working conditions • some jobs are well paid and will lead to increases in income inequalities • there is a range of environmental issues linked to mining (water pollution, deforestation) <p>AO2 Possible argument for 'curse':</p> <ul style="list-style-type: none"> • Colonial powers, who controlled the three countries' resources in the first half of the 20th century, are likely to have actively suppressed education for the poor/landless because an educated population might have threatened their control • There doesn't appear to be a strong relationship between proportion of GDP generated from exporting natural resources and the GDP per person, which suggests that being naturally rich in resources is not equivalent to a high standard of living • Many jobs in the oil industry might not go to local people but instead immigrants from the West/China therefore the money made from oil does not trickle down to local people • TNC profits from resource extraction are likely to be repatriated which leaves little for the three countries' governments in tax revenue that could support state welfare, which impacts the poorest disproportionately • There is often a link between conflict and mineral resources, with mining areas controlled by military groups in the DRC, or the oil and diamond industries being used to fund the Angolan civil war, which may disproportionately impact on the poorest people • Environmental costs are seldom included in any analysis so any short term economic gains are offset by longer-term environmental damage, for example the deforestation in the DRC. The need for conservation strategies has increased • An important cost to the environment is the destruction of habitats and pollution of local water bodies which not only reduces biodiversity but can also increase issues of water insecurity for local people. This could lead

Question number	Indicative content
	<p>to local conflict or even international conflict over the trans-boundary Congo River</p> <ul style="list-style-type: none"> • All three countries are heavily reliant on China (both for imports and exports) making them dependent on China's status as a global economic power. This makes them vulnerable to any economic slowdown where China's buying power is reduced, reducing the three countries' revenue, and/or China's exports reduce, potentially derailing the three countries' economic development. <p>Possible arguments for 'blessing':</p> <ul style="list-style-type: none"> • There are direct and indirect jobs created in industries that have higher levels of pay than the subsistence agriculture that was likely to have been present in these countries before these resources were exploited • Access through tropical rainforest, swamps and water bodies to obtain the rich natural resources (particularly in Congo and the DRC) requires infrastructure that can act as a catalyst for development • Industrial development produces increased tax revenues (however small) that the governments of all three countries could use to improve infrastructure and services. Improved access to electricity (which is as low as 15% in the DRC) and healthcare to reduce infant mortality (which is as high as 102/1000 in Angola) would improve the chance that people living in these countries live beyond their 50s. • The situation may improve over time (Rostow model or Kuznet's curve) as it did in what are now developed countries. What could seem a curse, at this point in time for these countries, could be seen as the short-term drawbacks of a greater long-term benefit. • It may be that the resources are themselves a blessing, but it is their management that turns them into a curse. The rich resources would have played a large part in attracting the colonial powers to the countries in the first place. In the present day, all three countries still have important trade connections with their colonisers, and France still imports \$0.9 billion of goods from the Congo. However these countries, particularly the DRC, have a history of poor governance post-independence with proceeds from the resource 'blessing' channelled into hands of a small elite; Over 70% of people in the DRC live on less than US\$1.25 per day. • Resources may be more of a blessing if they are diversified. Countries, such as DRC, with a diversity of resource exports will be less sensitive to commodity price fluctuations than countries which rely on few resource exports, such as Congo and Angola, and therefore will gain a comparable advantage at these times. • Sometimes resources are more of a blessing than at other times, for example due to price fluctuations or the rise of new technologies such as smartphones and tablets. The production of lithium batteries in mobile phones and tablets relies on cobalt, which has had a stable price of US\$35 to US\$45. However, between 2005 and 2008 prices peaked at US\$85, which would have been a short-term blessing for the DRC as the world's largest producer. Crude oil on the other hand, which Angola is reliant on, has fluctuated more with lows of US\$20 to highs of US\$115. Over time this can be considered more of a blessing for Angola because

