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RURAL LAND SUBDIVISION AND SUBURBANISATION
IN THE PERI-URBAN AREA : KAIRANGA COUNTY (1970-1980)

A Thesis Presented in Partial Fulfilment of the
Requirements for the Degree of Master of
Arts in Geography at Massey University

by

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ABSTRACT

After briefly outlining the patterns and processes of rural land subdivision and suburbanisation in other parts of New Zealand, the thesis examines the rural land subdivision regulations and policies throughout the country. The development of a number of small size farmlets in the peri-urban areas has been an indicator of urban expansion in parts of the country.

This study is based upon the Kairanga County, a rural area surrounding the city of Palmerston North. In the introduction the county is described as it relates to the rural land subdivision situation. The study of size of holding refers to those farmlets with an area of 20 hectares or less. It was found that most dwellings in the study area which had been built in the 1970s were concentrated upon 'subdivision' land. These farmlets or holdings also illustrated the patterns of change in land use and land holdings. There has been an increase in the number of dwellings in the rural area of the county, especially in 'subdivision' areas, with an average of more than sixteen houses per year.

A small percentage of rural 'subdivision' landowners work full-time on their holdings but most of them are employed in non-farming occupations and only carry on part-time farming activities on their lands. There are 61 percent of all those employed in the county engaged in the non-farming occupations.

It was found that there are more 'potential' subdivisions than 'actual' subdivisions both in terms of total area and of total

numbers of holdings. Most small holdings tend to be located closer to the Palmerston North Urban Area. The total number of holdings has increased because larger holdings have been subdivided into smaller-sized holdings. The area of 'subdivision' land in holdings of 20 hectares or less represents 23 percent of the total occupied land in the county. The land use patterns of 'subdivision' land have changed with a greater variety of land uses and farming types. There was an average of at least two separate types of land use or farming on each holding.

Some 5,003 hectares of land in the county has been legally subdivided for smaller farmlets each with an area of 20 hectares or less. When these farmlets become 'actual' subdivisions most of them would be in part for residential use and eventually add to the peri-urban area around Palmerston North City.

Finally it was concluded that the pattern and process of suburbanisation of Kairanga County will continue as long as 'potential' subdivision land is available for settlement.

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CHAPTER ONE
INTRODUCTION

The patterns and processes of rural agricultural land use have been changed from time to time by various factors, among them both rural subdivision and amalgamation of holdings. These changes are caused by socioeconomic pressures especially the movement of people from rural to urban or urban to rural areas. Amalgamation occurs in areas which are both near and far from cities while rural subdivision has been taking place closer to urban areas, i.e. "peri-urban" land use.

In New Zealand society in recent years there are more and more people moving in and concentrating in urban areas but there has also been a migration trend back to rural areas. During the period of 1971-1976, net migration numbers and rates for urban and rural populations can be seen from the figures below:

	Net gains	Net losses	Net change	Rate (%)
Urban	135,158	26,187	108,971	4.7
Rural	5,784	26,916	-21,132	-3.7

Source: Neville and O'Neill (1979, 73).

The concentration of population in urban areas has emerged as a major factor in the overall spatial distribution of New Zealand population. From the 1976 Census of Population and Dwellings, the urban-rural population distribution is shown by percentage and growth rate for the country as a whole (Table 1.1).

"Urban" in New Zealand is defined officially as a residential component

TABLE 1.1

The Distribution of Urban-Rural Population

Census year	Percentage of Population (i)		Growth Rate (ii)	
	Urban	Rural	Urban	Rural
1945	71.7	28.3	1.9	-0.8
1951	73.2	26.8	3.3	0.2
1956	74.3	25.7	2.8	1.6
1961	76.7	23.3	3.0	0.01
1966	79.6	20.4	3.0	-0.6
1971	82.0	18.0	2.0	-0.9
1976	83.0	17.0	2.2	0.7

Sources (i) Department of Statistics (1977b)

(ii) Heenan (1979,8)

with population living in nucleated settlement containing 1,000 or more people (Gill: 1975,61). Rural on the other hand, is defined as the settlement with the number of population less than 1,000. In New Zealand society some communities with population less than a thousand may be regarded as urban. Wibberly (Clout, 1972) defined rural as parts of a country which show unmistakable signs of being dominated by extensive use of land, either at the present time or in the immediate past. The significance and exact meaning of the terms 'urban' and 'rural' varies with changing spatial, historical and culture context. Urban and rural may be classified by conditions based on life-styles and quality of living.

