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PROBLEMS OF RESOURCE USE ON THE FAMILY FARM

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The Australian concept of a 'home maintenance area' assumes that the family to be maintained does not change over time. In fact, however, the family changes considerably over time in numbers, composition, vigour, needs and productive ability. Consequently the 'family farm' is seldom a fixed unit for either production or consumption but varies in its structure and needs with different phases in the developmental cycle of the family.

Despite evidence for the close interdependence between the farm and the family, concepts of what constitutes 'family farming' are frequently vague and sometimes misleading. Thus, in a recent American report,¹ all farms were considered to be family-operated units if they used less than 1.5 man-years of hired labour, and larger-than-family if they used 1.5 man years or more. The dividing line of 1.5 was taken 'since the labour supply of the average farm family is approximately 1.5 man years'. Under this definition a broiler farm operated as a sideline by a feed-merchant and employing one hired worker would be classified as a 'family farm', but a farmer who employed two of his sons on wages would have a 'larger-than-family farm'. Nonsensical definitions of this nature have been avoided in Australia, but Lewis² has indicated that the term 'home maintenance area' has been subject to a wide variety of interpretations by land settlement authorities and by critics of its use as a concept on which to base settlement. Supporters and critics alike have recognized the effect on the adequacy of 'home maintenance' of changes which occur over time in economic and technological circumstances. Little attention has been given, however, to the social and demographic factors which result in changes in the size, structure and effectiveness of the family which operates a 'home maintenance area'. The purpose of this paper is to illustrate the need to take account of family changes when considering either the economic efficiency, or the problems, of family farming.

Before examining the effects of family changes on resource use it is necessary to outline the phases in the developmental cycle of the family.

The family developmental cycle.

There are four distinct phases in family development.

The phase of expansion which starts at marriage and ends when the youngest child achieves adult status, either by reaching the age of 21 or through marriage at an earlier age.

The phase of dispersion which starts when the first child achieves

¹ *Family and Larger-than-Family Farms*, U.S.D.A. Agricultural Economic Report No. 4, Jan. 1962.

² Lewis, J. N. 'Is the Concept of the Home Maintenance Area Outmoded?' *Australian Journal of Agricultural Economics*, Vol. 7 No. 2, Dec. 1963, p. 97.

adult status and is free to leave home and ends when all the children have achieved adult status and left home.

The phase of independence which starts when the last child has left home and ends in retirement.

The phase of replacement which starts when the parents retire and ends when they are dead.

The onset and duration of these phases is influenced by the age of the wife at marriage, the length of the wife's fertile period, the family's health and expectation of life and the age and conditions of retirement. Not all families exhibit all phases and the onset and termination of one phase may overlap those of another.

For the purposes of examining some of the influences of the family developmental cycle on resource use we can consider a simpler division of the cycle into three stages.

Stage I: Early married life, when children are not of working age. This stage extends over part of the phase of expansion.

Stage II: Middle married life, when one child or more is available for work on the farm. This stage includes the remainder of the phase of expansion together with the phase of dispersion.

Stage III: Late married life, when children are living independently of parents and parents either have retired from the farm or are left alone again on it. This stage includes the phases of independence and retirement.

Different combinations of farm and human resources can create different problems in each of the three developmental stages of the farm family. Many combinations are possible but for illustrative purposes two situations in relation to farm resources can be taken. These situations are:

- A. Where farm physical resources are rather small and capital supply is limited.
- B. Where farm physical resources are quite large and capital is reasonably readily available.

These two situations will now be examined at different stages of the family developmental cycle.

STAGE I: Early Married Life

Situation A: Farm resources rather small and capital limited.

Under these circumstances the farm and the home compete for the use of scarce resources. If the new separator is required the home may have to make do with a kero-fridge but, if twins are on the way, bassinets, prams and nappies may take precedence over new milking machine rubbers. Constantly, family needs and farm needs have to be weighed up, one against the other, and frequently disagreements can occur over allocation of resources.

The size of the resources are important, too; a man and his wife and two children may be able to get by without too much hardship on a farm of a particular size and stage of development but, if they have six children, either farm or family welfare is likely to suffer.

