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BOOK REVIEWS

Economic Development of Tropical Agriculture. Edited by W. W. McPHERSON. (University of Florida Press, 1968.) Pp. 328, \$U.S.8.50.

Despite the wealth of valuable information in this book and the contributions of such notables as Earl O. Heady, Glenn L. Johnson and Harry G. Johnson, it suffers the usual fate of books compiled from a conference or series of seminars. The problems are the time span between research, delivery and publication and the fact that the papers lack continuity or a central theme.

Comprising a series of seminars presented at the University of Florida during 1966 the topics range from general studies of the role of agriculture in the development of tropical countries to planning issues and specific area studies. Among the notable omissions are world supply and demand studies for tropical crops and the role of international monetary organizations in promoting economic growth.

Unfortunately, Harry G. Johnson's thorough paper on 'Trade Preferences and Developing Countries' is not new—it was printed in Lloyd's Bank Review, April, 1966—and hence would have been read by many economists interested in this field.

Evidence of the problem of time span comes through in the meagre references to the emergence of high-yielding rice and wheat strains that are already starting to have a significant impact on Asian agriculture and cause some national leaders to worry more about grain export markets in the future rather than mere food supplies. The new strains are causing internal dissension, however, by further widening the gap between rich and poor farming areas. The richer areas have the water, cash and technology to take advantage of the new varieties. Farm workers are also looking for their share of higher productivity.

Both Heady and Arthur Gaitskell made a case for greater efforts to push agricultural growth in underdeveloped countries. Gaitskell in the first of three chapters stated that industrial development was seen as the short-cut to growth and higher incomes and the means by which underdeveloped countries would toss over their menial roles of 'hewers of wood and drawers of water'. But he argued that industrial and agricultural advancement must be complementary. Not only was it essential for a country to adequately feed its citizens and stem the foreign exchange outflow but also to provide the many employment opportunities thrown up by a developed agriculture and its supporting agribusiness network. To push ahead with industrialization at the expense of the farming sector could mean a flood of workers to the cities far in excess of job opportunities, with the side effects being overcrowded slums, discontent, delinquency and high social costs in housing programs and additional police.

Heady also wanted higher priorities for agriculture and suggested suitable guidelines for long-run policies including birth control measures. While fearful of rising population pressures on food supplies, food grants from abroad could provide only temporary relief. The long-run solution

was to develop the agricultural economies of the low-income countries.

James W. Green's chapter on 'Advising on Development Organization' should be read by Australian economists planning to work in underdeveloped areas. According to Green, prior education, training, and experience of a potential adviser on development organization were sufficient only to get him into the country. No matter how many degrees held or how much knowledge of development in other countries, 'he begins at zero in the country to which he is assigned'. Particular situations in the area, the power structure, existing organizations and sociological factors needed to be studied carefully if advice was to have any meaning. Green's rule of thumb guide for the adviser was to spend four-fifths of his time systematically learning, and no more than one-fifth advising. Extension personnel working on agricultural development were particularly warned to avoid the hardy 'notion' that in indigenous societies agriculture was a way of life. He claimed that it was merely a means to a way of life. How important agriculture may be it was not necessarily the central theme or organizing principle. There were many instances of the neglect of farming operations when the social situation demanded other activities, or when the required income could be more easily obtained through other channels. Agricultural development was seldom foremost in the minds of people in a community and there were examples, as in the Dominican Republic, where roads, schools and water systems were predominant. Green's remarks on research, education and straight extension work in underdeveloped countries are also stimulating.

Australian academics who may be getting a little weary of examining internal problems of rural production and policies could find some stimulus from Arthur J. Contu's chapter on the 'The Role of United States Universities Abroad'. He urged American universities to play a more positive role in defining their long-run goals and developing their international dimension, rather than merely servicing programs planned outside the university, and continuity of programs and sufficient staffing in depth were essential. The U.S. university had a clear responsibility for greater international involvement in underdeveloped countries but the history of past experience had not been outstanding, Contu stated. The same could undoubtedly be said for Australian universities.

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Agricultural Finance. By A. G. NELSON and W. G. MURRAY. (Iowa State University Press, 1967.) Pp. 561, \$U.S.8.50.

The fifth edition of this book first written in 1941, contains some major revisions for those familiar with the earlier text. It appears to be designed mainly as a textbook for students at U.S. colleges and universities but could be of interest to Australian agricultural economists who see the customs and institutions of the U.S. as relevant to our conditions.

The book consists of two parts; the first 'explains credit principles and practices with a view to providing a guide to the effective use of credit'; the second part 'gives information the borrower needs in deciding which lender to select' and considers each of the major types of lenders in the U.S. in some detail.

