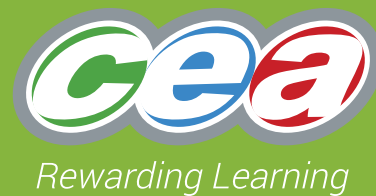


GCE



Chief Examiner's Report
Geography

Summer Series 2022



Foreword

This booklet outlines the performance of candidates in all aspects of this specification for the Summer 2022 series.

CCEA hopes that the Chief Examiner's and/or Principal Moderator's report(s) will be viewed as a helpful and constructive medium to further support teachers and the learning process.

This booklet forms part of the suite of support materials for the specification. Further materials are available from the specification's microsite on our website at www.ccea.org.uk.

Contents

Assessment Unit AS 1	Physical Geography	4
Assessment Unit AS 2	Human Geography	8
Assessment Unit AS 3	Fieldwork Skills and Techniques in Geography	12
Assessment Unit A2 1	Unit 1: Physical Processes, Landforms and Management	16
Assessment Unit A2 2	Unit 2: Processes and Issues in Human Geography	19
Assessment Unit A2 3	Unit 3: Decision Making in Geography	22
Contact details:		28

GCE GEOGRAPHY

Chief Examiner's Report

Assessment Unit AS 1

Subject Overview

This was the first public examination series since 2019 because of the impact of Covid 19. Covid remained an issue in 2022 and special measures were taken to ease the burden upon candidates whose education might have been affected by the pandemic. In Geography this easing was with regard to the range of examination papers candidates were obliged to sit, with Unit SGG31: Fieldwork Techniques and Skills in Geography becoming optional. Candidates could opt to take all three AS papers as usual or just SGG11: Physical Geography and SGG21 Human Geography. Those who sat three exams were awarded the better result comparing their result from the two mandatory papers against that from the three exams. In the considerable majority of cases the better result accrued from taking three exams. The examination means were similar to those of 2019. The grade outcome for this qualification, like all others, followed ministerial directive for generous grading and was placed between the results of 2019, the last year before the depredation of Covid, and that of the much higher outcome of 2021 with its Centre Determined Grades.

Most candidates seemed to be well-prepared and even those who were not were usually able to achieve some marks, not least through the manipulation of resources. Extended writing was seen in Questions 4–6 of SGG11 and SGG21. With these essay questions it is particularly important that candidates identify the focus of each question and carry out the instructions of the question set. Reproducing a rote-learned essay for these questions will rarely bring success, for the question set will undoubtedly require selection from/editing of such prepared material. There were no widespread problems over timing, most finished the exams.

Some additional advice can be given emanating from this suite of AS Geography exams.

- Resources within AS exams must not be considered as/treated as some sort of burden. Rather, candidates should regard resources as being opportunities for gaining marks. Weaker candidates who might bring less knowledge and understanding to the examination than better-prepared classmates might do just as well when dealing with unseen resources.
- Do not write using bullet points or notes.
- Do not use correction fluid.
- For SGG31, note that material must not be added to the table of data during the exam and that all computations must be set out within the spaces provided in the answer booklet.

Assessment Unit AS 1 Physical Geography

After an unprecedented and unavoidable lapse in public examinations, this AS Geography paper presented both challenges and opportunities for candidates and teachers in their adjustment to the usual rigour of the AS Geography specification and examination system. The paper followed the style, format and well-established structure of previous examination series with many popular and familiar themes selected for assessment. Thus, it is not surprising that very little evidence of rubric violation was reported. The language and terminology employed in the questions and resources appeared to present no barriers to comprehension.

As in previous examination series, well-prepared candidates were able to demonstrate their in-depth knowledge and geographical skills and performed to a high level. Attainment was maximised when candidates provided concise, relevant, factual answers while managing their time effectively. However, many examiners reported evidence of low levels of attainment for candidates who displayed a distinct lack of theoretical knowledge, often even basic concepts were misunderstood. Although there were many extremely accessible resource-based questions, others provided a higher level of challenge and a deeper level of insight into AS level concepts. The paper thus appeared to differentiate well, and the wide spectrum of marks reflected the ability range of the cohort. The mean mark for SGG11 is consistent with 2019 attainment prior to the pandemic.

- Q1 (a) (i)** Apart from a small minority of erroneous responses (which tended to cite attrition, a bedload erosion process or an irrelevant fluvial transportation process), the majority of candidates responded with accuracy to this very accessible introductory question.
- (ii)** Almost all candidates displayed competent analytical and interpretative skills when comparing erosion velocities for clay and sand particles as displayed on the Hjulström Curves. Relevant comparative trends were depicted, supporting figures quoted and most candidates showed an understanding of the cohesive properties of clay in their interpretation of particle entrainment. Occasionally candidates made explicit and effective use of the resource but failed to respond to the explanatory component of the question.
- (iii)** This question proved to be surprisingly challenging and thus produced a clearly differentiated outcome. Although the majority of candidates gained credit for their competent graphical skills and were able to quote relevant “settling velocity” values relevant to sediment sizes from the resource, fewer could identify the basic causal processes allowing for natural levee formation. Many failed to recognise the importance of repetitive flood events as well as the graded pattern of deposition across the floodplain, both of which are instrumental in the aggradation of this fluvial landform. Furthermore, the inclusion of specialist terminology was too often flawed or occasionally neglected which also compromised attainment.
- (b)** There was a wide range of responses to this question, ranging from non-response to impressive, insightful, well communicated answers. Most candidates appeared to be confident in their inclusion of hydrological data depicted from the resource, however fewer were capable of explaining how washlands provide an environmentally sensitive and sustainable form of river management. Those who performed admirably were well prepared, demonstrating an ability to reflect on the social, economic and environmental sustainability of this soft engineering river management strategy. Although many candidates appeared to recognise the role of washlands in alleviation of downstream flooding based on

the hydrographic evidence, it was disappointing that some less able candidates could not fully engage with the question and simply did little more than reiterate the stem.

- Q2 (a) (i)** This question proved to be very accessible for those who understood the functioning of an ecosystem and realised that outputs constitute direct losses from the system. Many were able to respond to the resource and use it to their advantage to make effective linkages between the input methods provided to classify corresponding outputs relating to energy, water and nutrients. Unfortunately, weaker candidates incorrectly provided examples of transfers within the system rather than outputs or losses.
- (ii)** This question allowed well-prepared candidates to draw on their small-scale ecosystem case-study and demonstrate both knowledge and understanding. Obviously, attainment was compromised when generic answers were provided which lacked case-specific details. Breen Wood in County Antrim was undoubtedly the most popular study selected and some exemplary answers were produced. Unfortunately, some candidates failed to focus on the question and provided a descriptive discussion of their selected input with a lack of focus on its actual role or purpose within the ecosystem.
- (b) (i)** This question, which required description of the Resources, was in the main, dealt with effectively and proved to be very accessible. Candidates displayed well-developed graphical skills as accurate trends in the data were identified and supporting values quoted. Although the question requested an analysis of both resources, a minority of candidates neglected to analyse the pictorial images which displayed the successional development of vegetation communities. It is vital that candidates read the questions carefully to maximise attainment and gain all accessible marks.
- (ii)** This question proved to be challenging although some candidates did manage to attain full marks. Surprisingly few understood the concept of vegetation succession and could explain relevant factors (soil or microclimatic modification) which allowed plant communities to change progressively over time. The weakest candidates provided little more than a discussion of general ecological growth conditions with no explanation of transition or species replacement. By contrast, well-prepared candidates provided cogent, detailed answers which displayed an in-depth theoretical knowledge of ecological succession processes with the inclusion of specialist terminology. Often a candidate's knowledge of succession was enhanced by their sand dune succession fieldwork, and it is possible that the lack of fieldwork completed in centres this year (due to the potential for omission of SGG31), negatively influenced the overall understanding of this ecological concept.
- Q3 (a) (i)** Although the term "air mass" appeared to be generally understood, a surprisingly large number of candidates failed to provide an explicit or precise definition. Commonly candidates provided examples of air masses only or deviated into an irrelevant discussion of cyclonic fronts. Candidates should be encouraged to spend some time revising key geographical terminology. Many showed an awareness that air masses are characterised by a uniform temperature but neglected to consider their uniform humidity.
- (ii)** Almost all candidates competently completed this skills-based question which required analysis of the synoptic chart.
- (iii)** Although the descriptive element of this question proved to be accessible,

the explanatory component proved to be distinctly more challenging. Only the most able candidates proved capable of providing a theoretical explanation of the meteorological conditions presented for this typical early morning Summer anticyclone. Impressive answers displayed an in-depth knowledge of air subsidence, clockwise air rotation, radiation cooling and the gentle pressure gradient to explain the meteorological variables. Furthermore, high level answers encompassed a range of specialist terminology. Although weaker candidates often provided substantive descriptive engagement with the synoptic chart, attainment was compromised by the lack of explanatory content. Candidates need to focus on the command words in the question and ensure that all aspects of the question are addressed.

