CRISIS ENGINEERING : TOWARDS RISK AND CULTURE PREVENTION

Sumary

The rapid and turbulent globalisation process of the past decade has given rise to large-scale social debate: Is it possible to make our world safer in an effort towards attaining an ideal and hypothetical zero risk situation ? How can this be achieved however, when we know that statistics on the contrary indicate that over the last 30 years disasters have been regularly increasing, whether of natural, technological or conflictual origin, with more and more serious consequences ? This is the multifaceted challenge that must be taken up.

Over and above the figures, crises themselves are becoming progressively more complex. Yesterday's theories anticipating crises in a linear and simplistic fashion, with a before and an afterwards, are less and less relevant : many crises tend to be recurrent, others generate such a shock wave for societies and individuals involved that this in turn destabilises, by a domino effect, numerous other sectors (economic, environmental, social, political). In this case, how can such a major crisis be anticipated and dealt with ? There is obviously no miraculous solution. Answers will greatly depend on the context in which the crisis occurs (time and space). Although it is true that disaster does not totally spare any society or region of the world, we cannot help acknowledging that we are not all equal in the face of disaster. The traditional North-South gap is strongly in evidence, and once again it is the poorest who take the rap. Indeed, the greater the vulnerability, the greater the impact of disasters.

Apart from the fact that information available concerning crises and disasters has become considerably more sophisticated over recent years, thus offering far better case knowledge thanks to international databases, a certain number of parameters nonetheless tend to objectively explain the ascertained increase: on the one hand, the phenomenon of climate change first observed then confirmed by scientists creates extensive disturbances particularly on the hydro-meteorological level ; on the other, with the sharp world population increase, man's relationship with his environment has altered considerably. We are witnessing not only an over-consumption of natural resources, but also uncontrolled and often inappropriate urbanisation (precarious habitat, unstable areas) in many regions of the world, increasing vulnerability to disasters even further. With regard to technological or industrial disasters, the situation is no less alarming. Large-scale pollution also concerns humanity in its entirety: oil slicks or toxic clouds have no respect for frontiers. In addition to regional measures concerning risk prevention and reduction, coordination on a worldwide level is essential and is moreover being organised. This naturally lies within the scope of sustainable development's fundamental objectives, for a global and long-term vision.

The battle against disasters, and the major crises that ensue, concerns us all. Each individual, in his own way, is an essential element in the construction of a true risk and prevention culture : states, international and national organisations, NGOs, private companies, scientific and academic circles, and of course the population. But we must still provide ourselves with the means to achieve this, to go beyond declarations of intent and transform them into action.

As for scientists, they are also obliged to adopt an interdisciplinary approach, between the social and "hard" sciences. For them, the challenge is substantial : although great progress has been made in certain aspects of prevention, particularly geophysical risks (earthquakes, volcanic eruptions), risk identification and the perfecting of preventive and protective measures in the face of more complex, systemic or long-term risks still require a great deal of research and multidisciplinary collaboration. Although much remains to be done, considerable progress is apparent, as exemplified by NICTs and their numerous developments opening up promising technological prospects.

The academic world is not to be outdone : it has immense potential for assuming a key role in this domain, combining its cutting-edge advances in research with opportunities to pass on and spread its knowledge through education. It plays as it were a watchdog role, with the ability to warn, increase awareness, inform and train. Furthermore, it is an environment essentially open to exchange and interdisciplinarity. In this context, the EPFL - thanks to its competence in natural disaster prevention and longstanding tradition of cooperation with Southern partner institutions – could certainly be a driving force in the search for solutions to these great social issues of today and tomorrow represented by disasters and major crises.