2021 VCE Geography external assessment report

General comments

After another very challenging year, the strength of responses on each question was a credit to each student's and teacher's perseverance throughout 2021. Most students could address at least some aspects of every question with the use of data as evidence to back up statements made. Knowledge of key content of the course was strong. Areas for improvement included examination technique, reading and responding to the question given and not just providing a list of all that is known about an outcome. As well, students who focused only on stating content related to a topic rather than addressing the salient elements of the question were not able to show what they knew in a clear and coherent manner.

Examination technique matters; taking time to annotate the major parts of the question can help identify what is expected and the extent to which detail is provided. There is a large difference between detail expected in a two-mark question and an eight-mark question and valuable time can be lost providing too much detail on a two-mark question. Time allocated to reading and thinking through what is expected is a valuable component of examination technique.

Where questions ask students to refer to a figure, it is essential to use specific quantification from the figure. This can then be elaborated upon where appropriate.

Statements on fact – simply stating a random example/statistic because it has been learnt does not add to a response and deters from the key layer of geographic knowledge and understanding in larger response questions. Students need to include relevant and factual evidence where appropriate. Very old data use from a case study that has clearly changed in recent years needs to be updated. This can change the nature of the case study or evidence being provided.

Knowing a lot of factual information does not equate to understanding this information. This was reflected in a range of questions where students were able to provide facts but appeared not to understand the meaning of them in relation to Unit 3 and in particular Unit 4. The focus on learning more content comes at the cost of a loss of understanding of how to use the content in an appropriate context. At times, responses were answering a range of questions rather than providing information from each outcome in the study design. This is not good examination technique and students need to focus on the key components of the questions, including the command terms and marks being allocated.

A significant number of students presented an interpretation of data and case studies that did not highlight the nuance of the example. Statements such as 'Germany has very few of working age' or 'the ice melting will stop all work in a particular country' are examples of the extreme views that can come across when writing responses.

Areas of strength

Knowledge of content and context to apply knowledge:

- Every question required content and it was evident that students were able to use a huge range of learnt materials in their responses.
- Students were often able to use appropriate evidence and elaborations to support statements made, especially in higher-order questioning.
- Students were able to apply appropriate context to respond to a question utilising clear conceptual understanding of either Unit 3 or 4.

Geographical skills:

- Data was presented using a range of maps and students were able to interpret these very well.
- The use of geographic language and literacy was strong, with students able to respond to questions using appropriate terminology.

Areas for improvement

Checklist and descriptive responses:

- A direct focus on the question being asked rather than including material that could possibly relate to the question or including all that has been learnt about a particular aspect.
- Focus on learning for meaning rather than learning more data and examples. Case studies and elaborations are there to support understanding of the meaning of the question, and a long list of elaborations, with many irrelevant or repetitive components, does not add depth and quality to the response. Similar to learning the countries of the world, the information needs to be used in context for it to be directly relevant.

Respond directly to the conceptual component of the question:

- All questions require understanding of content, application of appropriate context and conceptual understanding of the question. Students 'throwing it all' at a question when a focus on answering key parts is required highlighted the importance of using content learnt in an appropriate manner.
- It is important that students choose content in the appropriate context. This will help support responses in showing higher-order conceptual understanding of the question.

Examination technique:

- Students are encouraged to note and annotate key components of the question and respond accordingly.
- Students can then use the annotations to break down and scaffold responses to focus on the conceptual nature of the question and use content (data and elaboration) in the correct context rather than providing a lengthy list of data learnt.
- All students need to ensure that they read the question carefully to ensure all aspects are answered rather than a prepared answer.

Specific information

Note: Student responses reproduced in this report have not been corrected for grammar, spelling or factual information.

This report provides sample answers or an indication of what answers may have included. Unless otherwise stated, these are not intended to be exemplary or complete responses.

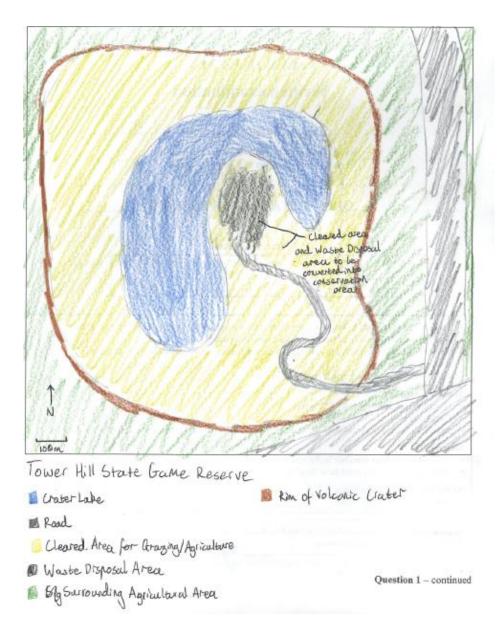The statistics in this report may be subject to rounding resulting in a total more or less than 100 per cent.

