

**RURAL LAND USE CONFLICTS:
A CASE STUDY OF CENTRAL SAANICH**

By

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ABSTRACT

Land use conflict in the rural urban fringe is a problem for Canadian agriculture, as well as for local governments responsible for land use controls. Development of non-agricultural uses adjacent to farms may lead to limitations on the productive capacity of farming operations, as well as increasing the danger of further irreversible conversion of land with good agricultural capability. At the same time it must be recognized that the effects of some common agricultural practices on suburban land uses constitute the sort of nuisance that zoning is intended to prevent. It is clear from the literature and common sense, and confirmed in a case study analysis of Central Saanich, B.C., that the traditional land use controls often do not work effectively in these situations.

Because each land use conflict of this type is specific to a particular site and involves local farming practices, the local level of government is most familiar with the issues and thus may be in the best position to exercise appropriate controls. Local governments may, however, choose to ignore their responsibility or may for fiscal reasons prefer to see non-agricultural development of the community.

Traditional land use controls have not been effective in preventing rural land use conflicts, for often the problem has reached a critical level in the community or else a crisis situation demanding an immediate response develops before any action is taken. By this time, many of the potential land use conflicts are actually in existence. However,

failure to plan, delay in responding to rural land use conflicts, and conflicting interests in non-agricultural land use are not the only reasons that local government has difficulty in coping with the problem. Land use control techniques suitable for application to this problem have inherent inadequacies and weaknesses or are not acceptable to agricultural producers. Analysis of Central Saanich shows that all of these factors led the Council to consider "Green Zoning". However, there is reason to believe that this form of zoning, including limitations placed on operation of a farm unit, would also prove disappointing. Moreover the problem is too intricate and pervasive to be handled entirely by local government. It is therefore up to the senior governments to facilitate local management of the problem and to offer assistance and guidance. If a local government refuses to address the problem of rural land use conflicts, then more coercive measures may have to be taken by a senior government.

In addition to the complementary use of certain land use control mechanisms, there is also the need for more comprehensive programmes which include non-regulatory measures in addition to the regulatory ones. These include increased citizen participation, greater public and political support, and an increased awareness of the impacts that rural land use conflicts are having on Canada's agricultural base.

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CHAPTER I

RURAL LAND USE CONFLICTS: A CASE STUDY OF CENTRAL SAANICH

Introduction

This thesis begins with the belief that there is a need to maintain and protect our agricultural capacity. The problems plaguing our agricultural sector causing its subsequent decline, are not restricted just to this nation. This is a world-wide phenomena--indeed, it is even more serious in some other parts of the world. As Canada's and the world's population expand, so must the food supply. If not, then there will not be enough food for everyone. This could result in paying extremely high prices for food, food shortages, rationing of food or even mass starvation. Some of these conditions already prevail in some parts of the world, therefore, it would seem obvious that there is a need to protect agricultural land, the agricultural community and the necessary infrastructure: all of these being essential to the production of food.

Over 100 nations in the world rely on North American grain exports (Brown, 1981). In Canada today, we are in the enviable position of being net exporters of food; a position largely attributable to the quantities of grain which we export annually. However, most nations in the world are net importers of food.

It would be desirable for Canada to remain in this position of being a net exporter of food, however, the myriad of problems presently

plaguing our nation's agricultural sector accompanied by the increasing consumption of food and land by our own growing population may preclude this option. The conversion of agricultural land to non-farm uses, increasing costs of land and labour, rising costs of energy reflected in the cost of fertilizers and transportation, the falling yield response to chemical fertilizers and inefficient agrarian structures (Brown, 1981) are all problems currently afflicting the agricultural industry in Canada. The cumulative effect of all these problems is the weakening of the agricultural sector and a slowing in the rate of increase of food production.

Some people hail technology as the likely saviour and have visions of ten-storey greenhouses and hydroponic gardens on rooftops. However, until and unless these technological innovations which are purported to solve the world's food supply problems are tried and proven, it is in the best interests of our nation and the rest of the the best interests of our nation and the rest of the world's population not to take chances with our agricultural industry. As a nation, we should make every possible attempts to minimize the risk of possible future shortages of food supplies.

