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THE OUTLOOK FOR AGRICULTURAL ECONOMICS*

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Fifteen years ago, less a couple of days, the first Australian Conference of Agricultural Economists was held here in Sydney. One item at that first Conference was a Symposium on Contemporary Agricultural Economics in Australia [2]. More importantly, the Conference culminated in the formation of our Society. Tonight I want to pick up some of the threads of both those 1957 events and speculate, as I see it, on the outlook for agricultural economics. In doing so I will make some rather sweeping assessments but that's the licence of a Presidential Address.

My concern is with the social institution called agricultural economics. Whether viewed nationally or internationally, we undoubtedly belong to a social institution in the sense defined by Churchman [3]. We have a defined area of interest—agriculture—and accept a classical body of judgements in the form of economic principles; we have as one of our objectives the indefinitely prolonged survival of the institution; recognition of membership depends upon whether a person does or does not serve the institutional objectives; and within the institution there is conflict between conservative and radical elements—the latter wanting to change either the scope of our interests or the classical body of judgements. To a strong degree, though not entirely, our Society is a formalization of this social institution on the national front and the International Association is its international reflection. But as the history of agricultural economics in Australia [1] shows, the social institution of agricultural economics existed here before the formation of our Society. What our Society has done is to provide a forum through which radicals of analytical orientation have won out over conservatives of what we might call administrative or 'just give us the facts' bent. As we know, however, yesterday's radicals are generally today's conservatives so we have some scope for speculation about tomorrow.

The Past

Looking at the past, especially since 1957, we've certainly come a long way. Just think of the growth of our Society and the activities of its members spread through commerce, government, educational and

* Presidential Address to the Sixteenth Annual Conference of the Australian Agricultural Economics Society, Sydney, 16 February, 1972.

international service now as compared to 15 years ago. But in terms of the human, institutional and other resources devoted to agricultural economics, have we come as far as we should have, or have we come too far? A definite answer would be difficult and could likely vary depending on whether we take an international, national, urban or (Lord help us) rural view. Ross Parish [5] three years ago, taking a national view, came up with a mixed answer—part of which was a suggestion that I or some of my colleagues should transfer to the Department of Defence. That he's now left Australia is quite fortuitous. Personally, I think we have had an underallocation of resources to agricultural economics judged on criteria of relative productivity, the market demand for agricultural economists and the economic illiteracy that continues to show up so often among farm leaders. Likewise we might question the past pattern of our intra-professional allocation between such areas as policy, marketing, trade and management. If anything, I'd think there has been underallocation to marketing especially and also to policy, and that this has occurred largely because of a lack of encouragement to us to enter these politically sensitive areas.

Our Activities

So much for the past—at least in a direct sense. To set the stage for speculation on the future, let me first comment on how I see the activities of agricultural economists. Four roles are important—teaching, research, general service, and social criticism. These roles, of course, overlap and different combinations of them are to be found in different jobs or, as a matter of personal preference, among people occupying the same job classification.

Teaching

By teaching I mean education widely conceived. Obviously there are the more formal teaching activities in universities, colleges of advanced education and agricultural colleges, and the writing of school texts. There are also adult education or extension type teaching activities exemplified to varying degree by such groups as the Farm Management Foundation of Western Australia and State Department economic sections, not to mention the sundry workshops and publications of an educational nature organized by university groups and others. And there's also the informal teaching that goes on all the time, as for example when Alan Lloyd takes the opportunity of an Agricultural Outlook Conference to have a corner chat with the Minister for Primary Industry on the pros and cons of this or that policy, or our Modest Member spins a parable in *The Financial Review*.

Research

The concept of our research role is more difficult or contentious in the sense that it raises questions of scientific philosophy and methodology—the thoughts it immediately brings to my mind are such words and names as scope and method, positive, normative, conditional normativism, Friedman, Keynes senior, Schumpeter, Salter, Black, Kelso, Halter, Glen Johnson, Braithwaite, Kemeny, Rumsyantsev and, best of all, Stigler with his comment somewhere that methodological discussion invariably has negative returns.