- (b)** A variety in the range and quality of answers was evident and allowed for a high level of differentiation. Imbalanced answers which provided description without theoretical reasoning were unfortunately numerous. The resource clearly helped candidates provide competent description of contrasting temperature and altitude conditions for the cities, however many were hesitant in their inclusion of meteorological reasoning. Although many candidates gained credit for their awareness of the environmental lapse rate, only the most able recognised the importance of altitude and air pressure differences in the absorption and retention of heat energy. Although the cities presented were both close to the coast and located at a similar distance from the equator, many candidates provided a discussion of irrelevant factors such as continentality and latitude. Although examiners employ positive marking in such situations, it was evident that lengthy irrelevant answers caused a loss of valuable time in the examination.

Q4 This question proved to be extremely popular and provided an opportunity for well-prepared candidates to display a sound and detailed knowledge of their flooding case study. Almost all candidates selected this question in Section B of the paper. The Pakistan 2010 flood and the Somerset Levels event of 2014 proved to be most popular for contextual exemplification. Many well-prepared candidates displayed a sound understanding of relevant fluvial, climatic, topographic, geological and human factors which contributed to their selected flood event as well as the impact of the flood on people and property. As in previous years, differentiation was mostly related to the degree of explanatory depth as well as the inclusion of place specific details throughout all aspects of the answer. Positive as well as negative effects of flooding were often considered and were equally creditworthy. Occasionally, candidates lost valuable time by discussing the irrelevant environmental effects of their chosen flood event, and thus they need to be reminded that it is important to retain a sharp focus on the requirements of the question. A small number of candidates discussed the effects of flooding associated with their hurricane case study. Although credit was gained for the effects of flooding associated with this meteorological event, attainment was compromised as they were ill-prepared to discuss the causes of this event. Candidates need to be reminded to avoid the inclusion of a very lengthy introduction with background information to maximise precious examination time.

Q5 Although this question was extremely popular, it is disappointing to report that only a minority of well-prepared candidates were able to engage with the two-fold aspect of the question, resulting in a lack of balance overall. Most candidates were able to demonstrate both breadth and depth of knowledge when discussing the actual and potential impacts of climate change in their tundra biome case study. Although a small minority of candidates selected to study Siberia, the majority confidently introduced the Alaskan North Slope as their regional scale case study. A myriad of climatic, soil, glacial, ecological, hydrological and environmental impacts were

frequently discussed with the inclusion of place specific details and impressive terminology. The inclusion of positive as well as negative impacts were equally acceptable and creditworthy. Occasionally, divergent responses revealed a discussion of irrelevant biotic impacts, which again caused a loss of valuable examination time. However, many candidates were unable to access high level marks as they were not confident or prepared to explain the soil characteristics associated with their tundra biome. Apart from a small minority who proved to be adept in their knowledge, most struggled with this aspect of the AS specification. Apart from a common awareness of the presence of a permafrost layer, many failed to provide any further elaboration on additional soil characteristics of this zonal soil such as depth, fertility, pH etc. Occasionally candidates confused the soil of the tundra with a mollisol, producing erroneous content, not worthy of credit. Furthermore, some candidates provided a list of soil characteristics relevant to the gelisol but were unable to gain full credit as the explanatory content of the answer was neglected.

- Q6** Although it was commonly recognised by examiners that this was possibly the most accessible question on the paper, it was without doubt, the least popular as it was only occasionally selected by candidates. It is worth reiterating that all aspects of the specification may be assessed in Section B of the paper as there appears to be a misconception amongst candidates and some teachers that Section B questions are based only on case studies. For those who selected to answer this two-fold question, responses were commonly imbalanced. Most proved capable of explaining orographic, frontal and convectional rainfall and gained credit almost effortlessly by accurately describing the initial air uplift mechanism as well as, in sequence, the rainfall formation processes. Differentiation in this aspect of the question was undoubtedly related to the meteorological knowledge of the relevant processes and the terminology employed in the explanations. However, only a minority of well-prepared candidates displayed an accurate and sound knowledge of the El Niño phenomenon. Although most appeared to be aware that this event disrupted global weather patterns and the occurrence of rainfall in the Eastern Tropical Pacific, few were able to discuss with accuracy the impact of this southern oscillation on global climates. Only the more able candidates could discuss the role of the Trade Winds and ocean currents in the reversal of the rainfall patterns. Occasionally candidates confused the normal rainfall pattern and the El Niño reversal pattern, whereas others diverged into an irrelevant discussion of La Niña. Unfortunately, many left this component of the question unanswered, which negatively influenced attainment in this question.

Assessment Unit AS 2 Human Geography

Examiners commented on the paper being accessible to a wide range of abilities and comparable to previous years. They noted the resources and questions allowed for clear differentiation within the cohort. It is encouraging that after the disruption of Covid the mean of the paper was on par with the 2019 paper mean.

In relation to Section A: Question 1 appeared to be the most effectively answered whilst Question 3 caused more difficulties. In Section B the predominate questions answered were 4 and 5. Very few candidates opted to answer Question 6.

The AS Geography specification is now well-embedded with both teachers and students. However, some students seem to be rote learning prepared, generic essays which are often presented in a way that can become confused, inaccurate, or irrelevant to the topic under discussion. Candidates need to ensure that they use the appropriate information to answer the actual question set on the examination paper rather than rushing to rewrite a generic response they have learnt. Time needs to be spent on understanding and reading case study questions carefully. Candidates often failed to include enough specific case study detail, appropriate to the particular question, to be rewarded with a Level 3 mark.

There continues to be a small minority of candidates who run out of time at the end of the exam or who deliberately choose to only answer one essay-based question in Section B. This has a detrimental impact on their final mark and grade for the paper.

- Q1 (a) (i)** This was a relatively straightforward question though was not well answered as candidates failed to have the adequate detail for the basic definitions (which are listed in the specification). For example, many candidates did not include “per year” in their definition of birth rate. Candidates need to make sure that they give a full and precise definition.
- (ii)** This question was generally well answered. The majority of candidates were able to describe the changing trends in both birth and death rates. However, some candidates clearly continue to confuse the command words ‘describe’ and ‘explain’ as examiners saw many responses that proceeded to give an explanation of the changes though there was no requirement to do so. Candidates need to focus on the command words used in the question. Some also failed to note adequately the figures for the CBR and the CDR and/or did not address the changes in the trend, for example the CDR increased from 6 back up to 10 by 2020. Candidates needed to accurately quote birth rate and death rate figures to support their response.
- (iii)** There were a variety of answers given as possible reasons for change for the Crude Birth Rates. Examiners accepted a wide range of possible answers for this question as there was no expectation for candidates to have any real knowledge of what actually happened in Japan. Some candidates did not adequately link their chosen reasons for changes in Crude Birth Rates to the impact on birth rates. For example, when considering how a drop in the infant mortality rate might impact on Crude Birth Rates, candidates needed to bring explain that this meant babies were surviving longer into adult life and therefore families could eventually have fewer children thereby reducing the birth rate. A direct link to birth rate was needed. There were also some rubric violations in this question with candidates giving more than two reasons. Focusing on the command words in the question will help address time issues for some candidates.
- (b)** There was a lot of resource-based information that candidates needed to make

