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by E. L. BANKS

Egg Supply and Pricing Policy

The Western Australian Egg Marketing Board has frequently warned producers that over-production might jeopardise the favourable income received by them over the last few years. In doing so it has been expressing one of the important dilemmas facing agricultural price-setting authorities—that pricing arrangements which provide adequate incomes to producers may encourage greater production which can then only be sold at lower prices. The effect of the price of eggs on supply is hence a relevant and important question for the Egg Board. This article describes an attempt to determine this price relationship in Western Australia and discusses some implications of the results.

The Egg Board in Western Australia legally controls the sale of all eggs in the South West land division. Egg production is not controlled, however, and the number of eggs produced is greater than that required to meet local demand. Prices on export markets are low, so to improve producers' returns the Board sets the local wholesale price above the export value and administers local sales at this price, exporting only the surplus on the overseas market. Producers then receive an equalised price based on the pooled returns from both markets. This equalisation is carried out by means of a levy. That is, producers receive the local wholesale price less an amount ("pool levy") deducted to cover the losses on eggs actually sold at the lower export price. This levy can be varied from week to week, so that the producers' prices can change, even when the wholesale price is constant. In fact the Board varies the levy during the year to give high prices to producers in the normally low production period from late February to early July and lower prices in the spring when production is high. This is done to try to encourage off-season production.

Questions of pricing policy cannot be fully answered without knowing the effect of the egg prices on local demand as well as on supply, but a knowledge of how prices affect the level of production should provide useful information. For instance, it can help overcome the pricing dilemma mentioned earlier, and indicate to the Board whether seasonal differences in egg

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prices do affect seasonal supply. It is also relevant to other important questions facing the industry including the problem of adjusting to increasingly unfavourable overseas demand; and the evaluation of other types of marketing schemes.

How Prices Affect Supplies

How do prices affect individual poultry farmers' decisions? The only important short-run changes in supply which are possible are those caused by yearly changes in hen numbers. A poultry farmer buys chickens between May and August in any year, and these do not commence to lay until September. He usually expects to cull his pullets at a constant rate during the year (a rate unlikely to be affected by current egg prices) and will probably sell them all after one season, that is, in December of the following year. In such a situation it is likely that last year's profit (which is largely determined by last year's price of eggs and cost of poultry feed) will influence the number of chickens he buys for the present season. He probably expects to receive similar prices this year and adjust his buying accordingly. If this is so, and taking into account the lag before chickens come into production, the price of eggs from August to May in the previous season should affect production for the year commencing in July.

Prices during the previous season may also affect the seasonal distribution of eggs, as changes in the time of buying the chickens, together with the use of artificial lights in winter, are the main ways in which seasonal production can be changed. Chickens bought in May reach maximum lay early in spring while those bought later produce better in the off-season.

Although egg prices and feed costs seem likely to be important supply influences for all producers, each farmer may differ in his reaction to price changes, due to differences in, for example, his type of farm or capital investment, or opportunities to carry out other activities. In some industries it may be possible to say that the conditions of all producers are relatively similar but an important feature of the egg industry is that there seem to be two quite distinct groups of producers; part-time and full-time.

Part-time producers are those who produce eggs as a sideline. Most of these producers live in the Perth Metropolitan area — on small farms scattered in certain outer suburbs (for example, in Welshpool and south of Fremantle) and have jobs off the farm. They rely heavily on labour supplied by the rest of the family. Hens are run mainly under open range conditions with the minimum of capital equipment and very simple sheds. It seems likely that such farmers could weigh the likely returns from further off-farm employment against prices and costs of egg production when making annual decisions.

Producers who obtain all their income from egg production need to have larger flocks — at least 1,000 birds to get adequate returns. Most of hese poultry farmers still do not employ labour — output per man can be increased by the use of sheds with deep litter or with cages. These methods require more capital investment, but 3,000 or more hens may be run per man. Many farms now have over

10,000 hens, and their number has been increasing in recent years. It seems likely that the extensive fixed assets of these producers are likely to lessen year-to-year changes in production because once the long-term decision to build expensive sheds is made it generally pays to use them to a maximum. Certainly, opportunities for outside employment are not likely to be important influences, although use of the sheds for broilers has recently become a possible alternative to egg production.

A Study of Producer Response

An investigation has been made of how these factors have affected annual full-time and part-time production in the period 1953-54 to 1962-63. Production of at least 20,000 dozen eggs per year was chosen as the criterion for a full-time producer. The results show, firstly, that regardless of other influences, total egg production has shown a slight downward trend over time (about 1 per cent per year). This decrease is the result of two opposing trends — a decrease in part-time production (at a rate of approximately 2 per cent per year) and an increase in full-time production (at a rate of 6 to 7 per cent per year.) Since 1954, annual part-time production has decreased from 8.2 million dozen to 4.9 million dozen and their share of total production has changed from 88 per cent in 1953-54 to 63 per cent in 1962-63. The number of part-time producers has also decreased constantly during the period. Full-time supply has shown a sharp upward trend, from 1.1 million dozen in 1953-54 to 2.9 million dozen in 1962-63. This full-time production still comes from less than 100 producers, but both numbers and size of farm have increased since 1953. It seems reasonable to consider that these trends will continue during the near future.

Secondly, despite the importance of these movements the analysis indicates that there is also a definite reaction to prices, but that marked differences exist in the response of the two sectors of the industry. Part-time producers have shown a strong reaction to price changes in the previous season. A 1 per cent change in price (up or down) brings about a similar percentage change in their overall production in the next season. Poultry feed prices do not appear to have affected their production. One reason for this rapid response to egg prices is that the part time egg producer and his family, because they live so close to the city, can give up poultry for a year if prices are low and get further employment off the farm. If prices improve they can then decide to buy chickens again.

In the case of the full-time producers, neither the price of eggs nor the price of feed seems to affect year-to-year production. Changes in supply have been dominated by the long-term increases in returns made by adopting the new output-increasing methods of production.

Changes have also taken place in the seasonal variation of production. Since 1953-54 there has been a steady levelling out of seasonal differences, so that production is now almost constant throughout the year. More and more farmers have adopted lights to increase winter production while at the same time the decrease in part-time

producers has lowered spring supply. Adjustments made from year to year in seasonal prices do not seem to have much influence on these supply changes, although if egg prices in the second six months rise relative to those in the first six months, production by full-time producers is increased just slightly in the second six months.

Points for a Pricing Policy

What policy implications can be drawn from these results? One thing which is important is the striking effect of the division of the industry into the two groups. If the industry were stable, the rather high responsiveness to price shown by part-timers means that equalised prices will be lower than if supply came only from the non-responsive full-time sector. The Board cannot maintain high equalised prices by setting high prices to local consumers if production is then increased. In such a case it could be in the long-term interests of full-time producers to support an easing of overall annual prices to encourage the exodus of part-timers — assuming, (probably correctly), that they would not return if prices remained low for a few years.

However, the egg industry is not stable—it is meeting increasing difficulties through lower overseas demand and increases in supply due to improved technology. In this situation part-time producers are an important stabilising influence. Because of their rapid response to price changes, the Board is able to adjust production to offset the low overseas prices and prevent a marked drop in equalised price by having to sell less overseas. The presence of the part-time producer who can enter or leave the industry easily allows the maintenance of relatively stable incomes for the full-time producers who would have to remain in the industry despite price fluctuation.

