سامية محمد مصطفى



شبكة المعلومات الحامعية

بسم الله الرحمن الرحيم



-Caro-

سامية محمد مصطفي



شبكة العلومات الحامعية



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم





سامية محمد مصطفى

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسو

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأقراص المدمجة يعيدا عن الغيار



سامية محمد مصطفي



شبكة المعلومات الجامعية



المسلمة عين شعور المسلمة عين شعور المسلمة عين شعور المسلمة عين شعور المسلمة ا

سامية محمد مصطفى

شبكة المعلومات الحامعية



بالرسالة صفحات لم ترد بالأصل



A. Bozarae

HYDRAULIC EVALUATION OF NILE BANKS STABILITY USING GEOGRAPHIC INFORMATION SYSTEMS

By

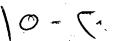
Amani Rafik Nashed Ebeid

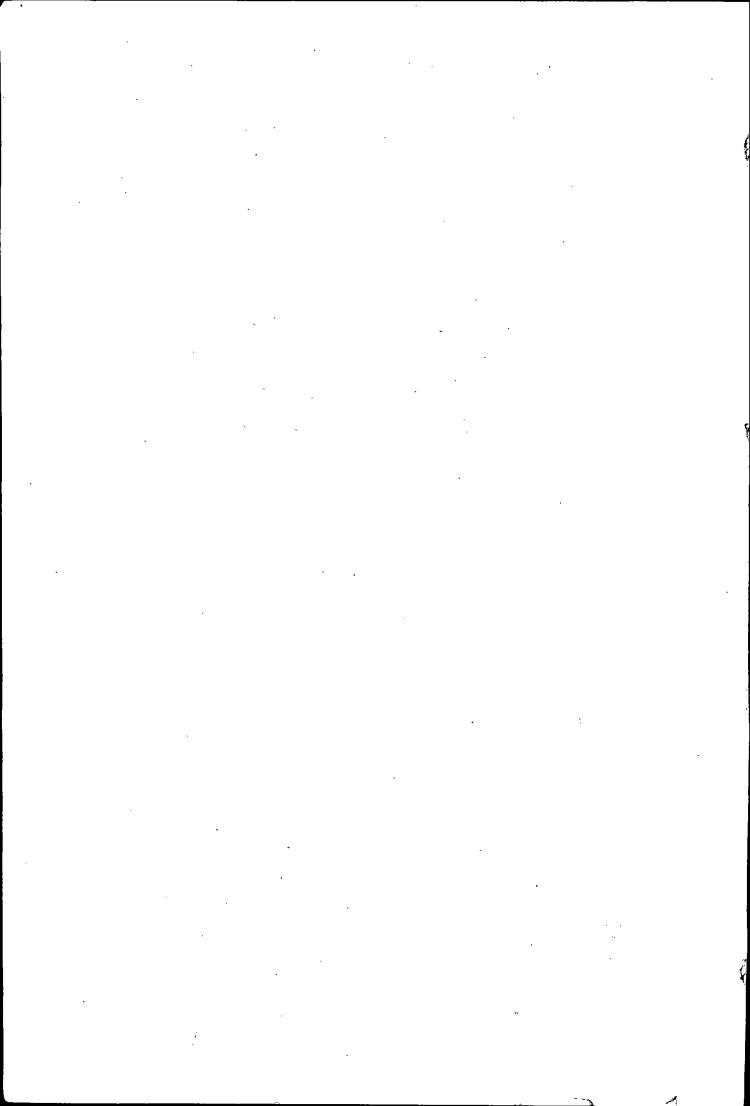
A Thesis Submitted to The
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of

DOCTOR OF PHILOSOPHY in CIVIL ENGINEERING

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
GIZA, EGYPT
June 2004

B





HYDRAULIC EVALUATION OF NILE BANKS STABILITY USING GEOGRAPHIC INFORMATION SYSTEMS

By

Amani Rafik Nashed Ebeid

A Thesis Submitted to the Faculty of Engineering at Cairo University In Partial Fulfillment of the Requirements for the Degree of

in CIVIL ENGINEERING

Under the Supervision of

Prof. Dr. Mohamed Fawzy Helwa

Prof. Dr. Mostafa Youssef Soleit

Professor of Hydraulics
Irrigation and Hydraulics Dept.

Professor of Hydraulics
Irrigation and Hydraulics Dept.