sure they used, and referred to, in their answer. Some candidates seemed to struggle to understand the relevance of the resource. The maps of India showed the changing rates of the occurrence of cancer across India from 1990 to 2016. There was a variety of places that easily showed that in 1990 there was a relatively low rate of cancer e.g. Uttarakhand between 60-74.9 per 100,000 which had increased to 90-104.9 per 100,00 in 2016. This trend showed that India had shifted towards Stage 3 in the Epidemiological Transition by 2016. Equally, the bar chart showed the changing trend of deaths due to tuberculosis (TB) an infectious disease, which indicated that India had moved from Stage 1 of the Epidemiological Transition with total deaths from TB falling from 400 000 in 2000 to just over 200 000 by 2014. Candidates needed to use each resource and select relevant detail and figures to back out their response. Candidates are reminded that in 'describe' questions they need to ensure they make a full, detailed response by quoting accurate figures relevant to their response. The main reason why many candidates failed to access full marks was not linking the patterns they identified back to the Epidemiological Transition Model. Many candidates made no reference to the Epidemiological Transition in any form.

- Q2 (a)** This question was one that some candidates found challenging. The question required candidates to discuss the rural-urban continuum, but many just made mention of the differences between rural and urban areas. Responses needed to address the continuum of change not just compare rural with urban areas. Unfortunately, a significant number of candidates only compared inner city areas to the suburbs – they needed to bring the continuum out to its full extent in the remote rural. A full answer needed discussion focused on two characteristics and how they might change along the rural-urban continuum. There was a wide list of acceptable characteristics that could achieve marks in this question but, sometimes candidates were restricted as they did not provide sufficient elaboration. Examiners reported a significant number of rubric violations with responses offering more than two characteristics – this will inevitably lead to time management issues. A focus on commonly used command words and the need to read questions carefully, needs to be further re-enforced in schools.
- (b)** This question required candidates to discuss the issues associated with greenfield developments in the rural-urban fringe. Their answer needed reference to the resources (four photos), their own knowledge and places for illustration. This often led to three main issues:
- Candidates failed to bring in their own knowledge/information about the issue in greenfield developments.
 - Candidates failed to use any element of the resource in their discussion.
 - Candidates failed to make reference to any places within their answer.
 - Candidates failed to have a range of issues – some only discussing the impact on traffic. More than one issue was needed.

It should also be noted that precision is important when answering a question such as this – there is no credit for saying that Belfast has a rural-urban fringe; candidates should name and discuss precise areas, e.g. Newtownabbey, Holywood etc.

- (c)** This question featured a choropleth map resource of the proportion of protected land in different planning regions in England. Candidates were required to describe the distribution of the protected land and then describe the measures (other than National Parks) that are used to protect the countryside. Some candidates failed to answer both elements of the question. Often candidates

failed to go into adequate detail about the other two measures used to protect the countryside namely ASSIs and AONBs. However, the question was generally well answered, and candidates were able to pick up accessible marks. All candidates were at least able to describe the resource fully with figures from the resource to access these marks. Better candidates could fully describe the other measures rather than just naming them.

- Q3 (a)** Overall, this was a well answered question. The question required candidates to explain how globalisation can both positively and negatively influence economic development in LEDCs which many did adequately. However, whilst many candidates forwarded a useful discussion of the positive and negative aspects of globalisation, some responses fell short of Level 3 as they did not discuss the impact that globalisation might have on the economic development in LEDCs.
- (b) (i)** This was a question that polarised candidate marks. Some answered the question well and included reference to the resource as well as covering the three aspects of development – economic, social and environment. However, others missed the focus of the question and did not address how the given elements combined to create problems in the definition of development. Some candidates included details about the measures of development which was not what the question was asking. Answers needed to focus on how all three elements of development shown in the resource create problems defining development.
- (ii)** The final question in the Section A asked candidates to describe and evaluate one named composite measure of development. Whilst most candidates opted to discuss the Human Development Index (HDI) there were some sound responses based on alternatives and some answers that were plainly wrong based on neither a measure of development nor one that would be classed as composite. Sometimes, candidates would get mixed up describing the components of a different measure than the one they listed. Interestingly, the evaluation of the measure was often done well with some useful points made about both the positive and negative aspects of the measure. However, often it was the exact detail of the measure itself that let candidates down. Many candidates failed to identify precisely the main components of their chosen composite measure of development. Candidates should use the new version of the Human Development Index (from 2010) which includes life expectancy, mean years of schooling, expected years of schooling and Gross National Income per capita. Examiners were also looking for further description of how the measure worked for the final mark.
- Q4** This question was extremely popular and was answered by the majority of candidates. The question is one that, on the surface, looks to be very straightforward. However, many candidates struggled to get into Level 3 because they did not make reference in their answer to all of the different aspects required in the question.

Some of the main issues involved in answering this question included:

- Some candidates failed to go into enough detail for the different types of population data. Most students were able to provide detail about the census, but a sizeable proportion of candidates did not refer in enough detail to Vital Registration.
- In addition, candidates were required to contrast the reliability of population data collected in both the MEDC and LEDC case studies. They were expected to make reference to their case study material and there were some very good,

well-presented arguments. However, some failed to refer to the collection of data from the two areas/countries. Often answers would be vague and lack the clarity and description required for a higher grade. Sometimes, candidates would list a range of reliability issues but there would not be enough depth, explanation or comparison to allow a higher mark.

- Many candidates spent more time and effort explaining the reliability issues in LEDCs and failed to write enough about the similar issues in MEDCs.
- Candidates need to understand that it is not a case of population data being collected perfectly in MEDCs and badly in LEDCs. One is better than the other, but both do have some problems. There needed to be evidence of this understanding in their answer to gain top Level 3 marks.

To get into Level 3, candidates needed to ensure that they showed a full understanding of both sources of population data, explain why Vital Registration and census data was more reliable in MEDCs, give some problems in MEDCs, outline the main problems in LEDCs and clearly use case study specifics.

Q5 This was an accessible question allowing well-prepared candidates to get good marks. Examiners noted the following:

- The question required an evaluation of the arguments for and against a National Park in Northern Ireland, so candidates had to look at both the positive and negative impacts of any potential National Park in Northern Ireland. However, a minority of candidates failed to discuss both sides of the argument.
- There is no precise case study material required for this question but for a candidate to score well and achieve a Level 3 answer, they needed to go into depth with facts and figures and examples that could support their argument.
- Whilst no part of Northern Ireland has been awarded National Park status, many candidates did discuss how the Mourne Mountains were often seen as being close to this. Other places such as the Giants Causeway were sometimes discussed.
- Examiners noted that some candidates presented answers that were lacking in specific detail with a poor application of facts and figures.

Q6 This question was less popular than the other questions in Section B and many candidates struggled to achieve high Level 2 or Level 3 marks.

The question required candidates firstly to evaluate the impact of any two Millennium Development Goals (MDGs) as a means of improving global development and then to outline how the Sustainable Development Goals built upon the MDGs.

In some cases, the candidate's knowledge and understanding of the MDGs was patchy and their attempts to discuss two of the goals and then to evaluate their impact was lacklustre. Many had just learnt key facts from their textbook but had not gone into any real detailed evaluation of what had worked and what had not worked by 2015. Candidates need to ensure that they have specific details with places and figures (where appropriate) in their answers. Subsequently, candidates had to outline the link between the SDGs and the MDGs and how these had built upon the original goals set in 2000. This was often the worst part of the question with students giving a vague answer that lacked detail.

