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SOME AGRICULTURAL CHARACTERISTICS OF THE RURAL-URBAN FRINGE.

(With special reference to Sydney).

(N.R. Wills).

The importance of agricultural activity in areas immediately adjacent to the larger urban centres is often overlooked. Where the chief agricultural belts of a State lie well beyond the limits of the metropolis as in New South Wales, there is a tendency to disregard the significance of rural-urban farming. And yet it has been established that no less than 40% of the vegetables (excluding potatoes) consumed by residents of Sydney come from holdings within 20 miles of the heart of the city. Similarly, a considerable proportion of their fresh milk, eggs and fruit are drawn from nearby farms. Such facts emphasise the importance of the rural-urban fringe to large urban populations. It is the source of supply of an essential part of the urban consumers' demand schedule; it assists to a considerable extent in meeting his day to day requirements of fresh perishable food-stuffs, by furnishing a steady flow of the vitamin-rich foods into the urban market.

Farming characteristics in the rural-urban fringe are determined by the interplay of physical as well as economic factors but, in the last analysis, greater significance must be attached to the latter when seeking an explanation of land-use patterns. Rural-urban farming is not dependant for its success upon as favourable a resource endowment as is needed in more remote agricultural districts. A moderately amenable soil and climate supply the basic resources; economic considerations working through the concentrated demand of urban consumers, mould the physical resources of the rural-urban fringe into a pattern of intensive farming. Indeed, it is remarkable to what extent an indifferently endowed area can be turned to highly productive account under the stimulus of a nearby urban market. Sandy heath may in such circumstances be turned into intensively cultivated market gardens; unyielding wianamatta clay worked into productive loams and planted with orchards, fodder crops or vegetables; stony ridges become poultry runs with lucerne patches along the creek flats. To such uses are the vacant areas of the rural-urban fringe put, in spite of physical characteristics which would daunt farmers in more distant areas and preclude arable usage entirely.

Where urban nuclei have grown up in regions of high natural productivity, there is, of course, less contrast between the physical endowment of the rural-urban fringe and that of regions more remote from the metropolis. In eastern Australia, Melbourne provides a good example of an urban area supplied with a well-endowed urban fringe. Nearer home, Newcastle, though very much smaller, is similarly well provided for. In the case of

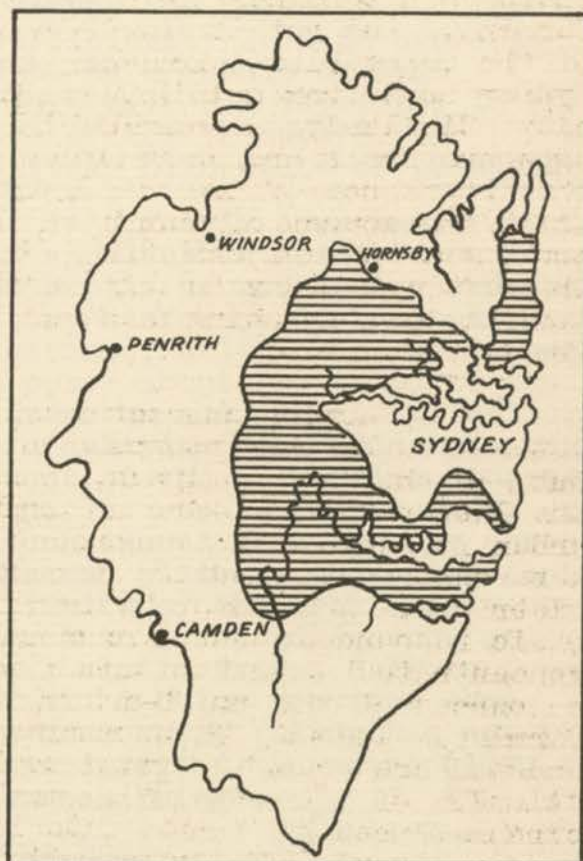
THE COUNTY OF CUMBERLAND, N.S.W.

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DIA. 1 AVERAGE AREA OF AGRICULTURAL HOLDINGS IN THE COUNTY OF CUMBERLAND

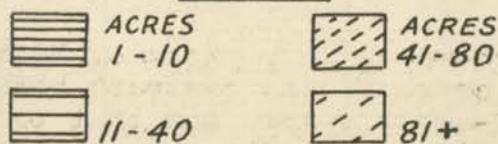



DIA. 2 THE SYDNEY RURAL URBAN FRINGE



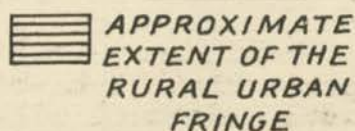
SCALE
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LEGEND



 URBAN AREA

LEGEND



Melbourne, however, the institutional contrast between the fringe and districts further out are no less marked than in Sydney. Size of farms, nature of land-use and intensity of production are characteristics which vary widely as one passes from rural-urban districts into regions which contribute indirectly or only in part to the day to day needs of the urban economy.

Sydney, somewhat to its detriment, lacks a naturally fertile and well-watered hinterland and is thus unlike Melbourne or Newcastle. Farming has had to adapt itself to a distinctly unfavourable environment by a diversity of means. Heavy applications of fertiliser, intensive cultural methods and irrigation have been the "sine qua nons" of expansion. Such measures, however, have been economic only because the urban demand for special types of commodities was sufficiently keen to overcome the cost of drastic land improvement. As a result of this continuing demand, a well-defined farm belt has developed in the rural-urban fringe, taking advantage of low transport and distribution costs, to offset relatively high costs of production.

