THE AUSTRALIAN JOURNAL OF AGRICULTURAL ECONOMICS

VOL. 7 DECEMBER, 1963 NO. 2

IS THE CONCEPT OF THE HOME MAINTENANCE AREA OUTMODED ?

J. N. LEWIS

University of New England

The home maintenance area or living area has played an important part in closer settlement programmes in Australia during the last fifty years. It has been applied in Australian land policy in a number of ways:—

(i) as a maximum in restricting transfers of land to prevent aggregation into large holdings;
(ii) as a minimum in determining the size of farms to be allotted in closer settlement programmes;
(iii) as a measure in determining the area for retention by an original holder, when land is resumed or surrendered for closer settlement.

The first use of the concept—as a limit on the area of land to be alienated to any individual—had its origins in the extreme concentration of ownership achieved by our early land laws. At the apex of the tenure pyramid a small group of squatters commanded enormous areas of land; at its base a "nomad tribe" of bushworkers had little or no chance of scaling the tenure ladder even after the Robertson Land Acts. Ward [1] points out the squatters commonly discriminated against married workers and that this prejudice against employees with "encumbrances" continued into the present century. Such an organization of agriculture undoubtedly presented a major barrier to rural development. Pressures to achieve a more widely based ownership of the land resources and a struggle for powers of resumption and for measures to prevent undue aggregation of land, described by King[2], inevitably ensued.

On the other hand, the concept of a minimum area developed from disasters of early closer settlement schemes in which many farm units allotted were too small to yield anything but heartbreak to the settler. Such experiences pointed to the need for a guiding principle to provide a safeguard against the tendency towards excessive subdivision, to which land settlement was prone during recurring phases of over-optimism, engendered by periods of favourable prices or a succession of good seasons.

[1] Ward, Russel, *The Australian Legend,* Oxford University Press, 1958.
[2] King, C. J., "An Outline of Closer Settlement in New South Wales, Part I. The sequence of the Land Laws, 1788-1956", *Review of Marketing and Agricultural Economics,* Vol. 25, Nos. 3-4, (September-December 1957), p. 163.

King[3] states that the Crown Land (Amendment) Act or Conversion Act of 1908 contained the first definition of the concept in N.S.W. legislation. The Act provided that lands alienated after 1st February 1909 were subject to restricted transfers of title. A system of ministerial consent to transfers of title was introduced so that the purchaser could not acquire land amounting, with what he already had, to more than a reasonable home maintenance area. A home maintenance area was defined as "an area which when used for the purpose for which it is reasonably fitted would be sufficient for the maintenance in average seasons and circumstances of an average family". The act also introduced the principle of determining the size of farms to be allotted on the basis of a home maintenance area.

In Queensland a similar concept has been used for grazing lands although here it is termed a "living area". This was first defined in the Land Act of 1927. Section 8 of the Act, as summarized by Payne,[4] provides that

> "the term 'living area' when used in respect of grazing lands shall mean such an area as may be determined by the Minister, having regard to the district in which the land comprised in the holding concerned is situated, and for the purpose of determining what area shall so constitute such living area the Minister may consider (amongst other factors listed) what area of sheep or cattle-grazing land would be of sufficient area as would permit a lessee to—
>
> (a) carry sufficient sheep or cattle from which a reasonable living may be obtained and a reasonable reserve be available to assist such selector over drought or dry periods without the necessity of seeking assistance from the Government;
> (b) maintain both quality and quantity of wool or beef, as the case may be, so that production and revenue direct and indirect from Crown Lands may not diminish;
> (c) make necessary working improvements on the holding without over-capitalising it, so that such holding may be worked as a sound economic proposition".

The home maintenance area was also adopted as the basis of War Service Land Settlement after World War II. The concept underwent some refinement and modification in this programme. The legislation made no specific mention of home maintenance areas but it was provided that "Holdings shall be sufficient in size to enable settlers to operate efficiently and earn a reasonable labour income". Moreover in making valuations involved in assessing the obligations of the settler it was provided that

> "the officers shall have regard to the need for the proceeds of the holding (based on conservative estimates over a long-term period of prices and yields of products) being sufficient to provide a reasonable living for the settler after meeting such

[3] *Ibid.*

[4] Payne, W. L., *Report on Progressive Land Settlement in Queensland,* Land Settlement Advisory Commission, Queensland, 1959.

financial commitments (excluding principal repayments under any agreement between the State and the settler for the purchase of land) as would be incurred by a settler possessing no capital".