Some candidates seemed to be less well-prepared for this question. Either pressures on time or a lack of learning the specific facts of the case sometimes caused a limit on the marks. Whilst some candidates did introduce excellent, detailed information that showed that they were in command of the question, it was more usual for the information to be sketchy and to lack precision.

Assessment Unit AS 3 Fieldwork Skills and Techniques in Geography

The total entry for this unit was small, with most centres electing to avail of the optional omission. In general, candidates performed better in Question 2 than in Question 1. Undoubtedly, the pressures associated with the Covid pandemic in 2021-22 had an overall negative impact on conducting and reviewing fieldwork. In addition, it is understandable that centres and candidates would choose to prioritise their preparations for the mandatory units. It is pleasing to report that marks for Question 2 were generally high. Clearly, candidates had thoroughly prepared for the range of geographical skills and techniques examined in this question. The paper produced a wide range of marks, allowing for a differentiated outcome, and the level of language appeared to present no obvious barriers to comprehension. Yet again, examiners were surprised by candidates' inability to address the demand(s) of the questions asked. Centres must continue to prepare their candidates to identify the focus of each question, to pay close attention to the emboldened words and phrases, and to carry out the instructions of the question set.

- Q1 (a) (i)** Candidates must ensure that they incorporate clear and convincing links to their own fieldwork investigation throughout Question 1. In the case of this part question, candidates were required to provide specific details relating to one sampling design which was used in their fieldwork. Despite both Resource 1A and the question itself indicating that sampling design consists of sample size and sampling method, a large number of candidates addressed only one of these aspects. In addition, a significant number of candidates failed to focus of the command word 'describe,' with many providing evaluative details which fell beyond the scope of the question asked. Only well-prepared candidates described one sampling design, referring to the determination of a sample size and sampling method, and infused their responses with fieldwork-specific facts and details. They were rewarded for their efforts.
- (ii)** Well-prepared candidates offered a detailed outline of one advantage and one disadvantage associated with the sampling design described in Question 1(a)(i). This applied to the sample size, sampling method, or, in some cases, both. Good answers also made clear and conspicuous references to the candidate's own fieldwork investigation. Ill-prepared candidates provided only basic advantages and limitations, most of which were general in nature and lacking connections to the specific fieldwork investigation. Such responses were awarded low marks.
- (b)** The majority of candidates identified one graphical presentation technique and commented on its appropriateness in the investigation of one hypothesis. Better answers included references to specific variables and the role of the presentation technique in displaying a trend, pattern or relationship.
- (c) (i)** Responses to this question were commonly awarded low marks. Candidates often lost marks because they:
- did not understand the general importance of statistical analysis in any fieldwork investigation;
 - developed an answer using their chosen graphical technique in Question 1(b); and/or
 - provided only basic statements lacking in depth and development
- Although not required in this part-question, well-prepared candidates

incorporated references to their own use of statistical analysis in their fieldwork investigation. In such cases, candidates were in a position to develop more meaningful and developed explanations, usually in relation to a specific hypothesis or the overall aim of the fieldwork.

- (ii) Well-prepared candidates confidently selected a relevant statistical technique, worked transparently through all steps in the calculations in a logical manner and produced an accurate result.

Spearman's Rank was undoubtedly the most relevant and popular statistical technique for hypothesis testing. In addition to calculating an accurate $\sum d^2$ value and calculating a reliable r_s value, well-prepared candidates competently employed the significance chart/table to determine the level of significance for their result. Full marks were commonly awarded. Occasionally, candidates lost marks when they:

- simply inserted their memorised $\sum d^2$ value into the Spearman's Rank formula, instead of completing the necessary steps to illustrate how the value was derived;
- selected two variables which did not relate to a hypothesis stated in the fieldwork report;
- erroneously ranked their data;
- misapplied the formula; and/or
- failed to provide a conclusive statement on significance.

For some candidates, additional centre guidance and practice is essential to overcome these challenges.

Centres and candidates must be reminded that all calculations must be shown in the box provided. There is certainly enough space to do so. The ranking of data and completion of calculations, for example, must not take place on the submitted table of data.

- (iii) The question invited candidates to demonstrate their theoretical understanding of their fieldwork data and calculated result in Question 1(c)(ii). A clearly differentiated outcome was the result, with the level of geographical reasoning varying considerably between candidates. Many well-prepared candidates confidently explained their statistical result using logical geographical reasons, specialist terminology and relevant theoretical concepts. By contrast, poorly prepared candidates often provided cursory responses with superficial reasoning and a restricted use of specialist terminology. A worryingly large number of candidates simply reiterated their statistical conclusion, despite the explicit prompt in the question that this was not required. No marks could be awarded as a result. Centres must continue to reinforce the difference between a statistical and a geographical conclusion. Moreover, they must provide candidates with opportunities to explore the potential theoretical factors that will allow for a more rigorous interpretation of their fieldwork.

- Q2 (a) (i)** Candidates were provided with enough graph paper that they could develop a bar graph of their choosing. Undoubtedly, a compound bar graph was the most straightforward option, though only a minority of candidates selected this technique. The majority of candidates, instead, drew a standard bar chart consisting of ten bars. Either way, high marks were commonly awarded. Marks were occasionally lost when:

- the title failed to refer to both the 1991 and 1995 data sets;
- no label was provided on the x-axis; and/or
- one or more of the data were plotted inaccurately.

It is important to stress the importance of developing a clear and tidy key. Some of the shading seen by examiners was complicated and messy, particularly those developed using black ink or an HB pencil. Candidates should be given opportunities to practise developing keys in their centres and reminded of the advisability of using a ruler when doing so.

- (ii)** Descriptions made good use of figures from Resource 2A and from the trends illustrated in the completed graph. Occasionally, marks were lost when candidates failed to do more than simply re-write the data already provided in the resource. A calculation of some kind was needed to exemplify an overall increase or decrease over time.
- (b) (i)** A well-answered question, with most candidates recognising the influence of extreme values on the mean.
- (ii)** Completed dot distribution maps were often disappointing. It is important to stress that only one dot should be included in the key and that only one value should be assigned to that dot. A large proportion of candidates developed keys using a range of symbols with varying values. Such an approach critically limited the marks that could be awarded. Well-prepared candidates completed the key using one dot only, indicated the precise dot value (with most choosing 5000 dwellings), and then used their key to complete the map. It is pleasing to report that examiners noted few issues with accuracy when completing the map.
- (iii)** Most candidates were able to explain one advantage and one limitation of using a dot distribution technique to complete Resource 2D. Better responses made use of the completed map to exemplify the explanations.
- (iv)** This was a very accessible question with most candidates able to identify two additional uses of satellite imagery in geographical studies.
- (c) (i)** Most candidates used Resource 2F to determine the correct values for Mexico and Turkey. Occasionally, the determined values did not total 100, resulting in no marks being awarded.
- (ii)** A straightforward task with most candidates achieving maximum marks.
- (iii)** Surprisingly, candidates struggled to achieve maximum marks in this part-question, often as a result of poor expression. Candidates were clearly aware that the data set consists of three component variables which total 100% but could not express this in a way that reflected understanding.

Assessment Unit A2

Subject Overview

Congratulations to candidates and teachers who worked so hard to prepare for these examinations after the awful gap of two years. This includes the few people who had further issues with Covid and had to take the Reserve Series, which had 18 entries for AGG11 and AGG21 combined. The Reserve Series was subject to the same grade boundaries as the main series. AS with AS, special measures were taken to ease the burden upon candidates whose education might have been affected by the pandemic. In A2 Geography this easing was with regard to the range of examination papers candidates were obliged to sit, with Unit AGG31: Decision Making in Geography becoming optional.

Questions generally were found to be accessible and the mean marks for each of the assessment units were not far from those seen in 2019. Entry numbers for the A2 suite were higher than in 2019. On the whole, candidates seemed to be properly prepared for the examinations, although as always there were some exceptions.