This behaviour of the two sectors also suggests that unlike the dairy industry, the egg-producing industry should not be faced with a low income problem. That is, producers should not be forced to carry on egg production under low prices for inadequate incomes because they cannot sell their assets and can find no other employment. The small scale egg-producer can increase his income by off-farm employment if egg prices fall, while full-time producers should be large enough to at least earn a basic income under most prices. Furthermore, we have already seen that price falls in the industry are lessened by the price responsiveness of part-time producers.

Production control by the Board may become increasingly difficult, however. Price effects do not occur in isolation. Short-run price variation is only likely to hinder or encourage the downward trend in part-time production, while, despite price movements, full-time production is increasing. As full-time production becomes more important, supply will be less responsive to price and income problems may arise.

In another policy area, the Board can be said to have been successful in removing a great deal of the seasonal variation in production by its pricing policy. The results indicate, however, that it is its long-term pricing differentials which are important; year-to-year

changes in these differentials are likely to have little effect.

A complete economic evaluation of alternative marketing schemes requires information on the effect of price on demand. However, information about supply does suggest that there may be difficulties in "cost of production" pricing, a method which has been suggested by some egg producers. The maintenance by government subsidy of prices at "cost of production" levels higher than present prices could in the case of the egg industry lead to an over-production problem and an increasing subsidy burden because of the responsiveness to price of one section of producers. This over-supply is likely to be a greater difficulty than in the case of, for example, dairying, where supply changes are slower and are not as responsive to price.

An alternative scheme which overcomes some of these problems is the introduction of production control. If domestic prices are kept higher than export prices, production control which would be at the expense of exports would raise average returns on eggs, and if this were achieved by reducing numbers in the industry, higher farm incomes could be achieved. Full-time producers stand to gain most from any scheme which could effectively limit production.

Australia-wide Equalisation

Turning finally from these at present hypothetical schemes to an issue at the moment facing the Western Australian egg-producing industry—participation in the scheme for Australia-wide equalisation. The reasons stated for this attempt at Australia-wide organisation have been elimination of competition between states on overseas markets and the prevention of levy evasion, which at present occurs by the practice of selling inter-state, and by illegal sales outside the Boards within each state. Levy evasion is to be eliminated by making an Australia-wide levy on hens in the flock rather than on eggs sold. The levy would be made to cover the "losses incurred on the sale of surpluses overseas", though not necessarily all surpluses would be covered.

Obviously the relationship of price to supply does not help estimate the extent of price advantages gained by the elimination of competition overseas or an improved system of levying, but it does suggest that there might be certain price disadvantages for Western Australia from another source. We have seen that a major influence on producers' returns is overseas demand and a fall in overseas prices will be reflected in an increased levy. The Eastern States provide the majority of Australian egg exports, and it is here that the fall in returns should lead to decreased production, allowing the levy to be lowered again. If, however, in those States producers are not as responsive to price as farmers in Western Australia, (for example there may be more full-time producers), Western Australian producers may have to receive lower returns than they would if equivalent overseas price falls took place under the present system. No information has been published on the proportion of production which comes from full-time

producers in other States, so these suggestions are at present hypothetical.

Conclusion

The results of this investigation show that despite other influences the annual supply of eggs from the part-time sector of the industry is affected by egg prices paid in the previous year. This response has enabled the Egg Board in increasingly unfavourable overseas market conditions to maintain higher equalised prices than would otherwise have been the case and has had an important stabilising effect on the industry. The growth of full-time production which is not price responsive may however lead to a less stable situation in the future. If income problems arise because of this it may be to the advantage of full-time producers to consider some form of production control.

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by B. R. MARTIN

Lowering Feeding Costs in the Poultry Industries

Poulterers and broiler producers in Western Australia have recently become concerned that their high costs of production place them in an unfavourable position compared to efficient producers elsewhere who may be able to compete successfully on the local market. Feed manufacturers too are worried because of the effect such imports would have on their local market for feedstuffs.

Feed costs constitute between two-thirds and three-quarters of the running costs in broiler production, so cheaper feedstuffs are likely to give greater cost reductions in the short run than are efforts to improve the quality and efficiency of the birds. Broiler efficiency is reflected in the "conversion ratio", which is the quantity of feed required to produce one pound of chicken. In this regard Australia lags behind many other countries, particularly the USA. In Australia the figures are 3.1, compared with 2.1 in the USA. In other words, here each pound of chicken requires an extra pound of feed. Improvements in feed conversion efficiency, though essential, are mainly the result of long term breeding programmes. Consequently if costs are to be reduced quickly methods other than breeding must also be found. A method of reducing feed costs by using cheaper alternative sources of feeds has been studied and is examined in this note.

Research Work

For best physical production feed mixes need to be varied in their nutritional content, depending on the requirements of the various poultry products produced. For example, a good laying mash will have a low energy content and a medium protein component, but a "broiler starter" will have a high energy and a high protein content. The characteristics of feed mixes which determine their suitability for a particular purpose are their energy ratio (proportion of energy to protein), their protein quality, and

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their fat, fibre and mineral content. In this study it was assumed that all these nutrient requirements are known accurately for six major types of rations.

In determining the cheapest feed mixes for different rations, various types of grain (energy sources) were considered as alternatives. These were rye, sorghum, maize, oats, barley and wheat. In addition to the usual sources of protein such as meatmeal, wholemeal and various vegetable meals, e.g., linseed, lucerne, peanut and soybean, sweet lupins (Lupinus lupins) were considered. Bran, pollard, clovermeal and fishmeal were also considered as possible components of the mixes.

The method of analysis adopted was to determine for different price levels, which combination of ingredients would meet the nutritional requirements at the lowest cost. Linear programming was the mathematical technique used to solve the problem, and the calculations were made on the electronic computer in the University of Western Australia.

Results

The results of this work are not presented in detail but the general conclusions are that in the lower energy rations the use of less wheat and more barley along with lupins, could lead to significant cost reductions. In high energy rations, considerable decreases in costs might result from the use of sweet lupins, industrial fat and soyabeans, associated with a reduction in wheat use, an increase in barley use, and the possible inclusion of grain sorghum or maize.

Conclusion

Unfortunately, the desire for quick solutions to a problem has meant that only one side of the question has been examined. A complete economic analysis of the problem would also look at the ways in which the nutrient requirements of the various rations would change as the costs of the various ingredients and the returns from various poultry products are altered. This is the basic type of research that the poultry and broiler industries might sponsor. However longer term research such as breeding for genetic improvement, exploring new market outlets and trying to find improved feed mixing methods are just as essential.

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by G. M. NEUTZE

Transport Costs and Rural Development

When the development of outlying areas of Australia is being discussed we often hear the statement "if these farmers didn't have to bear such high transport costs they could compete with farmers close to the State Capitals." What are the ways in which transport costs influence the profitability of farming and other rural industries in these areas, and is there any good reason for stimulating rural development by subsidising transport costs?

Transport costs influence the returns from farming in two ways. Firstly farmers have to bear the cost of transporting their products to their market, which is normally the State Capital. Secondly farmers have to pay higher prices for many of the materials which they use in farming because these also have to be transported from the State Capitals.

Transporting Products

Australian farmers have to transport most of their products to the State Capitals partly because rural populations are relatively small anyway and so cannot absorb a very high proportion of the production from rural areas. But even if rural populations were considerably larger than they are at present it is not clear that farmers could avoid the cost of transporting products to the large cities.

