TABLE OF CONTENTS

		Page
I.	INTRODUCTION	1
II.	BASIC CONCEPTS AND FOUNDATIONS	16
	1. Definitions	16
	1.1 Terms for MCDM Environment	16
	1.2 MCDM Solutions	18
	2. Models for MADM	24
	2.1 Noncompensatory Model	24
	2.2 Compensatory Model	25
	3. Transformation of Attributes	26
	3.1 Quantification of Fuzzy Attributes	27
	3.2 Normalization	29
	4. Fuzzy Decision Rules	32
	4.1 Definition of Fuzzy Set	33
	4.2 Some Basic Operations of Fuzzy Sets	35
	5. Methods for Assessing Weight	41
	5.1 Eigenvector Method	41
	5.2 Weighted Least Square Method	48
	5.3 Entropy Method	52
	5.4 LINMAP	57
III.	METHODS FOR MULTIPLE ATTRIBUTE DECISION MAKING	58
	1. Methods for No Preference Information Given	58
	1.1.1 Dominance	58
	1.1.2 Maximin	61
	1.1.3 Maximax	64

Page

2. Methods for Information on Attribute Given 67

2.1 Methods for Standard Level of Attribute Given 68

2.1.1 Conjunctive Method (Satisficing Method) 68

2.1.2 Disjunctive Method 71

2.2 Methods for Ordinal Preference of Attribute Given 73

2.2.1 Lexicographic Method 74

2.2.2 Elimination By Aspects 77

2.2.3 Permutation Method 84

2.3 Methods for Cardinal Preference of Attribute Given 92

2.3.1 Linear Assignment Method 93

2.3.2 Simple Additive Weighting Method 99

2.3.3 Hierarchical Additive Weighting Method 104

2.3.4 ELECTRE Method 115

2.3.5 TOPSIS 128

2.4 Methods for Marginal Rate of Substitution of Attributes Given 141

2.4.1 Hierarchical Tradeoffs 146

3. Methods for Information on Alternative Given 153

3.1 Methods for Pairwise Preference Given 153

3.1.1 LINMAP 154

3.1.2 Interactive Simple Additive Weighting Method 168

3.2 Method for Pairwise Proximity Given 176

3.2.1 Multidimensional Scaling with Ideal Point 177

IV. APPLICATIONS 192

1. Commodity Selection 192

2. Facility Location (Siting) Selection 195

3. Personnel Selection 197

Page

4. Project Selection 198

4.1 Environmental Planning 198

4.2 Land Use Planning 200

4.3 R & D Project 201

4.4 Water Resources Planning 202

4.5 Miscellaneous 202

5. Public Facility Selection 204

V. CONCLUDING REMARKS 207

On MADM Methods Classification 207

On Applications of MADM 207

On Multiple Objective Decision Making (MODM) Methods 207

On Multiattribute Utility Theory (MAUT) 208

A Choice Rule for MADM Methods 210

A Unified Approach to MADM 213

On Future Study 222

VI. BIBLIOGRAPHY 226

Books, Monographs, and Conference Proceedings 226

Journal Articles, Technical Reports, and Theses 228