

PREFACE

Land and water are the two most important natural resources for any socio-economic activity. During the past decade, many models utilizing operation research techniques have been developed for allocation of limited resources. These models are either single crop single objective or multi-crop single objective. Development of a multi-crop multi-objective model is needed under the present environmental situation where more and more multi-facet demand of the society is to be met under limited quantity of natural resources. A goal programming technique ^{has} been used for developing multi-crop multi-objective decision making models. The models primarily concerning land and water allocation for Rabi (winter) season and allocation of human resources for Kharif (monsoon) season are applied to Debra block under 'Comprehensive Area Development Programme' situated at 22°N latitude and 87°E longitude in district Midnapore of West Bengal. The planning was done to meet the food and nutritional requirement for the projected population of the years 1985 and 1990. Considering the soil, climatic, food habits, related socio-economic conditions, allocation of land and water under five major crops - paddy, wheat, potato, oilseed and pulse have been determined under various priority structures. Alternate solutions by changing the goal priority have also been worked out for the planners to implement the best suited.