

Changes suggest,
that is the main
reason behind



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Changes in the Earth's Environment The 20th century, especially in the second half, has been one of rapid change in the Earth's environment. The impact of humans on the physical form and functioning of the Earth have reached levels that are global in character, and have done so at an increasingly mounting speed. 20 years ago the environment was seen as posing a threat to the future of humanity as death rates from natural hazards had increased dramatically since the turn of the century.

The Earth though has always been plagued by natural disasters. Now, with the world population growing at a rapid rate more people are living in hazard prone areas. Events which may have gone unnoticed previously, only become hazards when there is intervention with humans and their lifestyle.

With the discovery of the ozone hole in the 1980's attention was now more focused on the threat humans were posing to the environment. With scientific evidence to back up pessimistic predictions of our future, most people, through media coverage, political pressures and general concern now see the environment as being truly threatened by human progress and in desperate need of help. Natural hazards have been defined as .

.. extreme geophysical events greatly exceeding normal human expectations in terms of their magnitude or frequency and causing significant damage to man and his works with possible loss of life. (Heathcote, 1979, p. 3.). A natural hazard occurs when there is an interaction between a system of human resource management and extreme or rare natural phenomena (Chapman, 1994). As McCall, Laming and Scott (1991) argue, strictly speaking there is no hazard unless humans are affected in some way.

Yet the line between natural and human-made hazards is a finely drawn one and usually overlapping. Doornkamp (cited in McCall et al, 1992) argues that many hazards are human induced or at least made worse by the intervention of humans. In the 1970's, natural hazards were an important subject of topical study, as the nature of their impact on human populations and what they valued was increasing in frequency at quite a rapid rate (Burton, Kates, White, 1978). During the 75 years after 1900 the population of the earth increased by a staggering 2.25 billion people.

People who needed land on which to live and work. As the population rose people were dispersed in more places and in larger numbers than before. The predominant movement of people being from farm to town or city (Burton et al, 1978).

). It is this growing world population, Burton et al (1978) suggest, that is the main reason behind why hazards are increasing and were seen to pose such a threat to humankind in the 70's. While the average number of disasters remained relatively constant at about 30 per year, death rates climbed significantly. As the growing world population requires the cultivation of land more prone to hazards, more people and property are thus exposed to the risk of disaster than ever before, and as Stow (1992) argues, the death toll inevitably rises. An example that shows the concern that humans faced from the environment can be exemplified by the Bangladesh cyclone of 1970, which killed approximately 250,000 people. Although part of the reason for so many deaths can be put down to a then poorly understood process, land-use can also be implicated. Because of a rising population, land in

Bangladesh was reclaimed by the government and held against the sea.

People in large numbers were then encouraged to occupy the area.

An area which turned out to be one of great risk. Major disruption was inevitable. Burton et al (1978) argue whenever population was in the path of such forces. Had reasonable measures been taken in advance of the storm, the material damage, loss of life and social dislocation could have been seriously reduced. In the 1990's we live in an information age.

Today we have remarkable monitoring and predictive capabilities for natural hazards. The use of advanced telecommunications and emergency management, together with the exploitation of geographic information systems in hazard mitigation has greatly reduced the extent to which natural hazards are seen as a threat to people in the 90's (Chapman et al, 1994).

Loss of life and property from natural disasters continue to rise though as the population of the world rises and puts more demands on the environment for land resources. White (1974) argues that environmental risk may be considered to be primarily a function of the value systems of a society.

How dangerous a natural hazard is, is