To move from rural to urban areas, as in the process of urbanisation, involves changes in behavioural patterns as well as spatial location. Behavioural patterns, values, life-styles, attitudes and habits are changed to suit the new urban situation. The process of urbanisation may be defined as the removal of rural character (Johnston: 1973,3). There may be no consistent differences between rural and urban people and life-styles in New Zealand society but urban structure has produced significant occupational differentiations between people. People might find that there are more social and economic facilities in urban than rural areas. This structure of society is usually reflected in the structural pattern of residential areas. Boileau (1974, 220) divided changes in the distribution of population in New Zealand into two trends. Firstly, the increasing urban concentration of population with the drift of people from rural to urban areas and from smaller urban to larger urban areas. Secondly, the increasing distribution of population within growing suburban areas.

Because of changes of the distribution of population, the structure of

agriculture, which is a prominent occupation in rural New Zealand has also been changed. In the period 1966-1971 for instance, while the total population growth was almost nil, there was a shift in occupation, with 9 per cent of males leaving agriculture and moving in particular to commerce and service occupations (Gill: 1975,65).

The depopulation of rural areas has contributed to congestion in the urban areas, which in turn has led to the spatial growth of urban areas, i.e. urban growth. Urbanisation will contribute to continuous urban expansion around the margins of urban areas. These areas, originally agricultural farm land but converted from rural to suburban use, are associated with urban sprawl. They make up the transition zone, commonly called the urban-rural fringe, urban field, the peri-urban area or the area of urban shadow. This enlargement of the urban area at the expense of the agricultural and rural land is mainly needed to accommodate a growing urban population. This phenomena is encouraged by changes in technology (i.e. car ownership and mobility), new patterns of life-styles and preferred social behaviour. People who move from urban areas to the urban-rural fringe actually do not want to change their urban life-styles and are often called "mentally urbanised but physically rural" (Pahl quoted in Ward: 1979,165), i.e. physically suburban or urban sprawl related to areas with an essentially or at least predominantly urban character, located at the urban fringe but surrounded by or adjacent to areas of rural or agricultural uses. As a result of the urban expansion, a new life-style is emerging in the urban-rural fringe. Berry and Horton (1969) pointed this change as a wider life space involving or relating to residential area, schooling, place of work, shopping, place of work, shopping and leisure activities. The other changes are a wider choice of living environments. Thus the urban field has a rural physical landscape and environment but also has

an urban infrastructural environment and wider community interests in both local community participation and outside community participation. There is characteristically an "easy-going" interchange among all parts of the rural-urban fringe, encouraged by the wider distribution of population.

Repopulation in the urban field or urban-rural fringe creates a demand for land for non-agricultural, residential use. Rural agricultural land has been lost to urban uses by land subdivision, but at the same time there has been a growth of urban demand for the products of agriculture, because of the growth of urbanisation. Urban demand has also been one of the main causal factors in peri-urban, agricultural development. Normally some of the physical qualities which make land valuable for agriculture also make it suitable for urban uses. As a result some rural agricultural land near urban areas will come to have relatively high value especially if it is potential "subdivision" land. But the value of land arises from the urban growth rather than the agricultural production (Clawson: 1962, 100). As the value of land increases, taxes or property rates reduce farm profits and cause holdings to either become uneconomic or stimulate more intensive production. Rising land values force farmers to subdivide their land and capitalise from their land. Farmers may invest to a greater production advantage on equally good but cheaper soil further from the urban areas or leave farming to find new employment in urban areas while they still live in their farm land.

New Zealand urban areas have historically developed on the better soils (except Wellington) and there has been steady expansion in urban settlement. In 1881 (after 40 years of pioneer settlement) 60 percent of New Zealand's population was rural and only 40 percent urban. Change from a rural to an urban dominance in population took place about 1901.

