# 2013 Examination Report

VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY

## 2013 Geography GA 3: Written examination

# GENERAL COMMENTS

Students generally performed well on the 2013 Geography examination. Most used their time effectively and were able to demonstrate a sound grasp of the study, usually answering questions in a succinct, well-expressed manner.

**Areas of strength**

- Many students wrote in-depth responses that showed understanding of the topics studied and good mapping skills, and used relevant geographic language and conventions.
- Many students had quite a good understanding of situations within the Murray-Darling Basin (MDB) and why a policy/strategy had been introduced.
- Mapping skills and conventions were generally applied well.
- Many students were able to demonstrate good knowledge and understanding of population case studies, often including excellent statistics and pertinent comments to support case studies.
- The more able students understood the key words 'describe', 'explain', 'discuss' and 'compare', and generally made good use of examples and quantitative data to support their contentions.

**Areas of weakness**

- Understanding of terms such as 'justify' and 'evaluate'. For example, instead of evaluating a statement or management policy, and/or weighing up and justifying the importance of factors contributing to the global phenomenon, weaker students described the statement, policy or factor.
- Many students appeared to ignore the link between questions, or the fact that the focus of the question had changed in particular question parts (for example, in Question 2).
- Weaker students presented well-prepared answers to questions about factors, impacts and responses, but neglected to modify their answers to address the question.
- Many students had difficulty understanding terms such as 'relative importance', 'sustainability', 'distribution' and 'spatial association'.
- The use of 'countries', not 'regions' (for example, Question 5a. made specific reference to 'region').
- When referring to case studies, descriptions of the distribution of deserts were rarely accurate, likewise, when referring to the case study on malaria.
- Inaccuracy, and an inability to interpret the information on maps, graphs, charts, etc.
- Lack of detailed evidence to support some answers or using inappropriate examples and outdated case studies (particularly in the MDB).

# 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 the 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 errors resulting in a total less than 100 per cent.

**Question 1**

This question was mostly answered well. However, a surprising number of students answered part a. incorrectly, suggesting a lack of familiarity with very basic physical characteristic of the Basin.

**Question 1a.**

| Marks | 0 | 1 | Average |
|---|---|---|---|
| % | 17 | 83 | **0.9** |

D – south-west

**Question 1b.**

| Marks | 0 | 1 | Average |
|---|---|---|---|
| % | 20 | 80 | **0.8** |

D – between 250 and 500 millimetres

**Question 1c.**

| Marks | 0 | 1 | Average |
|---|---|---|---|
| % | 5 | 95 | **1** |

A – pasture

**Question 2a.**

| Marks | 0 | 1 | 2 | 3 | 4 | Average |
|---|---|---|---|---|---|---|
| % | 16 | 10 | 23 | 18 | 33 | **2.4** |

This question assessed students' ability to interpret aerial images of part of the MDB and use higher-order spatial concepts. Most students were able to identify some spatial relationship between land use and water resources. Simply put, intensive agriculture is close to water storages.

Common errors included

- not stating the degree of spatial association correctly
- stating the degree correctly, but not providing supporting evidence
- not discussing spatial association at all, but describing the distribution of water resources.

The more able students recognised the strong spatial association between the distribution of water resources (Darling River and tributaries, lakes and built water storages) and what is the relatively intensive agriculture (large fields/paddocks laid out for irrigation – actually cotton).

The most successful responses assessed the degree of spatial association and then identified the information from the map to provide evidence of this association. They often stated the distance between the land use and water resource in their evidence of the relationship, or the number of water storages that had irrigation plots in close proximity.

Some students were also able to identify that while the region north of the river had large areas devoted to irrigation agriculture and many associated dams, the region south of the river had less such land use and consequently fewer storages. They also identified that some small dams had no irrigation plots immediately adjacent to them.

