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**GLOBAL PERSPECTIVES AND RESEARCH**

**9239/12**

Paper 1 Written Examination

**May/June 2016**

MARK SCHEME

Maximum Mark: 30

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**Published**

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2016 series for most Cambridge IGCSE<sup>®</sup>, Cambridge International A and AS Level components and some Cambridge O Level components.

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## 1 Study Document 1.

- (a) Identify **two** reasons from Document 1 why the author thinks crop production should be doubled by 2050. [2]

Examiners should be aware that candidates are asked only to identify reasons and not explain or evaluate them. Therefore, they should not expect lengthy responses. However, examiners should ensure that each reason given in the response is taken from Document 1.

**Candidates are not expected to put the ways into their own words and may simply copy the reasons from Document 1.**

**Credit 1 mark for a correct version of the following, up to 2 marks:**

- We are likely to have two billion more mouths to feed by mid-century/(sheer) population growth.
- There is a spread of prosperity across the world.
- There is an increased demand for meat, eggs and dairy foods boosting pressure to grow more corn (to feed more farmed animals).

The question asks for two reasons so if a candidate identifies just one, they can score a maximum of 1 mark.

- (b) Explain **two** ways in which the author thinks that we can reduce the environmental impact of agriculture. [4]

Examiners should be aware that this question carries **only** 4 marks and should not expect a lengthy answer.

**Credit 1 mark** for each way correctly *stated* or *listed*, up to 2 marks.

**Credit an additional 1 mark** for each of these ways correctly *explained*, up to 2 marks.

**Candidates should put these explanations into their own words/paraphrase. Allow candidates to selectively quote part of the Document 1 if it appropriately explains the way identified.**

**Examples of 1 mark answers:**

- Avoiding deforestation
- Using organic farming methods
- Using (conventional) farming resources more efficiently
- Consumers eating less meat
- Consumers eating more of pasture-raised animals than grain-fed animals
- Customers/cafeterias/restaurants/supermarkets avoiding food waste.

**Examples of 2 mark answers:**

- The author thinks that we can increase food production in ways that avoids cutting down forests to make way for more farmland. This will avoid the environmental impact of deforestation.
- Resources can be used more efficiently by using organic farming as it reduces the amount of water and chemicals being added to the soil, thus enriching it.
- The author argues that we can make better use of the existing food we produce if we encourage customers/cafeterias/restaurants/supermarkets to avoid food waste. Reducing the need to produce more food will reduce the agricultural need to impact on the environment.

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## 2 Study Document 1.

**Assess the strengths and weaknesses of the author’s argument in Document 1 about increasing the world’s food supplies and protecting the environment.** [10]

Use the levels-based marking grid below and the indicative content to credit marks.

<b>Level 3</b> <b>8–10 marks</b>	<ul style="list-style-type: none"> <li>• <b>Both</b> strengths and weaknesses are assessed.</li> <li>• Assessment of the argument/s is <b>sustained</b>.</li> <li>• Assessment explicitly includes the <b>impact</b> of specific evidence upon the claims made.</li> <li>• Communication is <b>highly effective</b> – explanation and reasoning accurate and clearly expressed.</li> </ul>
<b>Level 2</b> <b>4–7 marks</b>	<ul style="list-style-type: none"> <li>• Answers focus <b>more</b> on either strengths or weaknesses, although both are present.</li> <li>• Assessment identifies strength or weakness with <b>little explanation</b>.</li> <li>• Assessment of argument/s is relevant but generalised, <b>not always linked to specific</b> evidence or <b>specific</b> claims.</li> <li>• Communication is <b>accurate</b> – explanation and reasoning is limited, but clearly expressed.</li> </ul>
<b>Level 1</b> <b>1–3 marks</b>	<ul style="list-style-type: none"> <li>• Answers show <b>little or no</b> assessment of the arguments.</li> <li>• Assessment, if any, is <b>simplistic</b>.</li> <li>• Evidence may be <b>identified</b> and weakness may be <b>named</b>.</li> <li>• Communication is <b>limited</b> – response may be cursory or descriptive.</li> </ul>

Credit 0 marks where there is no creditable material.

If a candidate only addresses strengths OR weaknesses credit to a maximum of 6 marks.

### Indicative content:

No set answer is expected and examiners should be flexible in their approach.