Almost all questions and subsections in these geography exams require extended writing although the quality of written communication (QWC) is part of the assessment criteria only in the 18-mark sections in AGG11 and AGG21. In AGG31, QWC is tested throughout the written report except for the graph, format and role. Although most candidates completed the papers, there was some evidence that a small number ran out of time. This may have been due to a lack of exam practice and/or the impact of Covid 19. However, in a number of cases displaying evidence of timing problems, candidates had written very lengthy responses, not all of which were relevant to the question set, and this wasted time. A small number picked only a few of the subsections to answer and/or left one or more of the sub questions out completely.

It might seem unnecessary to emphasise that candidates should answer the question asked, but the break in examinations has seen no improvement to this perennial problem. Responding to a question with a prepared answer on the broad topic which incorporates material redundant to the question actually asked is not an effective strategy and will bring a poor reward. It also wastes precious examination time. Candidates must pay attention to the command words, sometimes 'evaluate' was missed in these papers. Regarding evaluation, it should be noted that this can be positive versus negative but also can be a variation, shades of grey, good against better.

As with previous versions of this report, candidates are encouraged to probe fully or analyse resources and to manipulate information given therein to address the particular demands of the question. For example, citing specific figures, dates, or values taken from a resource can enhance the quality of description or evaluation. Resources were sometimes not used optimally, with available and relevant detail missed. A case in point was AGG21 Question 7(a). Two resources were presented, from Thailand and the Faroe Islands. Many candidates just saw them as making the same point about having to control the ravages of tourism. But why would there be two resources making the same point? More thoughtful candidates took time to appreciate that the Thailand example was a response to mass tourism, whilst the Faroe case was pre-emptive, preparing the ground to be ready for increased visitor numbers. In addition, candidates should be reminded that presenting long portions of verbatim quotation from resource-based material cannot be rewarded with higher level marks. Verbatim quoting is a particular issue with AGG31 but was also seen in the other two papers.

Candidates should have relevant detail from their case studies. A series of generalities attached to a name is not a good case study. Some candidates could not even spell the names of their case study. One commonly used case study for waste management in AGG21

was Leicester. In his own allocation, the Chief Examiner counted 15 different misspellings of the name of the city.

It is good practice to answer the question sub-sections in the order set. This enhances focus on the topic and also saves the confusion of candidates going back to the wrong question and committing a rubric violation. One AGG21 candidate answered Part (c) then Part (a) from their first question followed by Part (c) and Part (b) from their second question, then back to Part (b) from the first and finally Part (a) from the second. One AGG21 candidate answered a question from an option that, clearly, they had not been taught. Best not to do this.

Some advice can be given regarding layout for candidates inexperienced in sitting public examinations. It is much more straightforward for everybody if each question and sub-section starts on a new page. Further, it can be troublesome if a candidate misses a number of lines at the bottom of a page but continues the same question overleaf. Do ensure that questions are clearly and accurately labelled. Handwriting was often a problem this year, perhaps because candidates had missed classroom teaching and had little experience of writing exams. Do not write in bullet points and do not use correction fluid, just score out any mistakes.

Diagrams were too often of poor quality. There is no expectation that examiners will be presented with high quality drawings, but they should at least be neat, clear and accurate. Practice in drawing quick diagrams would help here.

It is important that teachers keep their case studies up to date and not by just sharing notes via social media. In AGG11 the Mount Pinatubo eruption was often used as a case study, but much has changed regarding preparation protocols since that eruption more than 30 years ago. Further, there was some evidence that teaching seemed sometimes to be directed towards the previous specification

Assessment Unit A2 1 Physical Processes, Landforms and Management

Given the constraints of the pandemic, it was pleasing to note that the question demands appeared to offer candidates of differing abilities appropriate opportunities to respond positively. Despite reduced practice in examination technique after two years without public examinations, there was clear evidence that many candidates had prepared assiduously; this is to both their credit and also to that of their teachers. However, a number of candidates answered their second question less effectively; for some, this may reflect reduced experience in examination technique such as time management. Rubric errors were limited.

Across the paper, the better responses utilised appropriate subject-specific terminology with facility and employed high standards of spelling, punctuation and grammar. Although it was pleasing to note that more able and well-prepared candidates developed their responses, demonstrating a high level of knowledge and understanding, it was also clear that a number were reproducing learned essays which may not address the questions as set. Teachers are cautioned to review this approach as such responses are unlikely to address the specific elements of the question explicitly and may self-limit, perhaps precluding entry into Level 3.

In sub-sections (c), candidates are urged to address the command word/s specifically; for example, the higher order skill of evaluation, at times, provided a discriminator for entry to Level 3 marks. Therefore, candidates are strongly encouraged to read the question carefully and to marshal and manipulate their knowledge to address its specific demands.

Once again, the quality of the diagrams was too frequently disappointing. Although it is recognised that high quality of construction cannot be expected under examination conditions, the information contained on a diagram should be accurate, relevant to the

question, and explanatory.

- Q1**
- (a)** Better candidates were able to address all elements of this question. However, some described the evidence but neglected to state the type of plate margin selected, whilst others omitted to refer to places and were confined to Level 1 as a consequence.
- (b)** Better candidates connected the information shown on Resource 1A and Resource 1B; for example, a number linked age, distance, and direction of movement for a selection of islands/seamounts. Some candidates did not recognise the hot spot depicted on the resources and described and explained either constructive or destructive margins. The diagrams produced varied in quality and relevance; this is a skill that candidates should be encouraged to develop.
- (c)** In the main, candidates were well prepared for this question and the level of case study detail was often good. However, at times, candidates restricted the quality of their response due to:
- restricted case study detail;
 - omission of description of seismic activity; and/or
 - limited, superficial evaluation of either element.

Unfortunately, a number of candidates limited the quality of their response by failing to distinguish between 'seismic' and 'volcanic', utilising the 1991 eruption of Mount Pinatubo as their case study.

- Q2**
- (a)** Most candidates understood the terms given in the question and were able to respond accordingly. Whilst it was, at times, disappointing to see responses that lacked precision and clarity, many were able to employ their knowledge to address all elements of the question. A small number addressed all three of the listed events, using additional time.
- (b)** The resource proved useful for the candidature, and most were able to combine the information contained therein with their own material to access the higher levels of marks. However, some neglected to refer to places other than those mentioned in the resource, whilst others included information relating to socio-economic and environmental hazards, which cost them valuable time.
- (c)** This was a very popular question and was often answered in a detailed fashion. However, teachers are asked to note the requirements of the new specification in relation to this case study which differ from those of the previous specification. Old-style specification responses, often appearing to be learned essays, may not address the question set.
- Q3**
- (a)** The resource provided useful information for the candidature in their descriptions and explanations. The better responses manipulated not just the text provided in the resource, but also the figures depicted on the graph. However, a number were less able to link their comments with the sustainability aspect of the question.
- (b)** Those candidates using the scaffold of the question performed well. However, a number did not provide precise climatic details. Others did not make the link between the climatic characteristics and their influence upon the biomass, relying on description rather than explanation.
- (c)** The case study details provided in response to this question were often pleasing. The environmental and socio-economic problems were frequently outlined with precision. Whilst most candidates evaluated at least one attempt for a potential

solution, evaluations varied in quality considerably. In a small number of cases, the evaluation was omitted completely whilst, in others, it was underdeveloped.

