

Geography B

General Certificate of Secondary Education

Unit **B561/01**: Sustainable Decision Making (SDM)

Mark Scheme for June 2013

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All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.






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Annotations

Annotation	Meaning
	Correct point
	Incorrect point
	Unclear
	Omission mark
	Irrelevant, a significant amount of material that does not answer the question
	Development
	Level one
	Level two
	Level three
	Left bracket
	Right bracket
	Dynamic, Vertical Wavy line that can be expanded
	Benefit of the doubt
	No benefit of doubt given

Question		Answer	Marks	Guidance
1 ✓	(a)	Volcano Earthquake	1	1 mark for any one of these.
✓ DEV	(b)	Ignorance of Risk Lack of Alternatives Advantages of the Area Inertia.	2	Any 1 reason with explanation e.g. Ignorance of Risk – don't know it's dangerous Advantages of Area – Fertile/good soils so grow more/better crops, Climate, Jobs etc. Inertia – can't be bothered to move/want to stay with family Lack of Alternatives – too poor to move Etc. Not Cheaper to live there ideas. Reasons can be other than the 4 given in Fig 1b so long as they are correct and linked to a tectonic risk.
2 ✓	(a)	9.1	1	This answer only.
✓	(b) (i)	<i>High</i> Eastern Sichuan Maule <i>Low</i> Hokkaido	1	Have to have all 3 in correct order for 1 mark. Don't have to mention the country but ok if they do.
✓	(ii)	Honshu	1	Don't have to mention the country but ok if they do.
✓ DEV	(c)	Buildings: <ul style="list-style-type: none"> Sumatra/Indonesia is LEDC/poor Relative cost of buildings Building Density Building codes. Preparedness of Governments: <ul style="list-style-type: none"> Measures to ensure costs don't escalate due to things such as fires/power outages/water supply/gas leaks. 	4	4 marks can be any combination of ticks and devs. Dev can be explanation or comparison to another earthquake from the table (but only 1 comparison mark per exemplar earthquake) . Accept any sound answer. *Northern Sumatra has the highest death rate – so nothing for earthquake proof buildings.

Question		Answer	Marks	Guidance
3  	(a)	Emergency Response Monitoring	2	
 DEV	(b)	<p>Emergency plans:</p> <ul style="list-style-type: none"> Well trained and prepared emergency services who know what to do in an earthquake – reducing risk of things like fire. <p>Education/Training/Drills:</p> <ul style="list-style-type: none"> so people know what to do in an earthquake and so will stay safe have appropriate materials/kit (water/torch/desk etc) ready if an earthquake happens. <p>Build Earthquake Proof Buildings:</p> <ul style="list-style-type: none"> so less buildings collapse. 	4	<p>4 marks can be any combination of ticks and devs.</p> <p>Accept any sound answer.</p> <p>NB There is no way to accurately predict an earthquake so warnings cannot be given and prior evacuation is not possible so these are not acceptable answers.</p> <p>No short term pre-emptive measures. Must show practice/preparation not actually doing it e.g. evacuation drills – not evacuating during an earthquake.</p>
 	(c)	<p>Set up emergency/temporary shelter/housing Provide clothing/food International Aid Agency involvement e.g. Red Cross/UNICEF/DEC/Charity Donations Counselling - to help people get over the shock Rebuild key community services e.g. Schools/Hospitals Etc.</p>	2	<p>“Community” is related to people Ideas should be related to short-term/immediate/essential solutions to keeping communities together</p> <p>Any 2 valid ways a community could be rebuilt by working together.</p> <p>Nothing for:</p> <ul style="list-style-type: none"> Preparedness for next earthquake as credited in 3b. Job creation Rebuilding Houses/Roads/Bridges (Unless related to very immediate requirement for access).