Question 1a.

Mark	0	1	2	3	4	Average
%	5	3	8	18	66	3.4

Students were required to draw a sketch map, not a drawing or a field sketch. The map required a minimum of two key characteristics before the land use change occurred (or, if the land use change is about to occur, the current land use). The sketch provided context of the land use change so some students provided more than two characteristics in their legend. A legend was required.

This question was handled well by students; most were able to draw a sketch map of their fieldwork site prior to the land use change. A very broad interpretation of 'sketch map' was accepted but field sketches were not accepted.

The following is an example of a high-scoring response.

Tower Hill State Game Reserve

- Crater Lake
- Road
- Cleared Area for Grazing/Agriculture
- Waste Disposal Area
- Big Surrounding Agricultural Area
- Rim of Volcanic Crater

Question 1b.

Mark	0	1	2	Average
%	21	34	45	1.3

The response required at least one annotation that identified the location of the land use change. A number of annotations could have been provided if this was appropriate within the context of the land use change. The annotation needed to refer to the land use change that is or was occurring.

While most students were able to provide an annotation, some were not able to move beyond a label of identification. The annotation needed to answer the question and identify the location of the land use change.

Well-chosen fieldwork is essential as some responses did not allow students to identify a land use change easily. The Fishermans Bend urban renewal plan was not in itself a land use change and this case study must be carefully considered before undertaking fieldwork. The concept of urban renewal refers to a redevelopment of a current land use type, for example low-density housing to medium-density housing, while 'change' refers to a difference in the land use. Hence, a shift from an industrial to urban land use could be investigated, but the renewal or redevelopment of a current land use to the same land use is not a land use change.

Question 1c.

Marks	0	1	2	3	4	5	6	Average
%	5	5	14	20	21	17	18	3.8

The response required a description of the impact on either the environment or social conditions (not both) that have or could have resulted from the land use change. The description needed to clearly relate to the fieldwork site and this could include the annotation(s). There needed to be a clear statement of the social or environmental impact, which then needed to be elaborated upon using evidence from primary and secondary fieldwork sources to support the description of the impact.

A focus on the impact of the land use change was essential and many students were able to identify the impact well. More generalised responses elaborated on impacts that could apply to any or many land use sites, while responses that scored highly provided clear elaboration and often fieldwork evidence that supported their statements. Students knew their fieldwork site well but some struggled to expand upon a more simplistic statement of the impact resulting from land use change.

Question 2a.

Mark	0	1	2	Average
%	8	37	55	1.5

A clear definition was required. This needed to refer to the process of desertification (i.e. becoming more desert-like) and go beyond a statement of dry conditions. Examples or reasons for the process could have been included the following.

The UNCOD defined desertification as the diminution or destruction of the biological potential of land and can lead ultimately to desert-like conditions (Dregne, 2000).

Students should be guided by the number of marks given as to the length of elaboration in their definition. Most students clearly understood the meaning of the term 'desertification', and were able to respond at a high level.

Question 2b.

Marks	0	1	2	3	4	5	6	Average
%	4	7	11	17	21	18	22	3.9

The response required students to evaluate the statement of the strong spatial association using data directly from Figure 1 of the data booklet. An evaluative statement related to an understanding of the strength of the spatial association was required and be supported with a statement and specific reference to the maps from Figure 1 in 1990 and then in 2018.

Question 3

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	11	4	7	10	12	11	14	10	9	5	6	4.9

The key components of the question that needed to be addressed were:

- a global response to the impacts of deforestation
- the impacts of deforestation
- an evaluation of the effectiveness of the response
- an appropriate criterion
- appropriate data/evidence/elaborations in responding.

Responses that scored highly were succinct, using well-chosen elaborations/evidence to support discussion with evidence of critical thinking clear in the structure and flow of the response. Geographic literacy was strong in these responses, with students carefully choosing both structure and evidence.

Responses that were a checklist of knowledge about deforestation and a global response were descriptive and did not address the key component of 'evaluation' well.

It is recommended that students plan their response and choose information that directly relates to the question posed rather than a summary of what was learnt in relation to deforestation.

Choosing an appropriate criterion for evaluation allowed students to more fully evaluate the response. Less-appropriate criteria included flexibility, strengths and weaknesses, which did not provide good evidence from which to evaluate. While the study design refers to criteria for evaluation, students needed to be able to identify one explicit criterion. The best of these were measurable, and met a particular aspect of an aim, and to what extent could be explored.