The pressure of work on the small farm operated with limited resources can lead to a work-centred life for both husband and wife, with little time for recreation or cultural pursuits, or for obtaining farming

knowledge and experience beyond that of the immediate district. A narrow frame of reference can lead to a narrow view of farming matters and the education and welfare of the family. Thus children can be deprived of the education which would give them the opportunity to use their talents out of farming or which would give them the desire to improve their knowledge of agriculture. Farmers' sons whose experiences of agriculture are confined to their home environment, and whose capital resources are restricted, tend to compete for the limited number of farms available in old established farming areas. There is thus a tendency to 'bid-up' the price of land there relative to the price of land of equivalent productive potential situated in less settled regions.

Situation B: Farm resources larger, capital available.

In the early stage of married life the major problems in this situation centre around the provision of labour to operate the farm.

Because of difficulties in finding or keeping satisfactory employed labour, there is the same tendency as on smaller farms for the farmer to overwork himself, and to be anxious for sons to help outside school hours and to leave school for work on the farm. The conflict over education is accentuated by the fact that the farmer can usually afford to give his children a good education, but may have to sacrifice labour efficiency on the farm if he lets them stay on at school or take higher education. In addition, there is the fear that once away from the farm, and with a broader education, children may wish to take up other careers and not return to the farm. Where farmers are married to women who were teachers or nurses the conflict may be acute, since they have had further education and can see the benefit of it for their children.

The birth position of a farmer's son in the family may influence whether or not he leaves school early or continues with his education. Thus an eldest son may be constrained to leave school as soon as possible for work on the farm but the pressure may not be so great for a youngest son to curtail his education. Jealousies between brothers can well arise from this in the future. Decisions between farm work and education will be affected by the stage of development of the farm and its need for labour, and also by the ages of parents relative to the ages of children.

Farmers' daughters may receive education to a later age than farmers' sons because the need for them on the farm is not so great and because frequently there is no socially acceptable local employment for them. A longer education and a wider subsequent occupational range can lead to the movement of farmers' daughters from their local area and an eventual shortage of local marriage partners for farmers' sons. Teachers and nurses entering the district from outside provide the obvious answer but frequently the demand exceeds the supply!

The level of education attained by farmers' sons will vary with the customs and values of the district which themselves will have arisen under the influence of past events in the development of the district. In districts where a high value is placed on educational achievement, or where it is socially the 'thing' to send sons away to school, there are likely to be more acute problems with labour than in areas where sons stay at local schools and leave early. Sons of families who deviate from the normal educational pattern for a district are likely to have difficulty 'fitting in' socially and economically with their farming contemporaries.

Thus sons who started to work on the farm at 15 in an area where most sons continued at school will belong to a different circle of friends and have different values and outlooks, factors which may well affect their business contacts when farming on their own account and their approach to the problems of their farms. Where the converse situation applies, sons returning from school or college may feel like fish out of water and have difficulty in working within what, to them, may appear a restricted and parochial local environment.

Farm families which in the early stage of married life need to employ labour often experience difficulties with the families of the workers. Wives may not 'get on' because of differences in their incomes, their standards and their values. Children may be a source of conflict and the enforced necessity for social contact may create tensions if the wives have little in common. Single men living with the farmer may be a source of trouble, particularly if they are of the transient type with an unknown background.

With employed men, whether single or married, the problem is frequently one of unreliability. Many lack experience, training or interest in the job, and, with no career scale to look forward to, have not the same incentive as the farmer to work either hard or well. This is not always the fault of the worker. Farmers who dismiss labour in a slack period and hope to re-engage someone for the next busy season can hardly be surprised if all that is available is the unemployable from other occupations or areas. The difficulties of fitting in socially, the relative isolation, and frequently the lack of amenities equivalent to those in the city, all combine to make many potentially useful men return to the city because of their own dissatisfaction, or that of their wives, with rural conditions.

STAGE II: Middle Married Life

Situation A: Farm resources rather small and capital limited.

At this stage the family problems on the smaller farm are concerned with the future occupations of the children, and decisions about which children remain on the farm and eventually take over from parents.

Where a farm can just provide work for the farmer and one child, conflicts may arise over which child should remain at home to help. If the parents are young and an eldest son remains at home, he may reduce his chances of marriage should the farm be incapable of providing adequately for two families. If the eldest son leaves the farm and a younger son remains, this may lead to conflict between the brothers in the future over the disposition of the inheritance. Particularly bitter conflicts can arise when sons leave the farm but a daughter remains—perhaps with a widowed father—and then she subsequently marries a man who takes the place of a son in the farm business.