In the case of Sydney, it is a fairly easy matter to give geographical boundaries to the rural-urban fringe (see Diagram 2). Land-types change very abruptly around Sydney and the chances of successful farming are very different in various parts of the County of Cumberland. For instance, cultivation is impossible on the rocky sandstones which cover about one-third of the total area, and even in the arable areas on all sides. Agricultural activity is thus restricted to the undulating clay and shale plain, to the north-west, west and south-west of the metropolis, and to a few Coastal depressions on the north. The rural-urban farming area is located within this somewhat discontinuous zone. On the north and south it is flanked by the sandstone plateau, while its inner boundary is defined by the present limits of the urban built-up area. Only on the west does it merge into a second agricultural zone which, while exhibiting physical similarities, differs from it in most other characteristics. Table 2 below provides some evidence that farming in the Nepean-Hawkesbury Valley has not yet been sufficiently modified by the proximity of the metropolis, to justify its inclusion in the rural-urban fringe.

TABLE I. THE RURAL-URBAN FRINGE.

Representative Parishes.	Average area of agricultural holdings X	Average area cultivated per holding	Average area irrigated per holding	Av. unimproved capital value per acre of holding.	Av. improved capital value per acre of holding.
	acres	acres	acres	£	£
Alexandria	7.5	5.8	5.8	437	440
Bankstown	7.3	5.0	5.0	61	114
Botany	6.0	5.4	5.4	203	247
Hunters Hill	8.8	5.9	3.8	97	177
Narrabeen	6.3	4.7	2.7	73	193
Prospect	12.5	4.9	3.3	29	88
St. Luke	13.2	5.5	2.7	22	62

X Holdings growing agricultural crops for sale.

TABLE II.

THE NEPEAN-HAWKESBURY
VALLEY.

Represent- ative Parishes.	Average area of agricultural holdings.	Average area cultivated per holding	Average area irrigated per holding	Av.unimproved capital value per acre of holding.	Av.improved capital val- ue per acre of holding.
	acres	acres	acres	£	£
Castlereagh	188.2	21.1	3.0	5	17
Cook	42.2	7.0	4.3	9	37
Frederick	139.3	9.6	-	2	6
Ham Common	313.5	79.0	9.4	8	32
Pitt Town	130.4	58.7	12.4	18	35
St. Matthew	742.5	63.5	16.2	6	16
St. Peter	105.4	8.0	-	8	15

The statistics set out in Table 1 above are fairly typical of parishes in the Sydney rural-urban fringe. The smallness of the average agricultural holding is at once apparent; and there is a close correlation between farm size and distance from the urban market. In the Botany district, for instance, which is still a relatively important centre of market gardening, farm areas average about 6 acres. The demand for land for non-agricultural purposes is particularly strong in that district. During recent years, factories and residential suburbs have encroached upon the Botany fringe, resulting in a decline in the average size no less than the total number of agricultural holdings. Unimproved capital values have risen as the land assumed a new significance as potential home or factory sites. Where the competitive demand for land has been less, however, the average area of holdings is larger; Prospect and St. Luke (Liverpool district) are representative of such parishes.

Some idea of the intensity of production is indicated by the average area cultivated per holding (see Table 1). Where vegetable-growing is the sole farm enterprise, the entire area of the holding is often cropped. Further out, mixed farms are more typical, with vegetable-growing and orchards often combined with poultry; in such areas cultivation is usually only a small proportion of the total farm area.

Intensive cultural techniques are evidenced by the extent to which double-cropping is practised. In most market gardens, every acre is made to yield two or even three crops a year. Reliance upon irrigation and heavy applications of fertiliser combined with continuous cultivation, result in high yields. Moreover, specialisation upon perishable crops increases the locational advantage of the rural-urban farmer.

Farming in such areas is thus essentially small-scale, intensive and specialised. These characteristics do not favour the

widespread use of mechanical aids in cropping and most of the routine farm work is carried out manually. The labour unit per holding is very small, in most cases not exceeding 2 or 3 persons. Possible exceptions are the larger poultry farms and commercial hatcheries.

Rural-urban farmers have to contend with a relatively high level of fixed costs. Unimproved land values, for instance, are much higher than in more remote districts, reflecting the competitive demand for land for alternative uses. Purchase prices and rents are thus higher; similarly rates and water charges add to the level of fixed costs. Such considerations enter into the cost structure of rural-urban farming and influence still further the nature and scale of the enterprise.

Finally, the rural-urban fringe must be regarded as a dynamic concept. With the growth of the urban nucleus, and the extension of built-up areas, the fringe is steadily being pushed out on to new areas. Sydney provides an excellent example of a rapidly-changing rural-urban fringe. In 1910, small mixed farms and vegetable gardens were very common in such districts as Tempe, Boxley, Arncliffe, Hurstville, Belmore, etc. Today, however, these districts have become thickly-populated residential suburbs, and the farms have almost disappeared. Between World Wars I and II Sydney's built-up area expanded enormously, engulfing many erst-while agricultural areas. However, during the same period new rural-urban areas were being opened up further out in such districts as Castle Hill, Prospect and Smithfield. These, together with other districts, have replaced the older farming areas.

At present the Botany-Mascot district provides a spectacular example of a declining rural-urban area. Once a flourishing centre of small vegetable farms, it is now being rapidly absorbed into the South Sydney industrial belt. This district is thus experiencing the penultimate phase of what might well be called the life cycle of the rural-urban fringe.