

# Mark Scheme (Results)

## Summer 2025

### Pearson Edexcel International Advanced Level In Geography (WGE04) Paper 01 Geographical Research

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**General Marking Guidance**

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

**Important 2506 Country classification / development level terminology:**

**The IAL Geography Specification currently uses the terms:**

- Developing country
- Emerging country
- Developed country.

In answers candidates are likely to use the terminology above.

**Other terminology is equally acceptable and should be credited, such as:**

- Global North (referring to developed / high-income / HIC countries)
- Global South (referring to developing / low-income / LICs *and* emerging / middle-income / MIC countries)

If terminology such as LDC (Least Developed Country), NIC (Newly Industrialised Country) and other similar terms are used by candidates, credit should be given as long as the meaning is clear and their use is accurate in the context of the question.

**Question 1 – 'Trends in impacts show that tectonic disaster management is increasingly successful.' To what extent do you agree?**

• Research the global and regional trends in tectonic disaster impacts over time.

• Research the effectiveness of a range of management strategies in reducing the impacts of different types of tectonic disasters.

**Indicative content**

**The focus** of this title is to discuss the success of management techniques in reducing the impacts of tectonic disasters.

**The framework** chosen may be by the following.

- Type of tectonic hazard – one section on earthquakes of varying magnitudes, one on volcanic eruptions, one on tsunamis
- Level of success, or not – by case study or theory
- Scale of hazard and disaster – case-study led using various measurements of intensity/scale mapped against measurements of scale of disaster and the impact on people and property.
- A temporal approach- discussions about hazards and disasters and changes overtime

**Key analytical points**

- Death tolls from tectonic hazards have generally decreased, particularly since 2000. This may reflect better prediction, early warning systems, preparation, evacuation procedures, and emergency response.
- The effectiveness of management depends on technology and infrastructure, public education and preparedness, equitable access to aid, the speed and quality of long-term recovery and political will and capacity to act upon risk
- Japan's DART tsunami detection system and mobile phone alerts demonstrate how technology and communication can save lives.
- In January 2024, Japan experienced a 7.5 magnitude earthquake resulting in 94 deaths.
- In contrast, the Türkiye-Syria earthquake (2023), of similar magnitude, resulted in over 56,000 deaths. This suggests access to resources, infrastructure, and governance makes a huge difference.
- Volcanic disasters tend to be more predictable than earthquakes, allowing for successful pre-emptive actions
- In Indonesia, 2010, Mt Merapi's eruption affected around 350,000 people, but only 300 deaths were recorded. Large-scale evacuations demonstrate effective pre-disaster management.
- Deaths from volcanic eruptions are now rare. The last eruption to kill over 1000 people was Lake Nyos, Cameroon, 1986, and only seven eruptions since 1980 have killed more than 100 people.

- There is increasing reliance on scientific expertise to modify environments to reduce hazard impacts, such as higher sea walls, tsunami shelters, and hazard-resistant infrastructure.
- The Japanese earthquake & DART systems can trigger warnings to their populations via mobile and media communications, this early warning system reduces death tolls.
- Economic losses from tectonic disasters are rising, averaging £15-25 billion per year, and this trend is seen across both developing and developed countries.
- This may reflect increasing wealth and assets in hazard-prone regions, particularly in emerging economies, where growth outpaces hazard-proofing.
- Some events are so powerful that they overwhelm even the best defences, as seen in the 2011 Japanese Tōhoku tsunami, which breached sea walls and caused a nuclear crisis.
- Inequality affects management success both within countries (e.g. rural vs urban, rich vs poor) and between countries. Even when a state has response plans, limited governance capacity, lack of funding, or corruption can hinder implementation.
- Long-term recovery is essential in judging success. Haiti's 2010 earthquake left lasting economic damage and infrastructure issues due to slow recovery and poor aid coordination.
- Multiple hazard events can occur simultaneously or sequentially, compounding impacts:
- For example, Typhoon Yunya coincided with the 1991 Pinatubo eruption in the Philippines, worsening the disaster.
    - Earthquake-related deaths remain highly variable, depending on time of day, population density, and building quality, between 2012 and 2014 there were under 1000 deaths and over 200,000 in 2010 (Haiti)

