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BOOK REVIEWS

Multiple Criteria Analysis for Agricultural Decisions. By CARLOS ROMERO and TAHIR REHMAN. (Elsevier Science Publishers, Amsterdam, 1989.) Pp. 257, ISBN 0 444 87408 9 (Vol. 5), ISBN 0 444 42138 6 (Series).

Economists differ on the extent to which the money metric can be used universally to appraise options. Differing views permeate the literature on decision making, mathematical programming and cost–benefit analysis. Although many practitioners in these areas may be content to conduct analysis in terms of expected money values, the authors quote Milton Friedman to the effect that decision problems with a single criterion should be considered technological problems, and only those with multiple criteria should be seen as economic problems.

This book is the fifth in Elsevier's series 'Developments in Agricultural Economics'. Its coverage is not as broad as might be supposed from the title. The subject matter is what has come to be known as multiple criteria decision making (MCDM) as expounded in many publications by Zeleny. It deals with linear programming (LP) problems for which there is more than one criterion, and for which the constraint requirements may be non-rigid. Agricultural economists would be expected to have a keen interest in MCDM because LP is such a staple part of their diet. One of the points made by the authors in ch. 1 'Main features of the MCDM paradigm' is that modellers in agricultural economics have not given enough attention to the approach. The authors do proceed to list a number of agricultural studies, applied at the farm level in developed and developing countries, and at the regional planning level. The wider interest is indicated by a listing of conference proceedings and special issues of journals organised by operations research and management science bodies.

A book on MCDM applied to agricultural decision making is certainly justified by the scope of the approaches and the absence of another text on the subject. The authors provide a very useful service of describing and illustrating the approaches without becoming overly technical. The authors are right in claiming that the requirements for following the book are basic knowledge of linear algebra and LP.

The book is well-structured. It has three parts. In Part 1 the philosophy and historical background of the MCDM approach are discussed, and the concepts and terminology outlined. Although this is done simply and well, the case for MCDM and against usual practice is a little overdrawn. If for a LP problem there are other criteria for assessing the desirability of a plan besides the one embodied in the objective function, it is natural to add constraints to deal with these. If there is uncertainty on what the right-hand-side values should be for these or other constraints, it is natural to examine the shadow prices of the slack variables of these constraints. The decision maker can opt to marginally relax a constraint if he judges the gain to the objective value to be greater than the loss through relaxation of the constraint. The value of shadow price information should have been more fully discussed instead of just referring to it at the end of an application chapter.

Part 2 deals with the following methods of MCDM in five chapters: the two basic techniques of goal programming and multiobjective programming; compromise programming, whereby some measure of distance from ideal solutions is minimised; various approaches to interactive MCDM; and dealing with risk and uncertainty in a MCDM framework. The chapter on interactive MCDM is perhaps the most challenging in the book. It gets to the heart of attempting to find the efficient solution which brings the decision maker maximum satisfaction without the analyst having a well-specified utility function for the decision maker. The idea is for the analyst to probe the reaction of the decision maker to the solution of a problem, to see if a reformulation of the problem would bring greater satisfaction. The authors note that interactive methods are one of the most productive areas of research in the MCDM field. Three methods that are quite complex are well described with the aid of flow diagrams.

The chapter on risk and uncertainty is interesting for the integration of traditional risk programming approaches (E-V, MOTAD and target MOTAD) and of traditional game theory models into a MCDM framework. New hybrid approaches are discussed.

Part 3 consists of five application chapters, each one describing a study in which at least one of the authors has had a hand. The applications relate to: regional farm employment; ration and fertiliser formulations; and production, storage and transportation decisions. These studies are useful for illustrating many of the techniques described in Part 2, although it would have been interesting to have had one of them using an interactive MCDM method.

A multiple criteria approach which has been advocated and used by some agricultural economists is multi-attribute utility theory (MAUT) pioneered by Keeney and Raiffa. MAUT is not dealt with, partly on the grounds that it is not suitable for applications where the choice set is continuous. It is true that MAUT problems with continuous choice sets would be difficult if not impossible to solve using LP.

To conclude, the authors do a good job in explaining and illustrating the techniques of MCDM. There is usually a useful assessment section after the description of a technique or application, and suggestions for further reading at the end of a chapter. The book fills a noticeable gap in the agricultural economics literature.