The provision that the holding should yield enough income to meet all commitments of a settler having no capital implies a return of market rates on capital (less interest concessions in some cases) as well as a return on labour. The commitments to be met also include principal repayment on structures, livestock and machinery on the basis of 100 per cent loan.

The procedure prescribed for valuations was, in fact, also applied in appraising the suitability of holdings for allocation to settlers or the size of units in subdivision proposals.

The Rural Reconstruction Commission implied that this is a new hybrid concept—a compromise between the old concept of a home maintenance area and a new one of an economic unit. However it is not unreasonable to regard it as essentially a set of guiding principles for determining a home maintenance area rather than as a new concept. The term "home maintenance area" was freely used by officers of the W.S.L.S. Division and B.A.E. When discussing the suitability of a holding or proposed subdivision, it was always asked whether it constituted a home maintenance area. To this end a system of budgetary checks, using the assumptions concerning prices, yields, and financial commitments prescribed in Clause 6 of the Agreement, was operated by the Commonwealth.

The third function of a home maintenance area or living area is illustrated in the Queensland Lands Act Amendment Act of 1952, in which it was provided that where a lease has more than seven years to run before expiry, the lessee may elect to surrender his lease for closer settlement and, in consideration, will be permitted to lease two living areas.

In dealing with the home maintenance area, I do not propose to take up the more fundamental issue of whether organized closer settlement still has a legitimate place in Australian land policy. Superficially the two questions may seem inseparable but the concept of the home maintenance area has relevance extending beyond government-sponsored closer settlement to programmes of farm rehabilitation and consolidation of holdings, such as that proposed by the Dairy Industry Committee of Enquiry in 1960 or that carried out towards the reconstruction of marginal wheat areas following the Great Depression. The concept is also relevant in rural credit policy, particularly, for example, on long-term advances for property purchase. In any case, even though closer settlement schemes are often inconsistent with desirable adjustments in agriculture and may well aggravate the "farm problem" we may still have such programmes with us as a result of political considerations and the multiple objectives shaping land policy. In these circumstances the question remains whether closer settlement programmes would be improved by abandoning the concept of the home maintenance area.

In evaluating the usefulness of the concept under current Australian conditions, three main aspects will be discussed in this paper, namely,

the extent of the divergences between actual and optimum farm size which may result from the employment of the concept, the implications for the adoption of technological progress and the existence of any associated social benefits.

Size-Efficiency Relationships in Agriculture

Evidence concerning the relationship between size and efficiency is inconclusive but suggests that differing relationships hold for different types of farming. A number of recent papers have stressed that, while substantial reductions in costs are associated with increasing the size of small enterprises, only relatively small reductions in cost are achieved as the unit is further increased beyond a medium size. In other words, economies of scale are often exhausted at quite a modest farm size. American data presented by Fellows,[5] Howell[6] and Brewster[7] support this view but survey material for beef and dairy production presented by Moran[8] points to more substantial cost advantages for larger farms.

Australian data, *prima facie,* are no less equivocal. In a recent issue of *Rural Development*[9] the Rural Liaison Service of the Reserve Bank presented data from several sources. Figures from South Australian wheat farms from the B.A.E.'s 1954/55-1956/57 survey showed a rise in profitability, measured as rate of return on capital, with increases in total farm capital. The relationship between return on capital, and total area of holding was *prima facie* an inverse one but it is suggested this may have been because the country on larger farms surveyed is generally poorer. James[10] survey of New England sheep properties for the single year 1959-60 showed properties with between 2,000-5,000 sheep obtained a higher rate of return on capital than both smaller and larger properties.

