

THE ROLE OF THE ECONOMIST IN PLANNING

APPLIED BIOLOGICAL RESEARCH

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ABSTRACT

The experience of an economist in an applied biological research station shows that major improvements can be achieved, but that the experience can be harrowing for the economist.

INTRODUCTION

Most large agricultural research organizations now employ economists in their headquarters to deal with the broad aspects of economic planning within the organization as a whole; some also have agricultural economics departments; few employ economists in their research stations working with scientists in their day-to-day work. I was one of the first economists employed at a research station by my organization and my experience may be relevant to organizations considering employing economists in this capacity.

The economist in a research station has five main jobs: firstly to provide information for determining priorities between industries, between the horticultural industry, the beef industry and the dairy industry, for instance; secondly, to help determine priorities between projects in his research station; thirdly, to take part in multi-disciplinary research; fourthly, to do his own research and fifthly to help disseminate research results.

BASIC PLANNING

Central planners must take a broad view of agriculture and they want to know what is the economic potential of each industry and what benefits are likely to come from research. They cannot be familiar with the details of each industry so they must base their assessment on the best economic reports available. These are frequently incomplete or superficial and they are not prepared with the needs of the central planner in mind. The agricultural economics department of the research organization concentrates on solving problems and on detailed research into small sectors of the industry. University agricultural economics departments are even less likely to have the needs of the research planners in mind though they may

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hope to influence policy in other ways. Scientists, particularly those in administration, do prepare reports on the industry, but, as these are often combined with appeals for research funds, they may not get the attention they deserve.

The economist at a research station prepares a review of the industry, using relevant economic research from all sources—his own research, other economists' research, the views of scientists (presented in economic terminology) and the available statistics. This review helps directly and indirectly in the application for funds.

The economist must also carry out, or persuade other people to carry out, research programmes which will fill the gaps in economic research. Typical projects I carried out are on the structure of the Irish vegetable market, price control, the home and export market for fruit and vegetables, the market for frozen vegetables and the economics of grading. This new research takes a great deal of time initially but eventually all that will be necessary will be to keep the information up to date, by substituting new statistics, and by repeating one or two aspects of the research each year, so the industry is re-examined every five years.

DETAILED PLANNING

When it comes to detailed project planning the central planners are at an even greater disadvantage, as they cannot be familiar with the details of each sector or of all the disciplines involved. In horticulture, for instance, the research centre deals with 40 food crops and some hundreds of ornamental crops and employs nematologists, pathologists, food scientists, an entomologist, an engineer, a meteorologist and an economist as well as the crop specialists. Any economic allocation procedure which takes into account the fixed and variable costs and the probable benefit of the research project, would have to be carried out by the research station economists as they alone know the people involved, the work they do and the economic consequences of the research. However, in a complex industry like horticulture, it would be several years before an economist knew enough of the detail to develop an economic allocation procedure which would offer any advantages over the present procedure, where, once policy has been determined, research workers suggest appropriate projects and the head of the station, working with heads of departments, selects the best projects, having regard to availability of funds, etc., and sends them to central directorate for approval.

MULTI-DISCIPLINARY RESEARCH

The economist also offers a service to scientists. Someone who has a new food product may want help in marketing it; someone who has developed a new technique wants help in convincing potential users of the economic advantages;

someone writing a paper wants help in presenting the economic background or in the use of economic terms; someone working out costings wants to know how to present them. In the last two years I have worked with scientists on ordinary mushrooms, oyster mushrooms, flowers, nursery stock, carrots, tomatoes, apples, tobacco, raspberries and strawberries. I believe that most of this work could not have been carried out from an agricultural economics department. It was essential that I should be in almost daily contact with my collaborators and that I should be able to contact them instantly if I did not know the answer to a question.

Most of the knowledge required for allocation of resources within a research station comes from working with scientists in this way.

ALLOCATION OF TIME

At first the economist in the research station must concentrate on providing the information needed for basic planning. Initially this took me 50% of my time but it is becoming less important and about four years after starting it will become possible to devote perhaps 10% of my resources to keeping this information up to date. At first allocation of resources within the research station was ignored for the reasons given above, but it should be possible to devote 20% of my time to it by the end of my fourth year here. Multi-disciplinary research took 35 % of my time initially, but this will increase to 50% as basic planning research is phased out. Economic research takes about 15 % of my time. Dissemination of results is inseparable from the research so no separate time can be given for it.