In Area B, spatial association between land use and water is weaker. While there are two areas of more intensive agriculture occupying about 10 per cent of the area south of the Darling River, in these two areas there is evidence of more intensive agriculture, hence a strong spatial association. The rest of the area is farmed less intensively and shows only a weak spatial association between the water resources and land use. With reference to Area B, stronger answers identified and described the two examples of water resources and irrigated areas being closely associated in the irrigated areas 5 km SSW and 2 km ENE of Bourke township.

Many students described in too much detail the distribution of land use and water resources without reference to their spatial association, which was the main point of the question. Incorrect or irrelevant figures were given for distances, areas, sizes of paddocks (for example, small, medium, large and huge).

Weaker students simply described the distribution of water storages, or explained why there is an association between land use and water resources, rather than the degree of association and evidence from the image demonstrating this relationship.

The following is an example of a successful response.

> *Area A: There is a strong spatial association between the patterns of land use and the distribution of water resources in area A. Evident in figure 2a, the land around water resources in Area A has been divided into paddocks. These paddocks are distributed no more than approximately 2 kilometres from a water storage.*
>
> *Area B: There is a moderate – weak spatial association between patterns of land use in Area B and the distribution of water resources. Figure 2a shows the land within around 1km of a water resource is used for agriculture, however land beyond 2 km of water resources is not used for agriculture and is generally left untouched.*

**Question 2b.**

| Marks | 0 | 1 | 2 | 3 | Average |
|---|---|---|---|---|---|
| % | 3 | 11 | 38 | 48 | 2.3 |

Most students demonstrated an understanding of the case studies covered during the course, identified their management policy or strategy in the context of a part of or the whole Basin, and then proceeded to describe why the policy/strategy had been developed (which was the subject of the next question), or named the policy/strategy and then stated its main aim without any elaboration.

The most successful responses identified and described the management policy or strategy using salient points such as timeframe, location, management groups, aspects of water use, level of government, costs and scale.

The case studies covered a wide range of policies and strategies at a diversity of scales and locations within the Basin including the Cap, the Living Murray Initiative, the MDB Plan, environmental flows for particular wetlands, water licences and water allocation buy-backs, the barrages at the Murray Mouth, salt interception schemes, sustainable diversion limits, diversions for hydro-electricity generation, and water storage and distribution infrastructure improvements.

Most students had assiduously prepared their case studies of specific challenges regarding water resources in the Basin and their management. Stronger students briefly mentioned the distinction between a policy and a strategy as a general statement of intent, compared to a strategy as the breakdown of activities to ensure the policy is implemented. To describe their selected policy, students often provided the particular state or federal government agency, the objectives, the dates of implementation, the amounts of water and other savings and had researched the latest developments. Students are encouraged to research the latest data and report it accurately, ensuring they are not referring to outdated material.

The most successful answers referred to current information and provided elaboration of the scale of the strategy/policy, and the cost and time scale.

The weakest responses looked at The Cap. Responses on water-diversion were often very brief.

Points were based around buy-back of water allocations, consequent reductions in water used for rice and cotton, but also more efficient farming methods. As well, there were funds provided by buy-back to improve farm infrastructure and local area efficiencies in water distribution, effects on environmental flows and benefits to such resources as the Barmah-Milawa red-gum forests and replenishment of the Ramseur site.

While most students very skilfully adapted their knowledge of such schemes to answer the three parts of this question, some students' knowledge of their case studies was a little thin or incorrect. Others had clearly anticipated a question on conflict on the Basin, and were less adept at tailoring their knowledge to fit this question.

The following is an example of a successful response.

