

BOOK REVIEWS

Multivariate Statistical Analysis in Geography :

A primer on the general linear model. R. J. Johnston. Longman-London and New York, 1978 p 280. 96 figures, 41 tables and References, £ 5.95

Ever increasing use of the statistical techniques in geographical research was always demanding a comprehensive work on the multivariate analysis in geography. A large number of books are available now for elementary methodology and a few books like those of King (1969), and Taylor (1977) treat more advanced techniques. This book can be considered as an important addition to the available literature on the subject.

The author rightly points out in the introduction that any geographical problem requires handling a large amount of variables which are possibly having causal relationship. Assuming a basic knowledge of reader to the extent of handling the bivariate data; the author points out various assumptions of regression model in chapter II. In the following chapters from III to IX various aspects of multivariate models are explained. The chapter multiple correlation and regression includes topics like transformation of data which is essential in many geographical situations. It also includes trend surface analysis. Fourth chapter is completely devoted to

the "analysis of variance" which includes two way -three way analysis and also a detailed discussion on dummy variables, interaction variables and analysis of covariance. Principal component and factor analysis are outlined in the next chapter and instead of giving details of computational steps involved, the author has explained the basis of analysis through geometrical representation of correlation. A 'real world' example has been added to explain various steps in principal component analysis. In case of factor analysis, meaning and necessity of rotation and its types are covered besides the interpretations. Later part of the book covers topics on Canonical correlation and discriminant analysis which are not in common use as yet; but are equally important in geographical research. Apart from these, a chapter on classification includes treatment on univariate, bivariate and multivariate examples and discussion on grouping, classification and regionalization.

The last chapter on multivariate analysis and geographical data deals with spatial auto-correlation and nature of geographical observation unit or individual. It also includes a brief discussion as closed number sets and independence.

S. R. J.

Floods : A Geographical Perspective

Roy Ward. Focal problems in geography series : Mac Millan : 1978, p 244, 47 figures, 11 plates and bibliography £3.95

A new addition in the series of 'Focal problems in Geography' deals with the problems of floods. The book not only

covers just the geographical assessment of the causes and effects of the floods but also includes a good deal of discussion on the flood predictions, forecasting and watershed management. The book as a whole can be considered to have two separate halves dealing with physical and human aspects of flood problem.

Starting with 'floods are News' in introduction, the author considers the basic problems like definitions, causes and conditions of flooding. The author has classified floods on the basis of causes, floods caused by precipitation - Rainfall, snowmelt and those like estuarine floods - storm surges and dams collapse floods and includes detail analysis of each cause. In the fifth chapter floods are considered as the agent of geomorphic processes wherein their effects on channel morphology and flood plain formation are discussed.

Chapters six and seven include the problems of and methods for the prediction and forecasting of floods. It includes the deterministic and probabilistic approaches

of predictions and computer simulation and flood warning systems for forecasting.

In the second half of the book human response to the flood hazard is discussed under three separate chapters as 'possible adjustments', 'flood abatement' and 'flood protection'. A separate chapter deals with the economic aspects of response to flood hazard wherein flood damages are basically classified as tangible and intangible. Besides the classification of the damages, it includes cost benefit analysis as a method for evaluating the damages.

The last chapter includes a brief discussion on the prospective improvements in understanding and dealing with the problems of floods. The author outlines the areas, in brief, where certain amount of improvement can be achieved specially with reference to data collection, prediction and forecasting of floods.

As it includes almost all the aspects of flood problems, the book has become really a comprehensive one, and for geographers and others, it would prove to be an informative volume. S. R. J.

Manual for Block Level Planning

Prodipto Roy and B. R. Patil (Ed)
The Macmillan Company of India Limited
1977, 124 p, 26 Illustrations and 36 Tables,
Rs. 18.00

The manual prepared by the Central Research Cell of the Pilot Research Project on Growth Centres, provides guidelines for block level planning based on a framework of the growth centres, the villages within their service areas and the services available.

The manual contains nine chapters and five appendices. The first two chapters deal with origins, utility, objectives and data and mapping needs. The third chapter describes the spatial aspect of planning. The description, analysis, formulation and implementation of plans for agriculture, education, health, industry and transportation sectors has been specified in the remaining chapters.

In the final chapter, integrated rural development is viewed as a multi-level, a multi-sector, and a multi-section concept. The integrated rural development does not aim only at the more efficient provision of basic social and economic services, or reducing inequalities, but is more inclusive including the efforts directed towards reducing the unemployment in the agricultural sector and utilizing the surplus labour force in the most meaningful way.

The manual is useful for research workers in the field of area development and developmental planning particularly for planning at the village and block level. The maps and proformas given in appendices would guide a research worker on the data collection and analysis.

V. S. D.