AQA Geography GCSE

3.1.1.1: Natural Hazards

Detailed Notes

What is a Natural Hazard?

A natural hazard is a **naturally occurring event** that is a threat to a **population**. Natural hazards **negatively affect a population** by causing **loss of life**, **injuries**, and **damage to important infrastructure** that people rely on.
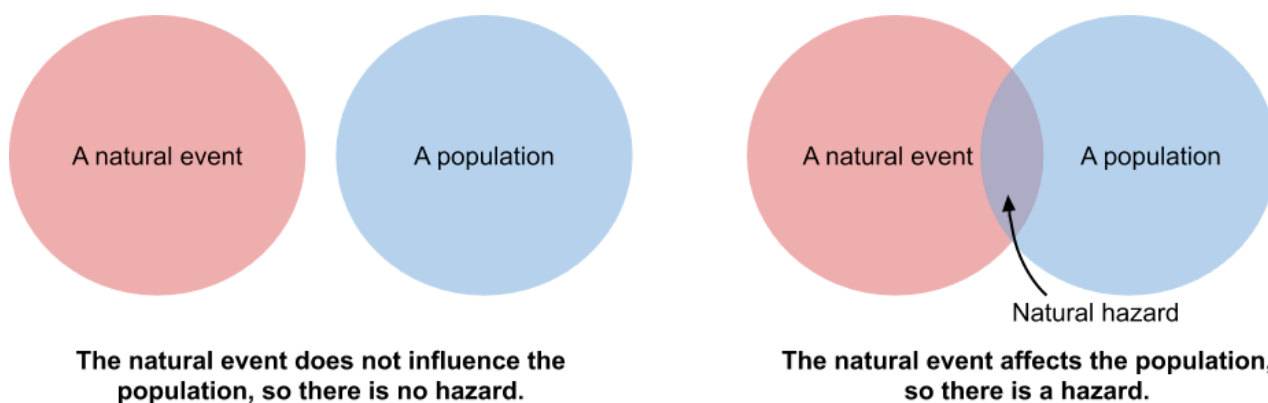
An **example of a natural hazard** is the severe earthquake that hit Nepal in April 2015. This earthquake killed nearly 9000 people, injured thousands and destroyed many homes. This natural event had a **huge negative social impact**, meaning it is classed as a **natural hazard**.

The effects of the Nepal 2015 earthquake can be seen here. (Source: www.worldvision.org/ Photo by Theodore Sam)

What is the difference between a hazard and an event?

A natural event can only be classed as a **natural hazard** when there is a threat to **people**. For example, if there was a **volcano** or an **earthquake** on a desert island with no people on it, it would not be classed as a natural hazard as **there is no threat to human life or property**. This concept is illustrated in the diagram below:

A natural event   A population

The natural event does not influence the population, so there is no hazard.

A natural event   A population

Natural hazard

The natural event affects the population, so there is a hazard.

Types of Natural Hazard

There are **many different types of natural hazards**, but in general they can be divided into **3 main groups**:

Geological hazards: Hazards caused by processes on the land.

For example:

Volcanoes

Earthquakes

Landslides

Mudflows

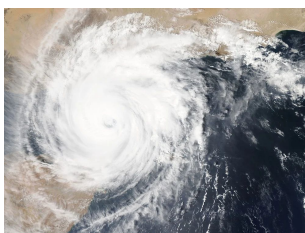**Hydrological hazards:** Hazards caused by the movement of water on the land.

For example:

Flooding

Atmospheric hazards: Hazards caused by the weather.

For example:

Tropical storms

Tornadoes

Droughts

Hazard Risk

What is Hazard Risk?
Hazard risk is the **probability** (i.e. the likelihood or the chance) that a natural hazard will actually **affect a population**.

The **risk** a hazard poses is dependent on a population's **exposure to the hazard** as well as the population's **vulnerability to the hazard**. If a population is **more exposed to a hazard**, then the **hazard risk is higher**. For example, if someone lives **next to an active volcano**, they are at **higher risk** than someone who lives **100 miles away from the active volcano**.

If a population is more **vulnerable** to the hazard (meaning they lack the resources to deal with the effects of a hazard) the risk is also higher. For example, if a population has poor access to healthcare or rescue services, they are at a **higher risk** of the hazard affecting the population.

Hazard risk is affected by different **social, environmental and economic** factors:

Urban areas are packed with **infrastructure and housing.** These structures **collapse** during natural hazards such as earthquakes, which can put many people at risk. Many **large cities** are located in **hazardous areas**, such as Los Angeles which is close to the San Andreas Fault (where earthquakes occur).

As the global population increases, the **demand for housing is exceeding the supply**. Many people live in cheaper informal housing, especially surrounding **cities**. These houses are **not fit to withstand natural hazards**, and are sometimes built in **areas of higher risk** (such as on slopes which experience landslides).
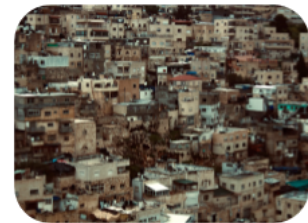
Poverty can force populations to live in **unsafe housing** with less access to healthcare, rescue services etc. which all heightens hazard risk.

Urbanisation

Population Growth

Wealth

Factors Affecting Hazard Risk

Climate Change

Land Use

Wealthier countries may be able to put more **investments** into **defences** for hazards (e.g. flood defences or 'earthquake-proofing' buildings), reducing their risk.

The effects of climate change have exposed more people to **natural hazards**, and increased the hazard risk in places that already experience hazards. For example, **sea level rise** and changes in precipitation have increased **flooding, tropical storms** are becoming more **intense**, some places are experiencing intense, long **droughts** etc.
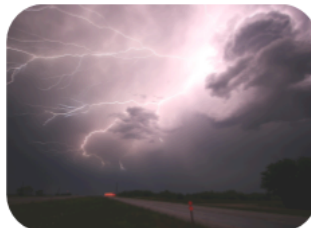
Many **floodplains** (areas next to rivers that experience flooding) are very fertile, meaning they are excellent areas for **farming**. People therefore choose to live in these areas, making their livelihood from agriculture. These populations are at **higher risk of** experiencing **flooding**.