> *The Goulburn Murray Water connections project (GMWCP) formally known as the Northern Victorian Irrigation Renewal Project (NVIRP) introduced in 2007 is an integrated strategy under the Water Act (2007) to minimise the loss of water in the Northern Victorian Region. This management strategy aims to maximise the amount of water for both the environment such as the Barmah Millewa forest (BMF) and the famers/irrigators in the region such as Bill Holden and his "Holden Pastoral company" in Deniliquin located approximately 250kn north of Melbourne. To maximise the amount of water available to both groups (environment and irrigators/farmers) the GMWCP has implemented many water delivery paths, storage cells, fish ways, advanced regulators and plastic lined walkways to ensure a maximum amount of water is available for the users of this precious water.*

**Question 2c.**

| Marks | 0 | 1 | 2 | 3 | 4 | 5 | Average |
|---|---|---|---|---|---|---|---|
| % | 4 | 11 | 22 | 26 | 21 | 16 | 3 |

This question followed on from Question 2b. Some students incorrectly addressed reasons in the previous question, but most were able to elaborate well on the various reasons for the policies and strategies described.

The most convincing responses provided details such as exactly how water was to be recovered, the amount recovered, when it was recovered, and the cost of the scheme. Similarly, students who provided precise facts to explain why a response was required (such as quantifying the extent water availability had declined or water quality had deteriorated,

the impact on regional flora and fauna or the importance of water to the local economy) provided the most successful responses.

Dates, statistics, reference to particular levels of government – state and federal – mention of agencies such as ACF, local Koori community organisations and local irrigation authorities were included in the stronger responses.

Some students provided excellent general reasons for their selected policy. These included issues of sustainability with the amount of water being allocated to agriculture, conflict over water allocation and environmental flows in the river system. Students also cited environmental issues, such as salting, land degradation, threats to wildlife and fish ecosystems, wetlands protection, Ramsar adherence, flood mitigation, control of evaporation, the cost of producing rice and cotton crops vis-a-vis the amount of water needed to irrigate these crops, management of water allocation to all uses in marginal or drought seasons, and a variety of local and on-farm inefficiencies. Some even introduced the plight of orchardists in the Goulburn Valley and the economic incentive they face with the market for their produce 'drying up' and the need to look to other uses for their land and their water entitlements.

The following is an example of a successful response.

*Improving the efficiency of irrigation structures has been developed due to outmoded infrastructure in the Goulburn Valley region as part of the Northern Victorian Irrigation Renewal Project. Dethridge wheels were being used; channels were not being lined and inaccurate metering lead to over-allocation of water. The balance between channel, flood and spray irrigation and on farm choices also lead to major inefficiency. It is estimated that although the Shepparton Irrigation Regions for example produces $4.5 billion of fruit, dairy, wine and grapes, inefficiencies in the water distribution systems causes an estimated loss of 850 Gl of water annually especially via evaporation. There are also major salinity issues in that in 1990, 11.3 tonnes of salt per square kilometre per year was estimated to be registered at the Goulburn Weir with implications for downstream users. Because of these issues, greater efficiency of water systems had to be developed and implemented.*

**Question 2d.**

| Marks | 0 | 1 | 2 | 3 | 4 | 5 | Average |
|---|---|---|---|---|---|---|---|
| % | 4 | 10 | 20 | 28 | 22 | 17 | **3.1** |

In evaluating the success of the scheme, students were required to provide an overall assessment and then support their contention with precise facts and figures.

Most students were able to justify the development and implementation of their chosen management policy or strategy. Good answers stated the success of the policy and gave reasons for this judgment. Better responses often suggested that aspects of the policy/strategy were successful, but suggested that further success could be achieved if other measures were adopted in the future. An extensive written response was not required for full marks.

Weaker students did not state whether the policy or strategy had been successful. They responded briefly and simplistically, or did not understand how to answer this type of question.

An example of a successful response is below.