Take the cases of wool and beef, probably by far the most important products of remote areas. In the case of wool especially, and in the case of beef to a lesser extent, a high proportion of the production is exported. In this case the product clearly has to be transported to the coast. However before it can be shipped it has to be processed (in the case of meat) or auctioned (in the case of wool). Both meat killing works and wool auctions become much more efficient when they handle relatively large quantities of the products concerned so that it is uneconomic to have them in every coastal town. In addition overseas ships cannot afford to stop at every port and few ports are equipped to handle overseas shipping.

It can be seen, then, that farm products that are exported have to be

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sent from the farm, not just to the nearest port, but to one of a relatively few ports. The price received on the ship or on rails at the port is the same, whether the products have been transported 10 miles or 100 miles to the port, so that the farmer in a remote area has to pay the extra transport cost on his product.

When he is producing for home consumption he still finds that quite a high proportion of his production is consumed in the capital cities simply because a high proportion of the population is located there. But even that part of his production which is consumed in country towns often has to be transported to the city to be sold or processed or both. As in the case of wool and meat the reason for this is that markets and especially processing factories, need a large throughput in order to work efficiently. It is not sufficient for a country flour mill to process wheat for local bakeries. In order to be efficient it will have to sell a part of its output either in other country towns or in the city. With this kind of market flour millers are finding that it is more economic to locate in the city.

This process can reinforce itself. The fewer industries that are located in country towns the smaller will those towns be, and the smaller the towns are the fewer industries that will find that the market there is large enough. More industries will locate in the city. It is only if there is a much greater degree of decentralisation that farmers in remote areas will be able to sell very much of their produce locally and thus reduce the transport cost on what they produce.

Transporting Farm and Home Requirements

If we look at the cost side we find a similar picture. The reason that farmers in remote areas have to pay high prices for the things they use is that many of them have to be transported from the city. There is both a direct and an indirect effect here. Fencing materials and fertiliser are more expensive because they have to bear the cost of transport from the city where they are manufactured or the port where they are imported. But labour is also more expensive for the very good reason that the cost of living is higher. This, in turn, is the result of the fact that a high proportion of the things that enter into the family budget have to be transported from the city. Thus most of the clothes and even the food that the family buys will have been made or processed in the city and will have to bear the costs of transport on top of the prices that the city buyer pays. And if the farm worker requires specialist medical treatment, or simply wants to enjoy some night life he has either to travel to the city or go without. In either case he, quite reasonably, expects to be compensated for these disadvantages of life in a remote area by receiving higher wages, thus adding to farmers' costs.

The farmer has also to bear these higher costs of living so that he will expect a higher money income than he would expect in a less remote area to compensate him. It is only if the levels of productivity are sufficiently high for the farmer to bear these higher costs and still make a high enough income to encourage him to live in such an area that he will

choose such a life. And if farmers are not prepared to live and work in such areas they will not be developed.

Avoiding Transport Costs

We noted that decentralisation would permit farmers to sell more of their output locally and could thus avoid the cost of transporting their products to the port. Is there any way in which the higher costs in remote areas can be minimised? The general answer is that decentralisation will serve this purpose as well. If more of the requirements of farmers, both for production and consumption, can be produced locally, farmers will not have to pay the high transport costs from the city.

However the prescription of decentralisation is in many ways too simple. Though it may help, for example, to have country killing works, it will not help very much if the meat then has to be transported to the city to be sold or exported. If killing costs are higher in the country the price which the farmer receives may be lower than if he had transported directly to the city. The killing works will have to pay the cost of transporting meat to the city and this may be higher than the cost of transporting cattle.

Similarly there may not be any great advantages from establishing a fertiliser works in a country town. It is likely to have to transport its materials from the city or port and it may be more expensive to transport the materials than the finished fertiliser. In addition, if the country works is only going to supply the area served by the country town it may well be operating less efficiently than if it located in the city and, serving a larger area had a much larger production. The simple fact that producers of farm requirements, and of very many consumer goods and services, are located in the city tends to show that they can supply the remote country market more cheaply from a large central plant than they could from a number of smaller country factories.

There is only one situation in which it is possible to be fairly sure that decentralisation will lower transport costs. That is when a decentralised industry uses local materials and sells to the local market. Flour milling is a good example of such an industry. But, as long as wheat farming tends to be located in fairly specialised wheat-sheep farming areas, most areas that produce wheat will produce much more than they consume and very large areas of Australia will have to get their wheat from these producing areas. Flour millers have been tending to migrate to the ports recently, partly because wheat is transported by train more cheaply than flour, and most flour is consumed in the cities or exported, but also because, with modern techniques, country town markets do not provide a large enough market for an efficient flour mill.

Self Sufficiency

If the individual farmer changes from being a specialised sheep-wheat farmer, or a specialised wool or beef producer, to producing much more for his own requirement, he can reduce the costs of transport both on the side of production and on the side of materials and consumer goods. In fact, in the extreme, he can simply produce all of his own requirements and not pay any transport costs at all. This

condition of subsistence farming is hardly attractive, implying a return to spinning wheels and looms. Without doubt such farmers would have a lower standard of living.

Just as the individual farmer can avoid some transport costs by becoming more self sufficient, so can the region. If the region produced more of its own requirements it could avoid transport costs both on its production and on the things it consumes. We have already seen how this is likely to mean lower efficiency in the processing of the region's products, because of the small scale of processing industries serving only the region. It may well be that it is cheaper to pay transport costs on farm products to the city and pay the transport costs back again for the processed goods than to operate small and inefficient country plants.

Greater regional self sufficiency would imply that we should produce some wheat in our dairying districts and some wheat (or rice) in our specialised beef producing areas. Once again there will be a loss of efficiency. Probably the most important feature of Australian agriculture tending to make it efficient relative to agriculture in older European countries is that the farmers have specialised in producing the products which are suited to the particular area. If we were to pursue regional self sufficiency we would lose this kind of advantage.

Subsidies for Transport?

Thus there is no easy way of avoiding costs of transport, without making a sacrifice which is likely to be even more costly in another direction. The next question that we need to ask is whether subsidising transport would be justified. In the case of export commodities it is difficult to see a case for it. Export products are only of value to the economy when they are placed on the ship. From any point of view a bushel of wheat is a more valuable commodity when it is produced close to a port than when it is produced 500 miles away.

Products that are mainly consumed in Australia face a similar situation. As long as there is more production than consumption in rural areas and more consumption than production in city areas, a farm product is a more valuable commodity to the community in the city or close to it than a long way from it. In just the same way, products that are mainly produced in the city are more valuable in remote areas where consumption exceeds production. Hence costs are higher in remote areas.

It is fairly clear then that there is no real justification for subsidising transport costs in order to promote development in remote areas. If development is left to private enterprise and if the farmers have to pay all of their own transport costs then development will only occur if the benefits to the community exceed the costs, when the costs are taken to include transport costs on materials and the benefits are calculated at the value to the community of products in areas where there is a surplus of those particular products and which mainly have to be transported some distance before they are consumed. Similarly, if any government is considering developing agriculture in an area it should take prices and costs as it finds

them in the area, when transport costs have been paid.

It is not clear that subsidies to transport in general are beneficial to remote areas in general and they may not even benefit agriculture. Those local industries which are found in remote areas are there because they can serve the market in the area more cheaply than they could from a more central location. To put the matter another way, the transport cost advantage which the local producer has over his competitor in a larger centre is sufficient to offset the disadvantage of small scale production. If transport costs are reduced that advantage will be reduced and industries serving markets in remote areas will tend to become more centralised.