Question number	Indicative content
	<p>prices have trended upwards.</p> <p>A03</p> <ul style="list-style-type: none"> • Introduction to Section A: all three countries were previously colonies, with the DRC and Congo gaining independence in 1960, and Angola experiencing a lengthy war to gain independence in 1975 and then experiencing civil war for almost 30 years until 2002, which indicates that there has been an unsettled political climate in the region • Figure 9: the countries with the highest GDP per capita have smaller proportions of their GDP coming from fossil fuels, mineral and ore exports - for example, Argentina has a GDP per capita of approximately \$14,500 and about 9% GDP from exports, whereas Angola has approximately half the GDP per capita and 97% GDP from exports. • Figure 12 includes opinion and views of external interest of groups such as American media and conservation charities, so their agendas should be taken into account • Figure 12: view 4 argues that resource rich countries benefit in terms of economic growth • Figure 11 shows two extremes of resource development but there are likely to be a continuum of approaches that have varied impacts • Figure 3, Figure 12 show that inequality is high in all countries; this might suggest the poorest simply never see any resource wealth (no trickle down); • Figure 12: issues of corruption are mentioned. View 1 makes this point. Poverty, child labour, exploitation are all serious issues; • Figure 11 suggests mining is arduous and likely to be dangerous • Figure 10 and 11: resources show that deforestation is slow compared to other areas, but this may not last as significant areas of DRC have been licensed for artisanal and commercial logging ensuring future degradation • Figure 11: there are possible issues with soil erosion from mining and possibly oil spills off the coast of Angola/Congo • Figure 10: future deforestation and widespread degradation could result if localised mineral exploration in DRC turns into widespread exploitation • Figure 10: some large areas of DRC are protected

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-6	<ul style="list-style-type: none"> • Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical information/ideas, making limited and rarely logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2) • Makes superficial judgements about the value and reliability of quantitative and qualitative data/evidence. (AO3) • Investigates the question/issue to produce a limited interpretation of quantitative and qualitative data/evidence, but lacks meaningful connections to geographical ideas from across the course of study. (AO3)
Level 2	7-12	<ul style="list-style-type: none"> • Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas with limited but logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2) • Makes some valid judgements about the value and reliability of quantitative and qualitative data/evidence. (AO3) • Investigates the question/issue to produce an interpretation of quantitative and qualitative data/evidence, making few connections to geographical ideas from across the course of study, which may not be meaningful. (AO3)

Level	Mark	Descriptor
Level 3	13-18	<ul style="list-style-type: none"> • Demonstrates geographical knowledge and understanding, which is mostly relevant and accurate. (AO1) • Applies knowledge and understanding of geographical information/ideas to find some logical and relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a partial but coherent interpretation that is supported by some evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2) • Makes mostly valid judgements about the value and reliability of quantitative and qualitative data/evidence. (AO3) • Critically investigates the question/issue to produce a coherent interpretation of quantitative and qualitative data/evidence, making connections to relevant geographical ideas from across the course of study, some of which are meaningful. (AO3)
Level 4	19-24	<ul style="list-style-type: none"> • Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas to find fully logical and relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is supported by evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2) • Makes valid judgements about the value and reliability of quantitative and qualitative data/evidence throughout. (AO3) • Critically investigates the question/issue to produce a coherent interpretation of quantitative and qualitative data/evidence, comprehensively making meaningful connections to relevant geographical ideas from across the course of study throughout the response. (AO3)

Student answers to 6

Example 1

Natural resources are materials which are found in nature which can be utilised because we have the technology to extract and use them.



This is not a strong beginning – although the definition is sound enough it is not embedded in an introductory paragraph – it would be impossible to guess the title from this.

This could be linked to dependency theory. According to dependency theory, there are two countries, a core developed country and a periphery country. The core country relies on the periphery to manufacture and supply labour and capital flows out of the periphery into the core metropolis. The core countries do not want competition for their goods and services so they extract all the resources available from the periphery so manufacturing cannot take place. The local 'elites' so to speak are the only ones who benefit from this cycle and the local elites in Africa are the African dictators. The African dictators let this cycle happen quite happily because they benefit for their own personal gain and it keeps the rich wealthy and the poor stay poor. The extraction of these natural resources will provide new jobs and business within the country if the right measures are taken and the country does not over-extract its resources so it doesn't have to have negative outcomes.



The opening sentence is cryptic. What is 'this' referring to? It is a very common habit of students to see a few key words in a title and react in a Pavlovian way and simply regurgitate material that whilst, as in this case, quite sophisticated it is not sufficiently tied to the title. A plan would have been a good idea.

There is obviously a relationship between trans-national companies and African leaders. This means that the African leaders get something out of letting the TNCs extract the resources without thinking about the consequences.



