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The Construction of the Assessment Model of Tourist Disaster-Resilience in Taiwan – by Using GIS and Decision Theory

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Abstract

Located at the Subtropical Monsoon zone and plates boundary, Taiwan has suffered disasters by typhoons and earthquakes frequently. There are more than 200 felt earthquakes and 3.5 hits of typhoon happen in Taiwan per year on average, the cost of these natural-disasters in the past 25 years is up to $USD 78.8 billion. The 921 earthquake in 1999, Typhoon Nari in 2001, Typhoon Sinlaku in 2008, Typhoon Morakot in 2009 and Typhoon Megi in 2010 were all hit the tourist industry of Taiwan heavily, since that, the assessment of tourist sights' vulnerability and endurance to disaster by using the informative method is always an important research project of disaster management for Taiwan government. The main purpose of this paper is for the demand of risk assessment of Taiwan government and tourist business managers, it tries to develop a disaster-resilience assessment model which combined GIS and the decision theory. This disaster-resilience assessment model is expected to promote the recovering ability of tourist area after disaster, and may increase the sustainability of industrial development. The results of the model can also be provided to government and tourist business owner as the basis to make policies of disaster recovering and tourist investment under the circumstance of extreme climate, hoping that it can be the reference of building risk-assessment system of Taiwan in the future.

Key words: *Geographic Information Systems, Vulnerability, Tourist Industry, Disaster-Resilience, Risk-Assessment*