**Summary**

Hazardous tectonic events are not becoming more frequent, but their impacts are becoming more complex due to population growth, increased asset exposure, and socio-economic disparities. While there is clear evidence of improved management, particularly in developed nations with early warning systems and strong governance, this is not universal.

Case studies used are likely to include:

- Iceland – Eyjafjallajökull 2010. More recent eruptions in 2023/2024.
- Turkey and Syria 2023
- Haiti 2010
- Nepal 2015
- Pakistan 2013
- Japanese Tohoku tsunami 2011
- Turkish/Syrian earthquake 2023

**Question 2** – 'Poverty is the most significant cause of food insecurity in both developing and developed countries.' Discuss.

- Research the varied causes of food insecurity including the role of the environment, politics and poverty.
- • Research a range of locations in countries at different levels of development to explore the reasons for food insecurity.

**Indicative content**

**The focus** of this title is to discuss the significance of poverty, and any other factors that may play a role in food insecurity.

**The framework** chosen may be by the following.

- Different causes of food insecurity across a range of countries at different stages of development including poverty, population growth, environmental degradation and climate change.
- A 'case-study' approach by area/region with different examples illustrating constraining trends in food insecurity.

**Key analytical points**

- Food security exists when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food that meets their dietary needs and preferences for an active and healthy life (UN FAO).
- Food insecurity is when access to food is disrupted — whether due to affordability, availability, or quality.
- The causes of food insecurity are multifaceted and can include poverty, political instability, conflict, environmental degradation, trade imbalances, and population growth.
- There is a clear link between poverty and hunger. In 2015, around 800 million people still lived in extreme poverty and suffered from hunger.
- Poverty affects both economic access (affordability of food) and physical access (ability to grow or purchase it).
- By 2022, 735 million people (9.2% of the global population) were chronically hungry — a rise since 2019 — much of which is linked to poverty.
- Although global poverty dropped to 22% by 2015 (meeting a key SDG), regional inequalities remain stark, East and Southeast Asia met global targets, but Sub-Saharan Africa did not.
- China, despite rapid economic growth, still has the world's second-largest population living in poverty, behind India.
- In China, 9 out of 31 of the poorest provinces remain food insecure, highlighting the poverty–hunger connection.
- In urban Ghana, fewer than 15% of households produce their own food (compared to 30% globally in urban areas), meaning access depends heavily on income.
- In developed countries, poverty also plays a role. in the UK and USA, relative poverty leads to reliance on food banks, limited access to fresh produce, and poor nutrition (i.e. food deserts).
- Economic hardship, rising living costs, and unemployment can all cause food insecurity despite national food surplus.

- While poverty is a key driver, other factors must also be considered such as environmental constraints.
- The physical environment still sets limits on food production, especially in regions affected by drought, poor soils, or marginal land.
- Climate change and desertification (e.g. in the Sahel) are reducing crop yields and increasing the vulnerability of already food-insecure regions.
- Inappropriate farming practices can lead to soil erosion, salinisation, and pollution, undermining long-term food production.
- Conflict and Political Instability for example, the 2011 conflict in Syria, has caused food prices to rise dramatically — flour alone increased by 197%.
- War often disrupts agricultural activity, supply chains, and international aid, deepening food insecurity and poverty.
- Even in regions with food shortages, the wealthier have more reliable access to food creating social inequalities with access to food.
- Structural inequalities mean that food is not distributed according to need but by ability to pay.
- There is no clear trend in number of people affected by tectonic disasters since 1980: this is because a small number of high-impact events (2004 Asian tsunami, 2011 Japanese tsunami, 2010 Haiti earthquake) make the data 'spiky'; this is also the case in terms of deaths and economic losses although there are clearer overall trends in terms of these impacts.