Using a qualitative criterion made it challenging to fully evaluate in explicit terms. For example, the use of 'fairness' as a criterion did not allow good evaluation as fairness needed to be expanded and defined.

Students were required to directly address the impacts of deforestation; global responses that had a tenuous link to deforestation were not well chosen. While the Paris Agreement could address the impacts of deforestation, it was up to the student to clearly indicate them. Many found this difficult. Responses that were directly related to the impacts of deforestation were a better choice – these included REDD and Global Forest Watch.

Understanding the concept of a global response was essential. There was some misunderstanding of the term GIS, with students stating 'global information systems' rather than 'geographic information systems' and

thus referred to this as a global response. Some global responses will have specific activities at a local scale and students were able to highlight this; however, a clearly local response could not be accepted as a global response.

It was up to students to ensure that the global nature of their response was evident. Some elaboration was needed for context.

Responses that used SAFEIT did not score well as this was a very broad criterion and left little scope for students to respond in more than a checklist style.

Using the criterion of working to reduce deforestation rates worked well as some global responses, such as World Forest Watch, are focused on observing and recording rather than reducing deforestation and this could be evaluated.

The following is an example of a high-scoring response.

One global response to deforestation has been REDD+ (reducing emissions through deforestation and forest degradation) which began in 2008. As its main goal was to reduce deforestation and forest loss and therefore, reduce emissions as 10-20% of annual emissions are caused from forest loss/deforestation, an appropriate criterion is the extent that it managed to achieve this. This was primarily done through system of assigning a monetary value for the carbon stored in forests, with MEDCs funding projects targeted in LEDCs as 96% of deforestation is clustered in LEDCs. However, although the problem required funding of USD$38 Billion/year, it only received $118 million per year and as a result has so far failed to achieve reducing deforestation and reducing emissions as a result. This is evidenced by data from Global Forest watch 2.0 showing an increase in total hectares of forest lost per year, from 18.6 million hectares in 2008, to an average of 20.08 million hectares lost annually from 2009-2015, and as a result of this loss, deforestation emissions increasing from approximately 3.4 billion tonnes per year in 2008 to an average of 3.91 billion tonnes per year between 2009-2015. Therefore, since during its current operation time deforestation and related emissions have increase, it overall has failed to achieve its aim, and therefore has not been effective, and should funding not increase, is likely not to be effective in the long term as its goal to reduce emissions as a result of reducing forest degradation/deforestation.

Question 4a.

Marks	0	1	2	3	4	5	Average
%	6	8	19	23	22	23	3.2

Question 4b.

Marks	0	1	2	3	4	5	Average
%	12	23	25	18	15	2.8	2.8

Students needed to explain the significance of melting glaciers and ice sheets at a selected location. In Question 4a., the focus was on economic activity and in Question 4b., the focus was on the environment. In Question 4a., a description of the selected location in relation to economic activity was needed. The response needed to include a sense of scale (e.g. through time or size) and this could be supported with data as evidence.

Responses to this question tended to be very generalised. Discussion that the economy can improve or not improve was vague, with responses that scored highly providing quantifiable evidence of the significance of improvement. These needed to be true to obtain marks.

There was an over-exaggeration of the impact of some aspects such as mineral mining and ecotourism in Greenland, with responses lacking evidence to explain the significance. Likewise, the impact on animals tended to be aligned with anthropomorphic statements rather than being evidence-based or could have applied to any environment in any location.

The significance needed to be explained further – for example, the significance of ice melt to the Inuit peoples in Greenland provides scope for more qualitative evaluation of the significance on economic activity, while loss of fishing can be measured in a quantitative way. Significance could be measured in terms of scale (time or size) and this could have a dollar amount for economic significance and a size measure for the environment. Some students tended to use words such as 'much significance' or 'great significance' without qualification or quantification.

Anecdotes and generalisations about loss of homes for animals were insufficient. Responses that scored highly had clear evidence of the significance, such as contribution to GDP or number of jobs lost.

Question 5

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	11	6	9	10	12	10	10	10	8	7	7	4.8

The key components of the question that needed to be addressed were:

- an understanding of the application of the Demographic Transitions Model (DTM) and the difference in the population demographic at a range of stages
- the concept of the demographic dividend benefiting a population at a stage in the DTM where there is a large economically active population that can provide a large workforce and a large tax base for the government
- the application of this to specific examples of countries at Stages 2 and/or 3 of the DTM.