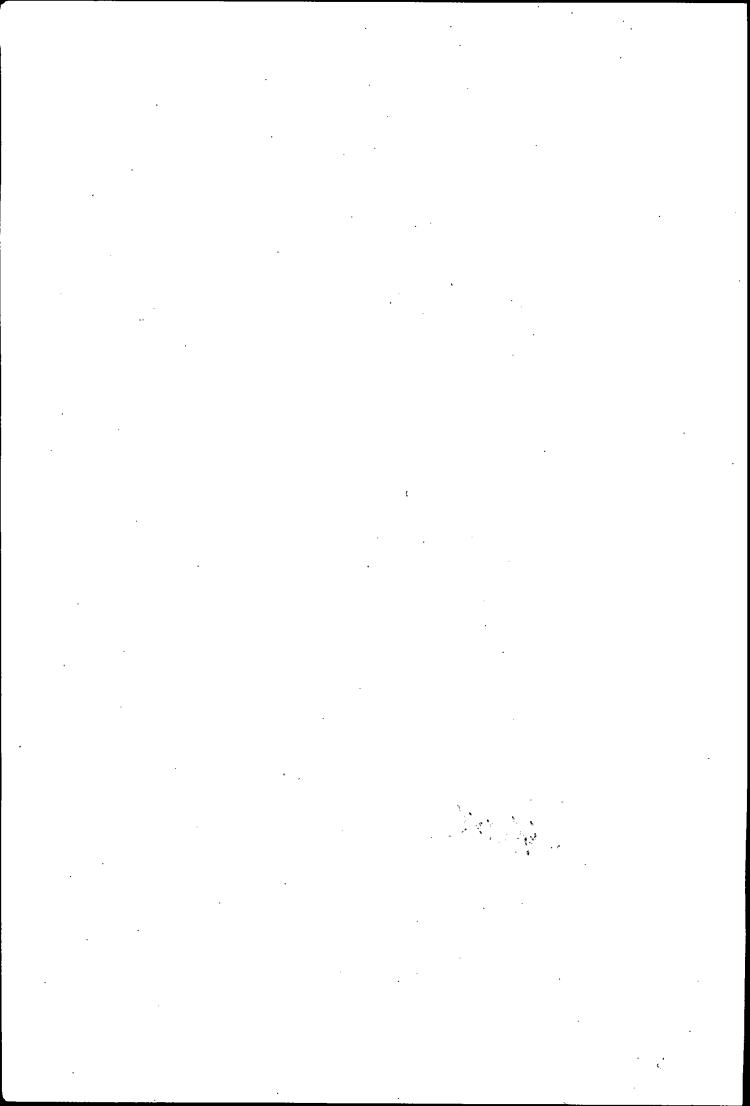
Cairo University

Cairo University

FACULTY OF ENGINEERING, CAIRO UNIVERSITY

GIZA, EGYPT

June 2004



HYDRAULIC EVALUATION OF NILE BANKS STABILITY USING GEOGRAPHIC INFORMATION SYSTEMS

by

Amani Rafik Nashed

B.Sc. Civil Engineering, Cairo University, 1985 M.Sc. Civil Engineering Cairo University, 1999

