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BOOK REVIEWS

Economic Theory and Practice in the Asian Setting. Edited by Committee on Economics Teaching Material for Asian Universities. (New Delhi: Wiley Eastern Limited, 1975.) Volume 1, *Macroeconomics*. Pp. 172, ISBN: 0 85226 126 8. Volume 2, *Microeconomics*. Pp. 170, ISBN 0 85226 136 5. Volume 3, *The Economics of Agriculture*. Pp. 245, ISBN: 0 85226 137 3. Volume 4, *The Economics of Development*. Pp. 274, ISBN: 0 85226 139 X.

These slim volumes arose from the felt need of university economists in Asia for readily accessible reading materials in which 'theory is tested in the realistic settings of particular Asian countries'. The Agricultural Development Council and International Development Research Centre provided the grant and facilities in which a group of eleven university economics teachers (three from Indonesia, two from the Philippines and one each from India, Nepal, Singapore, Hong Kong, Korea and Taiwan) met to discuss the problems they faced and the criteria for the selection of articles for a set of readings.

By the end of their first meeting these teachers agreed that some areas of theory, given great emphasis in the textbooks, had only limited usefulness outside highly industrialized economies (for example, business cycle models and elaborate monetary-fiscal policy concepts). On the other hand some crucial problem areas were inadequately treated (for example, questions of resource ownership or control, self-sufficiency and protectionism, and substitution between labor and capital under conditions of a surplus supply of labor). Furthermore, there were areas for which analysis based exclusively on existing economic theory would be seriously inadequate for the problems faced. This was particularly true of functions within the economic system which were most influenced by political, environmental or institutional factors.

In the report of their first meeting the lecturers particularly criticized most farm management texts and most micro-economics materials as describing situations in which the firm tries to maximize money profit. They believed that for farmers in most rural regions of Asia this was seldom the only, or often even the most important, good to be maximized. They concluded that the usual theory of the firm strikes students as unrealistic and not very useful in making predictions about management decisions of farmers. They saw similar contradictions existing with respect to assumptions about market response to price changes. On the macro level they felt that teaching about economic growth called for much better materials on income distribution, employment, and even changes in the 'quality of living'.

In selecting papers for these volumes the group tried to exclude all theoretical articles, however good, which did not rest on a base of empirical testing and all descriptive articles, however valuable, which did not seek to test theory. In this way they felt they could centre on a crucial area in which advanced undergraduate courses lack depth. At this level the group expresses the modest hope that the volumes will provide 'useful supplementary readings'.

There is little doubt that the four volumes meet the stated objectives and will be most welcome in Asian universities and in courses in de-

velopment economics at Australian universities. Part of the welcome here will hopefully stem from a more modest cost than we are used to.

While the editors claim that each volume can be used by itself it would be foolish for most budding economists not to buy the whole set because themes taken up in one volume have implications which carry over to other volumes. For example, in *Macroeconomics* there is one article in Part Five on The Open Economy but there are two articles on tariff policy in *Economics of Development* and another three on agricultural commodity trade policy in *Economics of Agriculture*. Similarly issues of equity arise in the Savings Section of *Macroeconomics* and in Part 1 of *Economics of Development* (both articles by Harry T. Oshima). Again, aspects of agricultural economics feature prominently and naturally in the Employment section of *Macroeconomics*; in *Microeconomics* (four of the nine articles); and in *Economics of Development* (Agriculture and Development, Capital Accumulation and Case Study in Development).

My terms of reference as a reviewer were to concentrate attention on Volume 3, *Economics of Agriculture*. The ten articles presented here fulfil the stated criteria well. For example, Bhati's study on Technical Knowledge as a Determinant of Farmers' Income (from *Malayan Economic Review*, April 1973) uses an analysis that undergraduate students in agricultural economics can easily comprehend. He goes through his procedures step by step, with explanations and, as a useful finale, includes his questionnaire as an appendix. However, in reviewing the literature on farmers' technical knowledge it is a pity that Bhati omitted references to the more substantial literature on technical and economic efficiency, though this is an easy point for lecturers to rectify. In a similar vein, Ruttan's article on Tenure and Productivity of Philippine Rice Producing Farms (from the *Philippine Economic Journal*, First Semester 1966) clearly states hypotheses and then explicit tests are used to verify them. It still has excellent pedagogic properties in spite of its age.