Knowledge and understanding of the DTM stages were essential in responding adequately. Some students misinterpreted the DTM as an indicator of wellbeing with each stage equating to a level of development. It was essential that the key components of the DTM were understood; these being changes in birth and death rates over time that have implications on the size of natural increase. Students who understood the complexities that migration could add to a population (e.g. in Japan with very little migration compared to Australia with a lot of migration) were able to highlight the impact that could come about with a demographic dividend. In this context, it would be appropriate to sketch the DTM to give context for the response.

Understanding the impact of changes in the rate/amount of natural increase was important. Responses did not always reflect this and focused instead on birth and death rates and then the number of dependents. Greater depth could be provided through greater understanding of the DTM.

Unfortunately, students often focused solely on one of their case studies linked to Outcome 2. These tended to describe the ageing or growing population rather than responding to the question. There was opportunity for this with the ability to focus on both an ageing and a growing population to exemplify the impact of a demographic dividend alongside minor examples from the study of DTM in Outcome 1. Note that while there is an interconnection between the outcomes, both need to be understood by students with a focus on changes to birth, death and rates of natural increase with specific population examples understood at each stage.

The study design refers to a five-stage demographic transition; however, some students demonstrated that they only had knowledge of four-stage demographic transition.

The following is an example of a high-scoring response.

A demographic dividend is a boost in economic productivity which occurs due to growing numbers of people in the workforce relative to the number of dependents. A large workforce and low dependent populations can be closely related to a population with a decreasing birth rate as this means that the large proportion of currently young dependents are reaching the workforce however aren't having as many children to have to take care of and provide for. It can also be closely related to a not yet large average lifespan as this means that there is not a large number of people reaching old age to become elderly dependents. These two characteristics both correlate closely with stage 3 of the Demographic Transition Model in which birth rates start to decrease however life expectancy still remains relatively low. An example of a country experiencing this is Bangladesh where while population growth remains relatively high, it is beginning to slow down as birth rates decrease, this in correlation with improvements to hygiene and basic healthcare allows the workforce to be extremely productive and highly profitable as there is a low number of dependents in comparison. Another country which is similarly in stage 3 of the Demographic Transition Model is Niger where improvements to healthcare and access to education have begun to lower birth rates and allow economic productivity. A country which has just exited stage 3 can also often be experiencing the partial benefits of a demographic dividend, an example of this is China in the late 20th century as between 1980 and 2015 the GDP per capita increased from $200 USD to $8000 USD and total Fertility Rate fell from 2.6 to 1.66 in the same time.

Demographic dividends are closely associated with the earlier stages of the Demographic Transition Model (DTM), particularly stages 2 and 3. Equally The lace of a demographic dividend can be associated with stages 4 and 5.

Stages 2 & 3

In these stages, an economic dividend is caused due to increasing amounts of young dependents, due to high birth rates and population momentum. For example, in 1973 Bangladesh (then stage 2) had a total fertility rate of 6.9 per 1000, with dependency ration of 57% and a GDP per capita of USD $432. In 2019 the country's GDP PerCapita was at USD$1030 – a net increase, even with inflation. As such this can be viewed as an example of a demographic dividend "paying off".

Stages 4 & 5

Later stages feature lower birth rates and ageing population and therefore a lack of a demographic dividend. An example of this is Germany (stage 5) which has a hyper-aged population – 21% of the populace is over 65 years old, with just 13% of the said populace under 14. As such, economic issues have arisen in Germany (i.e. provisioning of healthcare), evidence of its lack of a demographic dividend.

Question 6a.

Mark	0	1	2	3	4	Average
%	2	3	14	19	61	3.4

Students needed to give a description of the relative position of Bangladesh compared to the world average in 1990 and then a quantification using data from Figure 2. They also needed to provide a relative position compared to world average in 2020 and a quantification using data from the graphic.

Many responses provided a vast amount of data that went beyond the scope of the question. Examination technique is important; students should identify key components of the question rather than giving unnecessary exemplification and explanation.

Question 6b.

Mark	0	1	2	3	4	Average
%	3	5	17	20	55	3.2

The response required description of the 1990 position of Bangladesh compared to Afghanistan and quantification using data from the graphic and then a description of the 2020 position of Bangladesh compared to Afghanistan and a quantification using data from the graphic.

The following is an example of a high-scoring response.

In 1990 Bangladesh had a much lower average under-five-years mortality rate, of about 155-160 males/females under 5 dying per 1000 male/female births, than Afghanistan's of about 245-255 males/females under 5 dying per 1000 male/female births. Similarly, in 2020 Bangladesh has a much lower average, however Afghanistan has a very similar average to Bangladesh's in 1990 with an average of around 150-155 females dying under 5 per 1000 female births and 165-170 males dying under 5 per 1000 male births

Question 6c.