### Candidates may include some of the following:

#### Strengths:

- **Clear conclusions** – the author presents two main arguments with conclusions which make clear what he wants to persuade the reader to accept – *‘require us to roughly double the amount of crops we grow by 2050’* and *‘This five step plan could meet...’*
- **Relevant and clear example** – the example of computerised tractors with GPS clearly illustrates innovative targeting methods in conventional farming.
- **Uses past experience** – the author’s reference to the environmental destruction caused by deforestation in the past gives weight to his recommendation to avoid further deforestation.
- **Responds to opposing argument** – the author responds to polarised views on conventional and organic agricultural methods.
- **No vested interest** – the author is director of an institute *‘which is dedicated to discovering solutions’*, so has no apparent vested interest to look for one solution over another.
- **Relevant expertise** – as a Director dealing with environmental problems, he has the expertise to deal with the problem of food supplies from the environmental perspective.

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**Weaknesses:**

- **Conclusion depends on trends continuing** – the conclusion to ‘*double the amount of crops we grow by 2050*’ is weakly supported by the trends, which if they do not continue (population growth may be harnessed and eating habits may be educated) would weaken the size of the predicted need.
- **Weakly supported conclusion** – the author concludes to ‘*double the amount of crops we grow by 2050*’ without any data to indicate how he came to this figure.
- **Confuses two words** – the author appears to use the phrases ‘*double the amount of crops we grow*’ and ‘*double the world’s food supplies*’ as if they are the same. He begins with the first and ends with the latter.
- **Vagueness** – there is no reasoning to suggest how cafeterias, restaurants and supermarkets can reduce waste.
- **Assumptions** – the author makes several assumptions that could be challenged, which weakens the argument:
  - that increased demand for food means that we need to increase crop production, whereas it may be that we could distribute existing supplies more widely.
  - that organic and conventional farming are compatible in their method and can co-exist.
  - that people will want to change their diets and eat less meat.
  - that people can change to grazed meats, whereas such things as religious customs may prevent this.
- **Significance** – the evidence of 2 million more mouths to feed lacks the context of present world population to judge how great an increase this might be.
- **Lacks sources** – the author uses data which is self-acclaimed without the support of external sources, which weakens the support it gives to the reasoning:
  - data of a 58% increase in global food production from improving nutrient and water supplies;
  - similarly with percentages of calories used by people, livestock and biofuels;
  - similarly with 50% of food weight lost or wasted.
- **Lacks other perspectives** – the author responds to the food dilemma from an environmental perspective, but doesn’t include other perspectives on the problem, such as unequal distribution of existing food supplies and the inability of the poor to buy available food.
- **Vested interest** – the author has a vested interest to promote the results of the research carried out by his institute and so may present a more selective argument focusing on the environmental issues associated with the food dilemma.

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### 3 Study Documents 1 and 2.

How successfully does the author’s argument in Document 2 challenge the argument of Document 1? [14]

Use the levels-based marking grid below and the indicative content to credit marks.

<b>Level 3</b> <b>10–14 marks</b>	<ul style="list-style-type: none"> <li>The judgement is <b>sustained</b> and <b>reasoned</b>.</li> <li>Alternative perspectives have <b>sustained</b> assessment.</li> <li>Critical evaluation is of <b>key</b> issues raised in the passages and has <b>explicit</b> reference.</li> <li>Explanation and reasoning is <b>highly effective</b>, accurate and clearly expressed.</li> <li>Communication is <b>highly effective</b> – clear evidence of a structured cogent argument with conclusions explicitly stated and directly linked to the assessment.</li> </ul>
<b>Level 2</b> <b>5–9 marks</b>	<ul style="list-style-type: none"> <li>Judgement is <b>reasoned</b>.</li> <li><b>One perspective</b> may be focused upon for assessment.</li> <li>Evaluation is present but <b>may not relate to key</b> issues.</li> <li>Explanation and reasoning is <b>generally accurate</b>.</li> <li>Communication is <b>accurate</b> – some evidence of a structured discussion although conclusions may not be explicitly stated, nor link directly to the assessment.</li> </ul>
<b>Level 1</b> <b>1–4 marks</b>	<ul style="list-style-type: none"> <li>Judgement, if present, is <b>unsupported or superficial</b>.</li> <li>Alternative perspectives have <b>little or no</b> assessment.</li> <li>Evaluation, if any, is <b>simplistic</b>. Answers may describe a few points comparing the two documents.</li> <li>Relevant evidence or reasons may be <b>identified</b>.</li> <li>Communication is <b>limited</b>. Response may be cursory.</li> </ul>

Credit 0 marks where there is no creditable material.