In this thesis it is implicitly accepted that the global production and consumption of food are dangerously balanced at present (Brown, 1981). For our nation to ignore this delicate balance and to continue to allow the decay of our nation's agricultural land for non-farm purposes is not only an abdication of our international responsibilities, but of our responsibilities to future Canadians as

well. The lackadaisical attitudes of most Canadians towards the agricultural sector of our economy and their failure to recognize the paramount importance of the agricultural industry could contribute to our nation one day suffering shortages of food or paying exorbitant prices for imported food.

The need to preserve agricultural land in Canada and to protect Canada's agricultural industry will not be debated in this thesis as both are basic premises of this study. The intent of the foregoing introduction has been to assist the reader in placing the specific problem being examined in this thesis into a broader context and to help the reader appreciate that rural land use conflicts are but one of the many problems faced by agriculture today.

1.1 Purpose

The purpose of this thesis is to examine how local government can boundaries. To do this, rural land use conflicts will first be explained and examined. More specifically, the impact of nonfarm development on the agricultural community and in particular, the impact of urban-oriented uses on agricultural land uses. Therefore, a more accurate title for this thesis might be 'agricultural land use conflicts'. However, the term 'rural land use conflicts' is commonly utilized as a general surrogate for the more specific term of 'agricultural land use conflicts'. A distinction between 'rural land use conflicts' and 'agricultural land use conflicts' is not usually made.

The second step of this thesis will be to analyze and compare those land use control mechanisms which could conceivably be used to assist in the control of prevention rural land use conflicts. This analysis will be descriptive in nature and will focus on the aspects of implementation and administrative aspects of these regulatory mechanisms. Regulatory mechanisms suitable for implementation by local government will be emphasized.

Thirdly, this thesis will evaluate each of the selected mechanisms by using a case study to review the existing application of some of the mechanisms and to speculate about the ramifications of the possible application of others. The district municipality of Central Saanich will be used as a case study for the purposes of evaluation of these selected land use control mechanisms. Central Saanich being what was once a predominantly agricultural community that in the last 30 years has been subject to urban sprawl. This urban sprawl has altered the character of the community and created conflicts between the pre-existing agricultural uses and the immigratory urban uses. The type of rural land use conflicts which have occurred and the issues that arise are typical of those that are experienced by any rural community which has been transformed by urban sprawl.

To conclude this study, recommendations will be made on how local government in B.C. can best control and prevent rural land use conflicts within their respective municipal boundaries and what can be done at the regional level of government about rural land use conflicts in unorganized areas. Suggestions will be offered on the degree to which

the provincial government should intervene in the local control of rural land use conflicts, what the provincial government can do to facilitate and assist local government in the control and prevention of rural land use conflicts and what type of policy guidelines should be established by the province for itself and for local and regional governments to follow.

1.2 Methodology

Rural land use conflicts are very difficult to quantify except in terms of the number of complaints received by government offices and the number of articles in local newspapers. Analytical research on rural land uses in Canada has been largely limited to the economics of agriculture and statistics on the number of hectares of agricultural land. There is a lack of research and data on those variables which encourage or force farmers to stop farming their land. Nor has there been much data collected on the impacts of urban sprawl on agricultural communities with the exception of the amount of hectares of agricultural land which have been consumed for non-agricultural purposes. For these reasons, the methodological approach applied to the analysis of rural land use conflicts in this study must be descriptive in nature.