Precisely the same conditions may arise in industries which process the products produced in remote areas. Whereas the country killing works may be able to survive against metropolitan competition because it is closer to producers, if this transport cost advantage was reduced they may no longer be able to compete. One of the reasons sometimes advanced for the extent to which farm products are processed in the city is that railways transport raw farm products cheaply but charge more for processed products. Therefore it is cheaper to transport the raw product to the city for processing rather than process it in the country and transport the processed product to the city for consumption or export.

One can, of course, use the same kind of argument used by the Forster Committee in discussing agricultural development in the Northern Territory. They suggested that agricultural development may not get started in the Territory because of transport cost disadvantages. But if it was given some assistance to overcome the initial disadvantages it might well be able to compete as development itself led to a reduction of some of the disadvantages. We have seen above how this is possible, through the establishment of local processing industries and material and consumer goods producing industries as the market in the area grows with development.

This is indeed a very good argument for giving these areas some assistance in the initial stages of development as long as we can be fairly well convinced that eventually they will be able to compete without it. What is very much open to doubt is whether a subsidy on transport is the most economical way to give such assistance. There are two reasons for thinking that it is not. The first is that, as we have seen, lowering transport costs can positively discourage development of local industries. The second is that, unless transport costs are paid to the full, there may be an undue encouragement of development in remote areas at the expense of areas closer to large cities. We have already seen that the latter is more valuable to the community, other things being equal.

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by B. B. CALLAGHAN

The Commonwealth Development Bank and Its Role in the Field of Rural Finance

The Commonwealth Development Bank, which was established by an Act of the Commonwealth Parliament in 1959 and commenced operations in 1960, is, with the Commonwealth Trading Bank and the Commonwealth Savings Bank, a member bank of the Commonwealth Banking Corporation. The Commonwealth Trading Bank and the Commonwealth Savings Bank function on lines similar to other Australian trading and savings banks. However, the Development Bank is concerned with the provision of finance for the improvement of production and productivity in primary and secondary industry where the finance is not otherwise available, and it differs fundamentally from other banks both constitutionally and operationally.

Trading banks and savings banks conduct their operations mainly with funds provided by their customers in the form of deposits. While the Development Bank is empowered to accept deposits, it has not received them on any scale and, indeed, is unlikely to do so. In financing its operations, it relies upon capital, reserves, and borrowing. At the present time its Capital and Reserve Funds total about £38 million, its existing borrowings about £14 million, and further borrowings have been arranged.

The essence of the Development Bank's functions lies in the sections of the Commonwealth Banks Act quoted hereunder: —

"72. The functions of the Development Bank are —

(a) to provide finance for persons —

(i) for the purposes of primary production; or

(ii) for the establishment or development of industrial undertakings, particularly small undertakings

in cases where, in the opinion of the Development Bank, the provision of the finance is desirable and the finance would not

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otherwise be available on reasonable and suitable terms and conditions; and

(b) to provide advice and assistance with a view to promoting the efficient organization and conduct of primary production or of industrial undertakings.

73.

(1) In determining whether or not finance shall be provided for a person, the Development Bank shall have regard primarily to the prospects of the operations of that person becoming, or continuing to be, successful and shall not necessarily have regard to the value of the security available in respect of that finance.

(2) The Development Bank shall not provide finance for a person to enable that person to acquire goods for use otherwise than in the course of his business."

Supplementary Finance

Thus, in terms of the Act governing its operations, the functions of the Development Bank extend only to the provision of finance for primary production and industrial undertakings. Finance for industrial undertakings is outside the scope of this article but it is nevertheless important that there should be recognition of the fact that the Development Bank is neither a "rural" bank nor an "industrial" bank alone.

A basic feature of the Development Bank's role in the field of rural credit (as also in the field of industrial credit) is expressed in the requirement that finance may only be provided by the Development Bank where it considers such "finance is desirable and the finance would not otherwise be available on reasonable and suitable terms and conditions." Clearly, the Development Bank is not intended to take over the financing of **all** development. Its function is **supplementary** to those of other lenders. This specific limitation by Parliament of the functions of the Development Bank recognises the fact that the trading banks in particular have played (and are continuing to play) a leading role in the financing of rural and other development. Indeed, if it were nothing more than an **alternative** source of finance, the Development Bank would have little reason for existence.

The Development Bank is able to fulfil its supplementary role largely because of the provision of the **Commonwealth Banks Act** which enjoins it, in deciding whether or not finance should be provided, to have regard to an applicant's prospects of success and not necessarily to the value of the security he can offer. This, of course, does not mean that security is disregarded; indeed, the Development Bank seeks to secure its loans adequately wherever possible. At the same time the Bank considers each request for finance on its overall merits including, in particular, its assessment of the applicant's prospects of successfully repaying his (total) borrowings.

What has so far been said indicates broadly how the Development Bank was designed to fit into a financial system that has been in existence for years but, to cover more fully the role of the Development Bank in the field of rural finance, it is necessary to go somewhat further.

Financial Needs

The purposes for which the rural producer usually seeks finance may be classified under five broad headings, as follows: —

To provide for personal expenditures.
To cover the day-to-day expenses of operation.
To repay existing debts.
To acquire (in situ) existing productive assets.
To invest in new productive assets.

As such, finance for personal expenditure (on furniture, for example) falls outside the scope of the Development Bank, if only because of the provision of the **Commonwealth Banks Act** which prohibits the Development Bank from providing finance to enable a person to acquire goods for use otherwise than in the course of his business. However, normal farm housing is not excluded, the house being essential to the farm's efficiency.

In the ordinary course, finance for day-to-day operating expenses would fall within the province of trading banks (overdraft) and/or pastoral houses, whereas the Development Bank is a term lender. However, a development programme often entails a need for additional working capital and, in that event, an application would be considered.

The Development Bank was not established to refinance an applicant's existing debts. Nevertheless, exceptions can be made if greater production or productivity is at stake. For example, where an efficient rural producer is precluded by the extent of his indebtedness to his normal financier from obtaining essential working funds, consideration could be given to "bedding down" some part of his debt to allow his operations to continue.

(At this point it is worth mentioning that the Development Bank is subject to any advance policy laid down for the banking system by the Reserve Bank of Australia. Thus, it should not be expected that any proposal declined by a trading bank in terms of such an advance policy could be approved by the Development Bank).

The acquisition (in situ) of existing productive assets, whether by a newcomer to rural industry or an established farmer, does not, in the normal course, presage an increase in output. Again, however, the provision of finance by the Development Bank would not always be precluded. For example, applications for finance to purchase land are considered if it can be shown that the change of ownership would be productively advantageous to a worthwhile degree.

It is the last of the five categories listed — the provision of finance for investment in new productive assets — with which, naturally enough, the Development Bank is most concerned. Into this category would fall clearing, fencing, water supply, irrigation, pasture improvement, erection of essential farm buildings, the purchase of livestock to improve quality or to take full advantage of (normal) carrying capacity, and the purchase of additional or better farm plant.

All this can be summarised by saying that the orientation of the Development Bank's lending is towards purposes calculated to increase production or productivity. The bulk of its loans goes for purposes which are directly effective in this respect — such as those mentioned in the immediately preced-

ing paragraph. But, other purposes are not necessarily excluded; indeed, where the circumstances are considered to be sufficiently productively advantageous and the money is not otherwise available, the Development Bank will consider providing finance for virtually any rural purpose.