Still, what is our research role? Traditionally, I think it has been to help farmers, agriculture and the nation—and, though the problem has been recognized, not too much attention has been paid to the implications of the fact that what helps the individual farmer might not help agriculture or the nation; or that what's good for the nation might not be good for agriculture or the farmer. Personally, I think our research role should relate our special knowledge and skills to national welfare and if that doesn't help Farmer Brown that's bad luck—he's a casualty. All of which would be fine if I only knew the national utility function. Since I don't know it, indeed since I know it doesn't exist, my approach would be to make a subjective judgement of what it would (not should) be like if it did exist and orient research accordingly, i.e. take a conditional normative approach.

Be that as it may, within our research role we can segregate two levels of activity. One, which for present purposes I will call mission research, is concerned with seeking solutions to actual or potential real-world problems; the other, which I will call disciplinary research, is aimed at establishing theorems or developing techniques or cross-disciplinary integrations which will facilitate mission research. Both are valid and necessary, though I don't think we have so far carried either of them out too successfully here in Australia. Which is not to say that I think we have carried them out badly; barely adequately is perhaps the appropriate phrase.

Mission research has stumbled because of a generally overly normative orientation in the face either of managerially apathetic farmers or of political reality as seen by politicians. This statement is truer of university research than of government research which, because of institutional circumstance, has been far more positive if not conditionally normative in approach. If academics' mission research was also more like this, then its results would be more acceptable in the policy area and, if we accept a national utility function that favours family farming, in the farm management area also. All we would have to do is make sure we offer not the ideal normative solutions to problems but solutions more in line with politicians' and farmer preferences, yet at least marginally better from a national view than their untutored choices would have been. Some days I'm inclined towards such compromise; other days it strikes me as too pragmatic. Moreover, at the farm management end, I don't believe the nation is particularly worried about whether or not we have family farming. If that is the case, I see little justification for a non-normative approach to farm management since from a national efficiency view (though not necessarily from a welfare view) there would be no need to worry about those family farmers who could not appreciate normative advice.

Our not too strong (though not too bad) record in disciplinary research probably cannot be easily remedied. Training could doubtless be improved but the essential ingredient we need for success is a few intellectual stars. It would also help if we had sufficient resources for some of our government researchers to shift from mission oriented to disciplinary research.

General Service

The third important role I suggested was general service. Perhaps I

can best describe what I have in mind here by saying it's not teaching and not research—which leaves us with the collation and presentation of information for the benefit of decision makers. All of us have done some of this at some stage whether it be providing the Minister with details of the Canadian transferable milk quota scheme or telling Farmer Brown what costs to put in a budgeted loan application. Such work is by far the most humdrum of our professional roles. Yet without a doubt I expect our public—whether farmers, administrators or politicians—regard it as the most useful of our activities. Indeed many of them probably wish we wouldn't try to do anything else!

Social Criticism

Social criticism is a somewhat more nebulous activity. I see it as playing the role of intellectual in the sense defined somewhere by Schumpeter, that is of an educated person continually questioning the status quo; a stirrer if you like. A number of our Presidential Addresses have contained appeals for us, and especially our academic members, to participate more in public debate of agricultural policy and agriculture's role in the economy. I would go further and say our professional role of social criticism should extend to wherever our special knowledge and skills are relevant. For example, who else is likely to tell the public that farm industry politics is stacked against the battler; or that the lack of an adequately implemented protein policy for aboriginal children under three years of age implies permanent impairment of their intellectual capacity [7].

Outlook

Now what of the outlook for agricultural economics? For convenience I propose to split the future into three periods: the short or immediate term, say to 1978; the medium term, say 1978 to 1990 (which corresponds to about the last 12 years of the potential working life of my generation); and the long term, beyond 1990 and on into the twenty-first century. Such divisions, of course, are rough and ready, indeed quite arbitrary. That doesn't matter too much. Without cataclysmic events, which I do not pretend to foresee, I believe we can only expect slow but continual change in scientific, institutional and policy development.

