



GENERAL COMMENTS

The 2009 Geography examination paper was well received by students and teachers. Students frequently demonstrated comprehensive and insightful geographical knowledge and understanding. Most students were able to write geographically and display their understanding of mandated topics.

Although it was evident that teachers had referred to the *VCE Geography Study Design* in structuring their topic coverage, there is still a need for students to be more aware of the significance and importance of the key knowledge and skills outlined for Units 3 and 4.

Areas of strength and weakness

Strengths

- Most students were able to complete the paper. Many wrote extensively and gave information that was relevant and correct.
- The examination paper allowed students to demonstrate what they knew and understood. Many students displayed a great understanding and depth of topics studied.
- The knowledge of the Murray-Darling Basin was, generally, impressive.
- An increased understanding of the term 'resource' was evident, with local resources reflecting a diversity of field work sites. Most students were able to identify similarities and differences between their resource and Paradise Beach.
- Most students were able to use the unseen data on Paradise Beach to facilitate their understanding of their own local resource.
- Local field work was well understood and discussed appropriately with better use of quantitative data collected in the field to analyse patterns of use over time. Some excellent sketch maps of the local resource provided supporting material for students' answers.
- Better responses provided informative and correct points on a range of case studies.
- There were some excellent examples of map work with global phenomena accurately portrayed and students correctly locating a case study in each hemisphere.
- Students who understood and followed instructional terminology were able to answer correctly.

Weaknesses

- Students need to practise responding to questions directly as there was some evidence of pre-prepared answers that did not always fit the questions asked. Students must be taught to be analytical and to be able to apply the appropriate material.
- Some students had little understanding of resource classification, instead writing about the characteristics of their resource in general terms.
- Knowledge of geographic concepts, such as knowledge of spatial interaction, was limited. It was of concern that many students confused the concepts of spatial interaction and spatial association, and spatial interaction and movement. Many students also had difficulty correctly describing distribution patterns and the nature of spatial change over time.
- Case studies need more preparation as many students wrote superficial responses. Students need to know the names and details of specific groups and places if they are discussing aspects of the Murray-Darling Basin. Too many students could not correctly locate and label places on the Murray-Darling Basin map, especially the Macquarie Marshes, Narran Lakes and Barmah-Millewa Forest. The Murray mouth and the Coorong were not well differentiated. The information given by many students was inaccurate.
- Generally, students' mapping skills were disappointing; it appeared that the quality of mapping had deteriorated significantly. Students appeared to be unprepared, and were inaccurate and unsure. The annotations for the sketch of Paradise Beach were disappointing. Accuracy was a major problem for many students drawing a global map of a global phenomenon. Often titles did not reflect what was drawn. Too many students confused continents, countries and regions. Again, Africa was incorrectly treated as a country by many students when it should have been referred to as a continent. It appeared that many students had a poor mental map of the world.
- The analysis of population data was disappointing. Many students could not read an age-sex pyramid correctly.
- Too many students do not understand instructional terms. For example, when asked to describe a distribution pattern, students gave reasons instead. Many students did not understand the term 'justify'.



- Students need to apply the correct geographic terminology. Instead of writing 'north' and 'south', some students referred to the 'top half' and the 'bottom half' of a country or continent, or 'above' and 'below' the equator.
- The quality of some students' handwriting continues to make reading some papers difficult.

SPECIFIC INFORMATION

Question 1a.

Marks	0	1	Average
%	16	84	0.9

The majority of students were able to accurately name a region with a population density of more than 10 persons per square kilometre. Students either chose a specific place such as an urban area, or a more general region that clearly highlighted areas with a population density greater than 10 persons that were also affected by 2006 rainfall. Examples included Hobart, central Victoria, metropolitan Melbourne, south Western Australia, the Perth region and the Adelaide region. Most students were able to accurately read and interpret the data on the maps.

Less successful students did not understand the term 'region'. For example, some students were too general and wrote responses such as Victoria or the Murray-Darling Basin. Some students overcomplicated their answers, for example, by referring to the coastal region 30 km west of Western Port Bay.

Teachers are advised to ensure that students can refer to regions using the correct geographic language instead of using words like 'corner', for example, the southwest corner of Western Australia.

Question 1b.

Marks	0	1	2	Average
%	5	35	60	1.6

Students needed to ensure that they included a correct location within the two states of Victoria and New South Wales, as well as sufficient evidence or further elaboration. Students who achieved high marks were able to comment on a particular area within the two states and explain how it was being affected by water shortages. It was clear that students who cited both data types to justify their statement were able to give quantification in their reasoning. Many good answers quoted incidences of well below average and lowest on record average rainfall and irrigation areas of high water usage >950 gl as justification.

Less successful responses were too general and discussed the state as a whole rather than examples from specific places. These students did not focus on one piece of evidence as required by the question, but rather wrote as much as they could on many possible explanations. Students could have discussed several pieces of evidence to support their answer. A common mistake made by students was giving detailed descriptions of rainfall data but not using the water usage information to justify the statement.

The following are examples of successful responses.