- Q4**
- (a)** The resource provided useful information for the candidature in their descriptions and explanations. The better responses manipulated the text including specific facts/figures provided. However, a number of candidates were less able to link their comments with the sustainability aspect of the question.
 - (b)** Those candidates using the scaffold of the question performed well. However, a number did not provide precise global distribution details. Others did not make the link between the influence of location/climate and the biomass, relying on description rather than explanation.
 - (c)** Although the case study details provided in response to this question were often pleasing, there was, at times, an apparent reliance on old-style specification responses, perhaps in the form of learned essays. Whilst most candidates outlined steps towards development, the link to sustainability was not always stressed. Evaluations varied in quality considerably; many were excellent, some underdeveloped and, in a small number of cases, the evaluation was omitted completely.
- Q5**
- (a)** The majority of candidates were able to offer some valid description of methods of coastal transportation; rather fewer were able to address the question with a high level of detail/appropriate terminology. Comments on both swash-aligned and drift-aligned coastlines were acceptable, providing that transportation was the focus of the response. A small number of candidates omitted place reference completely; many included place reference in a cursory or irrelevant manner; some valid place references were not fully developed to address the focus of the question.
 - (b)** The majority of candidates were able to identify a valid erosional landform from the resources and better candidates employed precise and relevant terminology to address all elements of the question. A number of candidates provided a description and explanation for landforms resulting from both erosion and deposition; this was not a requirement of the question. The diagrams presented were often basic in nature. A small number of candidates omitted the diagram altogether and were thus confined to Level 1.
 - (c)** This was a popular question and better candidates addressed all elements with relevant detail and development. However, once again, it appeared that in some centres learned responses had been prepared, perhaps limiting candidates' flexibility in responding to the peculiar demands of individual questions. At times, marks were lost due to:
 - failure to outline the reasons for the threat of sea level rise;
 - generalised statements as opposed to detailed, informed and accurate comments;
 - failure to engage with either the human environment or physical environment aspect of the question; or
 - paucity of evaluation.
- Q6**
- (a)** The resource provided useful information for the candidature in their explanations and outlines of the problems. The better responses manipulated the text including specific facts/figures provided. Others reiterated portions of the resource, without application to the question.
 - (b)** Better candidates were able to address this question concisely. Conversely,

although a straightforward question, some candidates appeared to depend on their AS case study; thus, responses were often reliant on vegetation changes alone. Once again, the quality of diagrams presented was variable, differing in both clarity and detail.

- (c) Better candidates addressed all elements of the question with relevant detail and development. However, for some, there were difficulties in discussing Sediment Cells and Environmental Impact Assessments (EIA) and, in particular, relating these to sustainable coastal management in the chosen location. A number appeared to misunderstand the nature of an EIA; others elected to discuss additionally un-requested cost-benefit analysis – perhaps indication of reliance upon a ‘model’ answer.

Q7 Few candidates take the Climate Change: Past and Present option. Of those that did, more chose Question 8.

- (a) Accuracy and range of appropriate terminology was a key determinant in the marking of this section.
- (b) Most found the resource material straightforward and it was the range of other, potential socio-economic benefits that differentiated between Level 2 and 3 standard answers.
- (c) Most clarified mitigation and adaptation strategies, it was the range and level of explanation of attempts that varied most across the responses seen

Q8 (a) Each of the four options were chosen by candidates and most had a working knowledge of their role in medium and long-term change.

- (b) The resource provided only a small amount of material for each of the two identified key elements. Those with a clear background knowledge of these fared best in the description of one and the evaluation of the other.
- (c) Most candidates successfully provided a description and explanation of the two related groups of landforms in the context of the County Down regional study.

Assessment Unit A2 2 Processes and Issues in Human Geography

It was satisfying to be able to return to public examinations after the two-year hiatus. A pleasing statistic is that entry numbers were higher than in 2019, the last time this examination was held. Candidates performed satisfactorily on the whole and the mean mark for this unit was a little higher than in 2019. Although this cohort of candidates has had little experience of public examinations, few timing issues were seen, indeed one candidate had time to complete eight additional answer booklets. However, maybe inexperience did lead to some of the problems encountered in these scripts. One issue was that resource use sometimes disappointed. This was especially the case of Resources 1 and 7(b) in my own experience, while another examiner made the same point related to Resources 2 and 5. Usually the issue was that the richness of the resources was not appreciated, reference to them being too cursory. In similar vein, sometimes candidates did not study the question fully, missing out a task, failing to notice (or act upon) requirements to refer to places or not reacting to the stated command word, especially ‘evaluate’ (Questions 3(b), 7(a), 7(c) and 8(b)).

One problem always encountered is the way in which candidates embrace what they see as an opportunity to present a learned essay which, although it might relate to the general topic of a question, does not focus upon its specific requirements. This can best be exemplified here by reference to Question 3(c) although also encountered elsewhere.

Question 3(c) is on open spaces and urban parks and indeed these can be exemplified in a case study of Curitiba but too many candidates then went on to present their entire suite of Curitiba knowledge including material well off the focus of the question. Such a response is a complete waste of time. Similarly, in Question 4(c) case study responses often strayed from waste management into energy supply.

Another issue with case studies is that an inappropriate study might be presented: Mallorca is not a good example for a response on ecotourism (Question 8(b)). It might also be noted that Costa Rica is not an island, nor is it part of Spain.

- Q1**
- (a)** Some candidates struggled to understand what was meant by the phrase ‘political issue’. Many successfully incorporated case study material – often Canada – despite this not being a requirement.
 - (b)** Basics from the resource were used well but the details revealed about the commissioner’s strategy were not taken by many which reduced the depth of the response. Additional place material was often presented in useful detail.
 - (c)** ‘Quite a few candidates repeated learned essays’ reported one examiner disapprovingly. Not many candidates answered equally well on both aspects of the question; one examiner reported that the ‘international cultures’ aspect of the question was the weaker, but another noted that ‘global contrasts’ were neglected in his scripts.
- Q2**
- (a)** Candidates often struggled with the concepts, although there were good discussions on Carl Sauer in some answers. Well-prepared candidates utilised place details and various examples of ‘cultural landscapes’ in their discussion of landscapes as human systems.
 - (b)** Not enough was taken from the resource by some. A disappointing number of candidates did not seem to be aware that the resource data related only to domestic, internal migration within the country, and did not deal with international migration. One examiner contrasted the handling of push/pull factors between economically active age groups and the others, with the former being better.
 - (c)** One examiner reported that ‘without doubt, this was the most poorly handled part-question on the paper. Very few candidates accessed Level 3 marks. From candidates’ responses, it is clear that they know what cultural groups are; however, only a very small number of candidates could explain why they exist.’
- Q3**
- (a)** No confusion emerged between the carbon footprint and the urban ecological footprint, although to link the carbon footprint to sustainability proved too much for some. Well-prepared candidates used references to places and carbon footprint data for said places to exemplify their discussion.
 - (b)** One examiner commented that candidates prioritised their own material over the resource, although another thought that the rich resource was deployed well. One examiner rightfully expressed surprise at candidates not knowing what pedestrianisation was but nonetheless choosing to answer this question.
 - (c)** The rich resource was underused by some. Curitiba was a common case study, but many got into their rote-learned material, writing way beyond the question’s focus on urban parks. To quote from one examiner’s report: ‘the resource played a significant role in differentiating between candidates. A small number of candidates made no use of the resource. A significant number dealt with the resource in a vague and cursory manner. Skillful candidates managed to weave relevant resource details throughout their responses, making connections to comparable aspects of their case study material.’