N.S.W. Sheep Properties, 1957-58 to 1959-60
Average Rate of Return on Capital

Zone	Number of Sheep				
	200 and under 1,000	1,000 and under 2,000	2,000 and under 5,000	5,000 and under 10,000	10,000 and over
High Rainfall	—0·7	2·7	4·5	6·1	—
Wheat-sheep	—0·4	3·9	4·0	7·6	9·1
Pastoral	—	4·3		5·3	7·9

[5] Fellows, Irving F., "The Application of Static Economic Theory to Farm Management Problems", *Journal of Farm Economics,* Vol. 32, No. 4, Part II. (November 1950), pp. 1100-1112.

[6] Howell, H. B., "Economies of Scale in Livestock Production", *Journal of Farm Economics,* Vol. 43, No. 5 (December 1961), pp. 1229-36.

[7] Brewster, J. M., "Technological Advance and the Future of the Family Farm", *Journal of Farm Economics,* Vol. 40, No. 5 (December 1958), pp. 1596-1609.

[8] Moran, Leo, J., Discussion: "Economies of Scale in Livestock Production", *Journal of Farm Economics,* Vol. 43, No. 5 (December 1961), pp. 436-37.

[9] *Rural Development,* No. 16, Reserve Bank of Australia, Sydney, September, 1962.

[10] James, B. J. F., "Report on an Economic Survey of New England Grazing Properties", *Review of Marketing and Agricultural Economics,* Vol. 29, No. 4, December 1961.

On the other hand the B.A.E. survey of the N.S.W. sheep industry[11] shows consistently higher rates of returns on capital with increasing size (sheep numbers) for all three zones. The B.A.E. figures are summarized in the preceding table.

In a recent production function analysis, however, Duloy[12] found uniform indications of increasing returns to scale in districts within the pastoral zone, whereas, in the high rainfall zone, the sums of elasticities were consistently around unity, indicating constant returns to scale.

Some of the apparent contradictions in the evidence can probably be explained by the differing methods used. The survey method is unlikely to give a good assessment of economies of scale because the financial results of the farms surveyed are the result of a complex of factors. Economies of variable proportions, differences in the quality of management and in ease of access to capital are amongst the influences reflected. On the other hand synthetic approaches frequently assume equal yields per head of livestock for all sizes of units, which is not always borne out by survey data, where superior performances of large units are often due, in part, to higher productivity per livestock unit.

In any case there is, *a priori,* no reason to expect similar economies of scale for all types of farming and environmental conditions. There are two distinct and contrary influences at work and the importance of each influence, at a given size of unit, will differ according to the type of farming.

On the one hand increasing size permits fuller utilization of overheads and lumpy inputs. This is of particular importance in the case of machinery and, except where off-farm employment opportunities are available, of operators' labour and management. There are sometimes also significant economies available to larger farms in the form of lower purchase prices for goods and services used as inputs. It is generally agreed that size-efficiency relationships in agriculture are such that these benefits of fuller utilization of machinery can usually be achieved without making farms very large. This view has been expounded by Lloyd.[13] Both he and Faris[14] give explanations of the technical relationships responsible.

On the other hand, an opposite tendency sets in as size of farm increases due to increasing difficulties of management and supervision of labour. The characteristic difficulty of delegating management in agriculture was pointed out many years ago by Black.[15] A good discussion of the diseconomies associated with increasing farm size is also available in Lloyd.[16]

The balance between these two tendencies may be expected to vary

[11] Bureau of Agricultural Economics, *The Australian Sheep Industry Survey,* 1957-58 to 1959-60, New South Wales, Canberra, October 1962.

[12] Duloy, J. H., "The Allocation of Resources in the Woolgrowing Industry", *Australian Journal of Agricultural Economics,* Vol. 5, No. 2 (December 1961), pp. 113-122.

[13] Lloyd, A. G., "The Economic Size of Farms", *Journal of the Australian Institute of Agricultural Science,* Vol. 27, No. 3 (September 1961), pp. 134-144.

[14] Faris, J. E., "Economies of Scale in Crop Production", *Journal of Farm Economics,* Vol. 43, No. 5 (December 1961), pp. 1219-1236.

[15] Black, John D., *et. al., Farm Management,* Macmillan, New York, 1948, pp. 430 and 438.