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Introduction to the Theory and Practice of Econometrics. By GEORGE C. JUDGE, R. CARTER HILL, WILLIAM E. GRIFFITHS, HELMUT LUTKEPOHL and TSOUNG-CHAO LEE. (John Wiley & Sons, New York, 2nd edn, 1988.) Pp. 1024, ISBN 0 471 62414 4.

This second edition is a welcome revision of a very successful textbook first published in 1981. As in the first edition, it is intended to provide introductory and intermediate level students with a unified interweaving of inferential approaches and theory and practice. The text is a simplified version of a more advanced one entitled *The Theory* *and Practice of Econometrics* (2nd edn, 1985) by the same authors. In fact, for a more in-depth treatment of each problem area, students are recommended to refer to a particular chapter of the latter book.

The book being reviewed here is large, having more than 1000 pages. It consists of seven parts which are further divided into 22 chapters and an Appendix. The material is organised as follows: Part 1 (four chapters), The Foundations of Statistical Inference; Part 2 (three chapters), The General Linear Statistical Model; Part 3 (six chapters), Generalizations of the Linear Statistical Model; Part 4 (two chapters), Simultaneous Equation Models; Part 5 (three chapters), Time-Series and Distributed Lag Models; Part 6 (four chapters), Additional Econometric Topics; Part 7, Epilogue; Appendix, Linear Algebra and Matrix Methods.

Part 1 (156 pages) represents a major addition to the first edition. It provides a discussion on the nature of econometrics, definitions, notation and theorems of classical and Bayesian inference that are necessary as background material for the remaining sections. The level of difficulty of these chapters goes beyond the elementary level to cover multivariate distributions and asymptotic theory in matrix notation. Overall, I find that all of the material is well argued and clearly presented. For consistency a minor comment can be made on section 3.2.2 (pp. 62–4) on the method of maximum likelihood where it is suggested that numerical methods should be used first to optimise a fairly simple function of one variable. While not necessarily objecting to numerical methods in general, it is fair to point out that, since the technique of differential calculus is used liberally elsewhere in Part 1, it should be employed in this instance. Numerical analysis should be reserved for much more complicated examples. Also, a powerful result involving consistent estimators called the 'Slutsky's theorem' (which does not appear in many econometric textbooks) is stated without proof or a reference to a proof.

Parts 2 and 3 (440 pages) constitute the bulk of the book. They provide a very comprehensive treatment of the single equation regression model which is linear in parameters. Some distinguishing features of these parts are: (i) the analysis is carried through with both summation and vector matrix notation in the same place, (ii) the inclusion of a fairly complete Bayesian analysis of the normal linear statistical model, and (iii) the extensive use of the Monte Carlo sampling procedures in many exercises to illustrate important sampling concepts. From a teaching point of view, using the one parameter linear model as a starting point of analysis is very innovative. However, it is not at all clear why the least squares criterion is chosen. Students should be made aware of other criteria for estimating model parameters and their consequences. A popular test that appears to be missing in this book is the Chow (1960) test of equality between sets of coefficients in two linear regressions. The discussion on diagnostic testing for heteroscedasticity is too brief, covering only the traditional Goldfeld–Quant test and the asymptotically valid Breusch–Pagan test. I believe that the frequently used heteroscedastic consistent t test proposed by White (1980) deserves inclusion. Likewise, little attention is paid to diagnostic testing for autocorrelated disturbances. The omission of the Godfrey (1978) Lagrange multiplier test for serial correlation is somewhat surprising since the Lagrange multiplier procedure is discussed for testing heteroscedasticity and parametric restrictions. Two recent computer-intensive approaches to statistical inference, namely the bootstrap and jackknife techniques, are incorporated in Appendix 9.A on resampling methods. The remaining chapters covering seemingly unrelated equations, non-linear regression and stochastic regressors, are fairly comprehensive. In particular, applied econometricians working in agricultural economics may find the section on Box–Cox transformation interesting and useful. Concerning non-stochastic regressors, a discussion of weak exogeneity or simultaneous equations effect could be a useful transition from the single equation model to the simultaneous equation model.

Parts 4 and 5 (186 pages) are devoted to simultaneous equation, time-series and distributed lagged models. They take into account economic data generated from a system of relations that are dynamic, stochastic and simultaneous. Being mainly an undergraduate text, the level of coverage is again more than sufficient. Fairly recent and firmly established techniques such as the Box–Jenkins approach and Granger causality are both discussed.