**Summary**

Poverty is a core driver of food insecurity in both developing and developed countries, limiting people's ability to afford or access sufficient food. However, it is not the only factor. Environmental challenges, conflict, inequality, and governance issues also play major roles, particularly in regions already vulnerable. Therefore, while poverty is highly significant, a full understanding of food insecurity requires a broader, contextual analysis.

**Case studies are likely to include:**

- Sub-Saharan Africa
- Urban V.s Rural Ghana
- The Sahel, a dryland area
- Regional differences between East and West provinces of China
- War and conflict zones- Syria, Ukraine and Gaza.

**Question 3** – Migration is the most important factor influencing the cultural diversity of places.' Discuss.

- Research the varied causes of cultural diversity including the role of government policies, migration and physical isolation.
- • Research a range of locations to explore why cultural diversity varies spatially

**Indicative content**

**The focus** of this title is the significance of migration in creating culturally diverse places.

**The framework** chosen may be by the following.

1. Case studies of different societies/places with contrasting levels migration and cultural diversity
2. Reasons behind differing levels of migration and the impact this may have on culture.
3. By level of development and/or urban/rural contrasts within countries.

**Key Analytical points**

- Cultural diversity refers to the presence of multiple cultural, ethnic, or religious groups within a society. While migration plays a significant role in fostering such diversity, factors such as historical context, government policies, and societal attitudes are equally important in shaping the cultural landscape of a place.
- According to the UNFPA, approximately 244 million people (3.3% of the global population) live outside their country of origin. This underscores the growing global interconnectedness and the magnitude of migration flows, which significantly contribute to the demographic and cultural makeup of regions.
- In the 1990s, international migration was mainly directed to established global cities like London which were seen as destinations for economic opportunities.
- Today, cities in the Global South, such as Mumbai, Lagos, and São Paulo, are increasingly important migration hubs, reflecting broader shifts in the global economy and migration patterns, often driven by factors like economic opportunity, political unrest, and environmental challenges.
- Global interconnectivity through improved transport, communication, and digital networks has made migration more accessible and widespread. As a result, cities around the world are becoming more demographically and ethnically diverse, with urban areas acting as melting pots where multiple cultures interact and influence each other.
- Countries and cities with higher volumes of both international and regional migration tend to have more cultural diversity. For example, London, Toronto, and Sydney are known for their multicultural populations, where migration from former colonies, refugee movements, and labour migration contribute to a rich cultural mix.
- Centralised nation-states have historically promoted dominant cultures through policies such as language laws, education systems, and, in extreme

cases, the suppression or genocide of minority cultures. Historical examples include the forced assimilation of Indigenous groups in the USA, the Sovietisation of Central Asia, and the Aboriginal Australian experience under British colonisation. These historical processes led to the marginalisation of cultural diversity in many parts of the world.

