Contents

1.	INTRODUCTION Land evaluation — The definition of land — Direct and indirect methods of land evaluation — Stages in indirect land evaluation — The development and implementation of systems	1
2.	MEASURING AGRICULTURAL PRODUCTIVITY Introduction — Collection of yield data — Economic evaluation of agricultural productivity — Crop yield models — Using soil maps to predict yields	Υ 7
3.	SOIL AND SITE INFORMATION FOR LAND EVALUATION Introduction — The kind of data required — Soil information — Climatic information — Topographic information — Composite environmental data — Socio-economic data — General strategy of data use	21
4.	LAND SUITABILITY FOR INDIVIDUAL CROPS AND AGRICULTURAL PRACTICES Introduction — Choosing suitable land for a specific crop — Interpretation of soil maps in terms of crop suitability and management practices — The FAO Framework — Assessing the feasibility of land improvements — Productivity of grassland and livestock grazing potential	41
5.	AGRICULTURAL LAND CAPABILITY: CATEGORY SYSTEMS Introduction — Land capability classification — Modifications for use outside the United States — Advantages and disadvantages of land capability classification — Uses of land capability classification — Other categoric methods of land evaluation — Category systems and other systems of evaluating land	67

viii Contents

6.	AGRICULTURAL LAND CAPABILITY: PARAMETRIC SYSTEMS Introduction — Additive systems — Multiplicative systems — Complex parametric systems — Advantages and disadvantages of parametric systems — Calibration of parametric systems — Conversion of parametric scores to ranked categories	96
7.	THE EVALUATION OF LAND FOR IRRIGATION Irrigation methods and project design — Data required — Simple interpretation of soil survey information — Parametric methods — The Irrigation Suitability Classification of the United States Bureau of Reclamation (USBR) — Level of investigation and map scales	121
8.	THE EVALUATION OF LAND FOR FORESTRY Introduction — Assessing tree growth — Environmental factors affecting forest productivity — Forest land evaluation systems — Environmental factors and forest management — Non-commodity uses of woodland	139
9.	THE EVALUATION OF LAND FOR NON-AGRICULTURAL PURPOSES Introduction — Quantitative classifications of soil materials for the civil engineer — Interpretations of soil maps for non-agricultural purposes — Natural resource surveys	159
10.	LAND EVALUATION AND LAND-USE PLANNING AND RESOURCE INVENTORIES Land use planning — Resource inventories — The use of computers in resource data handling — Computer processing of data for land evaluation	19
RE	FERENCES	20
INI	DEX	23