Part 6 (104 pages) concerns qualitative independent variables, model selection, multicollinearity and robust estimation. I feel that the organisation of this part is somewhat arbitrary. For example, there is no obvious reason why ch. 21 on multicollinearity cannot be brought forward to Part 3 or 4 of the book. The book is one of the very few that mentions the Stein rule estimators in the chapter on prior information and model selection. However, after pointing out the virtues of the Stein estimators, it fails to explain why such an estimator is not popular in applied studies. The discussion on non-nested hypothesis testing and model identification seems to be far too brief. I feel that it should be expanded to include Ramsay (1969) RESET test against non-specific alternatives and Davidson and MacKinnon (1981) *J* test against specific non-nested alternatives. It may also be worthwhile to mention that some of the model selection criteria discussed in the context of the single equation model are of little help in the case of non-nested simultaneous equation models. In addition, as an introduction to the problems in applied econometrics, a chapter along the lines of 'Economic Data Issues' by Griliches (1986) may be useful to serious students who intend to apply their econometric knowledge to real world problems.

The extensive Appendix (63 pages) on linear algebra and matrix methods relevant to normal distribution theory is a new feature of the second edition. It is written to make the book more self-contained and thus makes introductory knowledge of matrix algebra, although beneficial, not necessary. The technique of generating formulae for summations by derivatives presented in Section A.20 is quite handy.

The length of the book is seen as both a strength and a weakness. While it is relatively expensive, which may be a potential drawback to users, it also gives instructors greater flexibility in choosing the right material to suit their particular courses. The availability of a computer handbook using SHAZAM and SAS developed to aid students in doing their exercises should make the second edition even more attractive than the first. As a textbook, the inclusion of a glossary of key econometric terms before the subject index would be valuable to students.

Another minor suggestion is that, since a list of references is given at the end of each chapter, the inclusion of an author index may be useful.

Overall, this is an ambitious and impressive book. While the scope of the book is comprehensive, the treatment of the various topics is well argued and rigorous. The above-mentioned omissions notwithstanding, most modern and established econometric procedures have been incorporated. For a book of this size, it is clearly laid out and remarkably free of typographical errors. Despite several authors being involved, the style of writing and expression is clear, fluent and consistent throughout. Most importantly, the introduction to each chapter gives a good motivation for the material to follow. A relevant example for agricultural economists is the discussion on agricultural supply response in ch. 11 on seemingly unrelated regression equations.

Undoubtedly this book fulfils most of the authors' aims and is an outstanding contribution to an already heavily congested market of econometric textbooks. It has been recognised by many as a very useful reference and teaching supplement in econometrics. I intend to consult it frequently and would not be surprised if it becomes one of the standard prescribed texts in econometric courses throughout the English-speaking world.

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Forest Sector Intervention: The Impacts of Public Regulation on Social Welfare. By ROY G. BOYD and WILLIAM F. HYDE. (Iowa State University Press, Ames, Iowa, 1989.) Pp. 308, ISBN 0 8138 1447 2.

This book provides an empirical assessment of the success of public policies in regulating the US forestry sector. The general thrust of the study is controversial since, despite the well-recognised externalities associated with forest exploitation, the authors conclude that public policies have not, on balance, been welfare-improving. These types of arguments are of particular interest to students of the Australian forestry scene where passive acceptance of the value of public ownership (a polar form of public sector intervention that is considered in this US study) has become a conventional wisdom that is seldom seriously questioned.

An attractive feature of the study is its persistent focus on the empirical properties of actual policies rather than theoretical advocacy or rejection of particular types of policy action. This makes the discussion of interest to both policy makers and resource economists alike. The discussion is quite broad-ranging and provides important instances of policy assessment relating to allocative, distributive and stabilisation objectives of current timber/forest policies.

Some of the particular regulatory assessments are of less interest in an Australian context than others. Yet even the present work's analysis of US State Forest Practise Acts (SFPA) has considerable methodological interest in an Australian setting. The procedures of using 'adjusted inventories per acre' as an index of policy achievement and of emphasising that benefits need to be assessed in terms of administrative costs are particularly interesting. Also there is important cross-sectional evidence, across states, that SFPA 'seed tree laws' have had no demonstrated effects on restocking rates and that more recent 'environmentally induced' legislation has had, at best, a rather limited impact on poorer non-industrial forestland where administration costs per hectare are relatively high. The challenge to architects of legislation is clear: Justify costs in terms of net social gains per hectare!