In 1926 more than 60 percent of population was in urban areas. While by 1976 the urban population has risen to 83 percent (Department of Statistics). Because of the high rate of New Zealand urbanisation there has been a high demand for rural land subdivision on the fringe of urban areas. A survey by the Ministry of Works and Development reports that nearly 80 percent of New Zealand household heads would place as their first choice "rural living densities" (quoted in Barker and Brown: 1979, 7). There were about 27,000 small rural holdings in the country, occupying some 100,000 hectares (Jowett: 1976, 44). These small rural holdings were mainly around Auckland and Christchurch, which together accounted for about 50 percent of the total number. In Auckland the small rural holdings occupied 4.5 percent of the land in the Auckland region and 2.5 percent in the Christchurch region. The other urban areas the small holdings occupied less than one percent (Barker and Brown: 1979,8). A major result of small holding subdivision is that agricultural lands near the cities change their type of land use, often to more intensive land uses or to non-agricultural uses such as residential. Small farming reflects traditional agriculture because of the agricultural product demand from the growing urban areas. For such agricultural activities, farm land is subdivided as market gardening, fruit farming, pig farming, poultry farming, nurseries or bee keeping. The type of land use trends evident are the appearance of mixed products, the growing of high value and perishable farm products. Although some kinds of industry have spread to the urban fringe only a small proportion of land is used for manufacturing premises.

The rural residential area is mainly subdivided for the needs of people who really want to live in the countryside. Such people seek a portion of land for either residence or for small-holder, part-time farming but at the same time they still prefer to live like urban people.

People on small-holding subdivision come from a range of occupations. Studies of rural subdivision in Auckland, Manawatu and Papanui (near Christchurch) showed that up to 48 percent of owners were in the professional or semi-professional occupation, followed by skilled tradesmen and clerical or sale workers. Some of them seek a self-sufficiency on their small farms apart from their main occupations. Housewives are able to manage small-farming in their spare time. Consequently, there is an increasing number of farmers who quit farming and commute to urban employment but who still prefer to live on countryside. Rural residents who would fall into this category are often retired farmers, farm workers, hobby farmers who use their land for hobby or intensive or extensive purposes, e.g. horse stud farming, horticulture, nurseries, market gardening, grazing and racing horses. Some use land for "factory" farming such as pig-raising, poultry or mushroom farming. Another change in the subdivision area is the distribution of income of the residents. The residents of subdivision area show a positively-skewed income distribution, and a mean annual income per person or per household higher than that of the associated urban and rural areas (Pryor, 1968). Moreover there is the sign of physical change on these residential subdivision, i.e. houses and farm buildings. New houses are built on the properties with a number of different modern styles. In addition existing older-style houses may be transferred to be rebuilt on the rural property. Subdivision may create a cluster of houses where there was formerly only isolated farm houses. Old farm buildings used for the previous type of farming are demolished, remain obsolete or are converted to new purposes, for instance milking-sheds are commonly converted to hay-sheds for the purpose of livestock raising.

In terms of subdivision property ownerships, there are higher proportion

of freehold of property and a lower rate of renting or leasing than the property in urban areas. The average house rental is also lower than in urban areas. Subdivision areas have high proportion of married residents.

There are some changes of character and pattern of land uses which are influenced by urbanisation and subdivision. One of them is the change from extensive to intensive or semi-intensive land use. To illustrate, livestock production has moved away from sheep raising into beef and pig output. New varieties of crops may also be introduced. The Ministry of Agriculture and Fisheries reported after their survey of "Small Holding Agriculture" (1977) that:

Percentage of Properties	Use of Land
15	for residential purposes
55	for grazing
20	for cropping
10	not used at all

In nearly 60 percent of properties used for residential purposes, the household head was employed full-time away from the property. The properties of households earning their living from the land was found to be very low, only 22 percent were dependent on the holding for income. Small holdings can be highly productive, however, in terms of output per hectare.