- The type and scale of migration significantly influence the levels of cultural diversity:
- Americanisation, driven by the global spread of American media, entertainment, and consumer culture, often leads to the dominance of English-language and Western cultural norms worldwide, sometimes at the expense of local traditions and languages.
- Large -scale migration of minority ethnic groups such as the movement of people from South Asia to the UK or from Mexico to the USA—tends to enhance cultural diversity. However, it can also generate social tensions, particularly where cultural integration is limited or resisted by host societies, leading to debates over national identity and multiculturalism.
- In some cases, assimilation of migrant groups can reduce cultural diversity, as distinct communities lose their language, customs, and cultural practices over time. Examples include the historical assimilation of Italians in the USA or Koreans in Japan, where migrants, over generations, adopted the dominant culture, sometimes at the cost of their own.
- Government migration policies directly shape the scale and direction of migration flows, thus influencing the level of cultural diversity in a country or city:
- Restrictive migration policies limit the entry of new migrants, thus reducing the potential for cultural diversity. For instance, some European Union countries have enacted stricter border controls in response to the refugee crisis, leading to tensions surrounding integration and social cohesion.
- On the other hand, open migration policies in the past, such as those seen in Canada or Australia, encouraged multiculturalism by allowing diverse ethnic and cultural groups to settle, fostering a more culturally plural society. However, these policies can also create challenges related to integration, social equity, and the protection of minority rights and in some cases have been replaced by more restrictive policies such as Australia’s points-based system.
- Some countries, particularly those with a strong national identity, view migration as a potential threat to their cultural heritage and national identity. Concerns often arise about the potential loss of traditional values, languages, and customs as the cultural composition shifts, leading to resistance to migration flows. This is particularly true in homogenous societies like Japan, where there is strong cultural pride and a reluctance to accept large numbers of migrants.
- Historical migration has left enduring cultural imprints in many countries. For example, in the USA, the cultural landscape was shaped by waves of European immigrants, leading to the widespread adoption of European languages, sports, food, and cultural norms, despite the earlier marginalisation of Indigenous peoples and African Americans. These historical movements have contributed to the diverse cultural fabric of the nation today.
- In contrast, some countries like Iceland and North Korea have remained culturally homogenous due to factors such as geographical isolation or

political isolation. In Iceland, the relatively small and isolated population, combined with limited migration, has maintained a strong sense of national identity. In North Korea, the government's strict control over migration and foreign influence has ensured that the population remains largely culturally uniform, with limited exposure to external cultures.

- Poor governance, corruption and ineffective policies in terms of farming, food supply and economic management can increase food insecurity especially for vulnerable groups; on the other hand, some governments (e.g. India) use subsidies (fuel, water) to support some farmers although with limited long-term success.

**Summary**

Migration is undoubtedly a major factor in creating culturally diverse places, particularly in urban areas with high connectivity. However, its impact depends on scale, type, and national context, and must be considered alongside historical, political, and cultural processes that shape how diversity is embraced or resisted.

**Case studies used are likely to include:**

1. Japan
2. European integration
3. Ukraine
4. Iceland
5. Afghanistan
6. Amish communities.

**Question 4** – To what extent are geographical features and pathways the most important cause of risks to human health?

- Research the health and disease risks associated with geographical features and pathways, development level and poverty.
- Research a range of locations to explore why human health risks vary from place to place.

**Indicative content**

**The focus** of this title is the degree to which geographical features in various forms may dominate health risk in some places.

**The framework** chosen may be by the following.

- Different causes of health risk related to geographical features (including water bodies, location of vectors and natural disasters) and human related health risks such as socio-economic status, poverty, and pollution.
- Models of health risk (ETM, Kuznets).
- By health risk, e.g. malaria, Lyme disease, cholera, Chagas.
- By level of development especially after natural hazards (GNI/GDP/HDI).

**Key analytical points**

- Health risk can be evaluated in two dimensions: 1: Geographic extent refers to the geographic spread of a disease or health threat. It assesses the scale and reach of the problem, including areas at risk and their populations, 2: Threat to individuals refers to the intensity of the health risk to people in affected areas, which includes both mortality and morbidity rates. Both dimensions are essential to assess the seriousness of a health threat.
- Geographical features contribute to health risks, but the impact is more severe in developing countries.
- In many developing countries, tropical climates and certain geographical settings (e.g., valleys, deltas, and water bodies) create ideal conditions for disease transmission, such as malaria and cholera, which disproportionately affect poorer populations.
- These areas are often characterised by poor infrastructure and limited access to healthcare, exacerbating the impact of these geographical features.
- Malaria remains one of the deadliest diseases linked to geographical features. Over 500 million cases annually and more than 1 million deaths each year are reported, with over 90% of deaths occurring in sub-Saharan Africa.
- Malaria transmission is facilitated by the warm, humid climates of tropical regions, where mosquitoes breed in stagnant water. These climatic conditions are prevalent in water-rich areas such as valleys, deltas, and floodplains, which are also densely populated.
- Tropical regions in sub-Saharan Africa and parts of South Asia provide favourable conditions for mosquito vectors, significantly increasing the incidence of malaria in these regions.