More of the same and no clear reason why this is a stand-alone paragraph.

Resource curse concept and dependency theory both say that resources do more harm than good to a country. If there is lots of wealth in a country the majority of the wealth will fall into the rich minorities' pockets instead of being distributed equally – this seems to be the case in Angola especially. If you have too many natural resources to extract in a country then a vast amount of GDP can be generated from this and the country will not need to develop its human resources. Take Singapore for example, it has barely any natural resources to extract so to achieve economic growth Singapore educates its peoples. Unlike Saudi Arabia where they have so much oil to extract they do not need to educate their women. Singapore therefore has a very skilled workforce which works mostly in the electronics industry. So for Singapore, not having a presence of natural resources encourages their education which stimulates more economic growth, perhaps more sustainable economic growth because what will happen to the Saudi Arabian economy when the oil runs out? The same can be said for Angola and the Congo.



A reference to Angola in the second sentence makes an attempt to tie the argument to the question but it is simply stated. No evidence is offered. The last sentence is the second reference to the resource booklet and the countries under consideration but it is very limited and not explained, just asserted as a bolt-on to the point about Saudi Arabia. There is also some uneasiness over the use of 'they' and 'Singapore'. It is important that students recognise that they need to identify 'they' and explain what they mean if they invoke a country name as in 'Singapore educates its people'. What they mean of course is the Singaporean government, and they should say so. There are perceptive comments throughout this paragraph but their application to the question is weak.

Resource curse concept and dependency theory also say that manufacturing will never develop in countries with extremely uneven wealth distribution. In the Democratic Republic of Congo, TNCs are allowed to extract the resources in collaboration with the ruling class. The ruling class do not want manufacturing to develop because then the country will no longer need to do business with TNCs which means the ruling class will no longer have their pockets lined by the TNCs. In this case, extracting resources is bad for a country and definitely for its peoples because the people will not see any of the money generated by extracting resources. Sure, there will be some jobs created but the ruling class will see most of the money.



There is a better developed point here about the DRC although the student makes assumptions that fit their general argument which are not, in fact, mentioned in the resource booklet. 'The ruling class do not want...' may be a legitimate AO2 point but there isn't AO3 support for it. Once again they have cross-referenced to the countries simply as a bolted on point to their general thesis. The final sentence is expressed in very colloquial terms which would be improved with a little attention.

Extracting resources can lead to a problem called Dutch Disease. This is when a resource is found in country A and a huge demand for it then occurs. If the resource is exported then its price will rise which in turn generates more GDP for country A which then increases the value of the national currency. When this effect keeps going it becomes impossible for other industries to export their own goods because the price is increased dramatically by the rise in the value of the currency. Therefore people will go to country B for their manufactured goods instead of buying from country A because the price is too high in country A. This then damages the manufacturing industry very severely which also doesn't do the country's economic growth any good. Again, jobs are created but this is overshadowed by the economic problems created by Dutch disease. This might cause problems.



Another reasonably well argued and legitimate point about an over-reliance on natural resources but it is a narrative and unrelated to the countries in question. With an effort to tie it to the three countries this would be useful but as it stands the moral of the tale remains unclear.

Rostow's modernisation theory says that to reach modernisation a country must go through 5 stages of development. Extracting resources to enable a manufacturing industry is one of the pre-conditions for economic take off. So extracting resources therefore is a vital part of economic growth and needs to occur if manufacturing industries are to develop. However this contradicts the resource curse concept. If the resource curse concept says that resource extraction will do more harm than good, then how can Rostow's theory of development also be true?

To develop to a modernised state a country has to develop manufacturing industries. To get enough profit to become established and not fail, the government must protect its manufacturing industry. To do this it must use import substitution which is when tariffs are imposed on foreign goods to make people buy home grown products instead of foreign goods. The WTO does not allow this anymore so countries can extract all the resources they want but if the manufacturing industries are failing then the only thing they can use resources for is to export them. If they can only export them they risk falling into the trap of Dutch disease which would then make it impossible for manufacturing industries, which are already failing, to export their goods at a competitive price.



These two paragraphs continue a narrative that is increasingly disconnected from the title. The student makes no reference to the three countries and offers a view of development theory that whilst not without some merit is not focussed on the question asked.

