

3937354 ENIM/ M: MAJOR: TECHNOLOGY OF INFORMATION SYSTEM MANAGEMENT;
M.Sc. (TECHNOLOGY OF INFORMATION SYSTEM MANAGEMENT)

KEY WORDS : DECISION SUPPORT SYSTEM / IRRIGATION/ FORECASTS
/ WATER RESOURCES MANAGEMENT

SASITORN MAPRACHA : DECISION SUPPORT SYSTEM FOR WATER RESOURCES
MANAGEMENT; CASE STUDY OF OFFICE OF HYDROLOGY AND MANAGEMENT, ROYAL
IRRIGATION DEPARTMENT. THESIS ADVISORS: SARANYA SUTJARITKUL, M.Sc.,
SOMKIAT PRAJAMWONG, Ph.D., 174 p. ISBN 974-664-370-3

The objective of this research is to develop a decision support system for water resource management in order to store, save, edit and search for information about surface runoff, rainfall and reservoir storage. This system can be used for forecasting the rainfall and runoff according to the probability occurrence by means of plotting position, Weibull and Gumbel probability density function. The relationship between rainfall and runoff can be calculated via Linear Regression and Multiple Regression.

This decision support system for water resource management includes data of surface runoff, rainfall and reservoir storage. Database of this research is the relational database. This research uses Microsoft Access 97 to create and develop the database system of rainfall, database system of surface runoff, database system of reservoir storage, forecast system and uses Microsoft Visual Basic 6.0 to link the database system and the forecast system.

The developed system was evaluated by three groups of people, experts in analysis and design systems, experts in hydrology and, the users. The results show that the developed system is simple to operates resulting in increased work efficiency, decision in correct calculation and the capability to be used as support system for water resource management