WJ EC Eduqas GCSE (9-1) Geography
Mitigating Risk
(for assessment in 2019)
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Your students need to investigate the concept that risks in our environment can be managed and reduced. These risks may be elements of the physical or human environments.

You will need to conduct the usual risk assessment whilst planning the fieldtrip. However, the assessment will be about the concept and not the risk assessment itself!
Risk can affect:

- **People and society** – for example by injury through a road traffic accident or flood event.

- **The economy** – for example, the cost to property and employment of a flood hazard.

- **Environment** – for example, uncontrolled access to a fragile ecosystem such as a sand dune or honeypot can impact on rare species of plant or animal.
How do we mitigate risk?

We can mitigate (or reduce) risk by:

• Managing the hazard / environment – for example, by managing coastal defences.

• Changing people’s behaviour.

• Helping people to overcome risk through planning and preparation
Vulnerability

Who is at risk? How is risk reduced for these groups of people? Students could investigate risk / mitigation by:

• Analysing land uses – are they segregated?
• To what extent are their safe places for pedestrians to walk or children to play?

One issue that you might consider when investigating risk is the vulnerability of the population who are at risk. Vulnerability depends on a number of factors including:

• the size (or magnitude) of the hazard
• the frequency (or likelihood) of the hazard
• the age of the people who are at risk
• other social and economic factors such as whether the people who are at risk are disabled or are living in poverty.
Many locations in the UK are at risk of flooding – either by river floods or coastal floods.

Flood risks can be reduced in a number of ways, including:

- creating flood defenses, such as sea walls or flood barriers
- managing rivers, for example, by dredging them
- managing coasts, for example by trapping sand using groynes
- preparing communities for flooding by creating a flood action plan
- warning people about floods, for example the Environment Agency Flood Map.
Coastal environments

Collecting qualitative data

Your fieldwork enquiry could focus on how local people perceive the risk or how it is being managed. This means that you would collect qualitative data (perhaps using a questionnaire or a Likert survey) to see how people feel about the flood risk. For example, in a town that is at risk of river or coastal floods your enquiry could focus on whether all residents feel (or perceive) that they are at risk of flooding. It might be that:

- newer residents (or younger residents) feel less threatened by flooding than people who have lived in the town for a longer time because newer residents haven't experienced a flood.
- people who live further from the river or coast are less concerned about flooding than people who live close to the flood threat.

‘Coastal defences are sufficient’
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree
Coastal environments

If your enquiry is about mitigating risk in a coastal environment then your fieldwork could focus on:

- whether the sea defences appear to be adequate / well maintained
- how much of the town is vulnerable to flooding (because it is low lying) and how much is protected by sea defences
- whether local residents are aware of the flood action plan and know what to do.
If your enquiry is about mitigating risk close to a river then your fieldwork could focus on:

- whether or not house prices are affected by the risk of flooding
- whether defenses appear to be adequate / well maintained
- how much of the town is vulnerable to flooding and what land uses are at risk – are they low value (car parks and open spaces) or high value (residential or retail areas).

Measurement of wetted perimeter will only describe the river channel during low flow conditions.
Risks also occur in the urban environment. Flows of people and traffic create risks that need to be managed. For example, we can reduce the risk of being injured in traffic by:

- choosing safe places to cross roads – avoiding stepping out behind parked vehicles where we can't be seen by drivers or choosing to cross at a pedestrian crossing controlled by traffic lights
- managing roads by introducing traffic calming measures such as pinch points and speed bumps
- choosing safe routes to walk or cycle, for example, using cycle lanes wherever possible.
Urban areas can pose other risks that need to be managed and reduced:

- Uneven pavements and badly lit steps can create hazards for pedestrians.
- Potholes and confusing road junctions can cause hazards for motorists.
- Badly lit / enclosed areas can increase the risk of anti-social behaviour or crime.

We can mitigate (or reduce) risk by:

- Promoting neighbourhood watch schemes
- Providing better street lighting and designing open spaces that encourage social behaviour rather than enclosed spaces that allow anti-social behaviour.
- Locating CCTV in areas at high risk.

In an urban area your fieldwork enquiry could focus on:

- Identifying potential risks for pedestrians in the city centre and recommending ways of reducing these risks.
- Plotting the distribution of road hazards for drivers and identifying potential accident black-spots.
- Selecting the safest route to school from a choice of potential routes.
- Mapping the measures that have been introduced to reduce the risk of crime (e.g., CCTV cameras and neighbourhood watch schemes). Are these related to another variable such as areas which have higher house prices?
Managing risk to the environment

Negative impacts of tourism – footpath erosion, parking issues or litter – all represent risk to the environment and potential risk to future rural economies. How effectively are these risks managed?

Students could investigate how these risks are managed, for example:

• Signposting. Where are these located? How do they help to manage areas under pressure?
• Provision of visitor services, e.g. parking, toilets, visitor information, educational materials. How are these used and valued by visitors?
• Footpath management. What strategies are used? How successful do they seem to be?

Transects could be used to investigate the extent of trampling at increasing distance from a car park or visitors’ centre:

• Physical data – width of footpath, vegetation type and height
• Human data – flows of walkers, questionnaires / extended interviews
Any questions?

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