

1 International Series on
Applied Systems Analysis

Conflicting Objectives in Decisions

Edited by

David E. Bell
*Churchill College,
University of Cambridge*

Ralph L. Keeney
*Woodward-Clyde Consultants,
San Francisco*

Howard Raiffa
*John F. Kennedy School of Government,
Harvard University*

TECHNISCHE HOCHSCHULE DARMSTADT
Fachbereich 1
Gesamtbibliothek
Betriebswirtschaftslehre

Inventar-Nr. : 32.638

Abstell-Nr. : A13/ 275

Sachgebiete: 1.4.5

1.2.3.14

A Wiley-Interscience Publication

International Institute for Applied Systems Analysis

JOHN WILEY & SONS

Chichester – New York – Brisbane – Toronto

Contents

Introduction and Overview	1
PART ONE METHODOLOGY	
1 Multicriterion Decision Problems <i>V.M. Ozernoi and M.G. Gaft</i>	17
2 Partial Preference Analysis and Decision-Aid: The Fuzzy Outranking Relation Concept <i>B. Roy</i>	40
3 A Research Project on Multicriterion Decision Making <i>J. Wallenius and S. Zionts</i>	76
4 Use of Vector Optimization in Multiobjective Decision Making <i>M. Peschel and C. Riedel</i>	97
5 Trade-off Analysis: The Indifference and the Preferred Proportions Approaches <i>Kenneth R. MacCrimmon and Donald A. Wehrung</i>	123
6 Conjoint Measurement: A Brief Survey <i>R. Duncan Luce</i>	148
7 Multiattribute Utilities in Expected Utility Theory <i>Peter C. Fishburn</i>	172
8 A Practical Methodology of Solving Multicriterion Problems with Subjective Criteria <i>O.I. Larichev</i>	197
9 On the Elicitation of Preferences: Descriptive and Prescriptive Considerations <i>A. Tversky</i>	209
10 A Dynamic Consumption Model and Optimization of Utility Functionals <i>R. Kulikowski</i>	223
11 State-Dependent Time Preference <i>Richard F. Meyer</i>	232

PART TWO APPLICATIONS

12	Use of Multiattribute Utility Measurement for Social Decision Making <i>Ward Edwards</i>	247
13	The Use of Decision Analysis in Capital Investment Problems <i>Arnoldo C. Hax and Karl M. Wiig</i>	277
14	Selecting Nuclear Power Plant Sites in the Pacific Northwest Using Decision Analysis <i>Ralph L. Keeney and Keshavan Nair</i>	298
15	A Community Information Feedback System with Multiattribute Utilities <i>Volker Bauer and Michael Wegener</i>	323
16	Multiobjective Decision Making with Applications to Environmental and Urban Design <i>Y. Sawaragi, K. Inoue, and H. Nakayama</i>	358
17	Alternative Formulations for a Trajectory Selection Problem: The Mariner Jupiter/Saturn 1977 Project <i>James S. Dyer and Ralph F. Miles, Jr.</i>	367
18	A Decision Analysis of Objectives for a Forest Pest Problem <i>David E. Bell</i>	389

PART THREE GENERAL DISCUSSION

19	General Discussion	425
	Participants and Contributors	437
	Index	439