To 1978

'No worse than at present and very likely a lot better' is my forecast for agricultural economics in the short term to 1978. Indeed, the period is nearly too short for any really substantial changes to develop and what changes do occur will mainly come from seeds already planted. The major change I see is a professional consolidation in the sense of a far fuller recognition by government, and to a lesser degree by commerce, of the value of agricultural economics. On the one hand we are far better trained on average now than we were in the past; a significant number of younger better trained people will be moving into positions of responsibility; and the gap between supply and demand for our services is unlikely to be such that any Tom, Dick or Harry with a history or rural science degree can get a job as an agricultural economist. On the other hand, government and industry are going to be in need of our services more than ever before due to the developing welfare problem

in rural areas, changes in international trade relations and patterns, and the increasing complexity and diversity of rural production—not to mention increasing demand for our services from international agencies.

In itself the problem of rural adjustment—which I see basically as a welfare problem arising from forces beyond producers' control—must generate strong demand for our services. At the farmer end, a sustained and widespread educational effort is needed to explain the economic forces that are operating. This, together with consequent counselling of individual producers on their relative prospects and alternatives in or out of agriculture, could more than keep State Department officers fully occupied. At the policy end, the research requirements of adjustment could be endless. Though we have some, we need better and continuing appraisal of the financial status of rural producers and of their motivations, preferences, expectations, fears and opportunity costs. What are their possibilities for retraining? What are the consequences to the next generation of not acting now? What are agriculture's inter-sector relations? What are the reverse multiplier effects of farm financial distress? What reconstruction policy alternatives might be used and how do they stack up in terms of costs and benefits, political feasibility and integration over the economy and over time? At the least we need sufficient research, teaching and social criticism to persuade our political agents that policies are needed which are attuned to alleviating the causes and not the symptoms of the rural welfare problem; and to indicate that the problem, in varying degree, will be a continuing one. Today's viable farmer or rural township will not necessarily be viable in five, ten or twenty years time.

At another level, adjustment will also raise the demand for our professional skills and services. Rural stress carries with it stress for those organizations (such as CSIRO and the Waite Institute) and social institutions (such as agricultural science) which—in their way—had prospered before reconstruction became a household word. The signs are already apparent in the activities of various committees assessing the orientation and value of CSIRO and State agricultural research, and in the increasing emphasis that the various agricultural research funds are giving to mission oriented research and the nature of their own research portfolios. The pressure of producers' financial stress has forced an appreciation of the need for economics in production research. Indeed, my prediction is that by 1975 CSIRO will have tried to replace at least a half dozen or so of its agricultural scientists by agricultural economists—some at the Divisional level as research team members and some at the Head Office level as an advisory group to the Executive. That, however, is something of an aside. Allied with the increasing tightness of control on research expenditures, I also see an increasing call on our services for the assessment of research priorities, particularly at the production research level. As yet, much of this can be no more than expert subjective judgement based largely on intuition though increasingly our skills in this area are being formalized with the advent of Bayesian procedures.

But not only because of rural stress will the next few years see more extensive co-operation between agricultural scientists and economists in research. Just as better trained agricultural economists are now coming to the fore, so too are better trained agricultural scientists. The younger

agricultural scientists know that economics is more than the mechanical process of doing a budget. Typically they have had some training in production economics and recognize economics as an analytical science. What's more, I believe, they will increasingly realize that agricultural economists have gone ahead of them in recognizing the role of modern mathematics and statistics, models and computers in scientific research. So not only are they likely to be appreciative of the way in which economics can complement and enhance their applied research, they are also likely to be anxious for the quantitative research technology that can become available to them through co-operation. As yet these considerations are perhaps only straws in the wind but, compared to the past, the wind is certainly starting to blow fairly hard at New England.

