**Factors Affecting Vulnerability**

**Education:** Education is important in many ways. Firstly if you are educated you will probably have a good job and earn a good salary. This means that you can then live in a safer house in a safer location. Also if you are literate you can understand the risks posed by hazards and how to react to them. You are also more likely to have better communications and transport in order to hear about and escape from a possible hazard.

**Building Design (electrics, plumbing, foundations, structure):** If your house is built to latest earthquake-proof standards, then you are less vulnerable than someone living in an informal settlement or a house that has disobeyed guidance. If your house has proper electricity connections and proper plumbing you are less vulnerable to fires, electrocution, flooding and diseases.

**Home Preparation:** By preparing your home from hazards e.g. screwing pictures and furniture to the wall so they don't fall during earthquakes, covering windows during hurricanes or surrounding with sandbags during floods, then you are less vulnerable to the risk of hazards.

**Building and Settlement Location:** Houses that are built on flat land and secure bedrock are going to more secure and less vulnerable than houses built on steep hills and unstable rock. Houses built in coastal areas or on floodplains or near volcanoes are obviously going to be more at risk than ones built in areas that don't suffer from hazards. Settlements that are not accessible will be more vulnerable because people will not be able to escape hazards and people will not be able to help hazard victims.

**Housing and Population Density:** If people live close together there is a greater risk of hazards spreading e.g. fire can spread easily when houses are close together and disease can spread easily when people live close together. Where there are high densities of houses, there is a greater risk of debris falling on you during earthquakes.

**Prediction, Alarms and Evacuation Procedures:** Some hazards are easier to predict than others e.g. volcanoes, droughts, floods. However, some regions are also better at making predictions. Countries like the US have very sophisticated and well funded agencies like the USGS (US Geological Survey) and the NHC (National Hurricane Centre) which can make accurate predictions. Once predictions have been made, warnings or alarms are very important. For hazards with long onsets e.g. droughts then warning can be issued through newspapers, TV and the internet, but hazards with a short inset other warnings/alarms are necessary e.g. sirens. Once a hazard has been predicted it is important that citizens know how to react and where to go for safety e.g. high ground in case of tsunami, under a table for an earthquake. Populations that live in countries with good, prediction, alarms and warning systems are going to be less vulnerable that populations in countries without them.

**Defences and Shelters:** Regions that have sophisticated defences like levees, sea walls and flood channels are going to protect populations and make them less vulnerable. Also areas with flood shelters, avalanche shelters or even nuclear shelters are going to protect their populations and make them less vulnerable.

**Transport and Communication:** Countries with good reliable communication e.g. mobile phone network, broadband connection are going to be better able to inform and warn citizens making them less vulnerable. Also countries with good transport roads, rail, etc. will allow citizens to escape potential hazards making them less vulnerable.

**Search Teams and Rescue Equipment:** Countries who have large numbers of trained search teams who regularly practice drills are going to be better able to protect their populations and make them less vulnerable. Also search teams that have advanced equipment or technology can help make populations less vulnerable. Equipment might range from sniffer dogs, to heat seeking equipment to GPS to helicopters.

**Medical Care and Emergency Supplies:** Countries with advanced medical care and good medical supplies will be able to help and protect victims of hazards or even prevent them from suffering from potential hazards. For example hospital screening and inoculations can stop people from being victims of disease outbreaks.

**Economic Status and/or Level of Development:** Richer countries and richer individuals are generally better to prepare and react to hazards making them or their populations less vulnerable.

**Insurance:** If communities or individuals are insured it allows them to rebuild and become less vulnerable to secondary hazards or future hazards. If people are not insured they might not be able to rebuild their house and are therefore exposed to secondary hazards like disease and exposure. They might also be forced to build informal settlements which are vulnerable to other hazards like flooding, hurricanes and landslides.

**Sex, age and health:** Young and old people are often more vulnerable to hazards because they are unable to escape or are more susceptible to disease/famine. Also young, old and the ill will find it hard to evacuate from hazards. In the Indian Ocean tsunami more women than men died. One reason is that many men were at sea fishing and avoided the tsunami, but on land many women were working indoors and had no warning or were not physically quick enough to run away.

**Aid:** Countries that receive aid or accept aid are better able to cope with the after effects of a hazard. For example Turkey has recently accepted foreign help which should mean more people are rescued from collapsed buildings and treated for their injuries or protected from secondary hazards.

**Number, Type and Regularity of Hazards:** Countries or regions that suffer from multiple hazards e.g. El Salvador, Philippines, Indonesia and Japan potentially suffer from earthquakes, volcanoes, tsunamis, hurricanes, floods and landslides are going to be more vulnerable than countries like the UK that suffer from very few major hazards.