Assessing Production Prospects

It will have been noted that, having regard to the provisions of the **Commonwealth Banks Act,** people cannot obtain finance from the Development Bank merely on the grounds that they wish to undertake development. The Bank must satisfy itself that finance is not otherwise available on reasonable and suitable terms and conditions and also that an applicant's proposals, taken overall, are reasonable, with particular reference to prospects of success.

Assessment of an applicant's prospects of success is often difficult. This is especially so in the rural sphere, for many development projects are spread over a considerable period and the ultimate benefit is slow to materialise. However, in each individual case, the Development Bank endeavours to take its investigation as far as is necessary to form a proper judgment.

To judge an applicant's prospects of success, it is essential, of course, to see if his property is — or is capable (given the resources available) of being developed into — a unit with capacity to earn sufficient to cover operating and living expenses, to replace stock, to provide the plant and improvements needed to maintain production and to redeem borrowings over a reasonable period. (This, of course, assumes that the property is, or will be, the only source of income).

Often, and in the case of the new settler in particular, it is necessary to carry investigations into an applicant's prospects of success beyond the phase of development for which he is (immediately) seeking finance. Indeed, it is not uncommon to find an applicant seeking only £2,000 or £3,000 whereas the total amount of finance needed to develop his property to the point of "break-even" status falls more in the area of £20,000. Sometimes the debt load is obviously too high for the property to carry and the application must be declined (again assuming no other source of income).

Basis for Loans

If there is one thing more than another that emerges from recent experience, it is that anyone seeking to become established in rural industry under to-day's conditions must have a substantial personal equity in his undertaking. Appearances are that this is due to two considerations.

The first is the growing importance of capital as a factor of rural production. Compared with the period prior to World War II, to-day's agriculture is highly capital-intensive. Machinery has become a costly "must"; development of new land follows a different pattern clearing usually calls for use of heavy machinery and subsequent development is often based on pasture improvement (involving the purchase of seed and fertiliser). All these things entail an outlay of **cash** — and thus to-day there is much less opportunity to substitute labour for this outlay. Similar changes have occurred in the

area of working expenses. Fuel, oil, fertilisers etc. must be paid for in **cash** — they cannot, like grain, chaff etc. be produced on the farm.

The second consideration relates to the rate of return on funds employed (i.e. personal contribution **plus borrowings**). In the early postwar period, the increasing importance of capital in agriculture — as well as a substantial upward movement in costs — tended to be masked by buoyant prices over most of the range of rural products and later by increased production. However, costs continued to rise and, by the late 1950's, rates of return had receded to levels which were closer to normal historically. For example, in the "high rainfall zone" of Western Australia, the rate of return on funds employed in the sheep industry (according to the Bureau of Agricultural Economics' sheep industry survey) declined from 6.80% in 1952/53-1956/57 to 3.97% in 1957/58-1959/60. Notwithstanding improvements in several directions during the past couple of years, it would not seem wise to assume that, in the long term, rates of return will be significantly higher.

By way of illustration of one important aspect of the rate of return on funds employed, it might be noted that, where borrowings are subject to a repayment term of 20 years and an annual interest rate of 6 per cent, an operator whose annual rate of return is, on average, 5 per cent, on total funds employed would not be able to handle borrowings in excess of about 60 per cent of those funds and would, therefore, need an equity amounting to 40 per cent. As 20 years is a relatively long borrowing term and, by recent standards, 5 per cent a fairly generous rate of return to expect, the importance of a substantial personal equity is apparent especially when it is realised that total funds employed on the smaller farms in the wheat-sheep category run to £20,000 or £30,000.

It is emphasised that these comments are purely illustrative. The Development Bank does not decide applications for finance according to broad economics. It considers each case on its individual merits and the efficiency, managerial capacity and integrity of applicants are important factors in assessment of proposals.

Also, as is implied in the statement that each case is considered on its merits, the Development Bank does not limit its loans to pre-determined security margins. As already noted, security is not disregarded entirely. However, as prospects of success is the primary consideration and as the Development Bank is a supplementary lender, the security it obtains is frequently by way of second or subsequent mortgage. In most cases, the borrower has given a first mortgage to his trading bank and the arrangements with the Development Bank are such as to leave undisturbed the borrower's existing arrangements with the trading bank concerned.

Because the Development Bank's role is supplementary, it is sometimes referred to as "a lender of last resort." To some extent this description is correct but not in the sense that it could be applied to State rehabilitation authorities who, as a function of government, provide finance where it is not available because of the **doubtful prospects of the applicant.** Development Bank loans are designed to help

those people whose needs are not met by other lenders despite the fact that they have **prospects of success.**

Types of Loans

Requests for loans are received from every sector of primary industry and repayment is usually by equal half-yearly instalments (covering both principal and interest) set according to the applicant's capacity to pay without strain. Long-term loans are made where appropriate. Where necessary, progressive loans (if they are to be drawn over a reasonable period) are provided and "holidays" from principal repayments may be allowed if needed. The present interest rate for loans is 6 per cent per annum.

So far, this article has dealt principally with the Development Bank's lending activities. The Bank also provides equipment finance on hire purchase terms but only for producer goods—machine tools and factory equipment, earth moving plant, trucks and so on and, of course, the whole range of agricultural plant and machinery. It does not extend to motor cars, washing machines or the general range of consumer durables.

Special facilities are available for primary producers. Instead of regular monthly repayments, the man whose only income is seasonal can arrange to pay his instalments seasonally. For example, payments on a new header can be timed to coincide with crop proceeds. And, if the article is designed specifically for an agricultural purpose, the basic annual terms charge is 4½ per cent flat. (For new industrial goods, repayment is by equal monthly instalments and the basic annual terms charge is 4¾ per cent flat.)

Time has proved these hire purchase facilities to be an exceedingly valuable part of the Development Bank's work in assisting people in rural areas to increase production. In fact, transactions originating outside the metropolitan areas during the last year comprised more than three-quarters of the total hire purchase business written by the bank.

Significance of Development Bank Finance

In the four years and three months since it opened, the Development Bank has approved loans and hire purchase assistance totalling more than £112 million.

Loans to primary industry went to about 7,600 people and totalled more than £33 million and loans to secondary industry went to about 875 applicants and totalled more than £14 million. In the hire purchase field, more than 54,000 people received finance totalling in excess of £65 million.

These loans and hire purchase transactions have covered an almost bewildering variety of projects throughout Australia and Papua-New Guinea, ranging from coffee, cocoa and copra in New Guinea, through cultured pearls in tropical waters and the whole range of rural industry—cattle in the North and elsewhere, wool, wheat, dairying, sugar and so on—to mushrooms, berry fruits and trout fisheries

in the southern parts of Australia.

Perhaps the importance of the Development Bank's financial assistance lies not so much in the amount—even though this may be substantial—as in the fact that it is **supplementary** and is applied in a fairly direct way to things that will increase production and/or productivity. And in the sphere of rural finance — as well as in industrial finance — this is its true significance.

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by HENRY P. SCHAPPER

Needed Developments in Farm Accounting

The present situation in farm recording and accounting is characterised throughout Australia by the limited service provided by farm accountants, the limited nature of the demand by farmer clients for improved accountancy services, and the practice of non-farmer users to collect their own farm records. However, in Western Australia there exists an uniquely favourable situation which could readily be developed commercially, to meet the full range of needs of the tax authorities, of farmers in their business decision making, of farm management advisers in their farm management planning, of university agricultural economists in their teaching and research, and of government agricultural economists in policy-making.