When farmers with small farms and limited capital resources attempt to set up all their children in farming, they frequently can only do so by depleting their existing farm resources, with adverse effects on the productivity and profits of their farm. Obviously, the size of farm business and the size of family interact. If the farmer has only one child it may be possible to expand the farm business sufficiently to provide for two families. A family with two sons on the farm and a farm orientated daughter who married young would require three times the farming or

capital resources however, if all were to be settled on the land and given the standard of living to which they had been accustomed.

Not all factors concerned with the farm family life cycle are controllable by the family. For example, accidents sometimes happen, and some people marry sooner than expected or planned. Such events may catch a farm business unawares, with a father too young to retire, or not in a financial position to buy a farm in a hurry. In one English farming area, 40 per cent of the farm families had prenuptially conceived children. Social factors of this nature can be extremely important determinants of the demand for farms in a district, but they are not usually taken into account by either economists or financial institutions.³

Situation B: Farm resources larger, capital available.

For the larger farm business the problem of labour is solved when sons become available for work at home. But the problem of how to provide for their future then becomes predominant. If at this stage in the developmental cycle of the family, a farmer can obtain additional land locally, it can be worked in conjunction with his existing holding. Subsequently, the larger business can be parcelled out between the children when the parents retire. The more closely settled a district is, however, the more difficult it will be to obtain locally an adequate amount of extra land at the time it is required, and at a price the farmer is willing, or able, to pay. The alternatives are to buy some land at a distance, or for the whole family to move to another area in which are available farms of sizes considered by the farm family to be adequate for their present and future needs. The first of the two alternatives may be cheaper in terms of capital invested in the land, but will necessitate some 'doubling up' of capital on machinery.

The movement of the whole family to a new farming area may lead to both social and economic problems. Compared with developing new land from an established and productive base, starting afresh completely may prove a very big drain on capital resources, because of the additive nature of the investment needed to bring new land into full production. In addition, the whole physical and social environment and way of life of the family may change. Axle-deep sandy tracks may take the place of bitumen roads, and the nearest shop, social centre or even hotel could well be 40 miles or more away. The youngsters may thrive on the challenge, but the adjustments necessary to their established pattern of life may be difficult to make for some parents. With children in their late teens and early twenties, many farmers' wives may be placed in these different circumstances just at the 'change of life'. The combination of physiological, emotional and environmental changes may prove too much for some wives and result in mental stress, with both social and economic effects on the farm family.

When a whole family moves from one old-established area to another, the problems faced are likely to be related to 'fitting-in' with other people. In a newly-developed farming area, everybody is a newcomer and all learn the ropes together, thus establishing a social system adjusted to their environment. But a family entering an established area

³ Nalson, J. S. *The Mobility of Farm Families*. Unpublished Ph.D. thesis, Manchester University, 1962. A summary of the main points of this thesis, with comments on their implications for farming policy in Australia is given in Nalson, J. S., 'Mobility of Farm People', *Farm Policy*, Vol. 2, No. 2, Sept. 1962, p. 60.

has usually to adjust its values, attitudes and ways of life to fit in with the existing system. Their returns and their farming efficiency may suffer because they don't know the right people to deal with or the appropriate techniques of farm production. Equally their pride and 'face' may suffer when they contrast their accepted place in the society they have left with their feeling of being an outsider in the society to which they have come.

At the stage when sons take an active part in the operation of the farm, many farmers would like to stimulate their interest by giving them a share in the profits of the business. Although farmer and wife partnerships are very common, farmers often avoid partnership arrangements with their sons. There appears to be a widespread belief that 'partnerships don't work out or usually end in trouble'.

It is likely that conflicts will arise in many partnerships. But this does not mean that they should be avoided. Rather it should be recognized that a partnership passes through a cycle of usefulness which is related to the developmental stages of the farm family and to the stages in the life cycles of the members of the partnership.

A partnership need not have been a failure because eventually a split occurs. Sons in partnership with their fathers may have built up an equity faster than if they had started out alone; later on, partnerships may have preserved the family assets from the depredations of death duties and brothers in partnership may have been able to meet the financial and labour demands of early married life better than each could have done if operating his own farm alone.

The length of operation of partnerships, their usefulness to the partners and the degree of conflict within them will vary with the financial circumstances, the size and composition of the families and with the personalities and objectives of the people concerned. They should be judged, however, not on the length of time they persist and the circumstances under which they are dissolved, but on their overall usefulness from their inception to their dissolution.