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of
DOCTOR OF PHILOSOPHY

in

CIVIL ENGINEERING

Approved by the Examining Committee

Prof. Dr. Mohamed Fawzi Helwa

Thesis Main Advisor

Prof. Dr. Abdallah Sadek Bazaraa

Member

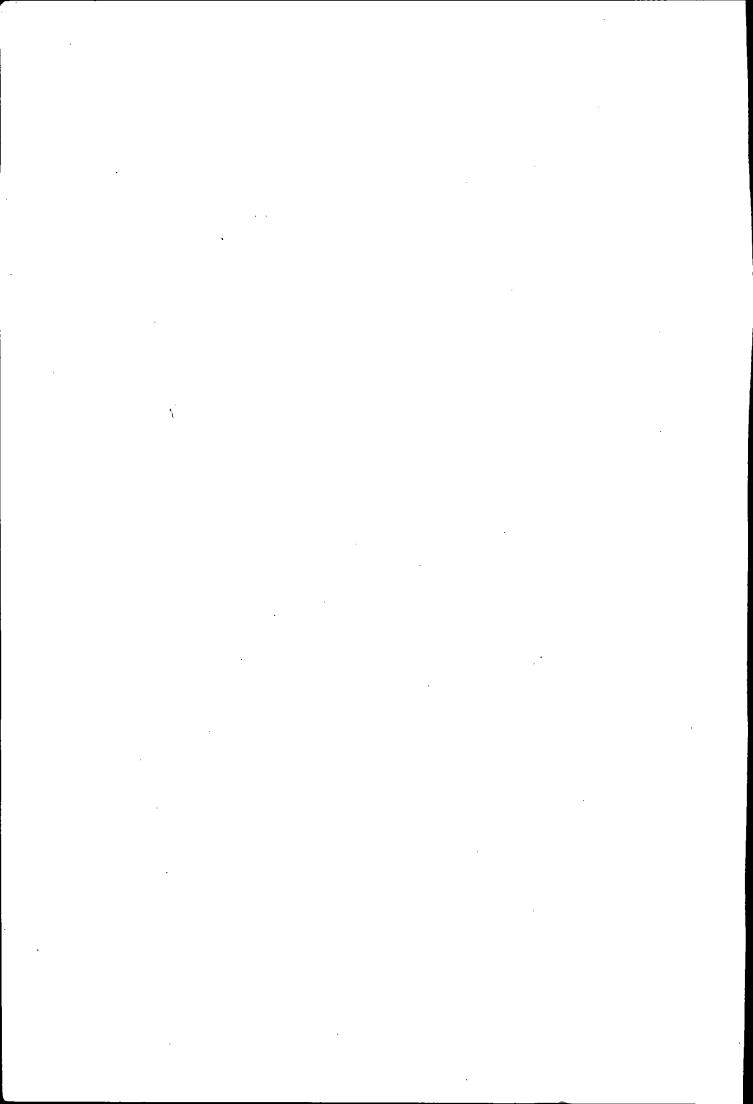
Prof. Dr. Mostafa Kamel El-Ghamrawy

Member

FACULTY OF ENGINEERING, CAIRO UNIVERSITY

GIZA, EGYPT

June 2004



DEDICATION

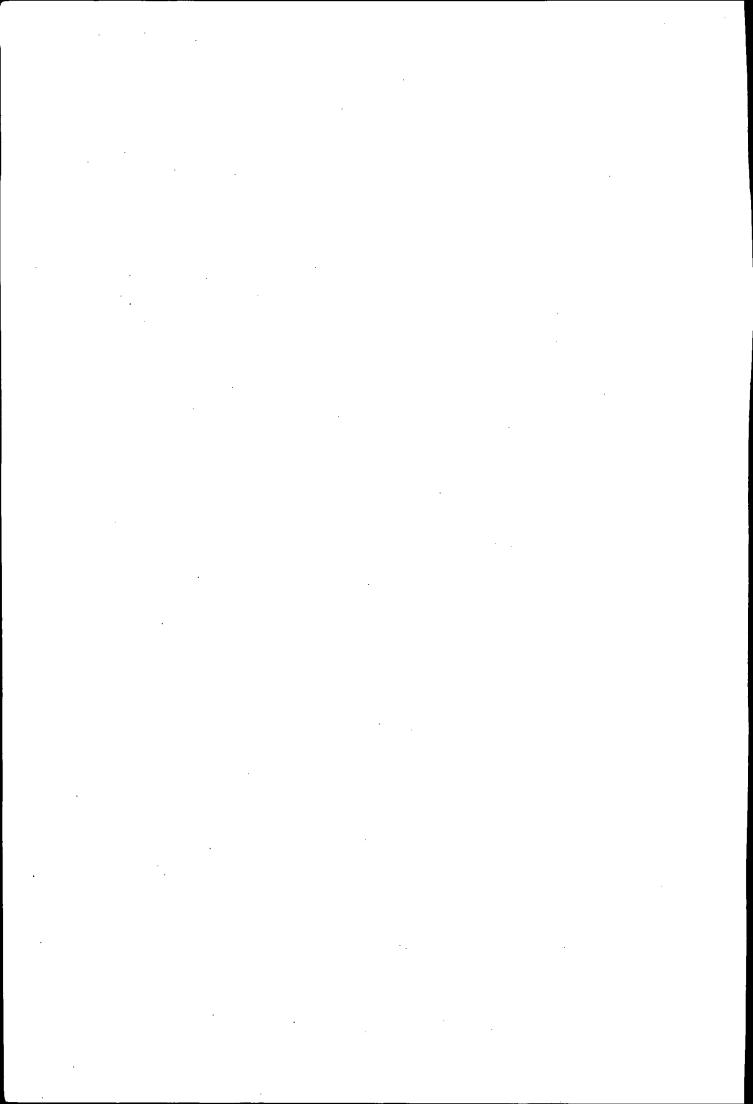
To the best father, who was the motivator behind my accomplishments. To my precious mother whose love and kindness surrounded me through my life.

To my great husband whose moral and scientific support paved the way of my success.

To my beloved children Shehab and Shireen who scarified a lot all the way and inspired me to work with all my heart to earn their pride.

To my dear father-in-law whose support and encouragement helped me along my career. To my ideal mother-in-law who provided me with all the love and care needed for success.

Finally, I dedicate my work to my dearest sister-in-law and her beloved family who always shared my dreams and helped me achieve them.



ACKNOWLEDGMENT

The author is deeply indebted to Prof. Dr. Mohamed Fawzi Helwa, Professor of Hydraulics at the Irrigation and Hydraulics Department, Faculty of Engineering, Cairo University, for his help, advice, motivation, continuous supervision and endless support throughout the work.

Grateful acknowledgment and sincere thanks are due to Prof. Dr. Mostafa Youssef Soleit and Dr. Ahmed Amin, Irrigation and Hydraulics Department, Faculty of Engineering, Cairo University, for their support during this work.

The author also wishes to express her gratitude to Dr. Ahmed Fahmy, Director of the Nile Research Institute and Dr. Medhat Aziz, Deputy Director of the Nile Research Institute, for their valuable discussions, practical comments, and the provision of the necessary data used in the case study.

The author would also like to express her thanks and appreciation for the support and help of the Staff of the Cairo River Nile Protection Directorate.

Special thanks are due to Ms. Nada Shenouda, the author's dear friend, who helped greatly in the production of the thesis and was of great moral support.