The Present Situation

The services provided to farmers by the great majority of accountants is limited to the estimation of taxable income. Although commonly regarded as a service to farmers, perhaps this should more properly be thought of as a service to the Taxation Department, for such records are usually of little use to anyone but tax assessors. (To the extent that the estimation of taxable income is minimisation of the liability to pay tax, it may be regarded as a service to farmers). Certainly the records required, and the calculations made by most accountants, for the estimation of taxable income are quite inadequate as an aid to farm management, or as a source of data for farm management and agricultural economics research and teaching.

One important reason why accountancy services to farmers are so limited, despite a growing interest, is that too few accountants understand sufficiently the role and use of records in decision-making to design a full recording and accounting system for farm businesses. Nor is there an encouraging pressure of demand from farmers for a service beyond that required to satisfy the tax authorities. Nor is it that farmers themselves have adequate records; witness the widespread failure of Departments of Agriculture throughout Australia and in other countries to get farmers to maintain accurate records;

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conversely, the experience of specialised farm accounting services in some countries such as Denmark and in some States of U.S.A. where a farm accountant visits participating farmers every two to four months to keep up the records which at the end of each year are processed centrally. The evidence suggests that most farmers will not and can not maintain accurately an adequate set of records and that to encourage them in this is likely to be futile. Also it would hinder the development of specialised recording services which are now urgently required. It is akin to trying to persuade farmers to make their own butter, or to do their own dairy-herd testing. This point is made notwithstanding current attempts in the U.S.A. to establish mail-in recording systems which rely heavily on self recording by farmers.

Apart from farmers, agricultural economists and management advisers are the chief users of farm records. For a long time they have been satisfied to collect their own data, including income tax returns, as required for their advisory, research and teaching work. Now there are signs that accountants and these other users are beginning to collaborate with one another. The needs of farmers, farm management advisers, agricultural economists in university research and teaching, and in Government administration, are at last being realised, and the key role of accountants who can and will co-operate in the collection, processing and presentation of farm records and accounts is now being appreciated.

Another feature of the present situation is the great variability of recording and accounting practices, even for the calculation of taxable income. Most accountants do little more than fill in the taxation department's income tax form. A few accountants maintain a full double entry system of accounts. Even so, whereas for all accountants the requirements of the taxation returns are the same, and the double entry method is also the same, there is considerable variation between them in the nature, amount and presentation of the financial and non-financial details which they record and process. At one extreme there is, additional to the estimate of taxable income, information which is little more than a competitive frill — the basic purpose of which is to hold the client rather than to help him. At the other extreme (and there is not much between these two extremes) there are the analyses which facilitate comparisons of performance with similar farm businesses. These are a substantial aid for improvement in farm management. This variability of recording and accountancy practices limits greatly the value and use of such records as are kept, and forces some users to collect and standardise for themselves.

There is a brighter side to the present situation. This is the growing demand for standardisation of farm accounting terminology; for standardisation of record keeping; for the extension of record keeping beyond the minimal requirements of taxation, and for the standard calculation and presentation of simple indicators of farm management performance. These demands are emerging from a realisation, widespread throughout Australia, that it is now time that government agricultural policy-making, farm man-

agement decision-making, and farm management and agricultural economics research and teaching should be supported by much better recording and accounting services. Accountants and agricultural economists are already getting together; the Australian Agricultural Economics Society has a Committee on Terminology and Procedure in Farm Management Accounting and there is the pioneering work of a Western Australian accountancy firm in this field.

The Needs of Users

The main users of farm records and accounts are tax authorities, farmers, farm management advisers and agricultural economists. There are other users, for example, credit agencies, but their requirements would probably be more than adequately covered if a comprehensive set of records were kept to meet the needs of the main users. These are persons requiring farm records and accounts for the following purposes: —

(i) Estimation of taxable income.
(ii) Farm management planning.
(iii) Comparison of a previous plan with the subsequent performance or outcome.
(iv) Determination of financial status
(v) Analysis of farm business and household financial relationships.
(vi) Sources of data for management and economic research and teaching.

Comprehensive recording and accounting systems to serve all of these purposes have not yet been designed for use in Australia, though the need is great.

Records and accounts which will satisfy the minimal requirements of the Taxation Department by themselves contribute very little indeed to meeting any of the needs of the other users. Ideally, in farm management planning, the farmer and the farm management adviser should plan within a medium to long-term frame—work or goal structure. This may be set down as a five or ten year farm plan and budget. Within this structure they should draw up annual plans to be tested by comparative budgeting. In time no doubt this will be done by computer programming methods. The process of farm management planning would be facilitated by the presentation of accounts and records from which appropriate adjustments could readily be transferred to columns which become intermediate or comparative budgets and eventually the final budget.

It is also part of the farm planning process to compare the plan with its outcome, and with the outcomes of the plans of other farmers. This evaluation requires as a first step, comparison of the last budget with the accounts, and the calculation of meaningful indicators and ratios and their comparison with those of other farmers. It is possible and desirable to design a set of records and accounts in which the following are integrated —

(i) Budget for next year.
(ii) Comparison of last year's budget with actual performance and outcome.
(iii) Comparison of various facets of management with those of other farmers.

In farm management planning it is necessary to review regularly the farmer's true financial status. This can

be of major importance, particularly for large farmers, in order to estimate whether it may be advisable to re-structure the ownership of farm assets. It can also be of major importance to farmers contemplating a large programme of development, expansion or re-organisation, involving a substantial increase in liabilities.

Farm business and household financial relationships do not generally receive much attention in even the more elaborate sets of farm accounts. Both farm management planning and household planning would be greatly facilitated if the following information were presented:

Income

- Gross farm income.
- Off-farm income.
- Other money received.
- Loan
- Gift
- Legacy
- Other

Expenditure

- Farm operating expenditure
- Farm capital expenditure (net of capital sales)
- Household expenditure (living and vacation)
- Children's education
- Taxation
- Off-farm investment
- Interest
- Repayment of liabilities
- Gifts
- Insurance — (life and endowment)
- Change in cash in bank

Such a statement would bring together the major items of receipts and payments for the whole farm business and household. It too, should be part of the budget statements and subject to the same scrutiny.

Finally there are the requirements of researchers and teachers. They want to be able to rearrange in various ways particular items of farm information, to make various estimates and to apply various mathematical tools to farm performance data. It would greatly facilitate this work if farm and household records were maintained as set out above.

It must not be thought that it is practical to maintain records which will satisfy all the needs of all users. Special surveys and census collections would be needed by researchers and policy-makers from time to time if most accountants were to undertake comprehensive recording.

The foregoing merely serves to indicate the purposes to which the main users of farm records and accounts would put them if they were available. But it suggests also that collectively the users require standardisation of definition, of content, of calculation, of analysis and of presentation, between accountants. Unless these are standardised it is doubtful whether accountants should go beyond their present restricted type of service. Merely to increase the number of sets of detailed farm records and accounts, so highly differentiated as at present as to make comparisons virtually impossible or meaningless, is likely to involve farmers in substantially increased costs without any chance of

a commensurate return. On the other hand those accountants who do not go beyond their present taxation service may well lose part of their clientele to those who are able and willing to link up with those who may be prepared to standardise. Just as standardisation in manufacturing has led to economies of larger scale operations and forced the smaller man out of business or into a merger, so the pressure of demand for comprehensive and standardised recording and accounting is likely to bring changes in the nature of country accountants' practices.