*Despite underachieving and returning 250 GL a year to the Murray River, rather than the predicted 925 GL, the Northern Victoria Irrigation Project (NVIRP) has been remarkably successful. Due to increased environmental flows the native Australian brolga returned to the river, having previously been unseen for 60 years. Furthermore, the project acted in a fair manner, and whilst improving the health of the Murray, it didn't affect food production in the region which averages 4.5 billion annually. The water it saves of 250 GL also saves the state money as less is spent on buying back water allocations from farmers (as done by the Living Murray Initiative) to improve environmental flows. In summary, the project has been successful and effective in improving ecosystems along the Murray whilst not taking crucial water from irrigators in the Shepparton Irrigation Area.*

**Question 3a.**

| Marks | 0 | 1 | 2 | Average |
|---|---|---|---|---|
| % | 5 | 15 | 81 | **1.8** |

Many students have the misconception that a human resource is used by humans, rather than created by human endeavour. Similarly, some students appeared to incorrectly think that a natural resource provides habitat for native flora and fauna, rather than a resource created by natural process (for example, relating to the climate, vegetation growth and geologic processes).

Justifying a classification ranks as a low-order thinking skill, and a task that students should have completed in their fieldwork school-assessed coursework. However, some students did not earn full marks. Some students, for example, identified the resource and why it was important rather than justifying a classification. Others did not know what the classifications meant, or they explained why it was a resource rather than classifying it.

The more successful answers demonstrated a clear understanding of the classification by providing a definition of it in the context of their fieldwork resource. They also made reference to specific aspects of the resource and named the relevant features. These included relevant data such as number of visitors, age of certain aspects of the resource, quantities and expenditure.

Less successful responses often referred to more than one classification, but neglected to justify any of them sufficiently. They simply described the resource without making reference to its classification.

An example of a successful response is below.

> *Winton Wetlands is a natural resource as it occurs naturally in the environment. Humans were not responsible for its creation, but rather natural processes led to the area being a dominant wetland site.*

**Question 3b.**

| Marks | 0 | 1 | 2 | 3 | 4 | Average |
|---|---|---|---|---|---|---|
| % | 2 | 2 | 8 | 30 | 58 | **3.4** |

Most students clearly sketched their fieldwork site and added orientation, a legend or key and title. A scale was not required. Most students included a legend on the map, rather than annotating the features directly on the map. Although many students created clear maps, many were unable to show the location of a reasonable amount of the geographic features of their study area.

Many students struggled with mapping the movement. It was questionable whether some examples of movement on the map were 'major'. Some students did not mark the major movement on the map. Students must not presume the assessor will determine, for example, where movement takes place.

Rendering in biro and highlighter pens sometimes obscured the clarity of the map. Most students used coloured pencils to ensure their maps were clear and legible.

Students were required to consider the movement that would be mapped in part b. and then discussed in part c., but some difficulties occurred in the discussion. In the example of Cape Woolamai, some students used the example of prevailing winds, which were marked on the sketch map as the major movement. However, the discussion in part c. was the impact of people walking on dunes and often this elaboration did not take place.

Weaker maps did not have a legend or a north point. They also didn't indicate, or clearly identify, a major movement within or into their resource, or they included symbols for the major features in the key while also labelling them on the map. A few students reproduced a field sketch with perspective, rather than sketching a map. This is not acceptable.

**Question 3c.**

| Marks | 0 | 1 | 2 | 3 | 4 | Average |
|---|---|---|---|---|---|---|
| % | 9 | 12 | 25 | 28 | 26 | **2.5** |

Many students struggled with this question and were unable to discuss sustainability adequately. Most students could define sustainability; however, they struggled to demonstrate a clear understanding of sustainability in their response.

This question required students to 'discuss the sustainability of their local resource'; not focus on the spatial concept of movement. Many students discussed the sustainability of the movement they had mapped without discussing the resource as a whole. For example, 'the sustainability of the movement shown in the map is …'. Others only discussed movement as a spatial concept without considering sustainability. Only a few students referred to their map in this question.

A common error was students discussing the sustainability at the site in their resource where they marked the movement, and ignoring the rest of the resource.

The more successful students clearly articulated the movement they were referring to and the features illustrated on the map where the movement was between. They clearly stated the degree of the resource's sustainability, which showed their understanding of the term. They then expanded on this degree of sustainability and often referred to data (for example, quantities, expenditure, number of years or users) to support their answers.