The economic growth generated by resource extraction will benefit some people in all three of these countries but not others. In the countries where resource exploitation is the dominant industry, some people will benefit from getting jobs but most of the population will not get any direct benefit from the resource extraction. The small minorities of ruling class will benefit the most from letting TNCs extract natural and human resources but not many other people.



Although not a conclusion this paragraph does at least introduce the idea that some people might benefit from resource extraction whilst others do not. Once again the countries in (the) question are lost from view but the point is valid enough.

Examiner's summative comments

This response is awarded 8 marks.

There are two substantive problems with this answer. The first is the very limited use of information about the three countries which are the focus of this question and the whole resource booklet. The second is that one of the issues 'more of a curse than a blessing for....the environment' in the question is not addressed at all, not even in passing. The word 'environment' does not feature in this answer at all and nor, it needs to be added, are 'blessings' or 'curses'.

So this student fails to apply a reasonably strong AO1 understanding of the concept of resource curse to the question asked and falls into a narrative trap. The habit of organising answers so that the words in the title feature in that answer is vital here and comes with practice and training. If students can be advised to set out where they think their answer is going in the introduction reusing the keywords and then, point by point, offer evidence both for and against a particular point of view that would be highly beneficial. That is not an especially high level cognitive skill, but more a question of good training. In Paper 3 questions that ask for evaluation it is vital that students look at the AO3 evidence and deconstruct it using their AO1 and AO2 knowledge and understanding and application of that knowledge and understanding. This answer has some AO1 and AO2 but none of it is used to deconstruct the AO3 information.

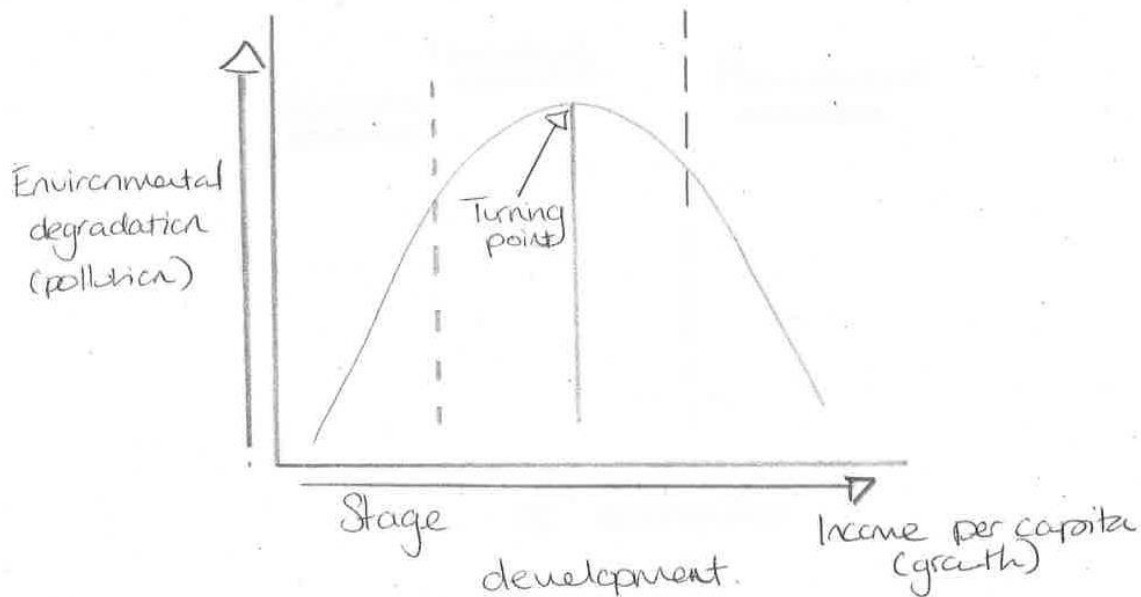
Example 2

Natural resources are assets that occur naturally within ecosystem which is undisturbed by mankind. Most of them are essential for our survival and economic activity. They are derived from the environment and are exploited (extracted, processed or refined) using capital and human resources, for the realization of their economic value.



It is a reasonable idea to open an essay by clarifying the definitions but, in this case, the student might have helped themselves by mentioning the three countries that are the focus of this question. In this essay it would be very useful indeed to establish what criteria one would use to evaluate 'curses' or 'blessings' – is this simply a matter of GDP per capita or might quality of life be a better approach. The phrase 'people and the environment' also requires some deconstruction.

