

## **Disasters and Their Impact.**

As part of this document it is important to review the size, frequency and impact size of disasters from around the world, to put the possibility of building disaster proof housing in perspective. Over the last few decades disasters of all types have increased in frequency, which means that more people are suffering the consequences. To push forward the idea that housing can protect citizens without the need to clear destroyed buildings and to build new ones and then having to rebuild the shattered economy afterwards, is all unnecessary. People need to be convinced that the new buildings they may purchase and build will actually protect them. In other words the investment they make needs to have all the benefits listed below:

- 1) Lives will be saved.
- 2) Buildings will not collapse.
- 3) Local economies, where Future Towns is used will not have to go through a long period of recovery.
- 4) Buildings do not have to be rebuilt.

To experience these benefits, there is also a list of things that a Future Town will not be able to provide:

- 1) It cannot provide protection for all the people in an effected area.
- 2) It cannot prevent other buildings from being affected.
- 3) It cannot prevent the wider economy from being affected.

To do all these things, all the buildings in an effected area would have to be built to a similar standard.

So do customers expect to invest money then wait for many decades to reap the rewards? The figures (below) demonstrate that disasters are increasing in frequency. But also that as the population increases and people spread across a wider area and in higher densities, the amount of deaths from disasters will of course increase. The UN's Bureau for Crisis Prevention, says that 75 percent of the worlds population live in areas that been affected by a major disaster, between 1980 and 2000. So some of the increases demonstrated below, are also down to higher density populations and the wider spread of populations over larger, previously unoccupied land. Also, we have to factor in the communications power of ordinary citizens, government departments and scientific monitoring of disasters. A higher rate of reporting means that when a disaster occurs it is much more likely to reach the outside world. At one time a large regional catastrophe could have occurred with no historical record having been made of the event. These days this simply wouldn't happen.

## **The Frequency of Disasters.**

A total of 7,486 disasters have occurred during the period 1900-2005. 1,873,039 people have lost their lives: (earthquakes) 69,254 (volcanic eruptions) 84,877 (tsunami) 1,192,862 (extreme weather). 6.5 million people have lost their lives in disasters over the

last 100 years. The type of disaster affecting the most people tends to split up into three major, sometimes related types of disasters (by deaths): severe flooding, earthquakes, and storms (see table below).

Type of Disaster	Totals
Earthquakes	1881596
Volcanic Eruptions	71232
Tsunamis	315885
Extreme Weather	1317983
Floods & Landslides	2927479
Fires	268
Totals	6514443

2 billion people have been affected by natural disasters, while deaths have fallen<sup>1</sup> having reached a peak in the 1970's. The economic cost of these disasters over the last two decades is estimated to be as much as \$629 billion.

The UN Office for the Coordination of Humanitarian Affairs, says on its website that '...development agencies, banks and governments see an opportunity to offer more sustainable, organised alternatives when implementing recovery programmes for communities.' In other words the movement of the major humanitarian organizations and governments is towards offering long term solutions for regions affected by disasters. The Future Towns project offers one possible solution, in that it protects clients from the disasters, with no rebuild costs after a disaster has occurred. This means there would be less demands on the funds available for recovery and in some cases, would reduce the possibility of corrupt officials redirecting aid, as has been suspected in many recent cases around the world. The UN continues... 'Investment in preparedness pays. Investing in strategies to mitigate the impact of disasters is not only compassionate, and a government responsibility, but it also makes economic sense.'

Financial institutions also look to long term solutions to future disasters. The World Bank for example says that 'the US Geological Survey estimate that economic losses worldwide from natural disasters in the 1990s could have been reduced by \$280 billion if \$40 billion had been invested in preventive measures. While the wisdom of hindsight is powerful, in a world of competing and scarce resources \$40 billion is no small amount to invest in preventive measures.'

Climate scientists also agree that preparedness is the new and logical thinking spreading throughout the international community. Michel Jarraud, secretary-general of World Meteorological Organisation, stated in March 2004, that "progress in the meteorological and hydrological sciences shows that the impacts of natural hazards can be reduced through prevention and preparedness," In China, the World Bank estimated that the \$3.15 billion spent on flood control over the past four decades of the 20th century averted losses of about \$12 billion.'<sup>1</sup>

So disasters and their impact are high up on the list of many international organizations. Everyone could see from September 11<sup>th</sup> 2001 onwards that large events can happen and when they do the costs in human life and economic impact can be enormous, without some intervention, at many different levels. Since 9/11 there have been three major earthquakes, including one which caused a tsunami. The international community has

stepped in to rescue victims, rebuild housing and provide aid to the effected government and its people. It is an important time for humanity as it wakes up to the realities of disasters and their regularity and impact world-wide. The one thing modern humanity has not witnessed is a global disaster. It is just as likely to occur as any other disaster and this kind of disasters is one which Future Towns is concerned with also.

### **Global Killers.**

Global killers come along every 100,000 years or more and involve a disaster which affects the whole planet and may cause a mass extinction. This doesn't necessarily mean killing off every single organism on earth, but often means 95%+ of the earths species die out. It is estimated that there have been five mass extinctions in earth's history and many more events which has a global effect. This ranges from major volcanic eruptions which spread soot and debris right around the earth, cause 'mini-ice ages', lasting anything from ten years to centuries. Some of these disasters cannot be planned for, such as a very large asteroid strike or a flood basalt eruption, which are so destructive it is unlikely any amount of planning would cope with them. But for the smaller global events, such as ice ages, global warming, smaller asteroids strikes and so, the Future Town is designed to cope with these events. We are currently in 2007 passing through the sixth mass extinction in earth's history. So now is a good time to discuss options about protecting ourselves, our resources and our biodiversity and eco-systems, which support our human systems. This sixth mass extinction is occurring via global warming, and over use of natural resources and the deaths of rarer species of animal and plant life. But if warnings about climate change are to be believed, we might end up including our species in this mass extinction event.

It has been observed in several examples, including birth rates in Europe after the end of the Second World War, that birth rates sky rocket and that births of males increased markedly during this period. It has also been observed that animal species in most danger of annihilation produce the most progeny. The maverick scientist and savant Emmanuel Velikovsky wrote before he died in 1979, that 'the seemingly uncontrolled increase of population is a symptom in an incubating stage of dangerous illness.'<sup>2</sup> It would suggest that the huge increases in population is perhaps some kind of mechanism against large catastrophe. Future Towns looks towards this and makes, within its design the possibility of having an alright quality of life, whilst great catastrophe continues around its inhabitants. Luckily it would also be a great place to live in normal periods as well.

1. <http://www.irinnews.org/webspecials/DR/default.asp>

2. Immanuel Velikovsky (1982); Mankind in Amnesia; Abacus.

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