[16] Lloyd, A. G., *ibid.*

between different types of farming. The second influence may become dominant much later for some enterprises than for others. In some circumstances, therefore, there may be little conflict between the concept of a home maintenance area and an economic unit, while, in other enterprises, the curve relating unit costs and farm size may not flatten out until farm size considerably exceeds a home maintenance area. An enlightened land policy thus demands a greater knowledge of the relevance and extent of economies associated with increasing size for major types of farming areas in Australia.

There are, as suggested above, two related questions with an important bearing on the concept's suitability as a guide in modern land policy. The first has found expression in Lloyd's observation that, if it is to retain its relative efficiency, the family-size farm must grow in size, as mechanization increases the area a family can handle efficiently. Secondly, if a sacrifice in efficiency of farm operation is involved in the use of the concept, are there compensating social and economic benefits not readily attained by other means?

Effects of Technological Progress

Some allowances have certainly been made, in Australian land policy, for the effects of technological advances upon the economic size of farms. However a rather one-sided view of these effects has perhaps resulted from our settlement history. The usual sequence, to date, has been for lands initially taken up for extensive grazing to be subsequently opened up for more intensive livestock and agricultural production as a result of technological progress. The Queensland system of leasehold tenure is based on this vision of the process. The working philosophy has been that lands should not be permanently alienated but leased for periods of twenty-five to forty years. Then as the size of a home maintenance area is reduced by technological advances, which make more intensive land-use possible, the land can be easily resumed for subdivision.

Undoubtedly, this view has, in the past, been a correct interpretation of the consequences of technological progress for farm size requirements. Moreover, it still represents accurately enough the situation in areas such as the brigalow belt, where mechanical methods of land clearing and improved dry-farming methods have recently made possible the more intensive use of large areas. A similar view of technological progress is justified in the case of pasture-improvement and ley-farming in the higher rainfall zone, especially where advances in technology take the form of the correction of minor element deficiencies in soils.

However this is only one half of the story. In many parts of Australia, mechanisation substantially increases the area which can be worked by a family. A 600-800 acre holding may have once represented all that a man could farm efficiently with horse-drawn implements. When, however, modern tractors enable him to cultivate and harvest a wheat crop of 400 acres, the farmer on such a holding will either suffer sub-optimal use of expensive capital assets or be forced to follow rotations much shorter than are desirable for conservation purposes, including control of skeleton weed.

There is also a need for farms to increase in size, as measured by capital investment or output, if they are to continue to yield labour and capital earnings comparable with those offering in non-rural occupations. This adjustment may or may not involve increases in the land area of farms. A central problem is capital accumulation. If home maintenance areas are to continue to support farm families at a level of living adequate by the standards of the rest of the economy, they will need to provide returns to labour and capital considerably above a minimum living wage in order to permit capital formation at a sufficient rate.

The formulation of a dynamic land policy, which creates a system of rights to the use of land best suited to changing conditions in agriculture, thus involves more than simply preserving freedom to reduce the size of holdings in accordance with new and larger production potentials, following technological progress. To date this has been the dominant philosophy in the application of the home maintenance area concept. In future, however, the effects of technology and of the adjustment process in agriculture will likely result in larger area requirements for a home maintenance unit in many parts of Australia.

The Rural Reconstruction Commission[17] emphasized the need for farm units created to be "of such types and sizes that each unit will have a continuing capacity to support the occupiers in reasonable comfort". The word "continuing" the Commission added, is of the utmost significance and emphasizes the necessity for taking a long term view. This should take account not only of (i) the viability of the holding on the basis of long-term price assumptions and input-output coefficients but also of (ii) its adequacy to enable efficient operation of machinery and other large discrete capital items required by modern and prospective technology; (iii) its capacity to permit the asset accumulation necessitated by the increasing capital requirements for efficient farming.

The adverse consequences of creating holdings of inadequate size cannot be overcome simply by enlarging the home maintenance area in future land settlement. The original units must be created large enough in the first instance to withstand the effects of adverse demand shifts and to permit adjustments associated with technological progress. That this is imperfectly understood by lands administrators is apparent from a recent statement by Mr. Fletcher, the Queensland Minister for Lands.[18] In defending the living area clause of his new Land Bill, Mr. Fletcher said that "if and when Britain becomes a member of the European Common Market the effects upon our primary industries will automatically be taken into account in determining living area standards to the extent any such entry affects the income derivable from the primary products concerned".

