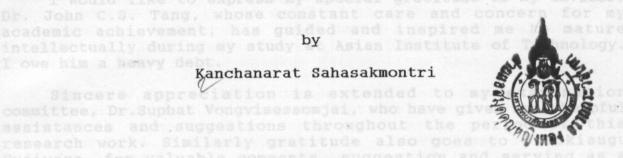
ESTIMATION OF FLOOD DAMAGE FUNCTIONS FOR

BANGKOK AND VICINITY

I owe him a heavy del Kanchanarat Sahasakmontri



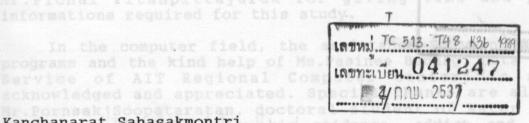
A thesis submitted in partial fulfillment of the requirement for the degree of Master of Engineering

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rt ; and to Mr. Surat Petchratanaporn on giving his time and

Previous Degree : B.Eng. (Honours)

Last, but not the Computer Engineering to due to my mother.

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ABSTRACT CONTENTS

The past decade has witnessed the occurence of floods especially in Bangkok and adjoining provinces. In each of these floods, damages were in the order of thounds and millions baht. As a consequence, to alleviate flood damage, economic evaluation of the proposed flood protection projects has appeared to become a predominant issue in the Bangkok Metropolitan Area.

The study herein is concerned with flood damage estimation for Bangkok and vicinity area. Attempt was made to develop damage functions in terms of flood depth and duration for 4 major land use sectors i.e. residence, commerce, industry and agriculture, in order to facilitate benefit/cost analysis of various flood protection projects. Data from 1983 flood survey were obtained and analyzed to arrive at estimates for the direct damage per establishment. Multiple regression technique was used.

Results of statistical analysis indicates that with different magnitude of impact, flood depth and duration are significant variables etimating flood damage to residential and industrial sector. On the other hand, flood duration was found to be the major variable affecting damage to commercial and agricultural sector. Further, it was found that the industrial sector is most sensitive to flood depth followed by the agricultural, commercial, and residential sector. Whereas, the damage in the industrial sector is sensitive to flood duration followed by the residential sector.

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