In 2006, much of the rainfall over Victoria and NSW has been either below average or very much below average or the lowest on record. With so little rainfall there is likely to be water shortages as some regions in these states such as the Riverina sub region and Mildura consume very high amounts of water (1250gl respectively), which have been receiving very low amounts of rainfall. This lack of sufficient rain will put a strain on water users in NSW and Victoria.

Very much below average rainfall has occurred in large parts of NSW (southern and central regions) and across the whole of Victoria (except for the eastern corner). This correlates with the high water use and regions of the Goulburn Valley (north central Vic) and the Riverina (south central NSW). These areas use between 1250 and 1830 gicalitres of water each year.

Question 1c.

Marks	0	1	Average
%	56	44	0.5

Students were required to justify one piece of additional information not found in Figure 1 that would enable them to support their answer to Question 1b. Students needed to ensure that they clearly understood the instructional term 'justify'. Successful answers identified water storage levels, evaporation levels of water resources, soil moisture levels, groundwater, the rainfall amount before 2006, patterns of runoff prior to 2006, water flowing in from other regions, the introduction of water restrictions and water dependent types of agriculture and horticulture in the region.



Weaker students simply explained a piece of additional information or did not read the question carefully and cited data already given in the data book as further justification.

The following are examples of successful responses.

The infrastructure provided to assist in water regulation i.e. dams, weirs, channels would also support the previous question, as water may be distributed from regions of high rainfall to regions of low (through channels) such as Victoria and NSW, putting great pressure on water shortages and natural flows.

Evidence to support would be the amount of water available to Victoria and NSW, such as from storage and diversions, which would need to be sufficiently low for the states to be under considerable pressure from lack of water.

Question 2a.

Marks	0	1	2	Average
%	34	23	43	1.1

This question was poorly completed by a majority of students. Many students were unable to identify the water resource for their conflict and gave the name of a resource such as a forest or cotton farm, or a place or feature. Less successful students could not accurately locate their case study on the map. It is an important and basic geographic skill that students learn the locations of their case studies accurately. For example, Cubbie Station was mapped in Queensland, Victoria and South Australia. Other case studies, such as the Macquarie Marshes and the Coorong, etc., were also incorrectly located by many students. Some students were unable to accurately map the Murray River.

Less successful students did not name a water resource and instead simply named a location (for example, the Barmah-Millewa Forest or Cubbie Station), and shaded or indicated very large areas on the map. This demonstrated a lack of understanding of the scale on the map. Many students seemed to misunderstand the difference between a water resource and a location. For example, students located Cubbie Station rather than saying the water storages used for irrigation on Cubbie Station or they located the Barmah-Millewa Forest rather than referring to the wetlands located there.

More successful students clearly labelled the precise location with the name of their water resource and added this information onto their map with a full title.

Question 2b.

Marks	0	1	2	Average
%	15	31	54	1.4

This question allowed some differentiation and appeared to be challenging for a number of students; however, the better students were able to outline their conflict succinctly.

More successful students provided a brief summary of the conflict over the use of water, naming what the resource was, the type of conflict, factors affecting the conflict, time frame and other relevant material. These students showed evidence of research and understanding and often related their answers back to the mapped conflict. Responses included examples of local cotton farmers requiring irrigation water while conservationists wanted water to sustain local flora and fauna, farmers and irrigators in the region needing water for the irrigation of crops while environmental flows are in danger of not having the required amount of water, and the Shepparton irrigation areas causing conflict with the local towns who need water. Some better responses included the amount of water diverted for irrigation or the amount of water held on farm dams which is diverted from the Murray-Darling for irrigation. Relevant government bodies or state governments were referred to correctly in most cases, for example, the New South Wales Government approving licences to farmers for irrigation and also having to negotiate with environmental groups to address the need for water for environmental flows. The north-south pipeline was a popular choice.

Less successful students wrote in general terms, often only mentioning one aspect of the conflict or not stating why there was a conflict. These students referred to groups such as farmers, conservationists, government, etc. Some talked about the whole Basin rather than a specific conflict within the Basin, or about one group, for example, 'the cotton growers of the Northern Territory', instead of correctly identifying them as the cotton growers of the northern region of the Murray-Darling Basin. Some students who named the Murray River in Question 1a. then described a conflict on the Goulburn that was unrelated to the Murray. Some named more than one conflict but did not include any details. Many described the conflict in general terms, referring to upstream and downstream users.



Weaker answers could not locate the north-south pipeline and had little understanding of the issue. Mention of local and state governments were not precise and many general responses were given about how the government did not really appreciate the farmers' dilemma. Many responses included the view that rice and cotton farmers were involved in farming practices that were unsustainable given the drought and the low water levels in the Basin. A small number of students mentioned citrus and stone fruit growers in the conflict over water and linked them to the cotton and rice growers who they saw as being responsible for taking and using amounts of water, and not allowing a fair and equitable share of the irrigation water lower down in the Basin. The water available to the Coorong/Lake Alexandrina/lower lakes, etc. was often referred to as being a problem due to the water use upstream by farmers.

The following is an example of a successful response.