Resources are extracted from the periphery and flow towards the core states in order to sustain its economic growth and wealth. Resource extraction is almost always bad news for the environment which has led to the Kuznets curve – this shows that as countries develop their environment changes, first it gets worse as they become industrial and then in the post-industrial era it starts to improve. The evidence from the RB suggests that maybe this is starting to happen in the region where forest loss is slowing down.



The environment only features once in this essay making its appearance here with the assertion that things are getting better in the 'region' – the evidence for this is stated but not developed and, at best, partial. It is also obvious that none of the three economies in question are in any sense of the meaning 'post-industrial' so the Kuznets curve really doesn't work in the context of this question and this location.

The stage of economic development is an increase in standard of living of a nation's population associated with sustained growth from a simple, low income economy to a modern, high income economy. Natural resources play an important role in economic development – they are derived from the environment and are exploited for economic activity, which helps to process and improves a nation's economy as well as the social wellbeing of its peoples. Countries with natural resources such as iron ore, oil and coal are likely to develop industrially more easily because they are able to exploit (extract, process or refine) these resources without extra cost for development. The exploitation of the resources creates jobs and transport systems, while giving certain countries trade and political influence over others - many European nations developed during the industrial revolution on the back of coal and iron industries.



It is a useful self-evaluation task for students to read one or more paragraphs from an essay; either their own or exemplars such as this one and try to determine what question is being answered. Even better, they should find a critical friend to read any paragraph from one of their practice essays and ask them to try to guess the question being addressed. This paragraph serves that purpose well. One would rightly guess the general topic as to be something to do with the relationship between economic development and natural resources but there are no clues as to the contention in the title. This and subsequent paragraphs are part of a narrative in which the student tells their story but the title is lost in this process. There is, in other words, no attempt to apply these ideas to the three countries that are at the centre of the question.

In fact, many resource-rich (particularly oil) African and Middle-Eastern nations have not developed economically while their resources are mined. The exploitation of natural resources by wealthier countries may create certain political issues that have prohibited the development of a poorer country, such as Nigeria and as the RB suggests, Angola and the Congo.



One of the few mentions of the Resource Booklet in the last 5 words.

Natural resources in poorer countries have been exploited by the wealthier countries via colonialism. Historically, imperial colonialism has probably had the largest influence on development in countries. It channelled resources and wealth towards Europe and North America at the expense of many African, South American and Asian colonies which did not receive reasonable prices for their goods. European colonizers built strong industries from this wealth while investing less in the development of their colonies. At the end of colonialism many poorer countries were left without the social, economic or political structures that encouraged development, resulting in entrenched poverty. In many cases, artificial borders were drawn along countries which did not reflect the desires of the local inhabitants, leading to civil wars and social instability. For instance, the resources wars in many African countries have led to reduced GNP, the total output of all nationals of a region. In general, natural resources are exploited throughout times, causing problems that minimize the rate of development of the poorer countries instead of bringing benefits to the economies.



In these two paragraphs the narrative, largely devoted to the 'story' of colonialism, continues. It may be that the student has written a very similar essay as part of their preparation or, more prosaically, has simply lost track of what they are doing. In the second paragraph, there is no mention at all of any of the three countries and although one cannot argue with the strong AO1 knowledge and the legitimate application of that to the idea of 'resource curse' it is significant that there is no use of the keywords in the title. Neither 'curse' nor 'blessing' appear.

In addition, natural resources might be an obstacle to the economic development of a country. The resource curse concept suggested that natural resource endowment can obstruct balanced economic development as it leads to a high dependence on the natural resources. Countries which rely on only a few exports for much of their income, like these three countries, are very vulnerable to changes in the market value of those commodities. For example, Arab oil producers rely very heavily on oil exports to support their GDPs so any reduction in the oil's market price can lead to rapid decreases in GNP. This not only reflects a decline in the value of products, but also a fall in the income earned by the citizens. Many developing countries rely on exports of a few primary goods for a large amount of their income (e.g. coltan and timber), and this can create problems when the value of these commodities drops, leaving the countries with problems to pay off their debts. This might discourage industrialization and the development of other main resources because the raw materials are sufficient to generate high incomes. It has been suggested that the more a developing country's economy depended on resource exports, the less it grew in GDP per capita. As a result, endowing natural resources might not be advantageous to economic development.