One fifth of this volume is taken up by the oldest article in the series, Management Decisions on Small Farms in Taiwan, by S. C. Hsieh (*Journal of Agricultural Economics*, Taiwan, 1963). The article is useful in covering a wide range of factors that influence Taiwan farmers' production decisions, including subsistence requirements, distance from market, agricultural knowledge, irrigation supplies and the interaction of crops with livestock. While it is a salutary reminder of the dangers inherent in single enterprise studies, a linear programming study could have achieved many of the same objectives in much less space and have provided more scope for subsequent class work.

I was initially alarmed that although there was a section on Subsistence Theory and one on Farm Management and Production Economics there was no reference to the importance of risk and uncertainty in farm decision-making. But, turn to *Microeconomics* and we have Antiporta's article Game Theory in Farm Decisions Under Uncertainty. I thus conclude that, contrary to the advice of the editors, the worth of the set is much greater than the sum of the parts. It is in this regard that I am critical of the editors: while there is an excellent 200-600 word preface to each article, no attempt is made to cross reference between articles. Similarly, full benefits were not derived from the

undoubtedly formidable selection procedure undertaken by the editors since no references are given to works considered but rejected. It would have enhanced the value of the whole exercise if a selected supplementary reference list had been given with each section. This could have been achieved with a minimum of additional effort. In *Economics of Agriculture* it would have mitigated such omissions as any discussion of the economics of perennial crop production or case studies in cost-benefit analysis.

The editors are to be congratulated on bringing these volumes ('edited by Committee . . .!') to press. They have certainly presented one useful set of readings which fit the criteria they set.

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Economics for Agriculturists: A Beginning Text in Agricultural Economics. By JOHN SJO. (Columbus, Ohio: Grid Inc., 1976.) Pp. 232, ISBN: 0 88244 072 1.

This book is an addition to the fairly adequate stock of introductory texts on agricultural economics. A further book of this type has to be justified on the grounds of a new and distinctive coverage of the basic material and not just satisfying what is probably a universal dissatisfaction by teaching agricultural economists with existing introductory texts. Reading Sjo's book has reinforced my view that an introductory text which satisfies all users is an impossible dream.

The author has written a book in a 'problem oriented' (his term) context to serve as a basis for teaching economics to agriculturists and as an introduction for students intending to major in agricultural economics. To try and serve both groups with one book is in itself hard enough, and the book is probably able to serve the agriculturists better than the budding agricultural economists. The main deficiency for the latter is the lack of rigor in the theoretical sections.

The material covered is generally as expected. More than half of the book is directed to the concepts of supply, demand and price determination. An unexpected component explicitly deals with aspects of management and business organization and this is a useful addition. The same can be said of the chapter on world agriculture. The final section considers agricultural problems and policies and is the most inadequate section of the book.

The micro analysis is less than satisfying for a number of reasons. Despite the claim to be problem oriented this section is very pedestrian with little relationship to real world problems. The section is almost devoid of references to the vast array of empirical work which has been one of the major strengths of the agricultural economics discipline. There is only cursory development of the theory using geometry, and the mathematical treatment is ignored entirely. Overall, the treatment is drab and uninspiring. In some parts it is superficial and misleading and not devoid of errors, for example the labelling of Figure 4.4, p. 43, and Figure 7.1, p. 80. In the latter case, a U-shaped average variable cost curve is derived from a linear total variable cost curve passing through the origin which in turn is derived from a total product curve including all three stages of production. In the same section, optimization is dealt with in simple arithmetic examples. This causes some

confusion because maximum profit can occur at two levels of output (as it does in the example on p. 81) due to the discrete nature of the problems.

The macro section is also unsatisfactory. There is no clear statement of the causes and nature of the farm problem. The treatment is largely a fragmented collection of snippets on such things as income, poverty, the decline in services in rural areas, problems of education, health and employment. They are not brought together in any systematic way to give a clear view of the forces affecting the agricultural sector in a developed growing economy. In a similar context, this section has no perspective and ends very abruptly. The reader is taken through a large array of topics, the last of which is taxes, and then confronts the index. There is certainly a need for a concluding section.