The authors likewise provide an analysis of federally funded 'Forestry Incentive Programme' (FIP) and Technical Assistance (TA) policies. The premise of such policies is a perceived 'market failure' which, if left unchecked, would lead to a future 'timber famine'. The policies also tend to become rationalised also in terms of distributional objectives since the programmes are primarily directed toward private non-industrial timber producers who are perceived as being relatively disadvantaged. Forestry with such producers is often a byproduct of farming operations so that the empirical tests of policy effectiveness rely on a multiple objective landowner model where, as shall be discussed further below, specific information issues arise. The main conclusions of the authors are: (1) That there is no sound basis in terms of identified externalities for the presumption of market failure here and that (2), in any event, both FIP and TA policies have adverse effects on both social welfare and distribution. The evidence here is collected from a North Carolina case study and is particularly unfavourable for FIP.

Price stabilisation motivations for public market intervention in terms of the provision of price information are discussed by the authors as plausible candidate policies, that have operated in the past, though on a relatively small scale. Again, non-industrial timber producers would be the likely users of such information. The discussion here begins with a demonstration that the evidence for greater instability of timber prices compared to prices for other resource assets is ambiguous to say the least; postwar data generally confirm the view while longer-run times series observations reject it. Despite this the authors note that, even if instability is less than commonly supposed, small reductions in instability do have a significant payoff so that these policies would represent a socially useful public investment. One might want to comment here on the neglect of the long-run effects of uncertainty on what are essentially irreversible forestry investments (these would tend to expand the value of public price forecasts) and on the failure to explain why private market information-providing firms could not do much the same (which would reduce the value), but the gist of the authors' analysis is persuasive.

Analyses of minimum wage laws for forest industries and of shipping laws restricting the use of non-US vessels between US ports are of interest because these are viewed as factors restricting the demand for resource inputs. Not surprisingly, they are given a definite 'thumbs down' as candidate public interventions.

Of more interest is the analysis of non-neutral tax policies and particularly the critical issue of the capital gains treatment of timber assets. The preferential tax treatment of timber sale income as capital gains provided timber is held for more than 6 months is conventionally justified on the grounds that timber production is 'long term and risky', that it will add to the incentives to reforest and on redistributive grounds. As is well-known none of these arguments stands much critical scrutiny and the authors wisely restrict their analysis of current tax laws to an evaluation of the effects of removing preferential capital gains treatment of timber resources alone. In a conventional Harberger-type general equilibrium model the case for continuance of such preferential treatment is revealed to be complex but, on balance, rather weak.

More controversial still is the author's analysis of 'current use' taxation designed to inhibit changes in land-use patterns on the 'green' borders of urban areas. These policies, designed to reflect the positive externalities associated with existing farm and forest practises, act to delay eventual development and act to provide welfare gains in terms of aesthetic externalities. An empirical study for Forsyth County, North Carolina suggests the welfare increments are very small so that perhaps 'zoning' provides a superior technique for conserving green space.

Finally, a little over one-quarter of US commercial forestland is publicly-owned. This is a major market intervention justified in terms of market failures in supplying an appropriate quantity of environmental or aesthetic goods as well as the standard 'timber famine' arguments. Boyd and Hyde consider a number of specific policies that impact on public land. Thus, policies designed to ensure an adequate supply of forest recreational resources and to ensure the survival of endangered species are examined and found in very specific instances to be 'both justified and efficient'. In relation to the social costs of public timber management the authors form the 'impression' that net benefits here are relatively small. Public timber production departures from market criteria, on the other hand, are estimated to impose substantial costs on US consumers in terms of an aggregate supply shortfall and to be unjustifiable in terms of 'community stability' criteria. What is particularly intriguing is the implication of these two findings that particular 'environmental' policy objectives are not that costly to pursue in terms of market criteria so that public ownership is unnecessary for achieving these particular ends.

One might quibble, in making an overall assessment of this volume, that many of the empirical and policy findings are based on rather specific models and data bases. But this could only be a nitpicking quibble given the authors' stated objective of attempting to get some sort of empirical feel for the relative benefits and costs of alternative policies. The volume is highly recommended for researchers in the forestry and resource economics areas as well as those concerned with designing and evaluating forestry sector policies.