Marks	0	1	2	3	4	5	6	Average
%	13	13	16	18	18	13	10	2.9

Students needed to identify the general trend and explain how the trend could affect total fertility rate. Evidence and elaboration could have been provided through examples learnt from Outcome 1 or Outcome 2 as well as data from Figure 2.

Most students could describe the general trend; that is, how the under-five-years had changed over time. Some were able to explain how the trend would affect the total fertility rate.

There was some misunderstanding of the term 'trend', with answers providing a description of some data from Figure 2. Errors made were in relation to interconnection to the overall trend (which was downwards) and some responses discussed the impact of a high death rate in specific countries or described the data without reference to the trend. It is here that the examination technique of annotating key components of the question could have supported a stronger response.

The following is an example of a high-scoring response.

The trend of decreasing child mortality, depicted in Figure 2, would be expected to influence a consequential decrease in total fertility rates. Total fertility rate can be defined as the average number of children a women would be expected to birth during her child bearing years. When child mortality rates are high, fertility rates typically are as well given that the loss of one child will typically encourage the production of another, especially in developing nations where economic productivity is often dependant on family size. Therefore, decreased values of under-five years mortality would be expected to result in a decrease in fertility rate as more children are surviving.

Question 7

Marks	0	1	2	3	4	5	6	7	8	Average
%	5	4	8	11	14	14	15	13	16	4.9

Responses needed to assess the extent to which the data supported Malthusian theory. Reference to data in Figure 3 needed to support the argument made. The extent to which a student agreed with the data supporting Malthusian theory depended on the chosen aspects of Figure 3; a range of agreement could have been made.

While understanding, or at least description, of Malthusian theory was evident in most responses, there was a tendency to describe Thomas Malthus's life story rather than connect Malthusian theory about population and sustainability to the data from Figure 3. Many students responded that Malthusian theory was not supported and were able to provide specific evidence over time from both cereal production and population growth.

Many approaches to the data could have been taken. Students needed to choose the most salient evidence for the data supporting or not supporting Malthusian theory.

The following is an example of a high-scoring response.

> *The data in figure 3 undermines and does not support Malthusian theory about population and sustainability. Malthus believed that there was nothing we could do to increase the food supply, and so a series of food shortages would lead to population checks that would ultimately reduce the size of the population, either by increasing the death rate (a positive check) or decreasing the birth rate (a preventative check). However, in the 250 years since Malthus published his essay, advances in technology and innovations in farming methods have allowed us to, in theory at least, provide sufficient food for the worlds 7 billion inhabitants. Malthus did not account for these advances. The data in the graph displays that the population is, at all times below the resource production of cereal. The population is shown to increase by 150% but the cereal yield increases by 200% and the cereal production increases nearly 700%. This further demonstrates that this data does not support Malthusian theory, as he firmly believed that the total population would exceed the resource production and he did not ever account for improvements in technology and farming that would facilitate the increase in food supplies. Overall, while the data shows that the population has increased, it does not support Malthusian theory.*

Question 8a.

Mark	0	1	2	Average
%	3	20	76	1.8

Most students were able to identify a suitable country but found the concept of 'issue' challenging. The study design states 'issues resulting from these population trends include, among others, meeting healthcare and social service needs', which may have helped set context for students.

A very broad definition of 'population issue' was accepted, with students able to use population trends that led to the issues as well as the population issue. A large number of responses went on to describe the challenges that are a result of this issue, which made the response confusing. Examination technique is important here; highlighting the key components of the question, such as 'issue' and 'ageing population', helps provide structure to the scope of the response.

Question 8b.

Marks	0	1	2	3	4	5	6	Average
%	11	7	17	17	18	13	16	3.3

The response required a description of two factors, either economic or social (not both), that contributed to the issue outlined in Question 8a. The description needed to include descriptive data/evidence/elaboration in relation to the stated country and clearly describe how the factor contributed to the issue (not the challenges resulting from the issue). Each factor needed to be distinct and not a repeated statement in different words.

The question asked for factors **contributing to** the issue. Some students instead responded with **consequences of** the issue. Annotating key components of the question would support students to respond more appropriately.

Most students were able to identify factors that contributed to the issue and most were able to describe two factors. The first factor was often clearly elaborated and evidenced with appropriate detail. At times the second factor either lacked detail or repeated information from the first. Improvement could be made by having clear evidence and identifying more than one factor that contributes to an issue of an ageing population in a selected country.