Obstacles to the Fulfilment of Needs

There are four major obstacles to the provision of a full recording and accounting service for the main users. These are: —

(i) The structure of the accountancy profession.

(ii) The inability of most farmers to use, unaided, a comprehensive set of farm records and accounts.

(iii) The practice of farm management advisers whereby each collects his own information and processes it in his own way.

(iv) The fact that accountants' skills generally do not include those required to actively and directly assist in farm management planning or decision-making.

The structure of the accountancy profession and its rules and code of ethics are an obstacle to the standardisation of recording and accounting procedures. Numerous single-operator and small partnership practices barred by a code of ethics from the full rigors of open competition are not conducive to innovation among accountants, nor to the agreement between them which is so necessary for widespread standardisation. How to overcome this obstacle is the profession's problem. But yet again a profession's code of ethics is likely to yield to economic exigency.

The inability of most farmers to interpret and use, unaided, a comprehensive set of records and accounts dampens the effective demand for accountancy services and probably explains why the vast majority of farmers are content with the limited service provided by accountants. This constitutes an obstacle to the development of better services, though the Farm Management Advisory Service movement is, in the near future, likely to stimulate demand. Is this not the time when accountants should be experimenting with the design of comprehensive records and accounts and feasible and attractive prices for all recording, processing, analysing and presentation?

At present, farm management consultants do not appear to favour the efforts of those accountants who are trying to develop recording and analysis beyond the minimal taxation requirements. Most of them, however, collect and process a considerable amount of data and maintain their own specialised records. For this there are many reasons. Their farmer clients are not all served by the same accountants, so that to standardise for purposes of comparison the farm adviser must do it himself; not all farm advisers can or do use records adequately; many farmers prefer not to change their accountant and advisers rightly

enough prefer not to press the farmer to do so; some advisers think the extra cost is not warranted; there is not as yet an adequate system of record and accounts available, and the adviser is compelled to maintain his own. Doubtless, if a comprehensive and standardised system were available, farm management advisers would encourage their clients to avail themselves of it. It would facilitate their own work and widen the area from which they could make comparisons. Moreover, it would make possible better and new analyses by advisers and University researchers, and enable computer programming to be put on a commercial basis. In these ways farm management advisers would be able to increase their own efficiency.

A final major obstacle to the fulfilment of users' needs is the accountancy profession itself. Generally speaking, accountants do not have the training to directly assist in farm management planning or decision-making, apart from tax planning. Consequently, they are not likely to design, unaided, a system of records and analyses adequate to meet the needs of the main users—other than their old adversary, the tax collector. The outcome of all this is that accountants seldom try their hand at design, and those who have done so have not yet succeeded in meeting the users' requirements as outlined above.

Approachable Ideal in Western Australia

In Western Australia there is an uniquely favourable situation whereby a comprehensive farm recording and analysing system could be established to meet most of the needs of all users. The particularly favourable element in the situation in Western Australia is the existence of a firm of accountants which, as standard procedure, specialises in the collection of accurate information for the preparation of several thousand farm accounts. It has a large field staff which does the recording on the farm. This minimises the farmer's participation in record keeping (which may not be entirely desirable) but certainly permits the highest standards of uniformity and accuracy to be reached.

The second important and favourable element is the existence of over 50 Farm Management Advisory Services in Western Australia. This number is increasing at the rate of 10 or more each year. The advisers of these do a large amount of recording and a limited amount of analysing for the reasons already outlined. But they should be viewed as an important group of potential users of comprehensive and standardised records, and of the analyses which could be made centrally and more efficiently by an expert analyst.

Two points now become evident. On the one hand, the functions of collection, analysis and presentation, and on the other hand, the use of records and accounts, including comparative budgeting and evaluation of previous plans, can be performed by separate specialists. The second point is that this division of labour will release the adviser from much of his collection and calculation work, and could provide him with analyses he does not and cannot undertake, and thereby generally increase his efficiency as an adviser.

The third favourable element in Western Australia is that in the University and the John Thomson Agricultural Economics Centre there is a small group of agricultural economists who have both practical and theoretical training and skills in farm management planning and analysis. They have already had experience with accountants and they would like to be able to co-operate in the design of a comprehensive system. For them the **quid pro quo** would be ready accessibility to comprehensive standardised and anonymous data for teaching and research. Some of this research could be of direct and immediate use to advisers of Farm Management Advisory Services.

Finally, there is in Western Australia electronic and high speed processing and computing machinery around which the recording, processing and analysis of farm data could be organised.

Conclusion

Farm accountants throughout Australia have a key role in the design and establishment of a standardised and comprehensive system of records and accounts for the needs of most users. These have been outlined. There exists in Western Australia an uniquely favourable situation which could readily be developed commercially, to meet the full range of needs of the tax authorities, of farmers in their business decision making, of farm management advisers in their farm management planning, of university agricultural economists in their teaching and research, and of government agricultural economists in policy-making.

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AGRICULTURAL ECONOMICS GROUP, UNIVERSITY OF WESTERN AUSTRALIA

The Supply and Selection of Farm Management Advisers for Western Australia

During the last five years fifty groups of farmers in Western Australia have formed Farm Management Advisory Services (Clubs). Thirty-five have now appointed Farm Management Advisers and the remaining fifteen are searching for advisers or are in the process of appointing one. It is not surprising therefore that the shortage of suitably qualified advisers has been widely discussed

Size and Growth of Advisory Movement

The present size of the private farm management advisory movement can best be appreciated when it is compared with the existing Governmental agricultural scientific services available to farmers in the State. The total number of agricultural scientists in the Department of Agriculture, the Commonwealth Scientific and Industrial Research Organisation and in the University of Western Australia is about 200, of which 78 are engaged full-time in advisory work. Of these 78, about 34 are stationed permanently in country areas and the remaining 45 are in Perth. Thus, when all the existing services have advisers, they will form 60 per cent of the total number of agricultural extension workers in this State.

At present only eight per cent of farmers in the agricultural areas are members of farm management advisory services, but where services have been formed, about 20 per cent of the farmers are members. If 20 per cent of the 20,000 farmers in the agricultural areas of Western Australia were to form their own farm management advisory services, 120 advisers would be required. The number of advisers associated with the movement would then exceed the number of extension officers now employed by the Department of Agriculture.

The rate of growth of the farm management advisory service movement has been very rapid; more than half having been formed in the past year. Even so, the growth of the movement is at present severely hampered by the lack of suitably qualified advisers. The major function of the adviser is to help the farmer to improve his financial position, both in the short and long term. It is widely

This contribution has been provided by the Agricultural Economics Group at the Institute of Agriculture within the University of Western Australia.

believed that to be able to do this the adviser requires a knowledge of some of the natural, physical and social sciences at University level, supplemented by training in the application of his knowledge and by experience in the field. This knowledge and training could be obtained through the normal University degree in Agricultural Science, specialised training in farm management extension and practical farming experience.