The book contains much that is useful. Part I explains many concepts and definitions such as discounting, present value, cash flow analysis, budgeting aids to the use of credit and a host of others. Some of the principles will seem commonplace to the agricultural economist but make common sense in a textbook on finance. Part II gives a useful description of the institutions which operate in the U.S., and which some critics of institutions in this country seem to find so attractive. Certainly the book is a useful one to have as a ready reference on a number of aspects of rural credit and the U.S. institutions which provide it.

The book has, however, a number of shortcomings. Firstly it does not say much about means of financing the farm sector other than by farmer borrowing. The changing pattern of technology has created in this country, as well as the U.S., a much greater emphasis on schemes of financing such as non-farmer ownership, corporate ownership, partnerships, vertical integration, contracting, leasing and other arrangements. Discussion of these aspects is mostly restricted to brief descriptions of the meaning of some of these terms. The remarkable innovations by which many farm production resources (e.g. transport and storage) are increasingly owned, operated and financed by the non-farm sector leaves one wondering just what the farm sector might eventually be called upon to finance. For example, will the American farmer of the future be a man who lives and works most of the week in a city, visits his ranch at weekends for recreation and purchases all the management and services to run it from organizations and individuals who are in the non-rural sector? This type of change is not discussed.

Secondly, although the book gives a good description of U.S. rural credit institutions, it is entirely uncritical of them. A glance at submissions placed before the U.S. Commission on Money and Credit published a few years ago indicates their record is not unblemished by serious criticism; for example, the supply of credit through Federal agencies such as the Farmers' Home Administration has been criticized for the indirect subsidies given them.

Thirdly, the book is almost moralistic and certainly unadventurous. It opens with a quotation 'There is no magic about credit. It is a powerful agency for good in the hands of those who know how to use it: so is a buzz-saw.' Warnings about over-use of credit prevail in the text which does not give sufficient emphasis to the additional returns producers would obtain by borrowing, let alone aspects of financial management other than borrowing.

Several chapters of the book are devoted to the three 'R's' of credit use: (a) returns; (b) repayment capacity; and (c) risk bearing ability. These chapters outline simple principles such as marginal analysis which would be useful where a producer's main aim was maximum profit. However, most producers have other aims as well, such as estate planning, capital gains, an easier life and family welfare where different criteria might need to be employed.

Although the book has these and some other shortcomings, it nevertheless is one of the few texts on the subject and would have a useful place on the bookshelves of Australian agricultural economists. What, of course, we really need in this country is a good text with more rele-

vance to Australian conditions. If such a text did eventuate, let us hope it recognized that borrowing from institutions is only one aspect of rural financing. It should also recognize that agricultural production is increasingly dependent on non-farm inputs and that rural people have a declining share in the ownership of the resources used. Perhaps in the longer term a book on 'Finance' rather than 'Agricultural Finance' would serve a more useful purpose in promoting agricultural production.

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Seminar on Problems of Small Farmers. (Bombay: Indian Society of Agricultural Economics, 1968.) Pp. 433, \$2.00.

The volume comprises a selection of eleven papers submitted at a Seminar on 'Problems of Small Farms', organized by the Indian Society of Agricultural Economics at Bombay in March, 1967. As such, it is of interest primarily to those concerned with the economies of developing countries.

While the forewords of most books receive scant attention from the average reader, to neglect this foreword by Prof. Dandekar, Director of Gokhale Institute of Politics and Economics, Poona, is to ignore one of the most worthwhile contributions of the volume. Dandekar has devoted time to the examination of each paper, and in fact presents a brief but comprehensive summary of these. He is constructively critical of some opinions expressed; he adds supporting arguments to others and concludes his foreword with personal observations on the problem.

Although there appears to be general agreement on what is meant by the small farm(er), considerable effort is spent by the various authors in defining in specific terms, the particular concept that is used in the associated study. The small farm is defined in terms of acreage, of productivity, of farm income, of subsistence living, of disinvestment and so on. However, rather than clouding the issue, these attempts to define the small farm(er) develop for the reader a composite concept accentuating the problems to be overcome.

Yet the problems examined—fragmentation of holdings, imbalance of factors of production, the need for incentives to increase productivity, and the need for greater availability of rural credit, both consumer and investment—are all familiar problems. It is almost as if this work presents case studies of the anticipated problems taken from a standard text on economic development. They are certainly recognized and faced squarely by the contributors who generally respond optimistically and positively.

There are few original solutions given. A synopsis of these, supplied as an appendix, lists the possible suggestions—again familiar—land redistribution, improvements in investment patterns and technology, use of supplementary activities and subsidized inputs. It is interesting to note the recognition that land reforms are not the panacea imagined in pre-independence days. Several contributors acknowledge the irony of the present internal political situation whereby influential pressure groups still effectively resist reform. There is, however, agreement that further land reform must be implemented to prevent fragmentation and to

create equity and justice for tenants—measures directed at achieving efficiency in the use of available resources.