By 1978, hopefully, we should also have more than token implementation of ACCRA—the Australian Chart and Code for Rural Accounting. What ACCRA provides is an organized procedure for the preparation, analysis and use of historical farm record data relevant to farm management. It is the basis for a standardized system of farm financial and physical accounting. That ACCRA exists today is due to the initiative of our Society in sponsoring the 1966 workshop that led directly to formation of the ACCRA Committee and Secretariat. Should ACCRA be implemented to a significant degree, as I trust it will, it will facilitate the development of business management among farmers (and accountants) and, by virtue of its standardized basis, it should facilitate data collection and analysis for economic research. The direct benefits to agricultural economics will perhaps be slight but the potential public benefits could be most significant and a continuing source of pride to our profession.

ACCRA takes us into the area of farm records and farm management. Here over the next few years I see continuation of the old criticism of those who see farm management primarily in an economic context (i.e. with production economics, management science and decision theory as its source of principles) by those who see it far more as a practical vocational matter much wider and well removed from the formal analytics of production economics and Bayes Theorem. The criticism, of course, has little point to it. The different groups are looking to different ends—the more practical are looking to how to help existing farmers here and now; the more theoretical to a normative scientific technology of management whose payoff lies in the future. The difference in interests has been recognized in the U.S.A. and U.K., and now here too in Australia, with the development of Farm Management Associations catering especially for those of more practical or vocational bent. I do not see such developments as constituting any disadvantage to agricultural economics in its farm management interests so long as sufficient economists keep a foot in both camps.

Though the period to 1978 is short, it will see some significant developments in teaching. My guess is that the pressures on Colleges of Advanced Education are such that they will inevitably become more and more like Universities. Many of the old State agricultural colleges will, I expect, be turning out some people whose training in agricultural economics—at least in terms of Calendar course outlines—appears no different from that available in many Universities. Of itself, this is reasonable. But the developing reorientation of the agricultural colleges

raises other questions. It is true that the State agricultural colleges never played any great direct role in farmer education, but even the small role they did play seems likely to dwindle further. This is a retrograde step. Farm managers of the future will need much more education in technology and education than is typical today. With the exception of Marcus Oldham College (which is limited for want of Treasury support) and Muresk College, there is no real tertiary education available in Australia that is oriented specifically to a career in farming in its full professional cum commercial context. This gap needs to be filled and I hope that agricultural economics in its various roles will play some part in forcing the necessary decisions and actions over the next few years.

At the University teaching level a significant change will be the introduction of an external economics degree at New England in 1973. By 1975 it should be possible for students to undertake a worthwhile level of training in agricultural economics, management and rural accounting via this external BEc. Current indications are of a ready market within N.S.W. for such training among State Agricultural Department officers, the accounting profession and school teachers—some 15 per cent of Higher School Certificate Agriculture in N.S.W. now consists of agricultural economics. Within University teaching of agricultural economics, the changes I expect to see implemented by 1978 are, firstly, far greater recognition by agricultural faculties of the necessity for agricultural economics as a major compulsory element in their teaching programme; secondly, an increased emphasis on marketing not only as it relates to price theory but also in its business school behavioural connotations; and, thirdly, an acceptance of decision theory as the appropriate normative approach to managerial decision making.

1978-1990

Relative to the outlook for agricultural economics over the middle term from 1978 to 1990, my hope is that we will see two developments. The first is that there will be a strong development of industrial or large-scale agriculture. This may or may not involve corporate farming but it does imply a sizeable swing away from family farming in the traditional sense. Of course, I do not expect that by 1990 there will be no family farmers, but I do hope that in 1990 when we refer to agriculture it is taken for granted that we mean an industrialized agriculture rather than the family farm structure which is implicit in our references to agriculture today. What I mean by an industrialized agriculture is one where farms are typically much larger than they are today in terms of capital, volume of production, turnover and managerial competence; where the approach to management and production is far more 'industrial' and profit oriented than it is today; and where the traditional values of rural living and ownership count for far less than they do among today's producers. My second hope is that by 1990 we will have had a significant widening in the interests of agricultural economics.