An acceptable solution to the problem of rural land use conflicts is the implementation of land use controls. However, not all land use control mechanisms are suitable for coping with rural land use conflicts nor are all the mechanisms implementable at the local level. Therefore, the selection of land use control mechanisms for analysis was done on

the basis of their suitability to the rural environment, their applicability to the problem of rural land use conflicts and the ability of local government to implement the mechanism. In the analysis and discussion of the selected land use control mechanisms, four broad headings were used: 1) Description; 2) Advantages; 3) Disadvantages; and 4) Conclusions. In the course of the discussion of each mechanism, the following variables will be assessed: 1) objectives; 2) target group; 3) implementation; 4) administration; 5) flexibility; 6) complexity; 7) certainty; 8) effectiveness; and 9) magnitude and distribution of costs. These nine variables are judged to constitute the essential criteria that any government body should consider before deciding upon implementing any land use control mechanism. The rationale and justification for using these nine variables to analyze the selected land use controls will be explained later in this study.

The information for the analysis of the mechanisms will be based on literature research, interviews with knowledgeable professionals, and personal working experience. (The author has worked for three years in the field of planning, two and half years of which were with the Agricultural Land Commission; and therefore, has come into contact with a wide range of rural land use issues). To summarize the analysis, a matrix of the 9 variables for each of the selected planning mechanisms will be assembled. To conclude, there will be a discussion of the alternative solutions and approaches to resolving rural land use conflicts.

After analyzing these selected regulatory mechanisms, a case study

of Central Saanich will be undertaken in order to evaluate the performance of those mechanisms which have been implemented in Central Saanich. An 'apriori' evaluation of the likely performance of those mechanisms which have not been implemented in Central Saanich but were selected for analysis will also be given. As part of the evaluation, representatives of the various interest groups common to any local, rural community were interviewed. They were asked to assess the selected land use controls on the basis of the 9 variables utilized in the analysis, in terms of their applicability to Central Saanich and to comment on alternative solutions. The result of this analysis and evaluation was a set of recommendations for consideration by the district municipality of Central Saanich on how to best cope with rural land use conflicts in their municipality.

Suggested policy guidelines for the provincial and federal governments will also be presented. This study also includes some conclusions on the manageability and resolvability of rural land use conflicts. However, before proceeding, it will first be necessary to define the study area.

1.3 Definition of the Study Area

Thus far, only the term 'rural-urban fringe' has been used to describe the countryside after it has been transformed by urban sprawl. There are numerous other terms which are used to describe this transformed rural landscape. Distinctions are also made in the terminology to denote the distance-decay function of the diffusion of

urban elements; for it has generally been observed that there is a decrease in the frequency of urban elements as you travel outwards from the city centre. For as Davidson and Wibberly explain:

The fringe is not an easily defined geographical area that begins and ends at a certain distance from a city centre; it is rather, an area characterised by functional and visual uncertainty about its dominant use. It contains substantial, if discontinuous, areas of urban development mixed with stretches of more extensive uses like agriculture and forestry. Those uses are strongly affected (beneficially as well as to their detriment) by the presence of urban activity. There are other characteristics of the fringe: notably, that it contains an assortment of urban uses which are not wanted in, or can not afford, the city and are inappropriate for the open country side, but which nevertheless require a location near to the population which they serve. (1977, 109-10).

1.3.1 Finding a Definition of the Rural-Urban Fringe

It is not easy to define the rural-urban fringe. One of the simpler ways to envision the rural-urban fringe is the use of a conceptual model. In Troughton's model (1978), three separate systems are identified: the urban system, the rural-urban fringe (the zone of transition and interaction), and the rural system. Troughton visualizes the rural-urban fringe as an interface between the rural and urban systems as well as a barrier between the two systems. "This rural-urban fringe is much more extensive than what is usually perceived as the 'urban fringe'." (Troughton, 1978, 8).

Several sub-systems can be identified within the rural-urban fringe. Russwurm (1971) has noted the existence in the rural-urban fringe of: the suburbs, the urban fringe, the rural-urban fringe, the

urban shadow, the ex-urban area, the commuting zone and so one. For the purposes of this thesis, however, the more simplistic conceptualization of the rural-urban fringe as a zone of interaction and transition between rural and urban uses will be adopted. This zone being characterized by the presence of land uses from both the urban and rural systems, with the urban or non-farm uses having been superimposed upon the rural system.

