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For a period of ten years in the field of policy research and standardization strategy, Mr. Lo served as the Commissioner of Technology & Standards Function Team, National Information & Communications Initiative Committee, Executive Yuan, and the Commissioner, Taiwan & Japan E-Commerce Promotion Committee, Ministry of Economic Affairs. At the technical level, he initiated and established Taiwan's first online collaboration platform for standards development and registry and repository for XML-based standards. In the policy domain, he is the main drafter and editor-in-chief of Taiwan's first "Strategy for National Standards Development" as well as the co-drafter of "Linking Technological Capabilities, Promoting Sustainable Development" of "National Science and Technology Development Plan (Fy2009~Fy2012)."

Recently, Mr. Lo led the projects on "Performance Improvement and Maintenance of Public Utility Act," "Decision and Administration Mechanism for Sustainable Infrastructure" and "Technology Policy and Information Service for Sustainable Infrastructure." He is the author of books of "Fundamentals of Standardization" and "The Winning Strategy of Standardization for Enterprises." His areas of interest and research include technology policy and strategy, business continuity management system, standards of sustainable infrastructure and disaster recovery, and technology forecast/foresight.

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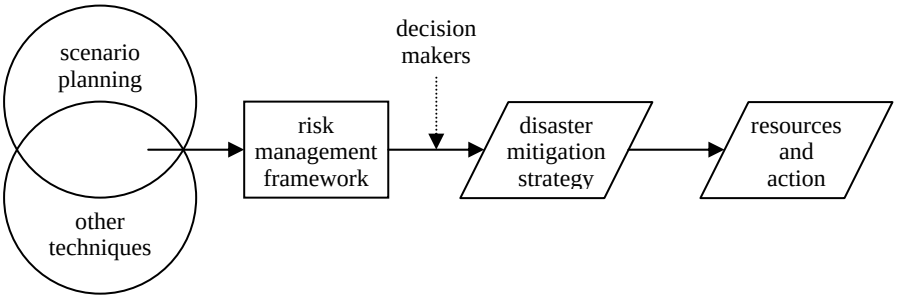
# Application of Scenario Planning to Risk Management: Building the Strategic View of Disaster Mitigation

More and more owners and operators of infrastructures are facing the challenges and uncertainty of rapid change due to fast-moving political, environmental, social and technological developments. Risk management based on historical precedent and performance is necessary, but not sufficient. The concept of how we adequately “manage” the risk of infrastructures in this endlessly changing has evolved from techniques application to strategy flexibility.

Risk is the possibility of meeting danger or suffering harm and loss in the future. Risk management is the method and practice of identification, analysis, assessment, monitoring, communication and treatment of threats and weakness. Its purpose is to establish and maintain the security context for infrastructure so that future danger, harm and loss could be transferred, mitigated or avoided. How well the purpose is approached and realized is a matter of the quality of the disaster mitigation strategy and its associated resources and action. One way to better the strategy quality is to incorporate scenario planning into the domain of risk management. Scenario planning is a disciplined method for imaging possible futures in which organizational decisions may be played out (Paul Shoemaker 1995). It is a part of strategic planning which relates to the tools and technologies for managing the uncertainties of the future (Gill Ringland 1998). A feature of scenario planning is that it provides a conversational and consensus process among stakeholders who shape the future and/or are affected by the future.




A carefully orchestrated risk management framework, derived from scenario planning and other techniques, to be developed is suggested. Within that framework, quantitative indicators of risks will be categorized, calculated and balanced, as the future unfold, to reflect and response to the diverse aspects of political, environmental, social and technological change. The strategy of disaster mitigation could be therefore developed and executed as well as the resources and action of disaster mitigation would be better allocated, utilized and optimized.

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## Coordination and Operation of Post-even Management Plans by Harmonized and Standardized Measures

The theme of disaster recovery is to keep the ability of government, business and civil society to function at a certain service level. Its goal is to uphold democratic governance, to sustain critical infrastructure, and to maintain basic societal values. The very purpose and benefits of harmonized and standardized measures for recovery coordination and operation are to shorten the period of disruption and reducing the impact of incident so as to minimize the socio-economic impact and loss of natural hazards. Additionally, harmonized and standardized measures could be used by governments as technical support and communication tools to help implement regulation and policy in crises.

It is clear that cooperation between public and private organizations in matters of developing and practicing harmonized and standardized measures to form a collection of managerial and technical rules within a consensual framework is advantageous since the resulting synergy can integrate various recovery resources and streamline community-wide and large-scale discovery procedures. These “codified” recovery knowledge, practices and lessons can lead to lower coordination and operation costs in the course of hazard recovery as a whole, as well as to provide the society savings.

The development of ISO 22300 series, encapsulating glossary, specification for continuity management systems, command, control, coordination and cooperation, information and data requirements for command and control, warning procedures, public-private partnerships, guide to exercising and testing, and guidelines for the preparation of continuity management systems, provides good reference documents to build a common approach for disaster recovery. ISO 22300 series and similar efforts serve as a systematic structure; however, a suite of practicable, interoperable and flexible measures (e.g. standards for interim housing,

clean water and waste treatment) need to flesh out. Based on ISO 22300 series, it is suggested and encouraged that the collaboration between interested bodies to develop, agree on and implement harmonized and standardized measures for disaster recovery is planned and realized. Specifically, a physical and/or virtual platform for reaching consensus on these measures and a lessons-learnt repository of practices are recommended.