Conflict in the Coorong occurs over the allocation of water between prominently environmental groups such as the Australian Conservation Foundation and native Ngarrindjer tribes, who are in conflict with upstream users such as irrigators and domestic users. Environmental groups, as mentioned, want water to be allocated more to the Coorong region to ensure the environmental health and vitality of the region, where as irrigators and domestic users want this water to sustain current economic conditions.

Question 2c.

Marks	0	1	2	3	4	Average
%	10	8	24	22	35	2.6

Although this question was reasonably well handed by most students, and most responses were able to show a clear understanding of the viewpoint of each of the parties involved, some students did not give sufficient detail on each group. Often students gave more detail for one group or organisation and not the other. More successful responses named each group, outlined their positions and mentioned aspects including the time frame and the reason for their position. Less successful students were unable to name two specific groups and talked in general about governments, farmers, environmentalists, etc.

Better responses elaborated and quantified the views of the parties, for example, supporters of the 'Living Murray Initiative' rather than 'the environmental groups'. These responses also included more information that justified the views about the conflict. Some general responses included, for example, the Sunraysia District, the Goulburn Valley Farmers Association and others such as the townspeople who were trying to maintain a business. These responses were not as detailed when explaining the reasons for their dissatisfaction and the consequences of the water reduction levels.

Trading water allocation rights were discussed at length by some students. The most common information given surrounded the disputes over the amounts of water given to different land uses, groups and/or areas such as wetlands, marshes or the Murray mouth. Most students stated the benefits of the water allocation rights clearly and included the more reasonable way that water could be used or reused if it was not needed by those who had the allocation.

The following is an example of a successful response showing the parties involved in the conflict over the Macquarie Marshes.

Macquarie Marshes

Cotton Irrigators

Cotton irrigation has a high intensity water use therefore irrigators located around the wetlands demand an increase in water diversions in order to produce cotton and support local towns dependent on the industry. The cotton industry in the MDB produces 71 % of the Australian cotton.

Environmentalists such as the Inland Rivers Network demand an increase in environmental flows back to the marshes. These flows act, not only as a support for nature and migratory species, but as a filter removing pollutants from the river system. As the wetlands are dying, the marshes cannot fulfil these duties unless flows are returned.

Question 2d.

Marks	0	1	2	3	4	Average
%	15	16	28	28	13	2.1

This question was poorly handled and responses ranged from very general to quite specific. Many answers did not address the question and did not discuss a strategy developed to manage the conflict.

The strategy selected was dependent on the conflict discussed in the earlier sections, but they included the Cap and Living Murray initiative/environmental flows (in relation to specific places and water saving measures). This question was completed well by a limited number of students who were able to say who created the strategy being discussed and



what the strategy was. They then went on to state why it was needed and gave a time frame, and benefits and/or problems. Better answers were able to address the strategy and indicated evidence of research and a clear understanding of the conflict. These answers were also able to link back to the conflict mapped in Question 2a.

A number of students, however, found this question very difficult and could not always name the organisation that created the strategy or state how it managed the conflict. Less successful students also failed to correctly identify a strategy and at times wrote about a variety of strategies.

The following is an example of a successful response.

The Rudd Government has devised and implemented the 'Buy Back Scheme'. This is where they pay large amounts of money to buy land and water allocations from farmers to help restore the land to its natural state and to ensure environmental flows. However, controversy has arisen over the Government's decision to pay \$23 million for Toorale Station and whether or not it was a suitable buy.

Question 2e.

Marks	0	1	2	3	4	Average
%	20	18	27	22	12	1.9

This question was not answered well by a large number of students. Many still do not understand the term 'sustainability' or are unable to show how their strategy may or may not be sustainable. The question dealt with the evaluation of the sustainability of the water resource, not the sustainability of the strategy. Too many students did not read this question carefully and misinterpreted what was asked. Most students did, however, refer to the water resource they had earlier identified.

More successful responses included an application of the concept of sustainability, an application of this concept to their named water resource and how their strategy would affect sustainability. These answers referred to the damage already done to the ecosystem, the likelihood of future problems and the water not being a sustainable resource. Amounts of water for flows and for farming were also quantified.

Many responses focused on the lower lakes and the Coorong. Discussion of the wetlands in New South Wales and Victoria included information on how to measure the success of the management strategy and how the water resource would, or could, respond to it in the future. Better answers included the use of the words 'sustainable' or 'unsustainable' and also mentioned the time needed for changes to be effective.

Less successful answers focused on the policies or strategies which would not deliver the required water amounts to farmers and other users, and did not make direct links with the water resources; for example, by suggesting that both or all three states must come to an agreement as to the way to allocate water, and until they do this nothing can be achieved.

Although most responses included the strengths and weaknesses of the management plans, many were general and did not specify the results by using words such as 'scale', 'distribution', 'temporary' and 'long-term flow on effects', which could have clarified their understanding of the sustainability of the water resource. Some responses only discussed long-term or short-term benefits of policies, etc. but did not elaborate or explain the details of the benefits or otherwise to the water resource. The students needed to refer to future use as an indication of sustainability. These responses used phrases such as 'the health of the river will suffer', 'not enough water will run down the river' and 'there will be less water for everyone up and downstream'.

The following are examples of successful responses.

