A Guide To The End Of The World Pt 2 Essay, Research Paper

A Guide to the End of the World pt 2Of all geological hazards, landslides are perhaps the most

underestimated, probably because they are often triggered

by some other hazard, such as an earthquake or deluge, and

the resulting damage and loss of life is therefore subsumed

within the tally of the primary event. Nevertheless, landslides

can be highly destructive, both in isolation and in numbers.

In 1556, a huge earthquake struck the Chinese province of

Shensi, shaking the ground so vigorously that the roofs of

countless cave dwellings collapsed, incarcerating (according

to Imperial records) over 800,000 people. In 1970, another

quake caused the entire peak of the Nevados Huascaran

mountain in the Peruvian Andes to fall on the towns below,

wiping out 18,000 people in just four minutes and erasing all

signs of their existence from the face of the Earth. Heavy

rainfall too can be particularly effective at triggering landslides, and when in 1998 Hurricane Mitch dumped over 30

centimetres of rain on Central America, it mobilized over

a million landslides in Honduras alone, blocking roads,

burying farmland, and destroying communities. The final – and perhaps greatest – threat to life and limb

comes not from within the Earth but from without. Although

the near constant bombardment of our planet by large

chunks of space debris ended billennia ago, the threat from

asteroids and comets remains real and is treated increasingly

seriously. Even as I write, the UK government has announced

funding for a new research centre dedicated to the study of

the impact threat and its consequences. Recent estimates

suggest that around a thousand asteroids with diameters of

1 kilometre or more have orbits around the Sun that cross

the Earth’s, making collision possible at some point in the

future: 1 kilometre is the impactor diameter threshold for

initiating a cosmic winter, due to dust lifted into the stratosphere blocking out solar radiation, for wiping out a quarter

or so of the human population, and for causing general

mayhem worldwide. The revival of interest in the impact

threat has arisen as a result of two important scientific events

during the last decade: first, the identification of a large

impact crater at Chicxulub, off Mexico’s Yucatan Peninsula,

which has now been established as the ’smoking gun’

responsible, ultimately, for global genocide at the end of

the Cretaceous period: second, the eye-opening collisions

in 1994 of the fragments of Comet Shoemaker-Levy with

Jupiter. Images flashed around the world of resulting impact

scars larger than our own planet were disconcerting to say

the least and begged the question in many quarters – what if

that were the Earth? Natural hazards and usIf you were not already aware of the scale of the everyday

threat from nature then I hope, by now, to have

engendered a healthy respect for the destructive potential

of the hazards that many of our fellow inhabitants of planet

Earth have to face almost on a daily basis. The reinsurance

company Munich Re., who, for obvious reasons, have a considerable interest in this sort of thing, estimate that up to 15

million people were killed by natural hazards in the last

millennium, and over 3.5 million in the last century alone.

At the end of the second millennium AD, the cost to the

global economy reached unprecedented levels, and in 1999

storms and floods in Europe, India, and South East Asia,

together with severe earthquakes in Turkey and Taiwan and

devastating landslides in Venezuela, contributed to a death

toll of 75,000 and economic losses totalling 100 billion

US$. The last three decades of the twentieth century each saw a

billion or so people suffer due to natural disasters. Unhappily, there is little sign that hazard impacts on society have

diminished as a consequence of improvements in forecasting

and hazard mitigation, and the outcome of the battle against

nature’s dark side remains far from a foregone conclusion.

While we now know far more about natural hazards, the

mechanisms that drive them, and their sometimes awful consequences, any benefits accruing from this knowledge have

been at least partly negated by the increased vulnerability of

large sections of the Earth’s population. This has arisen primarily as a result of the rapid rise in the size of the world’s

population, which doubled between 1960 and 2000. The

bulk of this rise has occurred in poor developing countries,

many of which are particularly susceptible to a whole spectrum of natural hazards. Furthermore, the struggle for

Lebensraum has ensured that marginal land, such as steep

hillsides, flood plains, and coastal zones, has become increasingly utilized for farming and habitation. Such terrains are

clearly high risk and can expect to succumb on a more frequent basis to, respectively, landsliding, flooding, storm

surges, and tsunamis. Another major factor in raising vulnerability in recent

years has been the move towards urbanization in the most

hazard-prone regions of the developing world. Within just a

few years, and for the first time ever, more people will live in

urban environments than in the countryside, many crammed

into poorly sited and badly constructed megacities with populations in excess of 8 million people. Forty years ago New

York and London topped the league table of cities, with

populations, respectively, of 12 and 8.7 million. In 2015,

however, cities such as Mumbai (formerly Bombay, India),

Dhaka (Bangladesh), Karachi (Pakistan), and Mexico City

will be firmly ensconced in the top ten: gigantic

sprawling agglomerations of humanity with populations

approaching or exceeding 20 million, and extremely vulnerable to storm, flood, and quake. A staggering 96 per cent of

all deaths arising from natural hazards and environmental

degradation occur in developing countries and there is currently no prospect of this falling. Indeed, the picture looks as

if it might well deteriorate even further. With so many people

shoehorned into ramshackle and dangerously exposed cities

it can only be a matter of time before we see the first of a

series of true mega disasters, with death tolls exceeding one

million.The picture I have painted is certainly bleak, but the

reality may be even worse. Future rises in population and

vulnerability will take place against a background of dramatic climate change, the like of which the planet has not

experienced for maybe 10,000 years. The jury remains out

on the precise hazard implications of the rapid warming

expected over the next hundred years, but rises in sea

level that may exceed 80 centimetres are forecast in the

most recent (2001) report of the IPCC (Intergovernmental

Panel on Climate Change). This will certainly increase

the incidence and impact of storm surges and tsunamis

and – in places – raise the level of coastal erosion. Other

consequences of a temperature rise that could reach 6

degrees Celsius by the end of the century may include

more extreme meteorological events such as hurricanes,

tornadoes, and floods, greater numbers of landslides in

mountainous terrain, and, eventually, even more volcanic

eruptions. So is the world as we know it about to end and, if so, how?

A century from now will we be gasping for water in an

increasingly roasting world or huddling around a few burning sticks, struggling to keep at bay the bitter cold of a cosmic

winter?