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BOOK REVIEWS

The Environmental, Economic and Social Significance of Drought, J. V. Lovett (ed.). Sydney: Angus and Robertson, 1973. Pp. 318. \$6.75.

This book follows a conference on drought organized by the Department of Extension of the University of New England in May, 1969. The book is not intended as a report of the proceedings of the conference. Indeed many authors have had no direct link with the conference whatsoever. A number have, however, drawn on conference material in assembling their reports, and one paper, that by Professor Campbell, has been included in its entirety.

The book is structured into three parts, although the chapter by Campbell is separate and serves as an introduction. The general aim of that chapter is to place drought as just one of many physically disruptive factors to the stability of agricultural production and a factor of lessening importance to general economic stability. In relation to the specific structure, the stated aims of the three parts are respectively: "to place drought as part of the environmental complex; to assess the short-term and long-term effects of drought on plant and animal life, and to suggest means by which the impact of drought may be minimized".

Three papers are included in part 1. Heathcote deals with the broad question of drought perception—particularly attitudes towards what drought is, and what are its likely effects both positive and negative. The implication of these attitudes for the formulation of effective drought mitigation policies is also discussed. The second paper is an analysis of the meteorological aspects of drought, and the likelihood of accurate predictions of its occurrence (Maher). The final paper in the section looks at the relationship between drought, land use and soil erosion (Marshall). Conditions for erosion are shown to be more favourable in drought periods, and in this context Marshall discusses management practices aimed at reducing erosion, and indirectly therefore, mitigating the effects of drought.

Part 2 deals with the effects of drought on specific variables: vegetation (Whalley), wheat production and marketing (Callaghan), wool (Chislett), meat (Todd), dairying (Standen), animal survival (Webster), wildlife (Le Gay Brereton), and the economy in general (McIntyre). The approaches adopted by the respective writers vary widely. Some chapters are no more than general assessments, others are relatively technical, while others contain specific, but useful, examples of drought effects. For example, Whalley analyses in detail the effect of the 1964–5 drought in the New England district on plant communities in that district.

The philosophy of drought mitigation is dealt with in part 3. Hill considers the implications for farm management of drought planning for both normal and abnormal droughts, for example, stock and cropping

programmes. Anderson and Hardaker introduce drought as an uncertain variable, and discuss planning and decision making under uncertainty with reference to a simple drought decision problem. James outlines various means available to cushion income instability which is an invariable consequence of drought. Among them are income tax concessions, drought bonds, credit provision, transport concessions, and extension services. His chapter concludes with a discussion of maintaining income stability through drought periods by means of insurance. Toft outlines the relatively well documented strategy of a national drought reserve of grain. The usefulness, or apparent uselessness, of large dams as a means of mitigation is discussed in another chapter by Musgrave and Lesueur. The final chapter, written by the late Dr George Moule, considers the plight of those people who bear the brunt of drought effects, and the need for communication between those affected, and those with biological and economic knowledge.

In a collection of readings such as this volume, it is difficult to criticize the subject matter in detail. Certainly the standard of contribution varies, mainly in respect of generality, and the inclusion of empirical evidence. This criticism aside, one aspect of the book is bothersome.

The title suggests the book is concerned with the significance of environmental, economic and social consequences of drought. This theme is also implicit in the aims, although it is not specifically stated. Notwithstanding, the book deals largely with economic impacts, and to a much lesser degree, environmental and social impacts. The only reference to likely environmental consequences is if one perceives the physiological impacts of drought on vegetation and animal life as physical changes to the broad environment. Otherwise, Dr Lovett seems more concerned with establishing drought as an environmental variable itself. In relation to the social or welfare consequences of drought, the only reference to them is the likely human adjustments necessary in attempting to mitigate the drought problem (part 3).

Perhaps the most valuable contribution of the book is, as Dr Lovett suggests, the interaction of the viewpoints of the many contributors. This interaction raises many questions, yet leaves many unresolved. One is the long-standing problem of the definition of drought. Another of importance is the timing of drought declaration—that is, when does one acknowledge a drought has started. This is critical to both pre- and in drought planning and decision-making. Clearly, the failure of this book to resolve these problems, indicates the need for further research into the many phenomena relating to drought.

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