An industrial agriculture by 1990, of course, presupposes that as well as normal adjustment, we will have a sustained policy of rural restructuring that does not explicitly favour family farming. I expect we will have such a policy as taxpayers generally recognize the financial implications of attempting to sustain family farming. Given such a policy, I see an at first increasing government demand for agricultural econo-

mists to service restructuring, followed by a tailing off as industrial agriculture takes over. To some degree this slackening of government demand would be replaced by a commercial demand from industrial farms for management and market advice. At the same time, the skills of the agricultural economist are not limited to agriculture *per se* and there are a wide ranging variety of problems to which our attention can turn. Indeed, even without any slackening in the demand for our services from agriculture *per se*, there are many problems proximate to agriculture and amenable to our tools of analysis which, from a national view, should deserve our attention—problems, for example, such as relate to nutrition and poverty, pollution, recreation, regional development and natural resources. Whether or not we widen our interests in this way will, I predict, be our major source of conflict through the middle term, with yesterday's radicals being today's conservatives and saying agricultural economics can only mean agricultural economics.

Against such a background of industrial agricultural development and widening professional interests, I see a programme of teaching and research which is adjusted accordingly. At New England, for example, I expect we will be producing not Bachelors of Agricultural Economics but Bachelors of Applied Economics, a proportion of whom will have a major in agricultural economics *per se*, but any of whom could work in agriculture—or any other field of applied economics. Too, whereas now at New England we in agricultural economics have close links with the Faculty of Rural Science, I see analogous if not more substantive links operating with our School of Natural Resources.

In research, I hope that we will see a move away from 'one shot' or local situation type research to work of a more basic nature. By more basic I mean either work that establishes principles of more than parochial relevance or work that generates guideline information pertinent to at least a major section of the system under study. Certainly the techniques and tools (e.g. mathematical programming, simulation and computers) will be increasingly at our disposal to undertake system-wide studies of the type already begun for some overseas countries (see e.g. [4, 6]). Not that I expect the results of such studies (with all their assumptions, aggregations and specification errors) could be taken at face value; at the least, however, they would provide guidelines and better bases for discussion and decision than are now available. Too, I hope that research will be far more commonly undertaken before problems are upon us—a question that raises the problem of research freedom and is especially pertinent for academics. There are bound to be continuing pressures for increased direction and management of university research. Despite the appealing logic of management science, I trust we will resist these pressures and keep academic research freedom at least as intact as it is today.

Beyond 1990

Speculation as to the long-term outlook for agricultural economics is probably a lot safer than forecasting the middle term. By 1990, if we are to believe either such optimistic studies as Norman Macrae's 1972-2012 survey in *The Economist* of January 22 this year or such pessimistic studies as the 1971 M.I.T. report entitled *Limits to Growth* by Dennis Meadows, the problems of 'Spaceship Earth' will be imminent and will

strongly influence if not dominate what we might regard as our normal interests. As Winter [8] puts it, the race will be on 'between the rate of socialization of man's brutish nature and the rate of adaptation and manipulation of inevitable limitations within his biological world'. The social institution of agricultural economics must adapt itself to this race. With our bio-economic orientation, our understanding of market mechanisms, our tool kit of quantitative methods, and our continuing concern with policy and management, as of today—Ash Wednesday 1972—we are by far the best equipped of any Australian professional group to contribute policy alternatives and guidelines to the amelioration of this problem. And the sooner we start the better—to wait, as our politicians usually do, until the problem is upon us will be too late. If we recognize this responsibility, agricultural economics (or whatever it's called by 1990) will have played its part, I trust, in proving Macrae's contention that 'the Malthusian argument—even in its latest or ecologists' version—continues to look what it always was in the old Reverend's day: a trendy load of high class uneconomic rubbish'.

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