The high degree of production instability, to which many farming areas in Australia are subject, undoubtedly calls for more care in assessing minimum economic areas than has sometimes been the case. Campbell[19] and others have complained of the definitions of a home main-

[17] Rural Reconstruction Committee, *Land Utilization and Farm Settlement,* Third Report, Canberra (June 1944), paragraph 475.

[18] "Minister Defends His Living Area Clause, New Land Bill", Queensland *Country Life* (October 18, 1962).

[19] Campbell Keith O., "The Challenge of Production Instability in Australian Agriculture", *Australian Journal of Agricultural Economics,* Vol. 2, No. 1 (July 1958), pp. 3-23.

tenance area in the Western Lands Act and Crown Lands Consolidation Act of N.S.W., which stress an area sufficient to maintain a family in average seasons. Clearly a more sophisticated form of programming than a budget based on coefficients appropriate to a fair average season, is essential if reasonable assessments are to be made of the farm's long-term financial productivity. Many important cost items—drought feeding, water carting, stock losses and forced sales—just do not appear in a single year's budget of the likely financial performance of a property in an average season.

However it is only fair to observe that most units in the Western Division of N.S.W., set up under the Act, appear to be operating successfully. The application of the home maintenance area concept in this region has not to date given rise to the acute problems of undersized units typical of many other regions and it seems certain the translation of the concept into practice has not been so illiberal or conducive to adverse consequences as a literal interpretation of the definition contained in the legislation would imply.

Closer Settlement and Rural Development

Let us revert briefly to the question, raised earlier, whether the use of the concept in Australian land settlement gives any social or economic benefits not readily obtained by alternative measures. Theoretically other means towards the prevention of undue concentration of land ownership and the encouragement of development are open to us in the form of graduated land taxes and death duties. There are however political difficulties impeding the employment of these blunt-edged weapons on the scale necessary to promote the objectives of closer settlement vigorously. Considerations other than land policy naturally influence the schedule of death duties and differential rates to impede the inheritance of land as distinct from other assets would require fairly persuasive presentation. Moreover measures to make transfers of land between generations more difficult might initially do more to aggravate capital rationing and delay development than to induce the early surrender or private subdivision of large estates.

Programmes of closer settlement, based on subdivision into home maintenance areas, have often sought to overcome social and economic barriers to development associated with concentration of land ownership. The social prestige attached to being a "grazier" or "squatter" as distinct from a farmer or "cocky", a related antipathy to dirt-farming and the usual reluctance to change a way of life and learn a new set of skills have been mentioned by Strong[20] as factors tending to impede development on large holdings. These social factors may be somewhat less restrictive of development now than they were in the past but in places they will operate quite strongly. Furthermore, management techniques adapted to extensive grazing are likely to prove quite inadequate for more intensive utilization of larger holdings.

Another expressed objective of the settlement of family farm units has been to promote decentralized development resulting in improved amenities and service industries in country towns. Frequently large

[20] Strong, T. H., "Land Tenure in Australia in Relation to Technical Advances and Closer Settlement", *Journal of Farm Economics,* Vol. 38, No. 2 (May 1956), pp. 458-464.

holdings have contributed little to local development and a comparison of the organization of agriculture around different country towns is instructive. This argument is certainly not weakened by ascribing the recent growth of larger rural centres to the decline of smaller towns, bypassed by the motor age, or to postwar prosperity. The home maintenance area does, in this respect, represent a means of achieving social and economic benefits which are legitimate aims of land policy provided a satisfactory reconciliation or compromise can be effected with other objectives, such as efficiency and income parity for agricultural producers. On this question Gruen[21] has made the pertinent observation that a country as dependent upon primary exports as Australia, can less afford to subordinate considerations of efficiency in determining farm sizes than would be the case in other countries where agriculture is more sheltered from external competition.

