# a-level exam questions & answers:

# hazards (section c) >

## 9 mark question #3 (hdi & seismic events)

References:

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This document is available both as a pdf and editable word document – from the hazards topic page - which can be printed.

3) To what extent do you agree with the statement “the human development index [HDI] of the affected area gives us the best indication of how severe the impacts of a seismic event will be.”

Hazards >> 3.1.5.4 >> Seismic Hazards

[9 marks]

Extra space:

V1.3, last updated 28.4.22

## writing tips & tricks:

This question requires a good knowledge and application of case studies. I would recommend achieving maximum marks [level 3] by focusing on two contrasting seismic case studies – one for and one against; and make an overall judgement as to the relative importance of exogenous or endogenous factors in the conclusion.

Don't forget to follow the PEEL Structure.

I.E. A very short intro EXPLAINING the problem or question and stating your opinion. You must have an opinion or be capped to limited marks.

2. Follow up with opening paragraph on one side of the argument – make a point, explain, give brief evident through the use of a named example, then don't forget to link back to the topic.

3. Vice versa for 2nd paragraph – arguing alternate point. They don't have to have equal weight if you agree one side of the argument strongly, but it is useful to show a broad understanding of others' viewpoints.

4. It is also crucial to be concise yet use a variety of relevant terminology and have a few lines concluding your answer.

# a-level exam questions & answers:

## hazards (section c) >

## mark scheme | 9-mark q3 (hdi & seismic events)

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| Q.: | Sp. Ref.: | Information For Markers: | B'down: | Marks: |
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| 3) | 3.1.5.4 | **"To what extent do you agree with the statement "the human development index [HDI] of the affected area gives us the best indication of how severe the impacts of a seismic event will be."**<br><br>AO1 – Knowledge and understanding of cause, impact and management of seismic events in the context of physical vs. human factors.<br>AO2 – Application of knowledge and understanding to assess the scale of these factors including an appropriate analysis into which are more or less relevant, and an ultimate judgement appertaining to whether the Human Development Index is the most accurate representor.<br><br>**Mark scheme**<br><br>**Level 3 (7–9 marks)**<br>AO1 – Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change. These underpin the response throughout.<br>AO2 – Applies knowledge and understanding appropriately with detail. Connections and relationships between different aspects of study are fully developed with complete relevance. Evaluation is detailed and well supported with appropriate evidence.<br><br>**Level 2 (4–6 marks)**<br>AO1 – Demonstrates clear knowledge and understanding of concepts, processes, interactions and change. These are mostly relevant though there may be some minor inaccuracy.<br>AO2 – Applies clear knowledge and understanding appropriately. Connections and relationships between different aspects of study are evident with some relevance. Evaluation is evident and supported with clear and appropriate evidence.<br><br>**Level 1 (1–3 marks)**<br>AO1 – Demonstrates basic knowledge and understanding of concepts, processes, interactions and change. This offers limited relevance with inaccuracy.<br>AO2 – Applies limited knowledge and understanding. Connections and relationships between different aspects of study are basic with limited relevance. Evaluation is basic and supported with limited appropriate evidence.<br><br>**Notes for answers**<br>**AO1**<br>• Candidates should consider the causes, impacts and different levels of response to seismic (or earthquake) | AO1=4<br>AO2=5 | 9 |

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| | | events. These can be both primary and secondary in nature.<br>• Knowledge and understanding of different physical and human (anthropogenic) factors working to create a hazard event which poses risk to human life. Mentioned factors can include physical geography such as location (proximity to fault line) and type of fault line, topography/ landscape, presence of rivers or lakes etc… as well as human factors such as land use, wealth & human development (as measured and insinuated by question as most important factor), population density, preparedness etc…<br>• Reference made to top 10 most hazard vulnerable countries being all low-income, less developed (LIC) nations, and inferred meaning behind this suggesting that statistically this statement has merit.<br>• Some countries are multi-hazard environments, such as Haiti and Indonesia. This means that they are vulnerable to different forms of hazard event and are often the most impacted. This may be considered either as a pro or con argument depending on how it is approached. Some students may think that having two or more hazards inherently is the reason for the hazard impacts to be greater (less ability to prepare or knowledge etc…) whilst others may point to development as the reason behind this.<br>**AO2**<br>• Analysis through the medium of AT LEAST ONE NAMED CASE STUDY 'AFFECTED AREA' in order to illustrate argument through evidence. This may include death/casualty/damage statistics, recovery signs or reference to hazard modelling such as the Park Model or Hazard Management Cycle (HMC.)<br>• In many countries which are most vulnerable to natural hazard events, particularly seismic/multi-hazard, there is a vicious cycle taking place. Take Nepal as an example. In April 2015, the devastating Gorkha Earthquake hit, causing up to $10Bn in damages. A country like Nepal (the least developed in Asia with a GDP per capita of less than $1000) is unable to escape this situation because of the ongoing seismic events which hamper the economy and any further growth or recovery. It is unable to afford earthquake proofing means like wealthy, similarly seismically active countries like Japan or the USA (with a GDP per capita over 20x higher.)<br>• Appreciation that there are different case studies where this may not be the case. Reference may often be made to the devastating 2011 Tohoku Earthquake and subsequent tsunami (which IS a seismic event.). Students could evaluate that although Japan is a very highly developed nation with a HDI above 0.9 and well-regarded earthquake-proofing, the location of the event at sea and subsequent 50ft wave destroyed any preventative infrastructure and there was little that would be done to mitigate the impacts of this event.<br>Credit any other valid assessment | | |