The economists' research programme cannot be planned in great detail and it cannot be rigidly adhered to. They must be prepared to postpone whatever work he is doing at the moment to carry out a survey on a problem that has come up, to test market a new crop, to write a background report, to examine the effects of the latest energy or currency crisis. They cannot therefore get involved in time-consuming work like econometrics.

Choice of programme is difficult. When I started work at the research station, there were many economics-oriented projects waiting for me. It was necessary to include in the research programme only the few that I could handle, so those projects that appeared to have a rapid payoff and were least time-consuming were chosen—at the time there was insufficient information for a more sophisticated approach. If I was to take up any long-term projects I would, in effect, be serving one research worker instead of the station as a whole. It was also necessary to be selective in other ways as most scientists felt that an economist would be the ideal person to do costings and deal with practical commercial problems. In fact, I found they have the costs at their fingertips and seldom need advice even on the presentation of costings (an exception was the nursery stock industry where a new economic planning system had to be developed). Their practical training and contacts in the industry also give them an advantage in dealing with commercial problems.

THE JOB

Most economists dislike the thought of working in a research station, largely, I imagine, because they feel they will be surrounded by dozens of scientists who are interested only in cabbages or cows and who communicate only in chemical formulae. In fact this stereotype is more true of the economics department, where everyone has the same training and communication is largely in econometric formulae, than it is of the scientific research station with scientists of perhaps ten different disciplines. Communication is not a problem in a research station; the economist meets all other workers in the canteen and many problems are discussed over tea—I would go so far as to say that a canteen is an essential research facility. As well as this, scientists often drop into the office when a problem arises. This does mean, though, that the economist must make time to discuss all problems and to attempt to solve a fair proportion of those that require economic analysis or survey work.

Their other fear is that they will become isolated from other economists and that their knowledge of economics will rapidly become obsolete. I get round this by attending all the seminars and economics meetings I can and by visiting our economics branch once or twice a month to browse in the library and to ask for advice where necessary. I also devote some of my time to theoretical research. The library informs me of the latest publications in agricultural economics and will borrow or obtain reprints of anything I need; this is less time-consuming than obtaining the publications in a university library in the same town, though there is of course a delay.

People who majored in economics are less likely to lose touch with economic theory than agriculturists with some training in agricultural economics so they are more suitable for a job in a research station where there is plenty of technical expertise available. Agricultural graduates can put their technical knowledge to better use in an agricultural economics department. The job also requires that the economists should be able to handle any economic problems that arise so they should have training and experience in a wide variety of economic techniques including production economics, marketing economics, monetary economics, project appraisal and survey work, so here again economists are at an advantage. I found my previous employment, in the civil service and in a university, gave me the confidence and experience to handle a wide range of problems.

Because economists in research stations cannot concentrate on a narrow area of research and because they must be ready to take up new projects at short notice, they cannot use his research towards a Ph.D., and this might put off the more promising younger workers. There is however no difficulty in producing a flow of publications.

Economists require fewer resources than most scientists. I have an assistant who does the fieldwork and the data processing for surveys. Travelling expenses for surveys can be high, but, where funds are short, surveys can be confined to nearby areas. We have no special equipment.

CONCLUSION

Economists in a research station have a role to play in providing information for determining research priorities between industries and within one industry. They may also carry out research as part of a multi-disciplinary team, in support of research scientists or on his own account. It would not be possible to carry out this research as effectively if they were in the research organization's headquarters or agricultural economics department or in a university agricultural economics department, both because of difficulties in communication and because of the difficulty in keeping to such a role in a department with very different responsibilities.

Precautions must be taken, however, to ensure that they do not lose touch with other economists. Most economists who work in research stations find that they desperately need the company of other economists if they are not to become institutionalized, to become fourth rate biological scientists. More seriously, there can be totally unacceptable pressures from experimental scientists for the economists to present false reports. This may be because the experimental scientists feel that they understand economics - they do not - because they do not understand what rigour means in other subjects, or for other, less creditable, reasons. Certainly, I know of cases where economists demanded to be removed from research stations for this reason. I personally demanded to be transferred from a research station under these circumstances, and left the research organization because the pressures continued. The three economic papers which so offended the scientists have become classics, and are still used in university courses 25 to 34 years after they were published (Bowbrick 1977, 1981, 1982). And, in spite of the best efforts of scientists and civil servants, the recommendations eventually became law in the EU, saving consumers £10 billion a year (Bowbrick 2011)

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