- Humid conditions in valleys, deltas, and water bodies are areas that are often densely populated and support agriculture, which means that large numbers of people live near disease vectors
- Fertile farming lands in these regions are essential for food security but also become breeding grounds for vectors like mosquitoes and flies, thereby increasing the health risk from diseases such as malaria and cholera.
- The economic burden of disease is considerable. In sub-Saharan Africa, many families spend a large proportion of their income—up to 25%—on medical treatment for malaria and other preventable diseases.
- This spending reduces their capacity to invest in education, infrastructure, and other critical areas needed to improve their quality of life. The economic cycle of poverty thus exacerbates the health risks, as people in poverty-stricken areas cannot afford adequate healthcare, nutrition, or preventative measures.
- Public health spending in some developing countries, especially in Africa, can account for up to 40% of national budgets, much of which goes toward combating diseases such as malaria.
- However, the high cost of disease management can strain a nation’s resources, leaving less funding available for long-term development goals such as infrastructure, education, and economic development.
- Investments in preventive medicine, such as vaccinations and vector control (e.g., mosquito nets, spraying insecticides), have been shown to reduce the incidence of diseases like malaria. These measures are particularly important in regions where the risk of disease is highest.
- Countries that invest in public health infrastructure and preventive medicine tend to experience lower health risks, even in regions that are geographically prone to diseases such as malaria.
- Programs such as the distribution of insecticide-treated nets, spraying of breeding sites with pesticides, and proactive public health campaigns have been highly successful in reducing the spread of malaria in areas with tropical climates.
- These measures can significantly reduce the prevalence of disease and improve the overall health outcomes in high-risk areas.
- In 1969, Mauritius successfully eliminated malaria, and after a brief reemergence in 1975 due to tropical cyclones, the country took effective actions to reassert control over the disease.
- The government's response included investments in public health infrastructure, spraying mosquito breeding sites, and providing widespread access to healthcare. These measures were critical in the country’s success in becoming malaria-free.
- Strong leadership and substantial funding from the government, as well as collaboration with international organisations, played an essential role in the effectiveness of the intervention.
- Poverty and inadequate access to basic services, such as clean water and sanitation, continue to pose serious health risks. The 2010 cholera outbreak in Haiti highlights how poor sanitation and lack of clean water contribute to health crises in impoverished regions.
- Cholera is a disease of inequality and poverty. It can be prevented with proper sanitation, clean water, and basic healthcare services. The lack of these

essential services in Haiti and other low-income countries means that diseases like cholera have a much greater impact on public health.
- Some health risks are not directly related to geography but are heavily influenced by economic factors, such as obesity, heart disease, and some forms of cancer.
- These diseases are more common in wealthier nations, often due to poor diets, lack of physical activity, and unhealthy lifestyles. The prevalence of these conditions is rising globally, particularly in urbanised areas with high levels of consumerism and sedentary living.

**Summary**

Geographical features, such as tropical climates and water bodies, do pose a serious threat to human health, particularly in developing countries. Diseases like malaria and cholera are directly influenced by these features. However, human factors, such as economic development, public health infrastructure, and government interventions, are often more significant in managing and mitigating these health risks. Effective health management and preventive strategies can substantially reduce the negative impact of these geographical features on human health.

**Case studies used are likely to include:**

- Diarrhoea caused by contaminated water and subsequent dehydration.
- Malaria and other vector borne diseases originating from contaminated water sources.
- The Cholera outbreak after the Haiti earthquake in 2010

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