The implementation of improved irrigation techniques will undoubtedly save the 100GL the state and federal movement claim in the MDB. But the Goulburn River Shire will not receive the entire 100GL. Sustainability can be defined as something that is used and replenished and is available to future generations, but in this case the 75GL that has been used from the Goulburn River will not be replenished and therefore the water resource is not sustainable.

The Macquarie Marshes plan strategy has been ineffective leaving the future sustainability of the wetland at stake. The strategies have proved to be socially unacceptable to groups such as the Cotton Irrigators as they continue to extract water. The local Catchment Authority who have the power to buy back water have not yet done so. Dying River Gums and failed bird breeding are all part of the harsh reality of the dying marshes, which only around 40-50% of their original state before irrigation.



Question 3a.

Marks	0	1	2	Average
%	7	22	71	1.7

Almost all students were able to identify a local resource and it was clear that students had carried out some very detailed, precise field work. The majority of students showed that they understood the idea of a resource; however, many students claimed that their resource was similar to Paradise Beach when it was only a small park or other small-scale local resource. The seasonal use and scale of use were often poorly classified.

Most students correctly classified their resource and, generally, answers were strong. The best responses immediately classified their resource and then proceeded to discuss a similarity or a difference, using examples or quantification in their answer.

A major error in responses to this question was the confusion between the classification and use/facilities at the two sites, for example, some students:

- gave all the uses of their site but did not classify it
- classified their resource but did not make a direct comparison
- inferred comparison by the terms 'similar', 'also' and 'unlike' without mentioning Paradise Beach
- concentrated on other aspects, such as coastal location or facilities such as roads, that detracted from the focus of the question.

The following are examples of more successful responses.

Tidal River Village, at Wilson's Promontory National Park, can also be classified as a seasonal recreational resource. It is similar to Paradise Beach because it has a beach for swimming and facilities for tourists to enjoy. It also has a high population density during peak (Dec-Feb) seasons. In the summer holidays, Tidal River Village accommodates up to 4000 visitors per day.

This resource classification is very similar to that of Woolami Coastal dunes. The Woolami Dunes are a natural, recreational resource giving people a place to relax and participate in activities such as surfing, swimming and fishing. They are formed by natural processes such as deposition and natural dune migration. The resources are similar in that they are recreational, giving people a place to relax and enjoy themselves.

Question 3b.

Marks	0	1	2	Average
%	27	31	42	1.2

Students tended to struggle with this question. They were required to identify two components and discuss the strength of the spatial interaction (degree of influence). Despite the definition of spatial interaction being provided in this year's paper, students often confused spatial interaction with movement or spatial association. Consequently, Questions 3b. and 3c. posed a challenge to many students and many weak responses were presented.

More successful responses chose two components that clearly interacted with each other and then clearly explained the interaction by commenting on the strength of the relationship.

Students needed to clearly mention two places, as well as the nature, consequences, volume or impact of the movement. There was a good range of acceptable spatial interactions, showing the wide range of local resources studied and the correct identifications.

The following are examples of successful responses.

There is a high spatial interaction between farmland in the eastern part of the catchment of the East Tarago River and the water (poor water quality) of the East Tarago River. When it rains, farm waste, fertilizer and pesticides from the farmland wash into the East Tarago River causing the water quality to deteriorate.

There is a strong spatial interaction between Flagstaff Gardens and the surrounding/adjacent land uses (commercial office buildings and high rise residential apartments). The Flagstaff Gardens are used by office workers on a daily basis, as a place for passive (eating lunch is one of the main uses of the Gardens) or active (exercise on tennis/netball courts) recreational purposes.

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Question 3c.

Marks	0	1	2	Average
%	39	37	24	0.9

Annotations provided a challenge for many students and in many cases were poorly completed. It was often difficult for assessors to identify which question the annotation was attempting to answer. Better answers used a key or colours to identify the answer to the spatial interaction question and the answer to the management question. This is a simple geographic technique that should be in the repertoire of all students.

The two locations were generally shown and the concept of movement was evident, but the spatial interaction was not clearly outlined. The strength of the relationship was often ignored. Some students misread the question and described spatial association. Many students simply stated that there was movement down the road to the beach. Some students used simple but effective colour to highlight the required features.

The following are examples of successful responses.

There is a high spatial interaction between people on the boat coming to the jetty from neighbouring beaches e.g. Super Paradise, for a change of scene.

There is a strong spatial interaction between the roads and car parks located within walking distance of the beach. Due to easy access and parking, more people will travel into Paradise Beach to use the beach resource.

Question 3d.

Marks	0	1	2	Average
%	16	14	70	1.6

With regard to the management of the recreational resource, most students used the background information given to identify a management strategy such as the cleaning of the beach, or the chairs which provided a rental income. Many mentioned the fencing and the shade provided by the umbrellas. Some students thought they saw a lifeguard station and commented on this, while others mentioned the buoys in the sea, suggesting that they separated swimmers from the boats that used the pier. Some students suggested measures to control erosion of the rocky cliffs. The use of simple but effective keys/legends was evident in this section.

The following is an example of a successful response.