STAGE III: Late Married Life

At this stage, on both smaller and larger farms, the family problems are concerned with the continuance of the farm business into the next generation and with the disposition of its assets between heirs.

Situation A: Farm resources rather small and capital limited.

The smaller farm may be large enough to support one family but not to support two. Consequently, if a son on such a farm marries and wishes to remain in farming, either the parents have to retire in his favour or the son has to try and make a living elsewhere. When the capital assets of the family are not large, the provision of a home and supplementary income for retired parents may strain considerably the financial resources of the son and make it difficult to operate the family farm effectively. Because of these difficulties, some sons on small farms may decide, or be constrained by parents, to remain at home single. The longer they remain single the less will be their chances of marriage. This is because there is usually a shortage of marriageable females in country areas due to a greater movement to the towns of single women compared with single men.

A single man in his thirties, and living with his parents on a small farm, is restricted in his choice of marriage partners. His female contemporaries have either left the district for the city or are already married to farmers who were in a better financial position, which enabled them to marry at an earlier age. Faced by these circumstances, the single son may well remain a bachelor, or marry someone much younger than himself on the death or retirement of his parents. Such a marriage could result in a bachelor farmer in the next generation, when the husband dies leaving a relatively young wife with a son as her main support for perhaps the twenty years by which she survives her husband.

If the estate of a farmer who operated a small farm is divided equally amongst the heirs, it is unlikely that the farm can be split up into holdings which will provide a living for each. In many peasant communities this fact has been recognized for centuries and either primogeniture or inheritance by one child only has been the custom or the law. In western society, egalitarian principles tend to prevail and this leads to conflicts over the inheritance of farms. Either the farmer can preserve the farm intact by leaving it to one child, but thereby going against one of the recognized principles of his society, or he can direct that all heirs share equally in the estate, and thereby ensure that the farm will have to be sold and the family association with it terminated. Whichever course he adopts it is hardly likely that all parties will be satisfied.

Situation B: Farm resources larger, capital available.

When farmers' wives reach their early 40's, the limit to the size of the farm family is known with a reasonable degree of certainty. At this stage in the developmental cycle of the family, the desire to provide adequately for all heirs may become a dominating influence upon the management policy and the productivity of the farming businesses of farmers who can command reasonable amounts of capital.

Examined from the viewpoint of increasing the immediate productivity and profits of the farm business, capital, labour and mental effort may be better spent in some farm businesses on intensifying the operation of existing farm assets rather than on the acquisition and development of more land. Here, I suspect that farmers are wiser and more far-seeing than some of us who advise them. Beyond a certain level of profits, which will vary for each individual in accordance with a whole complex of personal, demographic, social and economic factors, many farmers may consider it more important to acquire more land and build up future capital assets for the benefit of the rising generation than to increase their current income. Furthermore, when a farmer is thinking in terms of half a lifetime rather than a span of 5 to 10 years, increasing the acreage available to the farm business may be preferable to intensifying the operation of the existing business. We hear a lot about how the application of new techniques and systems of farming can result in 1,000 acres producing as much as 2,000 acres used to produce. But there is a tendency to forget that other countries and other areas are adopting new ideas and new techniques, too. As a consequence, it may well be necessary for farmers to adopt new ways, merely to keep abreast with competing regions and with changing market forces. Thus in 20 years time, a 2,000 acre farm, greatly intensified and better managed compared with today, may only give the same relative standard of living

as enjoyed at present. Concentration on an existing farm, and eventually splitting it between two heirs, may condemn them to a lower standard of living in the future.

The greater the assets built up in one generation the more capital which can be lost in the form of death duties. In recent years many farmers with considerable capital assets have been adopting various forms of hedging against death duties. But there has been little systematic investigation of the effects of different methods of 'probate hedging' on either the management or productivity of farms at different stages in the family developmental cycle.

NEW APPROACHES TO THE PROBLEMS OF FAMILY FARMS

Economic trends are likely to lead to further increases in the size of farm business necessary to maintain a particular standard of living. This will increase the amount of work which has to be done on family farms and will require increases in the amounts of working and investment capital. To meet these demands placed upon family farms, farmers and policy-makers need to make considerable changes in their approach to management responsibilities on the farm, labour organization and recruitment, and the settlement of new land.