Overall, the book has few notable features. It is somewhat uneven, ranging from very pedestrian treatment of some basic topics to the more advanced discussion of futures markets. Each chapter has a selected short list of suggested readings which are useful while the so-called 'Endnotes' (we call them footnotes) are better placed at the foot of the relevant page. Finally, apart from the chapter on world agriculture, there is no non-U.S.A. material used in the text. The book, which is not free of typographical errors, is therefore unlikely to attract much attention among teachers of agricultural economics in Australia.

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Externalities in the Transformation of Agriculture: Distribution of Benefits and Costs from Development. Edited by EARL O. HEADY and LARRY R. WHITING. (Iowa: Iowa State University Press, 1975.) Pp. 341, ISBN: 0 8138 0045 5.

It is the very nature of agricultural progress to induce resource movements in the economy. The transformation of agriculture that is inherent in technological and structural change involves an influx of new or additional inputs and a possible displacement of previously utilized inputs. Such flux in the production system could give rise to social costs and individual hardship. For instance, although capital intensive technology increases the productivity and incomes of agricultural producers, it displaces labour. If this labour is not sufficiently adaptable or mobile, individual and social costs may arise. The migration of unemployed labour to the cities may impose costs in terms of additional urban blight. Agricultural technology also affects the environment and effects changes in the distribution of income. Such phenomena characterize the agricultural development process in both developing and developed countries. Consequently, any assessment of the agricultural transformation process requires a consideration of costs which, although perhaps secondary in effect, are not necessarily secondary in importance. The general message emanating from this collection of papers is: beware of partial analyses; do not sweep wider issues under the carpet labelled externalities; distributional and secondary effects should be incorporated into the calculus for proper assessment of the agricultural transformation process.

Although many of the problems are discussed in the U.S. agricultural context, much of the material has relevance to rural adjustment and

environmental problems in Australia. Australian readers will find several papers useful. The paper by Martin develops a model that provides insight into the influences of production, demand, human capital and asset ownership on income distribution. The model is useful in that it can be made to reveal an agenda of research needed for a better understanding of the distributional effects of agricultural progress. In another stimulating paper, Tweeten and Ray show that the benefits of public programs in the U.S. tend to be disproportionately concentrated among those who need assistance least and that public programs have promoted geographic centralization, concentrating the nation's population in metropolitan areas. In examining the compensation policies in the E.E.C. Heidhues and Tangermann focus on the effects of these policies in redressing or accentuating inequities in agricultural income. The paper incidentally provides useful information for understanding the Common Agricultural Policy which has adversely affected Australia's export prospects in that market. Kaldor's analysis of the relatively low rates of return to capital and labour in U.S. agriculture and the declining economic viability of many rural towns contains messages of relevance to the adjustment problem in Australia. Although the paper by Stoevener and Shulstad on the physical-biological effects of agricultural production is lacking in economic content, it provides useful information on the external effects of agricultural production when read in conjunction with Headley's paper on the alternative measures that may be adopted to internalize them.

The title of the book is inadequate if not misleading. Those who expect a sequel to T. W. Schultz's pathbreaking *Transforming Traditional Agriculture* (1964) are likely to be disappointed. Moreover, the concept of externalities is defined differently by different authors without explicit explanation of the institutional underpinnings of its different meanings. Those papers which ignore the distinction between Pareto-relevant technological externalities and non-Pareto relevant technological externalities as well as pecuniary externalities, end up with analyses that are incapable of distinguishing between movements that increase overall social welfare and those that do not. Heady's opening paper is a clear case in point. Since the concept of externalities is often used either loosely or superficially, it might have been a good idea to title the book *The Transformation of Agriculture and Income Distribution*. This would have better permitted the departure from Paretian assumptions and provided greater leeway for the normative value judgements on the well-being of different groups. However, although all of the papers deal with income distribution in one way or another, they do not bring out clearly the key distinction between *changes* in the distribution of income by income classes that result from technological and structural change, and *redistribution* of income from one class to another which results from transfer payments.