Question	Answer	Marks	Guidance
<p>4</p> <p>L3</p> <p>L2</p> <p>L1</p>	<p>Indicative Content – fully developed explanations</p> <p>Key ideas: Time of Earthquake Building Codes Rescue Operation</p> <p>There are two main reasons for the differences in death tolls and damage to buildings seen in these earthquakes. Firstly the time they happened is important. The New Zealand earthquake happened in the middle of the night (4.45 am) when most people were at home in bed. The other two earthquakes happened in the afternoon (Turkey 1.41pm, Haiti 4.53pm), when there would have been a lot of people out and about and so more people would have been killed by falling masonry. The second reason is due to the building codes in New Zealand, which are very strict and along with the fact that most of their residential buildings are made of timber, meant that no civilian buildings collapsed. In the other two areas building codes are non-existent (Haiti) or often not applied (Turkey), so far more deaths are caused by building collapse.</p>	6	<p>Levelled question</p> <p>Level 3 (5–6 marks) Excellent description and explanation of the differences in loss of life between the earthquakes. Includes appropriate data from the resource. Written work is clearly legible and spelling, punctuation and grammar are accurate.</p> <p>Level 2 (3–4 marks) Sound description and explanation of the differences in loss of life between the earthquakes. Includes some data from the resource. Written work is legible and spelling, punctuation and grammar are mostly accurate. Meaning is communicated clearly.</p> <p>Level 1 (1–2 marks) Simple description of the differences in loss of life between the earthquakes. No explanation of the causes of the difference in death rates. Written work contains mistakes in spelling, punctuation and grammar, which sometimes hinder communication.</p>

Question		Answer	Marks	Guidance
5	(a)	For suggested content see table on Page 6. This is not intended to be definitive. There are no wrong options – any option with appropriate explanation is acceptable.	6	Level 3 (5–6 marks) Excellent reasons for choice given with clear explanation of ideas. Written work is clearly legible and spelling, punctuation and grammar are accurate. Level 2 (3–4 marks) Sound reason for choice given with some explanation of ideas. Written work is legible and spelling, punctuation and grammar are mostly accurate. Meaning is communicated clearly. Level 1 (1–2 marks) Limited reason for choice given with brief/limited explanation of ideas. Written work contains mistakes in spelling, punctuation and grammar, which sometimes hinder communication.
 L3 L2 L1				
 DEV	(b)	Suitable disadvantage of the chosen option.	3	Point marked 1 mark for disadvantage 2 marks for development Do not give disadvantage of NOT doing one option as a disadvantage of another.
 DEV	(c)	Suitable advantages of the other two options.	4	Point marked 1 mark for advantage 1 mark for development Maximum 2 marks per advantage.
 DEV	(d)	Suitable disadvantage of doing only one of the options. Key Ideas: False Sense of Security if rely on one option Best option is to do all 3 More options – more people survive Death still caused.	3	Point marked Reason–Reason–Reason Reason–Dev–Reason Reason–Dev–Dev.

APPENDIX 1

	Advantages	Disadvantages
<p>Option 1</p> <p>To move all important buildings such as hospitals, fire stations and power stations away from the fault line.</p>	<ul style="list-style-type: none"> • Keeps essential services viable • Will allow their use after a quake to rescue people etc • May prevent secondary damage caused by for example fire caused by rupture of pipes at a refinery • Etc. 	<ul style="list-style-type: none"> • Cost • It's not just along the fault line that suffers • There may not be land available away from these areas and moving the services takes them from the places that will need them • Etc.
<p>Option 2</p> <p>To make all new buildings comply to strict building codes and make all older buildings earthquake proof.</p>	<ul style="list-style-type: none"> • Buildings are less likely to fall and cause death • Lower cost of damage caused by earthquake • Buildings housing essential services such as hospitals will still be standing after a quake • Etc. 	<ul style="list-style-type: none"> • Cost • Still might not work • May save buildings from earthquake, but still vulnerable to secondary damage through fire • Etc.
<p>Option 3</p> <p>To improve the awareness of the people in the Bay Area of the potential risk of earthquakes and train them in what to do in the case of an earthquake.</p>	<ul style="list-style-type: none"> • People will know what to do • Less panic – reduces fear – possibly less deaths through fear and panic • Better able to cope after the earthquake with as people will have some supplies /shelter etc • Etc. 	<ul style="list-style-type: none"> • Doesn't stop loss of life due to building damage • Not everyone will take any notice of the training • Cost of education programmes/time away from work during drills • Etc.

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