Changes in management responsibilities on the farm

Compared with people in other occupations, a higher proportion of farmers remain at work over the age of 65.⁴ Although not necessarily engaged actively in the physical work of farming, the fact that they are still on the farms can lead to conflicts with the younger generation. A farmer of 65 who married at about 25 could have a son of about 40 who may still have to defer to his father's opinions or even to his decisions. Earlier retirement of farmers, coupled with earlier marriages, could help to relieve the tensions between parents and children over the management policies of the farm. It could also even out the availability of family labour for operating the farm and give scope for farmers' children to stay longer in full-time education.

In real life situations numerous factors will influence age at marriage and age at retirement. The important point is that the later the age of marriage and of retiring, the longer will be the 'labour gap' in the family developmental cycle, a gap which will have to be filled by employed labour or by curtailing the period over which farmers' sons receive full-time education. To meet different family circumstances, it should be possible to work out schemes for sharefarming or partnerships and for transferences of property in which each party has particular responsibilities and duties at different stages of the changeover process, and in which each receives a share of the net proceeds of the business commensurate with his contribution to it.

⁴ In Western Australia, at the 1954 census, the number of males employed in primary industries (excluding mining and quarrying) was 19% of the number of all employed males. In the same census, the number of males over the age of 65 employed in primary industries (excluding mining and quarrying) was 33% of the total number of employed males over the age of 65. Within the primary industry grouping, the number of males over 65 was 5.2% of the number of all males employed. This compared with 2.9% over the age of 65 for employed males in industrial groupings.

Changes in labour organization and recruitment

Farmers recognize that they are competing with other occupations for a supply of labour, but they and policy-makers need to realize that this competition can only be met either by offering equivalent wages and working, living and social conditions to those which can be obtained in the city, or by offering added incentives which compensate for the lack of equivalent conditions.

Sharefarming has traditionally been considered the first rung of the farming ladder. We will always have people who are willing to face rather primitive living conditions and a long hard struggle to achieve their aim of a farm of their own. This type of man could perhaps be encouraged further by an extension of sharefarming from cropping and dairying to other livestock enterprises. Why is it not possible to share-farm a herd of pigs or a flock of sheep? Why should a farmer whose primary interest is in growing grain not 'let-out' his stubble grazing and sown pastures to a sharefarming sheep-grazier?

Whatever the developments which could be made in sharefarming, they will still only provide a proportion of the permanent labour needed on family farms at certain stages of the family cycle. The rest must come from men whose main interests are in a good wage, adequate leisure time and modern amenities for living.

It may become necessary to adopt industrial practice and pay for a standard number of hours with overtime rates for work beyond that. Even with livestock this need not be too difficult to operate, since, on all except the largest farms, the farmer himself would take a direct interest in and responsibility for the welfare of the stock.

When a worker had complete responsibility for livestock, he could be compensated for irregular hours by bonus payments based on such things as lambs tailed, proportion of ewes lambing by a certain date, etc.

When we consider living conditions the question needs to be faced of how necessary it really is nowadays to house the worker on the farm. Why not provide groups of houses in the country towns for rental by bona-fide farm workers? We carry children of farmers and farm workers 30 miles and more to school; why not use school buses to bring workers from their homes in the town before collecting the children, and return them home at night after delivering the children? Single workers, too, could be catered for by up-to-date hostels built in the towns and owned and operated by a group of co-operating farmers.

There would be social benefits from such schemes for both farmers' wives and workers' wives and there should be economic benefits to farmers in a more stable and reliable labour force and in a lowering of the capital outlay necessary to house workers. Such an idea would need considerable organization and farmers would have to get used to the idea of more regular hours for workers. The Farm Management Clubs may be ideal groups of farmers for organizing schemes of this nature.

Decentralization of some small-scale industries and servicing organizations, employing young women particularly, should help to prevent single workers leaving the farms for the city once they became of marriageable age. Provision of such employment should also prevent a similar movement of married workers to the city when their daughters became of working age.

Changes in methods of remuneration and housing would only be worthwhile to farmers if the quality of worker available was high. This is often not the case at the moment due to the 'hire and fire' policies of some farmers, the apparent 'dumping' on farming of otherwise unemployable workers sent from city employment exchanges, and the lack of interest of government in the provision of good labour for farming. There are apprenticeship schemes for other industries, why not for agriculture? Why not a Mission for skilled or potentially skilled agricultural workers from Britain and Europe?