#### Indicative content:

No set answer is expected and examiners should be flexible in their approach. Answers should go beyond a simple comparison of the content of the two documents and look to evaluate a range of issues if they want to access the higher levels. In order to assess which author’s argument is the stronger, candidates should consider not only the content of the documents but critically assess the views put forward through a consideration of issues such as the nature of the passages, purpose and language. Responses are likely to cover issues such as the reliability of the documents, by looking at their origin/source.

Candidates should critically assess perspectives and the use of examples and evidence in order to reach a judgement. In doing this they might conclude that the author’s argument in Document 2 shows a little more balance and wider perspective than in Document 1. Alternatively, they might conclude that overall, although from slightly different perspectives their arguments have different strengths and weaknesses. However, credit should be given to an alternative judgement on the basis of the assessment and reasoning.

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Candidates may include some of the following:

**Successful challenge:**

- **Focuses on a root cause** – Gimenez’s argument directly challenges the technical and environmental perspective of Foley’s argument, claiming that the latter ignores the root causes of hunger which are poverty and injustice.
- **Wider perspective** – Gimenez’s argument accepts Foley’s *‘technological fixes’* as ‘good’, but claims that *‘other steps’* are also necessary to go to the root cause of hunger.
- **Greater response to opposing argument** – Gimenez’s challenge is strong in that it targets four underlying beliefs in Foley’s arguments and directly addresses each. The ultimate challenge is injustice and poverty, although other more specific beliefs are challenged such as the possible co-existence of two farming methods. In this way, Gimenez’s challenge is more wide ranging in what it considers.
- **Direct challenge to first conclusion** – Gimenez’s argument successfully challenges this as being a *prediction* rather than a fact and explains its weakness in what it leaves out to come to this conclusion e.g. other produce – fruit and vegetables and the issue of injustice.
- **Effective use of comparison to challenge co-existing farming technologies** – using the co-existence of foxes and chickens to explain the impossibility of conventional and organic co-existing is a powerful image which strengthens Gimenez’s challenge, as it would be difficult to argue against predator and prey co-existing.
- **A balanced challenge** – Gimenez’s argument begins by acknowledging that the Five-Step Plan involves *‘good technological fixes’*, and claims *‘other steps’* are necessary in addition to this.
- **Stronger call to action** – Gimenez’s argument is written in a compelling style supported by statistics about peasant farmers and examples of the 2008 and 2011 food crises, also the Mexican smallholder bankruptcies. If you accept that there is injustice, it is difficult to deny that there should be action to right this.

**Weak challenge:**

- **Less academic tone** – Gimenez’s argument has a more informal style that uses emotive language to challenge Foley’s argument such as *‘sadly’* in relation to peasant farmers; strong negatives in relation to Foley’s claims *‘false’*, *‘mistakenly’*, *‘deceit’*, and the highly-charged image of *‘foxes and chickens’* co-existing to depict conventional and organic systems. This uses emotion rather than force of reasoning to challenge Foley’s argument.
- **Less authority** – Gimenez is a researcher and director of an organisation *‘to promote action to end injustices that cause hunger’*, which gives a less academic slant to the challenge when compared to the research from a university professor.
- **Involves inconsistency** – Gimenez’s argument begins by acknowledging that the Five-Step Plan involves *‘good technological fixes’*, but then challenges the beliefs behind these and concludes that we should drop the deceit and *‘the technological fixes’*.
- **Greater vested interest** – as director of an organisation *‘to promote action to end injustices that cause hunger’*, there is the possibility that the challenge is selective focusing on this, rather than seeing the bigger picture.
- **General call to action** – Gimenez’s argument challenges with a general call to action *‘to end injustices that cause hunger’* which is less practical in its recommendation than the Five-Step Plan that it challenges, so may be seen simply as a challenge to the approach, rather than an effective solution in itself.

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**Not Challenge – similar strengths and weaknesses:**

- **Both give a reasoned argument** – both arguments are clearly structured with conclusions that follow from the reasons. The difference is one of perspective, as to whether one takes a practical technical solution or fights against injustice for a more equitable distribution of the existing food. In this way, Gimenez’s argument simply provides an additional perspective for the reader to consider.
- **Both lack sources and use limited examples** – both arguments are equally weakened by lack of exemplification to illustrate their claims and by the lack of externally supported evidence and views.
- **Both have relevant expertise** – both have access to research and experience in their respective fields; Foley in food and the environment, and Gimenez in injustices that cause hunger.
- **Both have vested interest** – both have a vested interest to be selective to promote their own research; Foley in the Five-Step Plan and Gimenez in research to end injustices that cause hunger.