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Economics, Growth and Sustainable Environments. By DAVID COLLARD, DAVID PEARCE and DAVID ULPH (eds). (Macmillan Press, Hampshire, UK, 1988.) Pp. 205, ISBN 0 333 42187 6.

This book, a collection of essays edited by a collection of Davids, adds weight to this reviewer's belief in the superior expository ability of the British. All contributions are by academics residing in Britain with the exception of one piece by Herman Daly from Louisiana State University (perhaps an ex patriate).

A central theme of the book is whether orthodox economics can handle some of the controversial political environmental questions facing the world today. If this is not the case, how, and in what direction, should the analytical tools be changed? A majority of the essays are original and stimulating. Most take a broad sweep through the issues, including an examination of their philosophical basis underlying the economic analyses of the issues. The more specific case study-oriented chapters are also strong on the examination of their theoretical underpinnings.

The key questions are answered imperfectly and incompletely, which is not surprising, given that the issues essentially relate to the future of the planet. Yet the book represents a wealth of ideas and a depth of thought beyond that exhibited by the plethora of other books and articles currently appearing on the same general topic.

This is an important book which should be influential in advancing the economic debate and in prompting action consistent insofar as is possible with both economic theory and political realities.

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China's Rural Development Miracle. By JOHN W. LONGWORTH (ed.). (University of Queensland Press.)

The rapid development of China's agricultural sector after 1979 has greatly fascinated the world. Many are puzzled by the astonishing growth of agriculture during 1979–84 and, also, by the stagnation after 1985. This edition, which comprises 51 papers, covers most major fields of rural development in China and in the rest of the world so that readers can understand the past decade of China's experience.

The papers were originally presented to the symposium 'Rural Development Strategies: Theories and Practice', held in October 1987 in Beijing. It was jointly organised by the International Association of Agricultural Economists, the Chinese Association of Agricultural Science Societies and the Chinese Association of Agricultural Economists (CAAE). Agricultural economists from 15 countries attended the symposium. Chinese participants included Du Renshen, the president of CAAE, one of the most influential experts during

1979–88 in China and known as the 'father of China's rural reform', and other officials and scholars who, for many years, had undertaken policy making and research on rural reform. The purpose of the symposium was for foreign participants to exchange views on rural development with their Chinese colleagues.

In the first paper, Du provided a simple framework of rural reform and highlighted several present problems that hinder further development. He also emphasised the main features of the new strategy of agricultural development in China. He argued that developing agricultural production and raising rural income must be considered as inseparable dual goals for China's rural economic development strategy. Historical experience shows that the ultimate solution of either the agricultural production question or the farmer income question is linked with the fundamental task of transforming China from a traditional agricultural country into an advanced industrial-based economy.

Some other Chinese authors highlighted crucial functions of the household responsibility system of agricultural production (HRSAP) under high-speed growth. Yan thought that, from its original objective, HRSAP was not much more than a change in the management of the agricultural cooperatives. Now that these changes have been widely implemented, it can be seen clearly that the changes in ownership brought about by the introduction of HRSAP have generated other developments which are of much greater significance than HRSAP itself. Both Yan and Wen predicted that the fundamental production organisations would tend to be multi-dimensional, multi-functional and profit oriented. Yan also forecasted that private agents would play an increasingly important role in the rural economy.

Policy proposals as well as descriptions of major issues in China's agriculture were also dealt with in some specific papers. Chen gave a careful analysis of China's transfer of the surplus agricultural labour force (TSALF). He discovered the extraordinary arduousness and urgency of TSALF and strongly suggested that TSALF should be integrated with the appropriate choice of new industries and technology, and accompanied by local development. A possible scenario to the year 2000 was provided. Niu's paper dealt with grain issues in China. His conclusion is also interesting: it is expected that the supply–demand balance would be barely maintained with fluctuations about 5–10 million tons year by year by the end of this century. He thought, as most Chinese officials and economists do, that it was impractical to import large quantities of grain over a long period of time. In order to dispose of such a constraint, China had to depend mainly upon its own efforts to increase domestic production and to build up food security reserves.

The most controversial policy issue, that is, purchase and marketing system of agricultural products, was discussed in various papers. Low producer's price was the main source of capital for industrialisation and was also attributed as the key factor which, together with other factors, led to the agricultural stagnation after 1985. Almost all Chinese are aware of this problem, but no solution presented so far can be accepted by various interest groups.