The papers are disparate in quality and diverse in thrust. It is true that the topics have broad relevance to the transformation of agriculture. But some may regard this theme as being too tenuous for adequate linkage of the papers. Besides those already identified, the spectrum of issues examined covers labour displacement in developing economies, the distribution of agricultural development gains in India, Latin America and Africa, the social costs of increased urbanization, rural

industrialization, and the international effects of technical change in agriculture. This diversity and disparity poses obvious problems for a reviewer. A complete review of the book would necessitate a separate review of each one of the 15 papers.

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Study of Agricultural Systems. Edited by G. E. DALTON. (London: Applied Science Publishers Ltd., 1975.) Pp. 441, £12.00, ISBN 0 85334 640 2.

This book contains the papers presented at a symposium held at Reading University in 1974. The main objectives of the symposium were to explore ways of studying agricultural systems, to define the role of bioeconomic models in both agricultural research and practice and to chart the areas in which biologists and economists can usefully collaborate. Following an introductory paper by Spedding, the book is divided into three parts: Systems Methodology; Application of a Systems Approach in Practice; and Applications of a Systems Approach to Research.

Part 1 contains a long paper by Van Dyne and Abramsky who provide a comprehensive overview of agricultural systems models and modelling. Much of what they have to say about the design, conduct and reporting of modelling studies is important, but little of it will be new to experienced practitioners.

The other papers in Part 1 similarly pick over the mullock heaps of the literature on systems modelling, only occasionally striking pay dirt. Dent provides another exposition of his idea of 'skeleton models' and Arnold and Bennett discuss optimization methods. In a controversial paper Jeffers attacks the popular idea of the utility of general-purpose data banks in environmental research. He argues that data collection and modelling are closely integrated and that the accumulation of 'accounting' data, remote from any model, in the hope that they might one day be useful, is a costly misconception.

In a delightful paper in Part 2, Conway *et al.* describe a systems approach to the control of the sugar-cane froghopper. Although reporting incomplete work, the authors manage to combine intimate details of the insect's sex life with a neat approach to modelling economic control measures. In discussing this paper Phillipson records that 'the present model is an imperfect abstraction of the real world'. What model isn't?

Charlton and Street provide a quick primer on the systems approach, followed by an exposition of practical systems modelling which they illustrate by reference to Charlton's simulation model of firm growth and to Street's forecasting model. These models are not wholly convincing examples of the 'simple' and 'practical' approach which the authors conclude is essential, but perhaps simplicity and practicality lie in the eye of the beholder.

A detailed report of a simulation study of cereal harvesting and sowing by Donaldson is followed by a description by Thompson of some features of the CANFARM data system. The highlight of Thompson's paper is a table of predicted benefit-cost ratios to farmers using some CANFARM management services. The ratios range up to

7.6:1. Not surprisingly, these estimates attracted some critical comment in the discussion.

Part 2 concludes with a paper by Egbert and Estácio reporting a mathematical programming approach to regional agricultural planning in Portugal. Their description of the procedures they followed would no doubt be of interest to other regional programmers. For those contemplating entering the field, the authors recommend that, because of the time and costs involved, such studies be undertaken only by a well-staffed planning group with access to a good data base, and then only when simpler alternatives have been proved inadequate. Seemingly, regional planning can have its frustrations.

The discussion of applications of a systems approach to research in Part 3 is opened with a paper by Innes who provides yet another exposition on the systems approach. He concludes that the approach will revolutionize biological research, but only slowly! Next, Eadie and Maxwell describe their research on systems of hill sheep farming in Scotland using a model for synthesis and testing new production systems. While some criticism of their procedures is reported, their general approach might well be relevant to other research units concerned with the development of improved whole farming systems.

The final paper in the book by Allen deals with systems analysis in relation to agricultural policy and marketing. The author appears to believe, although he never quite says as much, that economists have been following a systems approach for years, certainly since Keynes' *General Theory*. Predictably, in their discussion of Allen's paper, Duckham and Thomson criticize economists for basing their models on normative assumptions about human behaviour, but equally predictably, offer no alternative foundation for economic modelling.