The less successful students discussed the positives and/or negatives of the resource, but neglected to explicitly link this to sustainability and the future longevity of the resource. The least successful answers simply described the resource or some aspect of it without referring to sustainability and/or movement.

A example of a successful response is below.

> *Port Campbell National Park. The boardwalks, on which people move, allow visitors to enjoy walking and looking at the major attractions without making their own paths, thus disrupting the flora and fauna. The boardwalks are also raised to allow for flora to grow underneath and for animals to be able to move underneath therefore not disturbing their environment. Therefore the boardwalks contribute significantly to the sustainability of Port Campbell NP by preserving the flora and fauna and natural environment for future generations.*

**Question 4**
This question was generally completed successfully. Students were usually able to identify trends, quote statistics for countries, as well as interpret statistics from the data book. They wrote authoritative responses, usually to a competent level. Unfortunately, on some occasions, students referred to the wrong figure in the data book, while others included irrelevant information, especially for Questions 4d. and 4e.

Students should practise interpreting population pyramids. Many students confused terminology (for example, referring to a high 'birth rate' or 'fertility rate' instead of 'births' or the total numbers for an age bracket or cohort). Also, many students experienced difficulty quoting statistical data to support their responses. A common mistake was reading the figures for one side of the pyramid's vertical axis (for example, male side only) yet concluding the total was for the whole population (males and females) of that age cohort. Some students found difficulty in calculating the size of a population above a certain age where additions across several age brackets would be necessary, (for example, Question 4c.) '... country B with a birth rate of almost six million each for both males and females (correct) and still with roughly 1.2 million living past 65 (incorrect).'

**Question 4a.**

| Marks | 0 | 1 | 2 | Average |
|---|---|---|---|---|
| % | 10 | 23 | 67 | **1.6** |

Most students identified a trend related to the global population data that was evident between 1950 and 2050, and then attempted to back it up with some form of quantification. Better students identified only one trend, as required, and gave detailed evidence from the data as quantification of that trend without over-simplifying their chosen trend. For example, they correctly identified that from 1950 to 1990 there had been an overall decline in the annual growth rate from 1.458% to 0.464%, but also indicated that there were anomalies to this trend between 1965 and 1990 when the annual growth rate increased above the initial 1950 rate, ranging from 1.569% (1990) to 2.096% (1965).

Weaker students struggled to identify a trend within the time period and only focused on a shorter range of dates. They complicated manipulation of the differences between the annual population change figures provided, and did not address the full time between 1950 and 2050, referring to a 'steady increase'.

**Questions 4bi.–ii.**

| Marks | 0 | 1 | 2 | 3 | Average |
|---|---|---|---|---|---|
| % | 17 | 9 | 22 | 52 | **2.1** |

**Question 4bi.**
Most students correctly stated either Stage 5 or late Stage 4.

**Question 4bii.**
Students needed to justify the answer given in 4bi. Successful answers provided two reasons, or one reason in-depth about why Country A is in Stage 5 or 4 of the DTM. Better responses also identified and quantified that the youngest-age cohorts were smaller than older ones indicating a low birth rate, or a high life expectancy and a relatively low death rate – both features of a stage 4/5 country.

The less successful students were too general in their response and did not provide a clear reason as to why Country A is in Stage 4 or 5, and often quoted data from the population pyramid, but then arrived at erroneous conclusions.

An example of a more successful response is below.

> *Stage 5 is characterized by a very low death rate and birth rate where the population can begin to decline. This is evident in Country A as the total number of people aged between 0–4 is predicted to be 450,000. However 50-60 years ago the figure would have been around 700,000. Furthermore there is a much larger cohort in the over 40s compared to the young dependent aged cohort (0–16). This indicates an ageing population and a declining population as characterized by stage 5 of the DTM.*

**Question 4c.**

| Marks | 0 | 1 | 2 | Average |
|---|---|---|---|---|
| % | 10 | 34 | 57 | **1.5** |

This question was generally well answered. Most students suggested two reasons why demographers might conclude Country B was at Stage 2. They often referred to the overall shape of the population pyramid of Country B, and how this corresponded with the expectation of a Stage 2 country. Better responses first identified that a Stage 2 country would have falling death rates. These answers said the shape of the population pyramid indicated that Country B had falling death rates because it was broadening at some of the higher-age cohorts. It also indicated life expectancy was rising and birth rates would often still be high. This would be indicated on a population pyramid by a very wide base. The strongest responses then quantified this wide base by referring to the 0–4 age cohort.