- Q4** (a) This accessible question was generally well-handled and well-rewarded. A range of modes of transport were selected, cars, bicycles, trains and ships being the most common. Cruise ships were singled out for particular criticism given their impact upon sustainability.
- (b) Some answers focused on the need for defensible space rather than its benefits. Relevant own material was often seen, usually linking to Oscar Newman's studies. One examiner noted that the dog was well-liked!
- (c) When chosen, Leicester, despite some strange spellings of the city's name, was handled in a more effective and appropriate fashion than the other commonly seen case study which was Belfast. The resource on Ljubljana was generally incorporated well, although, inevitably, some candidates did little more than copy it out.
- Q5** (a) One examiner reported that some candidates were confused by what seemed to be a straightforward resource. Many brought in relevant material from elsewhere to assist their explanation. Age and gender were both discussed, age generally better.
- (b) This question was marked as 3x3 and saw high scores with some detailed explanations. By far the best handled cause of ethnic conflict was sectarianism, hardly surprising from a Northern Ireland candidature. By contrast, territorial disputes sometimes were often just visualized in circular fashion as disputes over territory. Useful place references were often presented.
- (c) Belfast and Jerusalem were the most common case studies. Often candidates wasted time on lengthy introductions. Some needed to explain more how the processes identified maintained ethnic diversity. Segregation was normally handled better than multiculturalism.
- Q6** (a) Some answers were excellent; others struggled with social identity and the social layering of the resource. One examiner thought that not enough time was spent with the resource.
- (b) Too many candidates missed that colonial powers have also become ethnically diverse as a result of migration from their (ex-) colonies. One examiner noted that the extensive historical time scale for the migrations was not appreciated.
- (c) This question was well handled in the main, one examiner reported that she had seen answers which were 'delightful to read (and learn from)'. To quote another: 'well-prepared candidates offered in-depth discussions of a range of outcomes with clear connections to place. Sub-optimal candidates usually failed to focus on outcomes; instead, they focused on causes and nature'.
- Q7** (a) This was a complex question which was not handled well. Some candidates resorted to verbatim quoting from the two resources. Others missed Resource 7B entirely; some who used it did not appreciate the pre-emptive nature of the Faroe Islands policy. The social dimension of the question was sometimes ignored.
- (b) This was an accessible question, which was often answered with 'great understanding' according to one examiner. Few candidates failed to discuss both disposable incomes and internet access although some did fail to mention places.
- (c) This question had a narrow focus which saw some candidates stray away from the environment into social and economic impacts which were not required. One examiner reported that 'too many candidates simply regurgitated pre-prepared answers based on their case study which, unfortunately, contained

a significant amount of irrelevant material concerning the social-economic strategies implanted in their chosen case study region'. On the other hand, well-prepared candidates were able to adapt their case study to suit the question set. That case study was usually Mallorca, but some candidates failed to identify the name/origin of the policy they were discussing.

- Q8 (a) (i)** The pleasure periphery concept was mostly understood, many candidates further demonstrating their understanding with a diagram. Longyearbyen's remote, Arctic location was well positioned by some with regard to the pleasure periphery.
- (ii)** This question was handled quite well, although some candidates did not refer to the resource. Place references were sometimes neglected.
- (b)** Evaluating the benefits of ecotourism in (usually) Costa Rica was a challenge not all candidates successfully managed. Many just presented a memorised list of benefits without moderation or challenge. However, that some did answer the question fully with proper evaluation does indicate that evaluative material is available. Some answered on tourism without the obligatory focus on ecotourism.

Assessment Unit A2 3 Decision Making in Geography

Unit Overview

In this round of geography examinations, the Decision-Making Exercise was not mandatory, so it was not chosen by all centres. Those who took the paper know that it remains challenging and candidates have to be well-prepared for an examination with a very different format and task compared to other Geography papers. Many candidates had clearly put in much individual effort, supported by their centres where appropriate. This was reflected in the good standard of responses by many candidates, although others, as in previous series, were less well prepared.

The context this year was a mine in Alaska. As with previous Decision-Making papers, the resource booklet contained the usual resources including a location map, photographs and an infographic presenting additional information. There was a detailed map of the proposed mine itself (Resource 1B), and an image of a similar, but much smaller mine to provide some idea of the scale of the proposed project (Resource 2E). These were in addition to the usual text resources but as always, shrewd candidates took care to explore the resources provided beyond the text resources in order to enrich and develop their answers. While the more pictorial resources help to orient the candidate in terms of the scale and location of the proposed mine, they are also there to support the argument being made, ensuring that candidates can move beyond the text resources. The quotations reflecting the views of people who had strong opinions about the mine (Text D) provided some insight into the controversy around the proposal and could also have been used – judiciously – by alert candidates. These are particularly effective when not reproduced in full, but where the sentiment, and perhaps a short phrase, can be incorporated into the argument. The examiners reported that the whole suite of resources appeared to be accessible to most candidates and even some of the unconventional (to NI students' eyes) placenames appeared not to make the task any more difficult than in previous years.

One concern for the examiners was the continued reproduction of the resources verbatim, a perennial issue in this paper. Centres do, I am sure, continue to warn candidates about the temptation to do this, and the penalties that it brings, but it continues to be found in scripts. Some try to overcome this by paraphrasing slightly some of the wording, but if the text provided by the candidate is clearly copied straight from the booklet, or altered

minimally, that answer is limited to a low-level response. Some candidates feel that putting the section that they copy out as a quotation overcomes the issue. Of course, some phrases or even a sentence might be used in that way, but examiners encountered whole paragraphs being copied out verbatim. Putting such text in inverted commas does little to convince the examiner that the candidate really understands the point being made, and as a result this approach is also penalised severely. To access the full range of marks available, the candidate has to convince the examiner that they have read and understood the issues being described in the text and infographic, and that they can convey those ideas, in their own words, in their report. The examining team recognised the need for some flexibility around this insofar as some technical language is required to be repeated. They were not surprised to see “a new port constructed at Amakdedori” or learn that copper demand was expected to “rise by 350% by 2050” – it is difficult to see how these might be expressed very differently. This is a wholly acceptable use of the resources. However, there are candidates who take this to an extreme when it is unnecessary to do – those are the candidates who are very limited in the marks they can be awarded. The report should be, except for unavoidable phrases, in the candidates’ own words as much as possible.

Candidates are recommended to spend the first 30 minutes of the examination reading the resources and getting a full understanding of the issue. They should also make use of this time to plan their answer fully. Some candidates include this plan in their answer booklet, and examiners do look at that, and it can be useful and garner some marks in the case of an answer not being completed for example. However, it is not necessary to plan in that way, and candidates will, perhaps with suggestions from their centres, come up with approaches which suit them best and which make sensible use of that limited preparation time. However they plan, this time should allow candidates to decide what materials to use and where they are most effectively deployed in their answer.

Update on issue

Candidates will know and it is stated in the paper itself that they should not use any information that they might know about any decision on the issue which is not present in the Resource Booklet and Question paper. However, it may be of interest for teachers and candidates to know that this mine is still very much in the balance. The unprecedented heat in the tundra in 2022 played its part in destroying a mine supply camp and 9000 acres (over 3600 hectares) of Alaskan wilderness during the 4th July weekend (<https://www.adn.com/alaska-news/2022/07/12/pebble-mine-supply-camp-suffers-near-total-loss-in-southwest-alaska-wildfire/>). While this fire would not prevent the mine from proceeding, a decision by the United States Environmental Protection Agency might. They are proposing revisions to their Clean Water Act which would prohibit mine waste from entering the waters of Bristol Bay. Held up by legal challenges for eight years, this legislation is now looking more likely to be enacted:

<https://deneki.com/2022/06/pebble-mine-update-may-2022/>

<https://alaskapublic.org/2022/05/31/as-epa-moves-to-block-pebble-mine-supporters-and-opponents-look-to-details/>

It is likely that those in favour of the mine will continue to try to get permission to proceed and so the potential for the mine to be developed remains.

Section A: Introduction

This year, candidates were asked to outline the need for the project and to briefly describe it, a not uncommon way to begin the Decision-Making exercise. There could have been a lot of description, but most candidates noticed that some would be of more value in Section B(i) and B(ii) and reserved that content for those sections. There is also no requirement for a

description of the context of the project, so any discussion of impact was a digression here, wasting time and diminishing the effectiveness of the answer. Those who introduced detail on salmon fisheries were straying from the core description as well. When it came to 'need', what was expected was a focus on the demand for the minerals, and the growing shortage of them globally. Some were able to argue that there was a need in relation to the general impoverishment of the area and its declining population. This was perfectly valid, although others preferred to retain this information to use in Section B(i). One examiner noted that "the introduction was answered relatively well [but] a lot of candidates used irrelevant material". Overall, however, the treatment of need and the description were well balanced although a small number of candidates, as happens every year, omitted one or the other.