Overall, this is not a book that I can recommend for the average agricultural economists's bookshelf. Those with a special interest in the systems approach will no doubt want to own a copy, but for the rest of us, the perhaps unavoidable defects of variability and lack of cohesion of papers presented at a symposium make for a not very satisfactory general text. For new students of agricultural systems there are better general treatments of the systems approach and of modelling in agriculture. The economic content is not great and there is little evidence that the symposium achieved its subsidiary aim of charting areas for collaboration between economists and biologists. A most irritating feature of the book is the large amount of repetitious discussion of the nature of the systems approach and the role of models. Of course, it is easier to write about modelling than to do it, but, as this book shows, it is difficult to write a general story about the technique that makes enthralling reading.

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Rural Development in Bangladesh and Pakistan. Edited by R. D. STEVENS, H. ALAVI and P. J. BERTOCCI. (Honolulu: East-West Centre, University of Hawaii.) Pp. 399, ISBN 0 8248 0332 9.

This book is an attempt to integrate the research results of different disciplines into a 'reasonably consistent understanding of significant trends in rural development' in Bangladesh and Pakistan. It presents

revised versions of papers presented at a Research Workshop at Michigan State University in 1971.

The general theme that emerges is the need for political and administrative change to accompany economic, social and technological change. Stress is laid on the importance of the inter-relationship between social structure and the distribution of benefits of economic and technological progress in rural areas. The case for decentralization of decision making and the establishment of a system of local government with power close to the grass roots comes out strongly.

An interesting, though not completely surprising, finding is that the seed-fertilizer package appears to be neutral to scale in both Bangladesh and Pakistan, despite the difference between these two countries in land distribution and climatic patterns. However, the smaller farmers have not been able to reap the full benefits of the new technology because of their poor financial base which does not enable them to obtain the inputs at the right time in the right amounts. This probably suggests the need to distinguish between economies of scale in the 'technical sense' and in the 'economic sense'.

The studies presented are grouped under the geographic headings of Bangladesh and Pakistan. Each part contains papers by historians, sociologists, political scientists and, of course, economists.

Historically, the evolution of rural development in Bangladesh has been guided by state power, whose decision making centres have been outside the region for the better part of the last four centuries. Consequently, governments have failed to respond to the real needs of the rural populace. The necessity of representative rural government which responds to the needs of the rural people is emphasized by Tepper (Chapter 3) and Ahmad (Chapter 11). Unfortunately, it is doubtful whether the existing structure of the civil bureaucracy, which is a legacy from the colonial days, is capable of ensuring the free operation of any representative local government.

The success of Comilla Type Agricultural Co-operatives (CTAC) in some villages in Bangladesh has persuaded Stevens (Chapter 5) to advocate the extension of the programme to other areas. (CTAC is a system of village credit co-operatives, run by the villagers themselves, which are affiliated with a central co-operative at Thana level. The central co-operative is responsible for promoting agricultural technology, supplying inputs, extension, training and record keeping.) However, Stevens overlooks the fact that the success of CTAC depends on highly devoted and trained leadership in the initial stages, a factor which seems to be scarce in Bangladesh and Pakistan.

Both in Bangladesh (Chapter 6) and Pakistan (Chapters 13 and 14) farmers, whether small or large, on irrigated or non-irrigated land, are responsive to 'significantly' better innovations. Though the new technology is neutral to scale, the green revolution in Pakistan has led to wider income disparities both at regional and individual levels. This is because not everyone had access to the institutional services that dispensed knowledge, inputs and credits. Alavi (Chapter 16) opines that the 'secondary effects' of the green revolution served to accentuate the income disparities.

On the whole the readings provide probably the first and only interdisciplinary analysis of the problem and process of rural development

in the two regions of the former Pakistan. It is surprising to find that researchers from different disciplines arrive at similar conclusions. To an economist Chapters 4, 13, 14 and 17 will be of special interest, while readers with a flavour for politics will find Chapters 3, 11, 15 and 16 of particular interest.

A few printing errors and the absence of a final Chapter comparing and contrasting the outcomes of the studies of the two regions are the negative aspects of the book.

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