The less successful answers often discussed one reason or provided reasons that were too general and that did not refer to any part of the population structure. Weaker responses sometimes misinterpreted the population pyramid using data that did not, in fact, back up the point being made.

An example of more a successful response is below.

> *Country B is in Stage 2 of the DTM as shown by the very wide base of their pyramid there are a large number of the population in the younger cohorts between the ages of 0–19. Another reason is that death rates must be decreasing as the gaps between each age group is getting smaller indicating less people are dying before they reach the next age group i.e. only a difference of 0.5 million from 5–9 and 0–4 years but a difference of 1.25 million between the 20–24 and 15–19 year olds.*

**Question 4d.**

| Marks | 0 | 1 | 2 | 3 | 4 | Average |
|---|---|---|---|---|---|---|
| % | 6 | 16 | 28 | 30 | 20 | **2.4** |

Students found this question challenging. A comparative statement was needed to fully answer this question. The more successful students were able to identify the population changes Country B moved through over the period of time. These students used specific data both from Country B's population pyramids and from their own knowledge of their chosen country's population pyramids.

The less successful responses often concentrated too much on one element of the question and neglected others. These responses often neglected to provide details of how population structures had changed over time. They gave detailed one-point-in-time comparisons between Country B's population structure and their chosen country's population structure, often not discussing changes over a period of time. They neglected to make much mention of Country B's population structure changes, and failed to compare it with their chosen country's changes in population structure. Students should beware of presenting prepared responses as they will seldom address the question.

An example of a successful response is below.

> *The changes in Japan's population are quite different to country B. Having reached their peak fertility in the wake of the baby boom in the early 1950s, Japan rapidly moved through the Demographic Transition Model to stage 4 by 1990 and has started to move into stage 5 presently. The demographic window shown in country B's predicted 2050 structure passed Japan during the 80s and Japan's population is now rapidly ageing, with over a third expected to be over the age of 65 by 2050. In comparison, the lack of tapering all the way from 60 to 0 in country B suggests that it will begin to age very soon if not already, when the economic benefits of a large population translate into individual prosperity and lower birth rates as a result.*

**Question 4e.**

| Marks | 0 | 1 | 2 | 3 | 4 | Average |
|---|---|---|---|---|---|---|
| % | 3 | 7 | 19 | 31 | 41 | **3** |

Many students provided successful responses, with the more successful students identifying a relevant policy that has been implemented by a government or non-government organisation.

Detailed elaboration and/or quantification were expected. Better responses identified the policy/response stating the name of the government/organisation running the policy/response. The most successful responses explained why the policy/response was needed.

Most students chose to describe China's one-child policy in detail and others chose the Baby Bonus schemes in Australia, Italy or another developed country they had studied. The introduction of compulsory superannuation was also mentioned as a response to an ageing population for Australia. Many students were able to briefly explain why these policies/responses were initiated, what they aimed to achieve and whether their goals were attained. More successful responses quoted changes in birth rates, fertility rates, population levels or growth rates to conclude the subsequent success or failure of the policy/response. Conversely, some students concentrated too much on the reasons for such policies/responses at the expense of evaluating their success.

The country of choice did not have to be the same in 4e. as in 4d. For students whose country of choice was the same for Question 4d. as in 4e., Question 4d. was often not afforded the same attention by students as Question 4e.. Students' responses to Question 4d. tended to lack quantified support or described policy decisions that were more relevant to Question 4e.