There is, once again some merit here and a slight nod towards the countries that are the focus ('coltan and timber') but it would be hard to establish the title from this paragraph, if it stood alone. A few linguistic issues also get in the way 'endowing natural resources' is more likely to mean 'endowed with natural resources' or perhaps 'exploiting...' but examiners cannot, reasonably be expected to guess student intention.

Within countries, wealth tends towards areas with natural resources or in areas that are involved in tertiary industries and trade, leading to a gathering of wealth around mines and monetary centres such as New York, London and Tokyo. Hence this may lead to unequal distribution of income, widening the gap between the rich and poor. This may also imply on a global scale – the spatial variation in development rates has been increasing recently – the average income in the world’s five richest countries is 74 times the level of the world’s poorest five, the widest it has ever been.



This paragraph is almost entirely redundant. The question is clearly focused on three countries and although this is a legitimate idea it isn’t relevant here unless applied to those countries. An opportunity exists to suggest that, for example, urban Angola has major contrasts in wealth and income and this might be divisive but it isn’t an opportunity that is taken so the reader/examiner is left to draw the inference which of course they cannot do.

Although economies that are endowed with abundant natural resources may be more advantageous in development, it comes into sight that many of these countries are not developing as fast as the economies that are relatively resource poor, which is shown in Figure 9. Colonialization had turned the economies of former colonies into structures that specialized in producing raw materials at low prices to meet the needs of the colonizer’s economies. In between these processes, dictatorships develop and the corrupt government is not reinvesting the rents generated from natural resource exploitation into productive assets, impoverishing former colonies. Therefore, to conclude, the presence of natural resources might bring more harm than benefits to a country. Furthermore, the role of natural capital is vital in achieving a sustainable economic development. Thus, resources have to be exploited in a way that sustains human welfare, and that ensures future generations are not made worse off by natural capital depletion today.



This conclusion is competent but weakened by the lack of comment on the three countries which are the focus of the question. Figure 9 does get a mention but this would probably be better done earlier in the analysis. The last two sentences are hard to unravel – the student uses the phrase ‘natural capital’ and ‘sustainable development’ but neither of these concepts are unwrapped, nor have they been used earlier in the essay. It is not helpful to introduce new concepts in a conclusion, especially when expressed in a manner that renders them almost meaningless.

Examiner's summative comments

This response is awarded 11 marks.

This student is comfortably in charge of the concept of resource curse and has expanded on this idea and illustrated it from their own knowledge and understanding, but it is vital that the importance of using the Resource Booklet is emphasised. There are 8 marks from the 24 awarded for A03 and however good the A01 and A02 material an absence of A03 material will clearly prevent access to Level 4. This is a very good example of that problem.

There are other issues that are problematic not least the relatively brief treatment of the environmental issue which is handled at a purely theoretical level, and that mistakenly, but with no reference at all to the information in the resource booklet. An uneven coverage is inevitable given that the environmental material is harder to dig out of the resource booklet, but there is material here both in Figure 10 and Figure 11.

Despite demonstrating competent A02, the A03 coverage is superficial. This was therefore marked at Level 2.

Example 3

Natural resources are those things found in the physical world which human societies choose to exploit. This can change over time because of substitution so that the natural resource of one generation can become useless to the next. It is also important to note that it is unusual for the whole population of a country to benefit from any single development strategy and regarding these three countries, large inequalities in income within each of them suggests that the blessings of natural resource exploitation are not spread evenly. It can be added that the extraction of natural resources is almost always damaging to the environment but also important to note that a damaged environment can also affect people, usually negatively.



It is a strong opening that lays out the direction of the essay.

