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KEY WORDS : WATER RESOURCE MANAGEMENT/ FARM PONDS/ INTEGRATED AGRICULTURE / RAINFED AREA/ APPROPRIATE TECHNOLOGY

SUTEE SUNITSAKUL: THESIS TITLE APPROPRIATE TECHNOLOGY FOR ON-FARM WATER RESOURCE MANAGEMENT IN RAINFED AREA: A CASE STUDY OF FARM PONDS FOR INTEGRATED AGRICULTURE, AMPHOE MUANG, SURIN PROVINCE. THESIS ADVISOR: SANSANEE CHOOWAEW, Ph.D., PONGPIT PIYAPONGSE, M.Sc.,M.Sc., VANAWIPHA PASANDHANATORN, M.A.,M.A. , KASEM KULPRADIT, M.Sc. , KAMBANAD BHAKTIKUL, M.Sc. 235p. ISBN 974-589-255-6

The objective of this study is to assess the appropriateness and success of on-farm water resource management technology: a case study of farm ponds, in rainfed areas of integrated agriculture. The surveys and observations were carried out in 3 target groups of farmers: a governmental extension programme, a non-governmental extension programme, and a group based on individual management decision under no programme .

Economic, social, population and resource factors influencing patterns of water storage and distribution included the age of the farmers, their experience in farm ponds, soil type, type of organization, number of years involved in integrated agriculture, and the area of cultivation. The degree of success of farm pond technology was moderate. Most farmers indicated that having farm ponds increased their farm productivity.

The success of farm pond technology depended on 1) site selection, 2) contribution of human labour, 3) supplementary sources of water, 4) depth, 5) width of pond edges, 6) ratio of farm pond area per total cultivated area, 7) slope of pond edges, 8) pond's volume, 9) volume of water remaining in the pond during dry season and 10) ground water inflow.