The distribution of fencing along the beachfront separates the beach from other uses and manages the beach well. The fencing could protect vegetation or manage visitors by ensuring they remain on the sand areas.

Question 3e.

Marks	0	1	2	Average
%	9	26	65	1.6

Most students easily identified a management strategy that operated successfully within their local resource. Some students misread the question and responded to a future hypothetical strategy. Two key words, 'justify' and 'successfully', needed to be understood for students to correctly answer this question. A major problem for students was that they did not say if the management strategy was successful or rate its success. The number of responses that referred to Paradise Beach rather than the student's own local resource was surprising.

The following are examples of more successful responses.

A management strategy used within Philip Island Nature Park is the 'Domestic Animal Management Plan' aiming to assist locals with responsible pet ownership and to reduce the impact of feral animals on the penguins and other natural resources on the island. This strategy has been highly successful, and since it was implemented, feral animal numbers have been significantly reduced.

The Risk Management Scheme (2008)) placing reference numbers and safety signs/bike difficulty signs around the Park (You Yangs) is a management strategy. In justifying this strategy as successful, the 8 ambulances needed to be called each fortnight has been reduced by 25% within one year of implementation.



Question 4a.

Marks	0	1	2	Average
%	11	16	73	1.6

This question was very well handled by the majority of students. The more successful answers clearly identified one similarity between the 1984 global distribution of birth rates and the 2009 distribution of birth rates as shown on the two maps, and then quantified their answers by quoting birth rates for a country or group of countries. The larger countries and continents of Australia, North America (USA, Canada and Alaska), Western Europe (excluding Ireland) and Scandinavia had obvious similarities but, interestingly, many students chose to comment on more obscure countries in Africa (for example, Zaire and Mali). This was acceptable, provided students named the countries correctly. Less successful answers omitted the quantification, but very few were unable to provide some form of similarity.

The following are examples of successful responses.

From 1984 to 2009, the distribution of birth rates below 18 per 1000 population has remained similar with most Western or more economically developed countries such as European countries including Italy, Germany, England and Spain and also the USA, Australia and Canada all having birth rates below 18 per 1000 population.

The western world, being developed in 1984, has changed little. Australia, Canada and USA are all below 18 births per 1000 in 2009, as they were in 1984.

Question 4b.

Marks	0	1	2	Average
%	11	18	71	1.6

This question was also handled very well by many students. Most students could clearly identify one difference and then follow up with a clear quantification. More successful answers comprised a simple observation of one country or region, and statistics from the 1984 map and 2009 map to support their choice. The larger countries, regions and continents of obvious difference were Russia, China, Greenland, Central America, Brazil, northern South America, Chile, Argentina, the Middle East, India, Malaysia and Indonesia, but many students still chose to identify small countries in Africa or the Pacific.

Less successful answers to Questions 4a. and/or 4b. failed to identify a clear difference or similarity and/or failed to quantify their similarity or difference sufficiently. The use of data had to be shown. Less successful students named a country or region without justifying their answer with a statistic.

Other less successful responses claimed that less economically developed countries (or conversely more economically developed countries) had the highest (lowest) birth rates in both time frames, but did not clarify which countries were less or more economically developed. Furthermore, weaker responses made generalised or inaccurate conclusions.

Less successful responses made a general observation of difference but did not support it with full examples from each time frame. It was also inappropriate for students to comment on a less scattered pattern; for example, by saying that distribution in 2009 is much more scattered than in 1984, China and Russia now have a birth rate of less than 18 and the general trend of birth rates is declining.

The following are examples of successful responses.

One difference between the 1984 and 2009 global distribution is the pattern of birth rates in New Zealand. In New Zealand they had a birth rate of 18-27 per 1000 in 1984 but in 2009 their birth rate has dropped to below 18 per 1000 people.

Some countries birth rates have changed significantly, for example, Algeria's which was 37-45 births per 1000 in 1984, but declined to reach a low level of less than 18 per 1000 population by 2009. This is an example of a significant change in the overall pattern of birth rates between 1984 and 2009 as many countries, such as several in Africa, move to new stages of the demographic transition model.

A difference between 1984 birth rates and 2009 birth rates is that, generally, the birth rates have globally decreased. For example, the northern region of South America has gone from 28-36 births per 1000 to 18-27 births per 1000.

Question 4ci-ii.

Marks	0	1	2	3	Average
%	8	18	33	41	2.1



Question 4ci.

This question was handled well with a high number of students clearly identifying age-structure B as the falling birth rate.

Question 4cii.

Students were required to state a reason for choosing age-sex structure B and support their choice with sufficient elaboration or quantification. Many went on to observe that the decline corresponded with the time frame shown by the maps (from 1984 to 2009 – 25 years). The maps gave the time span which then had to be applied to the age-sex structures.

More successful responses were able to add support to their answer by including either a quantification or some elaboration. These responses correctly compared the number of males and females in the 20–24 age group, with the numbers in lower age groups (especially in the 0–4 age group) and observed the falling numbers in each cohort. Some stronger answers gave further elaboration by saying that the other age-sex structures (A and C) indicated rising rather than falling birth rates as they had larger numbers of younger children (for example, 0–10 year olds) than 20–24 year olds.