It is difficult to accept Dantwala's conclusion that 'reforms will not have much chance of being successfully implemented unless accompanied, if not preceded by, all round economic development'. Surely general economic growth is the hope, but surely too, experience in other developing countries suggests that the failure of the agriculture sector to fulfill the planned targets slows the whole growth pattern. If Dantwala envisages simultaneous development wherein economic development in other sectors creates such an increased market demand and opportunity for mobility of factors, then perhaps his argument might be acceptable.

There are surprising omissions in the volume. Little mention is made for example, of the educational problem or of the problem of the population growth rate. Perhaps the lack of education is implied in such a paper as Vyas's where he relates the small farm problem to backward regions. But if technological improvements, demanding increased investment, credit facilities and subsidized inputs are to be implemented, extension services must be thorough and effective. In turn, extension can only be effective if the farmers are receptive to new ideas. This presupposes education at village level—not merely an attack on illiteracy, but rather an attack on the traditional peasant attitude.

Similarly, while un- and under-employment are stressed, comment is made neither of the underlying population growth problem nor of possible population control measures.

While appreciating the fact that the volume is not an attempt to cover all problems or all solutions, the reviewer found the work strangely disappointing. It is difficult to pinpoint precisely the reason for this, but it seems that an air of frustration pervades many of the papers—almost as if the authors are decrying the unimaginative and half hearted approaches that have been made. Certainly, the contributors are calling for a more positive and dynamic attack to be made on the problems of the small farm, for as Bains concludes 'Unless production on small farms goes up, these and their owners will always remain a drag on our National resources'.

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Best-Bet Farm Decisions. By J. P. MAKEHAM, A. N. HALTER, and J. L. DILLON. (Department of Farm Management, University of New England, 1968.) Pp. 69, \$1.50.

This book, along with its predecessors in the series of Professional Farm Management Guidebooks will be a valuable acquisition for all concerned with the science of decision making. Written in the pleasing style we have come to expect of the series, it provides a clear, easily followed exposition of three approaches to the problem of decision making under risk. The authors are to be admired for the manner in which they have transposed this difficult subject into a practical setting. A number of well chosen examples are used to augment the discussion and simple algebra only is required for comprehension.

It will be a controversial book. Firstly because their approach to risk is subjective. An uncertain event can be transformed into a risky event by using the decision maker's personal probabilities or strengths of

conviction. Secondly, within this framework one of the major functions of the book is to present a number of prescriptions for choice.

The first three sections of the book stress the importance of a systematic approach to the problem of choice. The lucid and detailed discussion of the preparation of 'cash-flow diagrams' and 'pay-off matrices' is one of the important contributions of the book to better decision making. Using these devices, the decision maker can logically describe his problem in terms of all the possible courses of action and all the possible events which will influence the outcome.

Section 3 also introduces the concept of the 'certainty equivalent'. Although this simple approach serves to introduce the idea of a choice criterion, it is rejected as a general technique. It is difficult to apply to problems which involve a large number of alternative events, and cannot be applied to any problem in a 'mechanical' fashion. More seriously, the 'certainty equivalent' of a risky event simultaneously accounts for both the probabilities of various outcomes and the decision makers' preferences for the possible pay-offs. Sections 5 and 6 present criteria which separate these two components; namely, the criterion of maximizing expected money value which takes account of probabilities but assumes no preference amongst the risky pay-offs, and the criterion of maximizing expected utility. The authors clearly indicate their preference for the last criterion because it logically separates probabilities and risk preferences and because it can be applied to decision problems through a consistent set of rules.

Section 4 is devoted to a discussion of the various manipulations of probabilities which the reader requires to cope with the later sections. Again the exposition is clear and concise although some may be confused when joint probabilities are incorrectly termed joint likelihoods (page 20, line 22). It is in this section that the reason for one of my major criticisms of the book becomes apparent. While it is probably desirable that a guidebook be sufficient in itself without the need for numerous references to other works, I wonder if this should always be so. To many readers the notion of subjective probabilities i.e., probabilities which measure an individual's 'personal strengths of conviction' will be new. It is a pity that the authors did not delve a little more into the 'subjective' versus 'objective' probability argument or at least tell us where such a discussion could be found. In section 4.2 it is suggested that decision makers should make use of 'objective' information (historical records) in forming their personal assessments. This point should have been given more stress. Surely part of the adviser's job is to endeavour to improve the decision maker's knowledge and urge him to make use of what information is already available in forming his hunches. Example 4 on pages 40-50 fails to take up this important issue.

Several obvious typographical errors appear in Example 1 (page 28) of Section 5. In the first line of that example 'fertilizer' is misspelt, while in line 10 'doubling' should read 'tripling'. In line 13 the phrase 'lose \$6 per acre' should read 'lose \$8 per acre'.