It would appear obvious that the presence of natural resources in a country would bring benefits although Figure 9 suggests otherwise with most of the higher income countries relying less on the exports of natural resources such as minerals and fuels. Having said that Figure 9 only shows selected countries so it is hard to know how reliable it is. All three of these countries export significant amounts of raw materials with Angola totally dominated by oil whilst both the Congo and the DRC have a slightly more varied export

pattern (Figure 6) In all three cases this makes them very dependent on foreign interests, both governments (e.g. China) and TNCs who have, between them the technology, market access and capital to exploit these mineral resources. It is significant that all the exports leave Africa and for the most part supply emerging or developed economies. The role of superpowers such as India and China is noteworthy. The countries also have a shared history of colonialism which was built on the principle that rich western, mostly European countries had both the right and the duty to 'help' Africa by exploiting their raw materials. There are obvious signs of this in any old map of Africa with the Ivory Coast, the Gold Coast and The Slave Coast all marked clearly.



The use of cross-referencing to the resource booklet is very impressive here although the student would be well advised to refer back to the title by adding an on-going evaluation at the end of the paragraph. By adding a short phrase such as '....thus showing that in the past this was certainly a curse for this region' would help refocus on the question. Otherwise students can lapse into narrative dominated accounts that drift away from the contention in the title, for evaluative essays are always contentious. The critique of Figure 9 hits a key element in these mark schemes - 'making judgements about the value and reliability of the data...'

The role of local elites is critical in the exploitation of minerals. Governments sign agreements and sell permits (Figure 10). That is clearly a benefit and the money raised could be used to improve the health and education services in these countries which are, for the most part, very poor indeed (Figure 3 – especially infant mortality). This has happened in Bolivia where the Morales government has partly nationalised the gas industry and used the revenue to substantially improve rural health care and education. There is no evidence in the booklet about similar programmes in these three countries.



Much the same comment can be added as with the previous paragraph – it is very impressive but risks drifting away from the title. However, the use of analogies drawn from case-study knowledge is also impressive, especially its AO2 application in the final sentence. So 'curse' – yes?

In the classic 'resource curse' concept one of the problems for countries that export raw materials and import almost everything else (see Figure 7)

is that the prices of manufactured goods have generally risen whilst comparatively the prices of raw materials vary a great deal over time and have in general risen by less (see Figure 8). Even oil, shown here as over \$100 a barrel came down to under \$40 a barrel in 2016 which will have halved Angola's income. The real curse is that both Rostow's modernisation theory and their opponents, the dependency theorists place huge importance on the growth of a manufacturing sector as the keystone of development. Under colonialism no rich country's government was ever going to encourage colonies to develop industries that might compete with their own and neo-colonialism is no different with the dominant powers committed to 'free trade' and deregulation allowing them access to raw materials but also making it impossible for poorer countries develop a manufacturing sector which, it is argued brings more wealth to more people.



This is another impressive paragraph which is stronger in relating back to the words used in the title - 'the real curse...' Once again an evaluative comment at the end would help a great deal.

Resource extraction always damages the environment. Oil spills are likely and Figure 10 shows both deforestation and the impact of artisanal mining. It is likely that the damage done is not well recorded just as in Borneo forest destruction is underestimated because of the powerful forces that support the clearance of forests who naturally do not seek publicity. We are not told about the impact on any native peoples who have been very badly affected by this type of development in countries such as Ecuador. So forest destruction brings blessings to some who profit from it but probably a curse to the local population who neither gain jobs nor income from the exploitation of raw materials, so a curse.



A very well focussed paragraph with by far the best on-going evaluation in the final sentence. Although the environment is rather bolted on here the student is sensible enough to critique the amount of information on offer in the RB. The link between environmental destruction and people is good.

In conclusion it appears that many more people are cursed than blessed but the rich and powerful both within these countries and outside them are very blessed and because they are so powerful it is likely to continue.



This would appear to be a very abbreviated conclusion but, although sparse it is to the point and well-focussed on the question.

Examiner's summative comments

This response is awarded 20 marks.

This is the shortest of the three answers presented here. The student has written a little over 700 words for an essay that students should allow 45 minutes for in the exam. The quality of the argument is very impressive and the facility shown in cutting from the resource booklet to their own AO1 knowledge and understanding is equally strong. Both people and the environment are covered and although they come and go somewhat so too are 'blessings' and 'curses'; thus the focus is clear throughout. The student might be reminded to try to reference a wider range of resources (the photos and the maps are largely ignored here). Perhaps more importantly the role of the conclusion should be emphasised. This one is very brief and students should be reminded that this is a vital element of any essay especially an evaluative title which should be drawn together in this final paragraph.

Despite its brevity this essay was placed in Level 4 and awarded 20 marks.