An evaluation, or judgment, of the effectiveness of the response or policy was required. Most students selected a national-scale governmental response to rapidly expanding populations – the policy/response being designed to slow down the rate of increase of population. Students' evaluations of their chosen policies/responses could range from full support to complete condemnation, and all points in between. Marks were allocated for the quality of the arguments and the data supporting the evaluation.

The less successful responses did not provide information in one or more of the following points.

- an evaluation of the effectiveness or otherwise of the response/policy
- name and/or state which government/organisation had initiated the response/policy
- what the policy/response entailed
- details of 'the changes in a population'
- justification of how the response/policy was effective/partially effective/ineffective

There was insufficient specific data provided to support their evaluation.

An example of a successful response is below.

> *Introduced in 1979 and formalised in 1980 as the Marriage Law, China's One Child Policy sees a restriction on the amount of children a couple can have to one. The One Child Policy has been highly effective in reducing China's fertility rate, falling from 5.8 to 1.7. Without such a policy China is expected to have an additional 400 million people showing the policy to be highly effective. Despite these successes the One Child Policy is not followed by all, with some couples willing to bear the fines associated with not following the policy. As well as this, China's One Child Policy has caused a high elderly dependency ratio and low marriage rate due to parents focusing on having a boy, leading to a ratio of 118 boys to 100 girls, showing that while effective in reducing population growth rate, the policy has caused numerous other population issues.*

**Question 5**

Topics covered included desertification, HIV/AIDS, malaria, acid rain, climate change, deforestation and endangered species. Teachers should ensure the topics selected for their students to study are global.

Better answers were from students who were able to use multiple different case studies for parts b., c. and d.

Successful responses demonstrated good knowledge of their chosen phenomenon. However, students did not always tailor their responses to address the specifics of the questions. The most successful students mentioned the impacts and then the organisation that was responding – where they were acting, and provided detailed descriptions and examples supported by appropriate quantification.

In part d. many students did not evaluate the statement. Part d. was an opportunity for students to evaluate the response written previously, but many students wrote vague, broad statements that lacked specific details and evidence. For example, 'Organisations can make a considerable impact on the future distribution of climate change'. The most

successful answers followed up from their response to part c. and discussed positives and negatives of the response to their phenomenon with detailed examples.

**Question 5a.**

| Marks | 0 | 1 | 2 | 3 | Average |
|---|---|---|---|---|---|
| % | 9 | 22 | 34 | 35 | **2** |

This question was generally not well answered. Students were not required to map their global phenomenon, but needed to visualise the distribution of their topic.

Better answers gave a clear, overall description of the global distribution of their phenomenon, such as *regions of desertification are found mostly between 20 degrees and 40 degrees, north and south of the equator, generally in the centres of continents surrounding deserts or on west coasts in those latitudes*, then followed an accurate and comprehensive description of the regions applicable to their phenomenon, together with exceptions to the overall distribution. Poorer answers often made vague statements and mentioned a few countries, rather than regions. The words 'above' and 'below' were used regularly instead of 'north' and 'south'. Some descriptions lacked detail. Weaker answers used only 'whole continent' descriptions and gave no pattern.

Answers involving global warming were often poor, with vague reference to regions where sea-level rise may be an issue. For this topic, a description of high carbon emissions is the most useful.

A significant number of students unnecessarily used explanatory factors, such as income, to describe the phenomenon's location, when the question asked for a description only.

An example of a successful response is below.