There has been much argument about the advantages and disadvantages rural subdivision on the issue of the productivity of the land before and after subdividing into small holdings. The advantages typically stated include

the fact that rural subdivision offers a chance for full-time farm workers or forest workers to obtain their own land and house. They are not able to buy a large area of land for their farming. Subdivision may help to reduce or even reverse the drift of population to the major centres and to rundown of rural facilities. Farmers on subdivisions can farm intensively in response to the demand from nearby urban areas or processing centres. On the other hand, disadvantages arising from subdivision are: land owners may not gain full benefits from the application to part-time farming of their professional skills, management competence, available time, and access to capital. Subdivision leads to higher land values which do not reflect an agricultural value anymore, competition for labour, dissection of the land by road and other kinds of services.

Undoubtedly the distribution of rural land subdivision and small farming subdivision at the outskirts of urban areas is pressured by urbanisation. There remains, however, controversy about the effect of rural subdivision on the countryside as the whole and on individual counties which are being encroached upon by urban sprawl. From the agricultural producer's point-of-view, rural subdivision is often cited as the main cause of static agricultural production. Each county authority is aware of the invasion of urbanisation onto its rural agricultural land. There are quite a number of studies of rural subdivision to support and disagree with these arguments. The study of land use distribution on Ten-Acre Subdivision in the Waitemata County near Auckland concluded that in the east of Waitemata County a loss of productivity took place because former farm land now being held for future urban development. In the west, however, there has been expansion of new intensive systems of agriculture and consequently increased productivity. This distribution stemmed directly from social factors and soil patterns (Winn, 1970). In the

Manawatu region, it was found that the intensity of agricultural land use on subdivision farm (as measured by mean farm output and mean total output respectively), were at higher levels than before the farm land was subdivided. It is, however, the exception on subdivisions while were former dairy farms (Chiu, 1975). In Paparua County near Christchurch, Mears (1974) studying part-time farming in the Christchurch rural-urban fringe found that agricultural production had ceased on one-quarter of the holdings looked at. He could not give a definition assessment of whether or not part-time farming results in an increase or decrease in agricultural production. A study of the land use and characteristic of Rural Subdivision around Hamilton City came to a firmer conclusion, that the productivity of the land had not changed much with rural subdivision (Stevens, 1975). A study in Taupo County found no difference in carrying capacity between farmlets and synthetic average full size farms (Crawford, 1977). Cato interviewed a sample of part-time farmlets in Rodney County (Auckland) and found that agricultural productivity was slightly lower than that of full-time farms. He suggested that the relationship could be reversed when intensive part-time farming became established (D.S.I.R., 1979). In 1979 Moran, who had carried out a pilot study of rural small holdings in the Auckland region, concluded that pastoral and horticultural small holding maintained a higher productivity than when the land was managed as larger pastoral units (D.S.I.R., 1979).

The fact remains, however that "many properties situated near large urban areas have been subdivided into small block and sold at high prices to people, wishing to own country estates. The result is that the general level of values in the locality rises to a point where normal pastoral production is no longer economic"(the New Zealand Valuation Department quoted by Mears: 1974, 5).

Rural Subdivision involves subdivision of land into holdings of different size. It is however popularly associated with the idea of the "ten acre block" (4.046 hectares). Normally the range of holding size is between one hectare and up to 20 hectares or more. The size of holding is dependent on many factors such as the value of land, the quality of soil, the distance from urban areas and topography features of land. Table 1.2 shows the range of size of holdings with the land use characteristics on the land.

TABLE 1.2

Type of land use by size of holdings

Type of Land Use	Number of Holdings		
	Under 5 ha	5-9 ha	10-19 ha
Total land from below 20 ha	3,910	3,012	3,420
Sheep farming	456	558	656
Beef farming	530	639	808
Poultry farming	373	118	71
Market gardening	834	223	239
Orchard	861	542	375
Cropping	152	168	228

Source: Department of Statistics, June 1973.

Patterns of size of holdings vary in different county areas. For instance, in Paparua County near Christchurch the total area of small-holding (i.e. 8 hectares and below) is 38, 737 hectares. About 86 percent of this land is the eight-hectare size of holdings while only 5 percent is between six and eight-hectare blocks. In the Manawatu, (consisting of

Manawatu County, Kairanga County and Oroua County), there are 1,830 small-holdings near Palmerston North. A look at the distribution reveals 36 percent are 9-20 hectare holdings, 19 percent are 5-9 hectares and 45 percent are of less than 5 hectares (Ministry of Agriculture and Fisheries, 1974).