Section B: Likely impact

(i) Employment and Economy

While this was considered relatively accessible to the candidates, one examiner noted that, for some, "there was an over reliance on the text and little evidence of other resource use". These were in the form of maps, diagrams or infographics but only a proportion of candidates used these to their full potential alongside the text, something which is generally expected for Level 3 answers.

Another examiner noted a not uncommon issue this year, which was not addressing the section using the suggestions in the question booklet under the Guidance to Candidates column. This advised candidates to discuss the possible beneficial effects of the proposed mine on employment and the economy and then the counterarguments, in that order. It was considered that candidates were putting themselves at some disadvantage if they instead started with the negative effects of the mine. Some began by discussing the benefits of the salmon industry. As one examiner put it "A few candidates started off with the counterarguments by giving the positive aspects of fishing. This ultimately altered their focus and they kept focus on the fishing industry when the exercise was about mining. Those who did it the 'wrong way round' scored less well than those who started with the benefits of the mine". The 'Guidance to Candidates' is there to help candidates to structure their answer, and to support them in doing it most effectively.

(ii) The Environment

A number of candidates in this section, too, did not begin with potential negative environmental impacts before addressing the counterarguments; some started with the positive effects of the mine on the environment. Mines generally have little or no positive impact on the environment, so any discussion of the mitigation which the mining company promise to undertake to reduce (generally not eliminate, and almost always not improve) the impact on the environment logically should be considered after a description of what the negative impacts would be. Again, this was the order which was provided in the Guidance to Candidates column in the question paper and, while it is guidance, it would seem prudent for candidates to take account of it. Starting with counterarguments in this section also was found to impact on candidates' ability to address the question as effectively as it could have been.

Only a very few used other resources in this section – there were many opportunities to refer to photographs, to use material only found in the infographic or to comment on the maps. Those who did incorporate these tended to fare better overall, compared to those who solely relied on the text resources. It should be noted that a reference such as adding (Resource 2E) within a sentence, while it does make reference to a resource, will be much less impactful than a fuller use of that resource which explains its significance in the argument. Thus "the mine will be very large (Resource 2E)" is not so powerful a use

of additional resources than something along the lines of “the mine will be very large, and three times larger than the enormous mine illustrated in Resource 2E, the scale of which is demonstrated by the vehicles in the photograph”. In other words, a candidate who refers to a resource will gain some reward, but a candidate who uses the resource and incorporates it in the argument being advanced is in a better position again. Similarly, the cross-section (Resource 3B) was little used, and yet the scale of the deposits and the potential disruption in removing all of the ores would be massive.

It is often possible to use some material in a section that might be considered more suited to another part of an answer. For example, a small number of candidates were able to talk about salmon stocks or brown bears in this section. This can be appropriate, but only if the aspects of the content being used are clearly identified as to do with environment – those who went on to talk about the cost to tourism or to the economy were straying well outside the environmental focus required here. The same applies for environmental information used in Section B(i) – it is perfectly acceptable if there is an economic or employment slant that can be applied to it. The impact of the development on the indigenous Aleut population was sometimes introduced here, or in Section B(ii), but care had to be taken to show how it was relevant, and it was generally easier to reserve that material for the conclusion.

Candidates should also beware of imbalance between their arguments and counterarguments as this generally indicates a weaker answer, particularly if there is adequate content provided to ensure a comprehensive answer. Something similar can be said about the time allocated to Sections B(i) and B(ii). With the same mark allocation this year, and that is not always the case, the length and depth of each section is likely to be comparable and gross differences might suggest a misallocation of time by the candidates. If very well organised, each of Section B(i) and B(ii) should have taken the same time, around 14 minutes or so.

Section C: Conclusion

Often the most challenging part of this paper for many candidates, some examiners found evidence of this section being rushed this year, although one noted that, while “a small number of appeared to run out of steam at this point, they were still in a minority”. This is the only section in which the environmental negatives can be measured against the economic and employment positives, or that the economic and employment gains can be weighed up alongside the environmental mitigations. This is a difficult balancing act for the ‘real’ decision makers in these contexts; there are no easy answers, and candidates who recognise this and reflect it in their conclusion are often those who show most insight into the issue. There seemed to be an almost equal number of candidates who favoured the mine going ahead against those who did not want to see it developed, which suggested that there was sufficient material there for those who wanted to argue for or against the mine proceeding. Some candidates used the material on the indigenous inhabitants of the area – the Aleut people – very effectively to support the decision made.

Mark schemes do not include a model answer for the concluding part of a Decision-Making exercise as some of the assessment of it is related to the answers provided in Sections B(i) and B(ii). Should a candidate merely repeat much of the content that they employed in their arguments in Sections B(i) and B(ii), without a different slant or emphasis, this does not provide an opportunity to give a synthesis of the whole issue. The conclusion is freed from the constraints of the structures in Sections B(i) and B(ii), separating employment and economy from environment. Thus, an answer might look excellent if presented outside its context within the whole paper, but may be merely repetitive of the previous sections, and so may score modestly. Candidates are expected clearly to provide a decision, and it is almost always advantageous to do that at the beginning of this section. The remainder of this section of the report allows candidates to show that they fully grasp the issue, and

its nuances, that they can weigh up the arguments on both sides of the debate, use facts carefully, and develop their argument in a fresh way if they have already covered some of the points. Some candidates handle this well, and it is the section where there is much less verbatim use of resources, but others, as noted, seem to run out of steam, or to struggle with the particular demands of this section of the paper.

Other Tasks

Format

These can be a fairly 'easy' two marks to gain in this paper, and it may be carelessness to lose them, perhaps by not using the exact wording, abbreviating 'and' to &, or not separating headings from sub-headings. The examining team have found that, if there is flexibility in awarding these marks, it is challenging to ensure consistency as the many possible variations from the provided headings make it difficult to decide whether a mark can be provided or not. Candidates are required to use the headings and sub-headings provided, and so should not try to improve how they word these or how they present them. This year, 'Conclusion' was required instead of 'Decision' and a mark was lost if this was not spotted. Very occasionally a candidate does not employ any structure in the report. In that case, both marks are lost. There are also potentially other marks lost as a result of not having structure within which to organise the candidate's arguments. One examiner felt that losing marks on the headings and subheading correctly tended to be centre-wide, suggesting that some centres emphasised this more with candidates than others did.

Role

Most candidates gained both marks for adopting and maintaining the role of Dr Rosa McElroy. One examiner commented that the only candidates in her allocation of scripts who did not get both marks here, was that small proportion who did not complete the paper as far as the conclusion.

Graph

All examiners reported that the graph was well done this year with a table of data which was relatively accessible to most candidates. Many used graph paper this year, although some used the lined paper in their answer booklets and produced excellent graphs in that way. Whether using graph paper or the lines in the answer booklet, care had to be taken to select the correct scale. A number of examiners noted that inappropriate scales were chosen by some, such as labelling the centimetre squares in graph paper, divided into 5, as 0, 4, 8, 12 (millions) and so on, making it difficult to accurately plot 27, for example. Both line graphs or bar graphs worked best here, although some compound graphs were also seen and they, too, could be effective. It was important in the line graph not to take the lines back to the origin, as there is no indication of when, if ever, there have been no salmon returning to Bristol Bay.

Where marks were most often lost, apart from occasional carelessness in plotting the values, was in forgetting to label an axis or a failure to indicate that the numbers were in millions. Generally, keys and titles were provided, and the graph was referenced in the text. A few referenced a table instead of a graph, losing a mark. It is notable that many of those candidates who overused the resources verbatim omitted the graph entirely or, when they did include one, very frequently forgot to reference it.

There were a few graphs which challenged the examining team during the marking process, for example using numbers of returning fish and numbers of harvested fish as axes and attempting to plot the years onto that graph. The examining team agreed an approach

to assessing such graphs which allowed some credit for accuracy of the plots and for making reference to the graph in the text, but no other marks were available when such an inappropriate technique was used.

Despite this discussion of some of the errors in graphs encountered by the team, most candidates scored well here, and there were many who gained full marks.

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