

Chapter 2: Natural Disasters and Sustainable Development

UN organizations, various international institutions, and governments have placed importance on natural disasters and sustainable development. Hence it is of paramount importance to analyze disaster trends in relation to variables of sustainable development, mainly human development and economic factors of the countries, especially the disaster affected ones. Following sections will discuss these trends with appropriate graphs and figures.

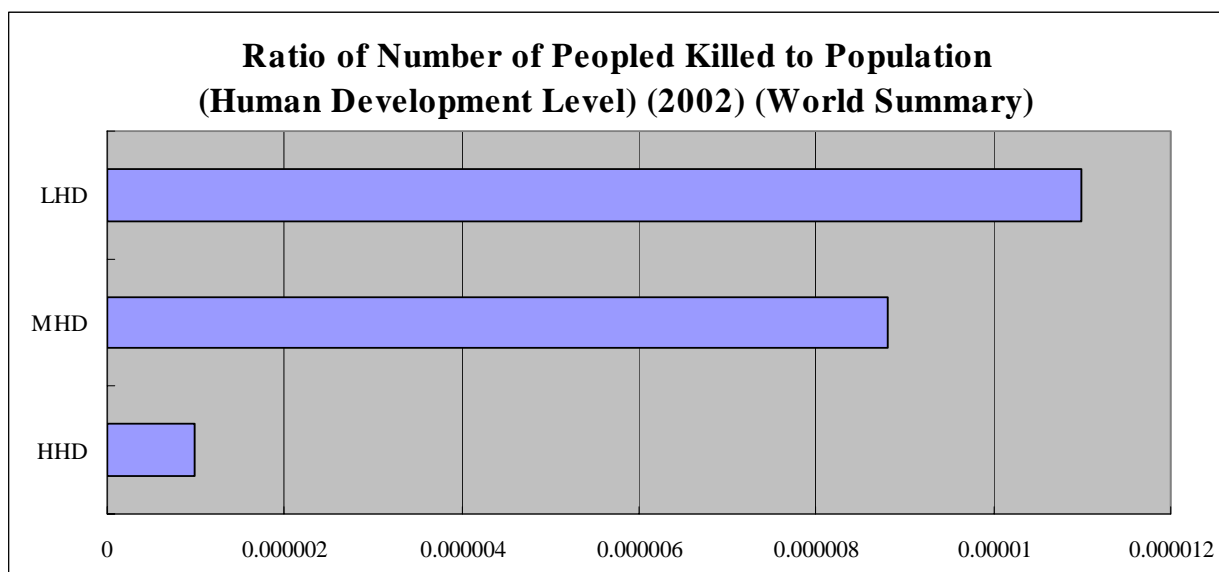
2.1 Human Development and Natural Disasters:

The Human Development Level of a country refers to the literacy rate and gross school enrolment rate, per capita income, and the health quality of that country. These variables are significant to disaster mitigation, preparedness planning, and disaster reduction and management strategies. Higher human development levels will make these planning and management strategies and follow-up activities easier even in post disaster periods. Human Development Levels are categorized as high (HDI above 0.8), medium (HDI between 0.5 and 0.79) and low (HDI less than 0.5), in accordance with UNDP specifications. In this section, disaster characteristics are subsequently calculated according to these Human Development Levels.

Income levels are also categorized as high (per capita income US\$ 9,266 and above), upper middle (per capita income US \$2,996~US \$9,265), lower middle (per capita income US \$756~US \$2,995) and lower (per capita income less than US \$755) according to World Bank definitions. The disaster characteristics are calculated in accordance to these income level specifications. The following figures illustrate these factors at world and Asian regional levels.

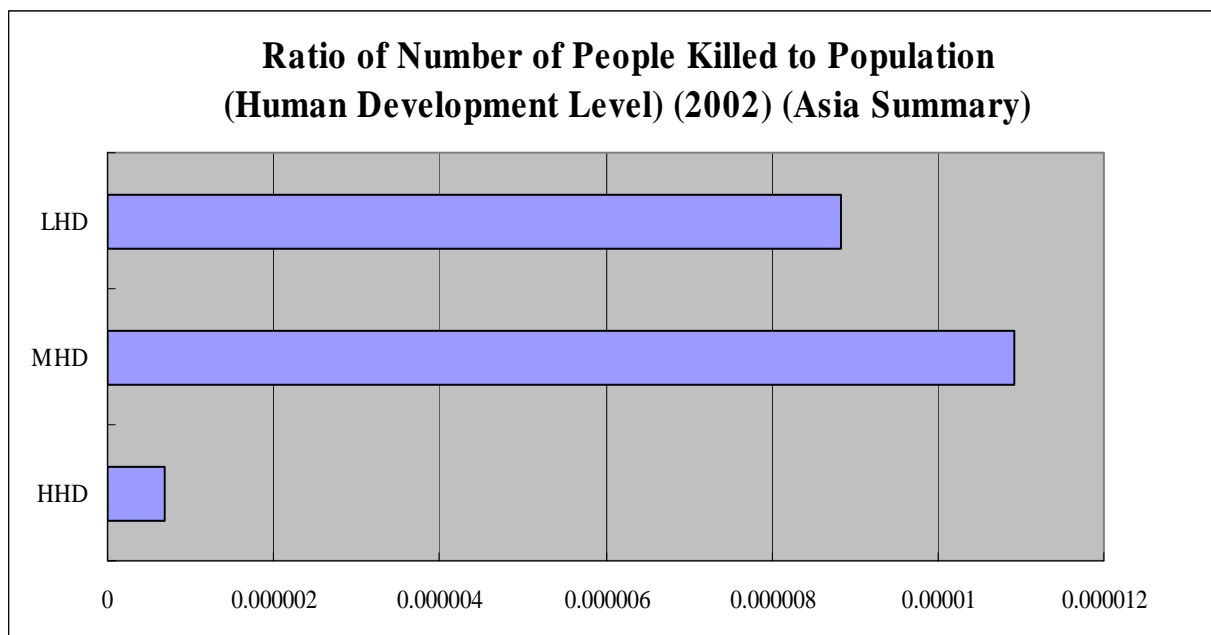
Figures 9 to 12 indicate the relationship between the Human Development Level of the country and the impact of human suffering from disasters on society. Accordingly it is quite evident that human loss and suffering are considerably higher in countries with low human development (LHD) as the ratio of those killed and affected by disasters to total population in LHD countries is considerably higher than medium human development (MHD) or high human development (HHD) countries. This data clearly indicates the importance that the level of human development holds for the design and implementation of disaster mitigation and management strategies. Since the human development index considers with literacy rate, life expectancy, and the per capita income, improvements in these variables could contribute immensely to reducing the impact of natural disasters in a country. It is seen here that developing and under developed countries mostly possess low and medium Human Development Levels in Asia and throughout the world, causing elevated levels of human loss in these countries thus urging better disaster management approaches in these regions.

Figure 9:



Source: ADRC, Japan, CRED-EMDAT, Universite Catholique de Louvain, Brussels, Belgium and UNDP, 2002

Figure 10:



Source: ADRC, Japan, CRED-EMDAT, Universite Catholique de Louvain, Brussels, Belgium and UNDP, 2002