

A Study of DSR Indicator Framework for Sustainable Development in Taiwan

HUI-LING TUNG¹, HSIEN-TANG TSAI², and CHIEN-MING LEE³

¹*Department of Human Resource and Public Relations, Da-Yeh University
112 Shan-Jiau Rd., Da-Tsuen, Changhua, Taiwan*

²*Department of Business Management, National Sun Yat-Sen University
70 Lien-Hai Rd., Kaohsiung, Taiwan.*

³*Institute of Natural Resource and Environmental Management, National Taipei University
67, Sec. 3, Ming-Shen E. Rd., Taipei, Taiwan*

ABSTRACT

This study explores the building of a framework of DSR (Driving-force-State-Response) indicator system for sustainable development in Taiwan. The system is based on the Commission on Sustainable Development (CSD) Working List of Indicators of the United Nations in 1996. This study includes quantitative methods for evaluating a DSR system. The results of this research indicate that the historical data in Taiwan agree with the relationship in the DSR indicator framework for sustainable development. The results also indicate that the complex system in this research can be used to develop an integrated framework for a system with cause-effect logic and feedback for making a program of sustainable development at the national level in Taiwan. A test of regression fit between decision variables and objectives is taken. Response variables in four dimensions (life expectancy at birth, green income per capita, water resource quality (Biochemical Oxygen Demand, BOD), and air quality (Pollutants Standard Index, PSI) are carefully selected. The parameters of each objective function are estimated with national statistical data collected in Taiwan between 1989 and 2002. The results will be made available to the government to assist it in its efforts to measure progress toward sustainable development.

Key Words: sustainable development, DSR framework, test of regression fit