More successful responses explained why the narrowing base of the population pyramid in the 0–19 age groups indicated a declining birth rate and quantified their answers, suggesting that the population numbers were in the thousands. These students correctly added the male and female numbers for both sides of the pyramid or gave the numbers for both males and females.

Less successful answers failed to quantify their response. A common fault was to refer to the population pyramids as maps and often there was discussion of the maps from Question 4a. and 4b., which was not required. Many students gave the population of an age group on one side of the pyramid as the cohort size. Some students assumed that structure B was correct because it had fewer people than the other diagrams and this meant that it had a lower birth rate. Others thought that the pyramids were from the same country but at different periods of time.

Less successful answers also struggled to explain the reason why age-sex structure B best fit a falling birth rate, were too general in their response and/or could not link quantifying data to their answer. This highlights the importance of students understanding and interpreting age-sex structures. Some students incorrectly thought that because structure B was measured in thousands rather than millions like structures A and C, then the birth rates must be declining in structure B. These students failed to understand that the question required a comment on birth rates and not on population size.

The following are examples of successful responses.

In 1989 Country B had a large proportion of people aged 0-5 years old. From 1989 the birth rate began to decline. This is demonstrated because every 5 years since 1989 the proportion and numbers aged 0-5 decreased from the previous 5 years. For example, in the 20-24 age cohort there is a population of nearly 200,000 people but as we head towards the 0-4 cohort the population of 0-4's is around 160,000 thus proving a decline.

I chose B because from the 20-24 age bracket the population in thousands gets less and less. In males aged 20-24 there is over 100,000. In males ages 0-4 there is approximately 85,000. In females aged 20-24 there is approximately 90,000. In females aged 0-4 there is under 80,000. This illustrates a falling birthrate.

Question 4d.

Marks	0	1	2	3	4	Average
%	5	8	24	20	43	2.9

More successful answers provided two clear reasons why the birth rate for a population can vary, gave examples which were often quantified, and most importantly, said whether the birth rate had increased or decreased. Responses should have concentrated on the general causes of change (social tradition, economic reasons, education, government policy, etc.).

Students were generally able to name two reasons why birth rates might vary within a nation, or why there is variation in birth rates between countries. They could usually describe the factor and then explain the logical result, that is, a decline or increase in the birth rate. Less successful students, however, tended to explain the cause of the change (for example, increasing education standards of women) but failed to follow their explanation through to the logical outcome (a decline in birth rates). These students could sometimes provide part of the link; for example, they described



how some educated women are choosing to pursue careers or are more independent and in control of their bodies and they are starting families later. These students did not clarify the logical conclusion – that many women are having fewer babies and having them later in their lives, or women are choosing not to have families at all in preference of a career. More successful responses clearly identified a reason and were able to describe the reason using very strong elaboration or quantification.

Similarly, war (or natural disasters) was often mentioned as a cause of birth rates varying but only a few students explained the real reason – that birth rates declined due to the deaths of young men (and women) who made up the majority of the reproducing population. Students must not assume that a high death rate (due to war, or natural disasters) equates to a low birth rate. War discourages couples from having children because of uncertain futures.

Less successful answers were vague, general, lacking detail and often failed to mention the effect of their reasons on the birth rate. There was often confusion between birth rate and fertility rate.

Less successful responses were confused when mentioning economic factors, saying that if couples were feeling like they were in a good financial position and that they could afford to have children, they were more likely to have more children. Although this may be the case for individual couples, global trends show the opposite pattern where the wealthier countries have lower birth rates. Other less successful students described reasons why another type of indicator can vary instead of referring to birth rates.

The following are examples of successful responses.

Education is a major factor influencing birth rates. In developing countries, such as Gambia, access to education for women tends to be lower which can cause a lack of understanding in regards to healthcare and contraception, which can also increase younger marriages and a higher fertility rate and therefore birth rate. Women in developed countries such as Australia tend to be more education focused and career focused and hence women may put off the notion of childbirth to a later age and also less children.

Access to education, particularly females. In developed countries such as Australia, there is a high level of education. This gives women confidence and the ability to take control of their bodies and have a career. Due to a career, a woman has less time for children and so has fewer, hence a lower birth rate.

Cultural factors can have a great effect on birth rates for example in regions of Africa it is a long held tradition that it is honorable for a man to father many children, especially sons, thus causing a higher birthrate than in countries where this is not a cultural norm.

Question 4ei–ii.

Marks	0	1	2	3	4	Average
%	5	9	20	25	41	2.9

Question 4ei. was not answered as well as Question 4eii. Most students were well versed in a specific country’s population policy for Question 4eii., with most choosing to describe China’s one-child policy in detail and others choosing the Baby Bonus schemes and immigration schemes in Australia, Italy or another developed country they had studied. Question 4ei. was not given the same attention by students as Question 4eii. due to a lack of planning of answers for both parts of the question. Many students might have described in detail the history of how a specific population was increasing or decreasing and a government policy that had caused this, but then ran out of space, so only briefly explained or failed to fully describe the impact. It would have been better for students to outline the impact in more detail at the expense of detail in describing the background history. Weaker responses also interchanged fertility rates with birth rates, which are not the same.

