

The future role of risk management in society

A personal perspective on new horizons for 'civil' engineering

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Although published in the Journal of Structures, I have chosen a general as opposed to discipline specific view of engineering to be compatible with the general concepts of risk and risk management in the societal context. The focus is on engineering in general terms in the context of societal functions, sustainability of the physical world that supports these functions, and engineering as a means of social advancement. This is because risk is a general concept that, although embodied in all engineered artefacts transcends not just engineering disciplines but societal functions in general. In this regard, I have chosen to go beyond the familiar but narrow engineering context of risk and risk management as decision factors in the design of structures, and examine the broader issue of risk in society initially before focusing on the role of engineering for societal sustainability and advancement, that is "civil engineering" in its wider form.

The recent collapse of the international financial system and the subsequent acute financial problems experienced by several nations and businesses of all sizes could well be characterised as a failure of risk management by governments, national and international bodies, financial institutions, international corporations, large national

companies etc.. In short, the world is struggling to deal with the effects of a great deal of political, economic and societal risk-taking. These economic failures have major negative effects, not just in the short term but in the long term as the infrastructures on which the economic activities are based are typically starved of investment as a consequence. In short, everything is connected in some way, as in the way that the elements of an engineered system are connected. In essence, we are dealing with societal systems that have evolved, and although not having been designed, have many of the characteristics of engineered systems. A key question for the engineering community is how to respond to these systemic failures? should the response be passive, and wait for economic recovery, or should engineering be actively involved in understanding and resolving these "systemic" problems by contributing to the design and construction of improved societal systems that are more resilient and less prone to the effects of risk than those societal systems that have obviously failed to function properly.

However, it is not just the economic systems that are in trouble, as economics drives investment which in turn relies in part on engineering for delivery of successful outcomes. In recent years, we have not just experienced