The schemes for training British orphans for farm work here have produced some good workers—why not extend them and consider similar schemes for Australian orphans or for training and utilizing the potential labour available from our growing population of aboriginals and half-castes?

Settlement policy for new land

Large areas of Crown Land are being opened up for development in some parts of Australia, but not all people taking up this land have sufficient capital or knowledge to develop and operate it efficiently and not all are taking it up from a genuine desire to farm it for themselves or for their children. Other countries have more concern for the future of their land and the people on it. Holland lays down rigid standards of experience and practical and theoretical knowledge for its settlers on new land. Some New Zealand schemes have linked the provision of long and short term capital at low interest rates with the supervision of settler by officers of the lending institution who are trained in farm management.

It is true that most of the government schemes for land settlement in Australia provide for certain 'standards of experience and practical and theoretical knowledge' and that the War Service Land Settlement Scheme provides for low interest rates and some supervision of settlers. The troubles which have beset land settlement schemes suggest however, that either the standards of competence laid down have not been high enough or the supervision has been inadequate. Lewis⁵ states, for example, 'it is perhaps too easy to ascribe difficulties experienced by settlers under organized programmes of closer settlement, to inadequate farm sizes in terms of land area. Often the source of trouble lies elsewhere—in capital rationing, poor selection procedures and inadequate technical and economic advisory services after settlement. Sometimes of course the living allowances for planning purposes have inadequately recognized the close nature of the farm-household bonds'.

An even more radical change in land policy should at least be seriously studied. The leasehold of agricultural land from the Crown at economic rates with security of tenure, would be one way of reducing considerably the capital a potential farmer requires. It could also promote easier movement between farms both within and between generations. The landlord/tenant system of the United Kingdom had many advantages, and we should not reject out-of-hand some modification of it simply because of its emotive association with a Squirearchy and from a sentimental attachment to the idea of individual ownership of land.

⁵ Lewis, *op. cit.*

Deficiencies in Research

The foregoing discussion of the influence of the family developmental cycle on resource use suggests a number of deficiencies in the concepts used by agricultural economists.

We tend to classify farms by their agronomic features, their resource inputs or their size of business. Thus we have dairy farms, two-man farms, 1,000 acre farms, or farms with net incomes in excess of £2,000. But we ignore size of household, off-farm employment, and stage in development of both farm and family. Yet these latter factors are all important influences on resource availability and use, on the relative emphasis placed by farmers on net profit, capital gains or leisure, and on the demand for and supply of land.

Some research work⁶ has been concerned with the influence of family factors on economic success but there has been no widespread attempt to examine the whole *structure* of farming and to determine the problems or the place in our future economy of part-time farming, family farming with or without some employed labour, and company or contract farming. We fall back on 'farming as a way of life' to explain why farmers frequently do not act like 'economic men'. But we have failed to study systematically the physical, economic, social and political forces in the farming environment which have maintained a system dependent upon the family within a society where most other industries are organized on a large-scale and where the producing and consuming functions are not combined in the same unit.

Economists need to ask whether or not our traditional system of family farming can continue to adjust successfully to rapidly changing technological and economic circumstances. Thought and research effort expended on such a topic could have far reaching effects on our agricultural economy and may clear us of the charges that we have been more interested in our revolution in methodology for its own sake than in its application to the practical problems facing the agricultural industry.

⁶ For example:

(a) Heady, E. O., Bach, W. B. and Peterson, G. A., *Interdependence Between the Farm Business and the Farm Household with Implications on Economic Efficiency*. Research Bulletin 398, Iowa State College, A.E.S., June 1953, Ames, Iowa.

(b) *Economic Aspects of Under-Employment in Agriculture in the Netherlands*. Report 153, Agricultural Economics Research Institute in the Netherlands, January 1961.

(c) Abell, A. C., "Some Reasons for the Persistence of Small Farms", *The Economic Annalist*, Vol. 26, No. 5, October 1956, p. 115.

(d) Scully, J. J., "The Influence of Family Size on Efficiency within the Farm—An Irish Study", *Journal Agric. Econ.* Vol. XV No. 1, May 1962.

(e) Schapper, H. P., and Parker, M. L. *A Re-Survey of Dairy Farming in the Far South-West of Western Australia*. Agricultural Research Report No. 2, Institute of Agriculture, University of W.A., 1961.

(f) Nelson, *op. cit.* discusses the inter-relationship between size of business, size of family, off-farm employment, and stage in family developmental cycle.