Qualifications

Few farm management advisory services in Western Australia are staffed by advisers who fulfill all of these requirements. The first services, formed in 1958 and 1959 were staffed by advisers from New Zealand where the farm improvement club movement had already been in operation for about 10 years. These advisers generally held a Diploma in Agriculture and a Diploma in Farm Management. Most of them were Rural Field Cadets which means they had been specially selected in their sixth year at high school for training for governmental work in land development, settlement and valuation and in agricultural credit. After selection they were required to undergo closely supervised practical work on selected farms throughout New Zealand and special short courses at both of New Zealand's University Schools of Agriculture. However, these persons were not specifically trained, as are degree students, in various science subjects. The earlier appointments went to diploma people who had high rather than medium and low levels of achievement in their class studies.

Members of farm management advisory services in Western Australia formed a Federation in 1961, and with the Australian Institute of Agricultural Science as co-sponsor published an informational booklet for other farmers desirous of forming advisory services. This booklet is still the most useful source of information on the formation of a service, on advertising for an adviser and drawing up a contract with the successful applicant. In assisting in the selection of suitable advisers, however, the Agricultural Economics Group at the University of Western Australia has since gained additional understanding of the problems involved. Some of these are outlined in the remainder of this article.

Advertisements for advisers have generally been placed in daily newspapers in New Zealand and Australia and in newspapers and farming periodicals in the United Kingdom. During the past year—the period of greatest expansion of the advisory movement—only one Australian has been appointed to the position of adviser. Five have been appointed from the United Kingdom, four from New Zealand; and one from the United States.

The advisers from the United Kingdom differ from the New Zealand appointees in two important respects. Firstly, they are University graduates in agricultural science, mostly with training in agricultural economics. Secondly, not all of them have had specialised training in farm management. Those who lack formal qualifications in farm management have usually had lectures on farm management techniques and up to several years experience in farm management

advisory work in England's National Agricultural Advisory Service. Some applicants have obtained a post-graduate diploma in farm management given by a number of the Universities and agricultural colleges in Britain.

Selection

Just as most advisory services have sought the advice of the Agricultural Economics Group at the University of Western Australia in advertising for advisers, so most services have also asked the same people to select and list the most suitable applicants from the total applying. To do this satisfactorily it is necessary to have a working knowledge of the academic standards of the Universities and agricultural colleges in the United Kingdom, Australia and New Zealand and of the type of experience obtained in employment with Departments of Agriculture and other government departments, with commercial firms and on farms in all three countries. A number of English trained applicants have been employed by the colonial service in African countries and a knowledge of the type of work performed by agricultural officers of this service is also desirable. A knowledge of the academic referees given by applicants is likewise of considerable value. Without this specialised knowledge the unbiassed selection of applicants from such different countries is hardly possible.

No matter how carefully the academic and practical qualifications of applicants are checked, it is impossible without personal interview to assess their personality. For applicants from Britain there is now an expert interviewing committee in London. It interviews selected applicants, further checks their training, experience and personal characteristics, and forwards a confidential report on each to the particular farm management advisory service in Western Australia. For applicants from New Zealand, members of the staff of Lincoln College, where all persons with the Diploma in Valuation and Farm Management are trained carry out functions similar to those of the London Committee. Farmers in Western Australia are ill-advised to by-pass the selection services of the London or New Zealand "committees" or those of the Agricultural Economics Group. There is one exception to this, however. It is where an experienced adviser has already given satisfactory service and farmers in the same district are desirous of forming a second or third group and of appointing an additional adviser to work with or adjacent to the existing adviser. In these circumstances the existing adviser may, through his personal knowledge of a contemporary in England or New Zealand, be safely relied upon to recruit a suitable additional adviser. In all other cases it is advisable to use the existing selection machinery.

Source of Advisers

Until recently it was possible to readily obtain experienced advisers from New Zealand, where salaries paid to these persons were considerably less than those offered in Western Australia. However, the number of advisers trained there in recent years has declined and many of them are under bond to work in government departments for five years after completing their training. Although the New

Zealanders have demonstrated that their training has well suited them for this type of work, the main source of supply in the immediate future will probably be the United Kingdom, where a larger pool of reasonably qualified people exists. Recently the majority of appointments have gone to applicants from Britain, but it is too soon yet to assess their performance in the field.

The number of Australians appointed has been less than from any other source, because specialised training in farm management extension is not given in Australia. This means that Australian applicants who are graduates in agricultural science or who have only a diploma of agriculture from an agricultural college are competing with persons from New Zealand and England who have, in addition to these qualifications, a post-graduate or post-diploma year of specialised farm management training. Moreover, Australian degrees in agricultural science, including sections dealing with agricultural economics, are far more oriented towards the research end of the research-extension spectrum than the degrees of many Universities in Britain. Furthermore, specialised diplomas in farm management extension have not been established in Australia as in Britain and New Zealand. Until such training opportunities are established it is likely that the search for advisers will continue to be overseas. It is expected that New Zealanders will continue to be recruited, but the chief source will continue to be the United Kingdom. and it is expected that it will continue to be so.

At the present rate of formation of farm management advisory services the supply of British applicants appears to be barely adequate. Some farmers' groups have received applications from as many as six suitable people but others have had to advertise twice to obtain a suitable applicant. The main difficulty is not in obtaining University trained applicants with advisory experience, but in obtaining applicants with specialised farm management training. There is little doubt that if a post graduate course in farm management were established in Western Ausralia, University trained people with practical farming and advisory experience could be recruited from Britain for farm management training here. This would improve the supply of advisers for Western Australia in the short run, though the farm advisory movement in the Eastern States may begin to expand at the same rate as in Western Australia and to recruit advisers in the United Kingdom. For the longer run a post-graduate diploma offered in Western Australia would most likely attract local students into agricultural science and into farm management extension.

Improvement of Selection and Supply

Farmers could cheapen and streamline the present system of recruitment and appointment of advisers. At present most groups advertise individually for advisers in four New Zealand daily newspapers, seven Australian dailies and four papers and journals in the United Kingdom, at a total cost of £150 or more. A survey of where applicants obtained their knowledge of vacancies

revealed that six periodicals and newspapers at a cost of about £50 accounted for all applicants except one. Australian newspapers have so far failed to provide results and no adviser has been obtained in Western Australia by advertising in the Newsletter of the Australian Institute of Agricultural Science (cost £62).

Normally a period of about one year has elapsed between the formation of a group and the appointment of an adviser. This could be shortened considerably if a general advertisement for advisers were placed in selected newspapers at regular intervals by the Secretary of the Federation of Farm Management Advisory Services of Western Australia. Arrangements could be made for prompt short listing of applicants and for their immediate interview. Names of those selected could then be obtained directly from the Federation after payment of an appropriate share of the costs of advertising. In this way the time and cost of obtaining an adviser could be substantially reduced and the large amount of time devoted to this work by the Agricultural Economics Group at the University could also be reduced.

From the likely excess demand for advisers for some years ahead and the strongly held opinion in some quarters that a degree in agricultural science is a sufficient qualification for successful farm management extension, there will be a growing temptation by farmers to appoint unsuitable persons as farm management advisers. Farmers are strongly advised to use the existing selection machinery and to guard against acceptance of the idea that formal training constitutes an adequate qualification for an adviser. Certainly formal qualifications are important, but non-educational qualifications are also of tremendous importance. It is important too for farmers to realise that not all degree or diploma holders are personally suited for this work, nor do all degrees or diplomas in agriculture constitute appropriate training.

Finally, the establishment of a post-graduate diploma course in farm management of high standard in Western Australia is likely, by virtue of its existence, to increase the supply of suitable advisers for the State and to maintain and raise the quality of the work of those already appointed. Strong farmer demand and support for such a source is a necessary prerequisite for its establishment.

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