It should be noted that there remains widespread misinformation on China’s population, with many students assuming that birth rates were increasing until the one-child policy was put into effect. This area should be covered more accurately in the future. Australia’s position was also not discussed with sufficient accuracy at times, with many students believing that immigration was introduced to counter the ageing population.

Question 4ei.

This question required students to demonstrate their specific case study knowledge, concentrating on a more specific example of change and the resultant impacts. For Question 4ei., answers needed to refer to either people or the environment. Successful answers needed to clearly identify and discuss an impact of changing birth rates and then provide sufficient elaboration or quantification.



Less successful answers failed to discuss changing birth rates, and instead wrote about high or low birth rates, particularly high birth rates in China, or failed to give a time period for the change in birth rates. A common fault was to state that, as a result of the one-child policy, China's population had decreased, rather than its rate of increase had reduced.

Some more successful students added that the Italian Government was now under pressure to support the ageing population with pensions, aged-care facilities and health care, so taxes to cover this are increasing. The introduction of compulsory superannuation was also mentioned. Many less successful students mentioned rising taxes as an impact but did not fully understand who imposed them and why.

Most students could differentiate between impacts on people and impacts on environment.

Some less successful students failed to link the impact logically to the cause. Similarly, some students stated that 'China's one-child policy had caused a gender imbalance as boys were more valued than girls'; however, this response did not make a link or give an explanation. Unless the issue of gender-selective abortions (to abort girls and keep boys) is raised, there is no reason to expect that, with each couple only allowed one child, suddenly more boys would be born.

The following are examples of successful responses.

A fall in birth rates in Italy due largely to a fertility rate of 1.19 has resulted in an ageing population in Italy. This will impact on the Italian government as social security and healthcare costs will become a burden for the Italian population and there will be fewer people in the workforce to sustain the Italian economy.

Recently Australia's birth rate was falling and reached a low of 12.02 births per 1000 people in 2007 and a fertility rate of 1.9/1000, which is below replacement. This had a negative impact upon the people as an aging population results in an increase in the dependency ratio declines possibly leading to slower economic growth and lower living standards.

Question 4eii.

Students had to discuss a response of the relevant national government to this impact. Detailed elaboration and/or quantification was expected. More successful responses quoted birth rates, population levels, amounts of baby bonuses, migration policies and other government responses. This question was equally well done by students who chose to discuss China, Italy or Australia. Many students competently detailed a specific government response and were able to discuss how it worked and whether it was effective.

A few students could not name a specific response or did not relate the response they mentioned to the impact described in Question 4ei. Furthermore, some weaker students still confused a declining birth rate with declining population.

Some students struggled due to a lack of planning of answers for both parts of this question. If the government policy was detailed in Question 4ei., then students often had nothing left to comment on for their answer to 4eii. These students described another policy which was combating another impact not mentioned in Question 4ei.

Less successful answers were typically too general, failed to elaborate or use sufficient quantification and quoted inaccurate or irrelevant quantifying material.

The following are examples of successful responses.

In response to the aging population issue, the Australian Federal government introduced the 'Baby Bonus'. A \$6000 one-off payment to parents and increased the subsidy of child care from 30% to 50%. This gave parents a financial incentive to have children and contributed to an increase in the birth rate to 12.55/1000 and an increase in the replacement rate to 1.97/1000 and a record 293600 live births in 2008.

Because of the high birth rates in Kenya, and birth rates reaching 37-45 births per 1000, the Kenyan Government instituted, with the help of USAID and UNFPA a policy to limit birth rates. This included both an advertising campaign aimed at both men and women to encourage smaller families and an increase in contraception availability and family planning centres, to help reduce birth rates.



Question 5ai–ii.

Marks	0	1	2	3	4	Average
%	10	11	20	29	31	2.6

Question 5ai.

Although this question was well attempted by many students, too many maps had inaccuracies. More successful students correctly mapped the distribution of a global phenomenon. Examples included the distribution of desertified regions, expected temperature increases due to global warming, active volcanic regions and HIV/AIDS. Good responses were characterised by accurate depiction of the distribution of the global phenomena, by the use of appropriate and presentable mapping techniques and by the use of mapping conventions (border, orientation, legend, title, scale, source). Students need to be mindful that their responses to the initial parts of a question may constrain and direct their responses to later parts. Students need to take account of such ‘linked’ questions when giving their responses to the first parts of questions. Weaker students either used careless mapping techniques, presented inaccurate information and/or neglected to follow the conventions of mapping. Students need to be better informed of the nature of desertification as there was constant confusion with deserts.

Question 5aii.

Generally this question was poorly answered. Better students accurately located and named, either on the map or in a key, a place in both the northern and southern hemispheres that was relevant to their mapped global phenomenon. Some students marked places on the map but neglected to name them. Naming was essential; without naming the location it was not possible to assess the relevance and accuracy of the place to the mapped phenomenon. Other students did not mark a location but rather a region of the world. A few students neglected to respond to this question.

Question 5b.