Conclusions

If we consider the declining economic importance of land and the evidence that farm incomes are probably more closely related to capital investment than to total area of holding, there might seem some justification for suggesting that the home maintenance area is outmoded and that it ought to be replaced by the concept of a home maintenance capital stock. However some guiding principle in land settlement is probably indispensable as a safeguard against pressures for excessive subdivision. The home maintenance area principle compares favourably with concepts employed in the land policies of other countries. The family farm concept used in United States resettlement programmes places more emphasis on the capacity of the area to absorb labour than on the income-yielding capacity of the holding. This is unwise in view of the well-known tendency in agriculture for excess labour to be concealed in less productive tasks and not to show up in a shorter working week or overt under-employment.

The basic problem of land policy in this country, as in others, is to develop a system of rights to the use of land, which best fits the conditions of agricultural production. Our evaluation of the concept of the home maintenance area thus centres largely around the question whether its use results in units of production which are suited to the changing technological and economic conditions of agriculture.

From our discussion of the relationships between size and efficiency of enterprises, it emerges that, in some industries and areas, economies of scale are unimportant beyond a modest farm size. In such circumstances the principle of the home maintenance area need not lead to sub-economic units. In other types of farming, it appears probable that more serious divergences from optimum size will be involved in the use of the concept and these may tend to increase with future technological progress.

However, much of the trouble encountered in the past has stemmed from the fact that many home maintenance areas allotted to settlers have undoubtedly been less than home maintenance areas. There is accordingly an urgent need for the use of improved programming methods. The planning process should allow sufficiently for climatic

[21] Gruen, F. H., "Farm Size and Factors Influencing Changes in Farm Size with Particular Reference to New South Wales", *Review of Marketing and Agricultural Economics,* Vol. 17, No. 1 (March 1949), pp. 6-65.

uncertainty and marketing contingencies, for the accumulation of sufficient capital to keep abreast of technological advances and for more realistic family living allowances. Incidentally, in view of this need, the comparative absence of trained agricultural economists in staffing establishments for Lands Departments and other land developmental authorities is a surprising weakness.

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 used for planning purposes have inadequately recognized the close nature of the farm-household bonds. It was perhaps unreasonable, for example, in W.S.L.S. to budget for a family living allowance of only £260 in terms of 1946-47 values. This was equivalent only to the basic wage. Despite substantial additional income in the form of a growing equity in the property, it would seem inadvisable to expect settlers to live on less than, say, the average earnings of factory workers, currently about 50 per cent above the nominal basic wage. There have been many cases where weakness on the part of the settler, in permitting his wife to aspire to modern amenities in the home or adequate schooling for the children, has been enough to wreck the economic prospects of the holding. Not that the residence fees for maintaining three children at a private boarding school must be built in to the formula for determining a home maintenance area.

Land policy should be co-ordinated closely with other parts of our agricultural policy. It would be irrational, for example, to create farm units which are incapable of providing income parity and then to seek to remedy the situation through price support programmes. Moreover capital rationing may often be a more important source of inadequate farm size than limitations in the physical area of the holding. Co-ordination of land and credit policies is therefore advisable. This doesn't mean easier credit to all comers. A great deal of closer settlement takes place quite outside organized government programmes and there is some reason to believe that credit is too easily obtained for the purchase of holdings smaller than a home maintenance area.

Retention of the concept of the home maintenance area, as a safeguard against excessive subdivision is, I believe, still necessary. However, it would be quite inappropriate to level all holdings down to this standard. Managers differ greatly in capacity and there are some whose talents lie in the direction of managing large properties. In the current economic situation of Australian agriculture, allowing these individuals opportunities to farm on a large scale does not deprive the nation of sorely needed resources. Moreover losses in efficiency are likely whenever any input is subject to artificial restraint and it would be unfortunate if, alone amongst our industries, agriculture were subject to limitations on size of enterprise, other than those which might be introduced to control monopoly power in industry. If land held the future of the economic community in its palm, as Ricardo held, there would be a case for reconciling social and individual interests by limiting land inputs employed by individual operators. Under current and prospective conditions, however, the use of the home maintenance area for this purpose is quite unwarranted.