I am unhappy that all the authors only focused on the reform policies and their achievements. Although some had analysed the problems

China was facing, none of them tried to detail the failures and weaknesses of policy prior to that time. Few realised that the rapid growth during 1979–84 was partly the result of the very low starting base and partly the result of reform of the production system. Two policy weaknesses existing at that stage were ignored by Chinese economists: one is incomprehensions of reform policy such as purchase and marketing reform in which the distorted price discourages production and encourages consumption; the other is that not enough attention was paid to productivity such as the diffusion of new technology and further improvement of cooperative organisations. The fact is that in an economy with excess demand like China, partial adjustment in a system can only increase production in the short run. The most important thing is to make great efforts to raise productivity and shift the supply curve outward.

Looking at the book as a whole, the descriptions of the background of policy making and the actual development process are well worth reading. Because most of the authors were involved in the process of the reform, records and proposals are particularly fascinating and valuable. Therefore, I strongly recommend this book to anyone who wants to understand the past, present and future of China's agricultural sector and who wants to learn something from China's experience of development. The reader will not be disappointed.

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The History of the International Association of Agricultural Economists. By J. R. RAEBURN and J. O. JONES. (Dartmouth Publishing Company Limited, Aldershot, UK, 1990.) Pp. 187, ISBN 1 85521 090 8.

This book, which is primarily the work of John Raeburn (vice-president 1964–70), is a detailed sympathetic survey of the development of the International Association of Agricultural Economists (IAAE) from its foundation in 1929 until 1985. It does, however, concentrate unduly on the pre-1961 period. The description of the impressive role of the founder-president, Leonard Elmhirst of Dartington Hall, and the committed, largely unpaid work of selected other members over the years emphasises how much the growth of the IAAE depended on the efforts of individuals. Without, for instance, personalities like Jock Currie in the beginning and Joseph Ackerman in the middle years, the organisation might easily have faltered.

The decision to organise the book into sections outlining the programmes of meetings, the organisational structure, financial problems etc. gives rise to repetition which is likely to prove rather wearisome to the casual reader. Excessive quotation of the views of association members further contributes to the repetition of ideas and impedes the flow of the book.

The reviewer doubts whether the summaries of the conference programmes over the years (ch. 5) are as indicative of developments in the profession of agricultural economics as is claimed, particularly in the era before contributed papers were invited. Despite statements to the contrary, an effort was made in the first 40 years to cover all the major fields of interest in agricultural economics at each conference. There was also a tendency to give the geographic distribution of authors precedence over professional excellence in the selection of speakers. Chapter 6 with its survey of work reported on rural poverty in underdeveloped countries and demographic trends is revealing of the authors' predilections rather than of overriding conference concerns.

A rather exclusive executive control has been a feature of the organisation of the IAAE (and its predecessor the ICAE), especially in the first half of its existence. However, given the scattered and uneven dispersal of potential members and the concentration of financial sources on the United States–European axis, it is difficult to see how a world-wide professional organisation could have been achieved by any other means. Successive members of the executive clearly strove hard to maintain individuals as the organisational base and tried to minimise inputs from national and international governmental bodies. They have stood firmly against any attempts by host countries to exclude members who were citizens of countries with which they had antagonistic relations.

The book's description of the evolution of changes in the allocation of time at conferences is of interest. Initial preoccupation with the discussion of prepared papers gave way in time to more emphasis on discussion groups (1958), concurrent sessions (1967), contributed papers (1970) and poster presentations (1985). Even so, delays in communication due not only to the tyranny of distance but also to human procrastination remained the bane of the conference organisers.

Owen Jones's contribution to the book (ch. 9) recounts the role of the Oxford group in the production of conference proceedings and other publications. The group's assumption of responsibility for *World Agricultural Economics and Rural Sociology Abstracts* after 1964 is outlined in detail. Again, the personal commitment of individuals and the overcoming of financial uncertainties stand out as dominant themes.

The work is characterised by an overoptimistic view of the potential impact of the deliberations of the IAAE on the actions of governments. Nonetheless, it represents an authoritative account of the difficulties of creating an international professional body based on individual membership. It also stands as a tribute to the unstinting contributions of those who sought to establish the IAAE on a firm footing.

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