Marks	0	1	2	3	4	Average
%	12	18	28	27	16	2.2

This question was reasonably well answered. Better students addressed the question by describing the main pattern of the distribution (for example, ‘unevenly distributed but in close proximity to deserts’), then naming particular locations and regions (‘the Sahel region to the South of the Sahara desert in Africa’). More successful students identified exceptions or anomalies to the general distribution described earlier in the response. Some students simply listed all regions and countries involved in their particular global phenomena; such responses did not gain marks as they did not ‘describe the distribution’ of the global phenomena as required. Some students explained the distribution of their chosen global phenomena; however, this was not required by the question and so could not gain any marks. Less successful students presented material that was irrelevant to and/or different from the global phenomenon mapped and made no reference to the two places marked on their map.

The following is an example of a successful response.

The distribution of Invasive Alien Species which have more than or equal to 30 invader species are scattered randomly across the world. An example of this is South Africa (35 species), Australia (99species) and the USA (99 species) which are separated by three major oceans and are thousands of kilometers apart. An exception to this is Russia (40 species) China (66 species) and India (60 species) which appeared grouped amongst the continents of Asia with their borders coming into contact with either one or both countries.

Question 5c.

Marks	0	1	2	3	4	Average
%	15	16	27	27	16	2.1

Some students did not respond to the statement and as a result this question was generally not well answered. The understanding of factors was also limited.

More successful students deconstructed the question and realised that an evaluation was needed as to whether or not social factors were the most important in determining the distribution of their mapped global phenomenon. These students often started their response with a judgment as to whether or not social factors were the most important type of factor in explaining the distribution of their mapped global phenomenon. They then went on to justify their judgment, not only by explaining the most important factor but also by explaining why other types of factors were not as important. Better responses also used detailed, specific examples to support their arguments.



Some students made an evaluation but were clearly confused as to what constituted a social factor. Social factors were often evaluated as the most important and then justifications frequently referred to economic and political material as evidence. Teachers should ensure that students are familiar with what constitutes the different types of factors – social, historical, environmental, economic, physical, political and technological. Less successful students failed to understand the requirements of the question and produced material which was often irrelevant. Often no evaluation was attempted and students merely described some of the factors leading to their particular global phenomenon. Less successful students sometimes wrote about a social impact rather than a social factor.

The following is an example of a successful response.

Although social factors do play a part in desertification it is environmental factors which also play an equally important role. In the Sahel high birth rates(a social factor) in countries such as Sudan (a Total Fertility rate of 4.2 in 2003) do play a role in adding pressure in terms of the need for increased food production. This forced production leads to unsustainable farming practices, such as overgrazing, and so land degradation and eventually desertification. However, environmental factors such as unpredictable and variable rainfall, naturally occurring drought periods and longer term naturally occurring climatic variations also play a major role in the spread and distribution of desertification.

Question 5d.

Marks	0	1	2	3	Average
%	11	15	27	47	2.1

Generally this question was well answered. Many students had clearly learnt detailed case studies and were able to use them appropriately in their responses. They had a strong grasp of the solution or response to the global issue and even though some were confused about whether the organisation was a non-government organisation (NGO) or government organisation (GO), they could talk about its effectiveness.

Better responses described the nature of the ‘response’ under discussion and also stated the name of the government or non-government organisation involved. They then expressed an opinion as to the degree of effectiveness of the response to their mapped global phenomenon. Better responses also explained the reasons for their opinion – often by reference to detailed examples exemplifying the success or otherwise of the response in managing an aspect of the global phenomenon. Some students successfully discussed effectiveness in terms of short-term and long-term outcomes. Some students merely described a response to their global phenomenon but made no attempt to discuss its effectiveness. Weaker students failed to identify a response and wrote about the factors causing their global phenomenon or the impacts that derived from it, both of which were irrelevant to this question. A few students failed to gain marks because they discussed a response to a global phenomenon other than the one they had mapped in.

The following are examples of more successful responses.

Under the United Nation’s influence, the ‘Desert Margins Program’ (DMP) has had small success in trying to slow down the spread of deserts while increasing the availability of food. In countries such as Mali and Niger agrodiversity is being encouraged so that one soil nutrient is not overused in the soil. They also promote the planting of ‘cow-peas’ before planting their own crops for humans in order to nitrogenise the soil. In a similar vein US\$50 million is being allocated to technology. This aims to improve the way crops use limited amounts of water. These schemes have resulted in small reductions in the size of deserts by 1.6% whilst food production in these regions has risen 5%.In the short term it has been effective in slowing the spread of deserts where it has been applied. However in the long term issues such as the dwindling water supply may reverse some of these short term successes.

An effective response from a government is the creation of the Goat Island Marine Sanctuary in New Zealand. Previous overfishing had left the fish stocks of the area very low, so a 5 square kilometre marine sanctuary was formed where the taking of any fish or shellfish is prohibited. This has now lead to an area where there are 14 times more lobster and 15 times more snapper inside than outside and those snapper being 7 times larger than snapper outside also. It has also been effective from an economic point of view, with 100,000 visitors coming to the region annually to snorkel and scuba dive in the marine sanctuary.