Section 6, which deals with the criterion of maximizing expected utility, occupies the last half of the book. In this short space the reader is offered a package deal for decision making; the concept of a utility curve of money gains and losses is explained, a method for estimating a

utility curve is presented and the reader is shown how to fit an equation to the curve. The expected utilities of risky outcomes are then derived by weighting the utilities of those outcomes by their probabilities of occurrence. Consultants, extension officers and students will find this section worthwhile reading as an introduction to this subject.

I am a little concerned however, that the reader is offered a fairly rigid set of prescriptions without being acquainted with the deficiencies of utility theory or the bias that may result from the prescriptions. The authors apparently believe that our state of knowledge about utility theory and its applications justifies this. I am not so sure. The comments made elsewhere by one of the authors are relevant:¹

‘The potential of utility analysis needs little further emphasis. In contrast, the problems associated with deriving empirical utility functions and the means of incorporating them into practical decision making are in need of attention’.

Officer and Halter review the results of previous applications of utility theory in agriculture and report the findings of a study based on a choice between alternative fodder reserves. The amounts of money were relatively small. They conclude:²

‘. . . that the greatest returns to the theory will result from further field studies. What is required at this stage is a more extensive testing of utility analysis on a broader scale and for more diverse decision problems than in this study. Results from research in this direction should give more definitive answers to analysis and also should uncover further practical techniques to augment this usefulness.’

To my knowledge no such research had been reported before the publication of this Guidebook. It seems to me that it is still a matter for more research whether a single utility function of money is suitable when the choice is between investment inside agriculture and investment outside agriculture. A choice of this nature is embodied in Example 2 on page 43.

The authors pass swiftly over the significant statement in the last paragraph on page 33:

‘Moreover, just as a person’s experience, psychology and circumstances change over time, so may this utility curve change its shape over time.’

This is another matter that needs further testing. How rapidly might a utility function change and what sort of experiences and circumstances might lead to the greatest changes. A related problem concerns the origin of the utility function. It is implied on page 57 that the gains or losses should be measured from annual income. But what of farmers whose incomes fluctuate over wide ranges? What bias is introduced by taking the origin at average income as opposed to income of the current year? It is to be hoped that users of the Guidebook conduct their own experiments lest they file away a client’s out-of-date utility function.

The method of estimating the utility function (a modified Von Neumann-Morgenstern model) has the advantages that the beginning utility analyst finds it easy to follow and that it is less taxing on the res-

¹ R. R. Officer and A. N. Halter, “Utility Analysis in a Practical Setting” *American Journal of Agricultural Economics*, Vol 50, No 2, (May 1968) p. 257.

² *Ibid* p. 276.

pondent than some other methods. However, because the questions are posed as a choice between a gamble and a certain outcome, the decision (point of indifference) of a respondent with any utility (disutility) for gambling may be biased.¹ In 'roadtesting' the method with wage and salary earners I found they had difficulty in being consistent at a point of indifference although they could state a range of values. In these cases the mid-point of the range was used, since it would seem that all values in the range have about the same utility value.

In summary, this is an excellent publication in terms of value for the extremely low price of \$1.50. A short appendix with suggestions for further reading would have been an improvement. Whether the decision to publish in 1968 was correct or not only time will tell. In making their decision *ex ante*, the authors presumably used their strengths of conviction which differ from mine.

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BOOKS

- HUNTER, D. J. (Ed.). *Food Goals, Future Structural Changes and Agricultural Policy: A National Basebook*. (Iowa State University Press, 1969.) Pp. 325, \$U.S.5.95.
- MAKEHAM, J. P. and BIRD, J. G. *Problems of Change in Australian Agriculture*. (Department of University Extension, University of New England, 1968.) Pp. 261, \$4.00.
- MONTGOMERY, D. B. and URBAN, G. L. *Management Science in Marketing*. (Englewood Cliffs: Prentice Hall, 1969.) Pp. 376. \$U.S.12.50.
- NORCROSS, H. *Dynamic Business Management*. (London: Pan Books, 1967.) Pp. 141. \$0.80.
- STAUDT, T. A. and TAYLOR, D. A. *A Managerial Introduction to Marketing*. (Englewood Cliffs: Prentice Hall, 1965.) Pp. 560.

MISCELLANEOUS

- DEPARTMENT OF NATIONAL DEVELOPMENT. *Atlas of Australian Resources Series*; (i) *Crop Production* (ii) *Sheep and Wool*. (Canberra, 1969.) \$0.50 each.
- Trends*. Issued periodically by Rural Bank of New South Wales, Martin Place, Sydney.
- Quarterly Journal of Indian Studies in Social Sciences*. Published by Indian Institute of Asian Studies, 23/354 Azadnager, Jaiprakash Road, Andheri, Bombay (4 times yearly) \$U.S.25.00 per annum.

¹ A more refined method is available to overcome this problem, see Officer and Halter, *op.cit.*