> *Malaria's pattern is widely dispersed around the globe with 109 countries in risk of infection. It is most common in the African region, south of the Sahara e.g. Ethiopia, Oceania region (Solomon Islands) and South America (Brazil). Generally malaria does not occur in all parts of the country due to the parasite not being able to survive high altitudes above 1000 meters, cold seasons below 20 degrees or deserts. Malaria does not occur in most of the developed regions such as Italy US, due its being wiped out in the 1950s but there remains the risk of re-infection.*

**Question 5b.**

| Marks | 0 | 1 | 2 | 3 | 4 | 5 | Average |
|---|---|---|---|---|---|---|---|
| % | 12 | 13 | 30 | 21 | 14 | 9 | **2.4** |

The most successful students chose several factors and discussed these in detail, highlighting the most important factor and justifying their choice. However, many students did not interpret the 'relative importance of factors' and did not rank the factors in any way. Even those students who made a general statement such as 'the most important factor is …' did not provide a clear justification for this ranking, or for the lesser importance of other factors. Many students identified factors rather than discussing them. Detailed understanding of at least two of the factors was required. Other students did not understand the term 'factors'. This was often the case with climate change. Better students wrote about factors affecting the distribution of the impacts of climate change being low-lying islands, poorer countries unable to build infrastructure to defend against rising seas, etc.

Planned answers scored many more marks than those where the factors were not clearly identified and ordered. These answers used particular locations as evidence for a range of factors and included some quantification or detail, and made reference to the balance between factors.

An example of a successful response is below.

> *Natural factors are the most important when explaining the distribution of desertification. This is because desertification occurs in areas which are already prone to low rainfall and drought such as the Sahel but human factors such as fuel wood clearing, over cultivation serve as a catalyst for the process of desertification. For example in Niger 85% of people rely on the land for a living which leads to over cultivation which is the removal of soil cover causing loss of soil moisture and erosion which would not occur if the land was not already prone to drought and low rainfall.*

**Question 5c.**

| Marks | 0 | 1 | 2 | 3 | 4 | Average |
|---|---|---|---|---|---|---|
| % | 4 | 8 | 29 | 36 | 23 | **2.7** |

Most students successfully used a suitable response for the impacts of their phenomenon and identified the government or non-government organisation responsible.

The most successful answers included a detailed outline of the particular aspects of the responses, described the outcomes of the response and also identified the limitations of the responses. The less successful answers neglected to link the response of the organisation to specific impacts.

Many students often interpreted and answered parts c. and d. as a pair, and so required details were often omitted, answers were often generalised and places were not located.

An example of a successful response is below.

> *The increase in global temperatures has led to an increase in the warm moist climate that is optimal to mosquito breeding. Mosquitoes are vectors for malaria and this has resulted in increased risk of infection in Africa. In response to this, the President's Malaria Imitative was initiated in 2005 by the US government to reduce the impact of malaria by 50% in 19 nominated African countries. Among the strategies to achieve this was the handing out of insecticide treated nets and use of insecticide residual spraying of homes to lessen the exposure of people in that region to the disease carrying mosquitoes.*

**Question 5d.**

| Marks | 0 | 1 | 2 | 3 | Average |
|---|---|---|---|---|---|
| % | 10 | 22 | 37 | 32 | **1.9** |

Many answers to this question were vague, general, not based on clear examples and often not purposefully either supported or rejected. Some answers referred to an evaluation making no reference to the quotation at all.

Better answers usually stated whether they agreed or disagreed with the quotation, described a government/NGO response to their global phenomenon, gave a clear indication of whether the impact would be considerable and what the distribution might be.

Most students used the case study from the previous question and outlined its success, usually providing some quantification to support their assertion.

What was missing from many responses was any sophisticated analysis of the limitations of any response to a global phenomenon. The impact on future distributions was often a missing element. Conversely, however, there were some very thoughtful and complex answers that provided examples foreseeing future difficulties and the prospect of multiple organisations working on the same issues.

Weaker students did not link their evaluation to the future distribution. Their answers were often too general or provided a simplistic evaluation of the policy they had discussed in their previous answer.

An example of a successful response is below.

> *Government or non government initiatives to help fight the impacts of desertification can make a large difference in the volume and spread of desertification by helping farmers with new farming techniques and providing funding, however regions with low rainfall and drought will always be facing the threat of desertification and will require continuous assistance in trying to reduce the effects. These organisations will not remove desertification but slow down the effects.*