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Chin-lien Yen is a Professor Emeritus of Civil Engineering and a Sr. Research Fellow at Hydrotech Research Institute, National Taiwan University (NTU). He received his Ph.D. degree in Hydraulics from the University of Iowa. Prior to joining NTU, Professor Yen had taught at Howard University, Washington, D. C. for 9 years. At NTU, he had served as Chairman of Civil Engineering Department (1979-83), Dean of Engineering College (1990-93), and also as Advisor for Science & Technology of the Ministry of Education (1985-87). Dr. Yen also had been George A. Miller Visiting Professor at the Civil Engineering Department, University of Illinois, Urbana, Ill. in 1994, and Director of National Science and Technology Program for Hazards Mitigation which is the predecessor of National Center of Science and Technology for Disaster Reduction (NCDR). During the period of 2000-2004, he also served as Advisor and Executive Secretary of Science & Technology Advisory Group, the Executive Yuan (the Cabinet). Professor Yen's research interests include unsteady flow simulation, sediment transport and flood hazard mitigation. He had received award for outstanding research (1985-1993), special researcher award (1993-99), and Medal for Professionalism in Science (2009) from NSC.



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Decision–Making Information Support System for Flood Emergency Response

Although a large number of precipitation and river stage gauging stations are around in many major river basins in Taiwan, it is often found that information analysis and integration are still not efficient enough for making proper decision in the process of responding to the flood disasters. Under this circumstance, a decision maker is frequently forced to rely heavily on his own subjective judgment. In order to bridge the gap between the information provided to and that required by the decision maker in emergency response operations, a decision-making information support system (DISS), utilizing information technology, is definitely needed.

The DISS must satisfy three requirements: (1) coherent linkage with the Emergency Operation Center (EOC), (2) being able to provide accurate information in time, and (3) being able to formulate workable response plans. To meet these requirements, the units responsible for providing such information must know clearly beforehand the kind of information they must furnish, and the function of analysis pertinent to proper judgment should also be included in the DISS. When an emergency operation task is triggered by the authority, the DISS is activated to perform the following major functions:

- **Guide:** The DISS will prescribe the items, frequency, and format of the information that the units responsible must provide. Examples for preparation of the required information are also given in the System.
- **Upload and Download:** The System will serve as a platform for the emergency operation staff to upload and download information via the Internet.
- **Request and Check:** The DISS will send out notice to all the units to request uploading the information needed, and will demand uploading again automatically should the information required has not yet been uploaded by the specified time.

- Analysis and Decision: The System will effectively integrate the monitored and simulated information which is then supplied to the advisory panel for analysis, and formulation of response plans after making objective judgment. These plans are then furnished through the DISS to allow the decision maker to understand and make decision there upon.

Furthermore, a Lessons Learned Center (LLC) for accumulating systematically selected past experiences of flood emergency response should be added. The LLC will be a good source of information for disaster mitigation, emergency preparedness and response, and training of specialists.