1.3.2 Examples of Urban Land Uses

From the use of this definition of the rural-urban fringe as a zone of transition and interaction containing elements from both the urban and rural systems, there arises the question of distinguishing between urban and rural uses. Some examples of urban land uses or non-farm uses are: residential subdivisions where none of the parcels of land are farmed or have living there people who work on farms, hobby farms, stores which service more than just the local community, shopping centres, commercial food outlets such as restaurants and pizza parlours, major highways and overpasses, sidewalks, pressurized water supply systems, and the list goes on. Occasionally, these non-farm uses will be congregated in one area of the agricultural community or else clustered together in several areas. However, the more common situation is the haphazard location of the non-farm uses, particularly residential sub-divisions and hobby farms, throughout the community or ribbon development of the commercial activities, hence, the term, 'urban sprawl'.

1.3.3 Examples of Rural Land Uses

Rural land uses are considered to be those activities which are essential to the production of food and to the support of the local farming community. These activities include food processing and packaging plants, animal husbandry, residences needed to house farmers, their families and farm workers, farm equipment outlets and supply stores, locally oriented institutional uses such as schools and churches, and local merchandising outlets needed to service the surrounding community.

In attempting to define rural and urban land uses, it is difficult to distinguish between rural and urban residences as the problem of classifying hobby farms and part-time farmers arises. There are two methods which can be used to distinguish between rural and urban residences. One method is to classify the use on the basis of the type of employment of the residents. One of the persons that resides on the property must be employed full-time in farming activities or be employed in an activity which is ancillary to the local agrarian community for a residence to be classed as a rural land use. Place of work is the other factor that can be used to distinguish between urban-oriented and rural-oriented land uses. If none of the members of a household work in the local community, chances are that one or more of the household members are commuting to a higher order centre to work; making that residence or household an urban use.

However, there are problems with these two methods of

classification of residential uses, in that the classification is being made on the criteria of the occupation of the members of a household rather than the actual use of the land. These two methods of classification do not consider such situations as a farmer who is not able to get sufficient income from a farm and has to work away from the farm to supplement his income from farming. For the purpose of this thesis, the distinguishing criteria that will be used to distinguish between an urban and rural residence is whether or not the parcel of land that a residence is on is assessed as farmland for taxation purposes. A property that is assessed as farmland has commercial sales from its farm operation that reach or pass a specified benchmark, usually expressed in dollars.

In the instance of commercial outlets, the distinguishing criteria for whether or not they are urban uses or rural uses is a bit more complex. If the commercial outlet services the immediate community or the local area then it is a rural use. Sub-regional shopping centres and regional shopping centres which are higher order service centres are urban uses. However, there is also a grey area. A commercial outlet may service several surrounding communities suggesting that it is an urban use, however, if it is located in the town centre of a higher order rural community (eg. Chilliwack), it can be thought of as a rural land use. As a general rule, if the retail trade area of a commercial outlet is higher than the service order of the town centre where it is located, then it is an urban use. Too, if the commercial outlet is not located in the central, built-up area of the rural community or service

centre and it serves more than just the local area, then it is an urban use as well.

The classification of ancillary agricultural uses such as food processing plants can be complicated as well. Ancillary uses often try to locate near the source of their raw materials, however, some ancillary uses can come into conflict with nearby agricultural land uses. There is also the problem of the labour force from the ancillary use moving into the rural area to be near their place of work. The general principle applied to the classification of commercial outlets and centres can also be applied to the classification of ancillary uses. If the order of the trade area is higher than the order of the centre in which the ancillary use is located, then the use is urban; with the exception of those uses which must be located near the agricultural area such as farm sales outlets and packaging plants. This same principle can also be applied to the classification of institutional uses.

1.3.4 A Definition of the Rural-Urban Fringe

To summarize, the rural-urban fringe has been defined as an area which: 1) is a zone of interaction and transition between the rural and urban systems; 2) contains elements from both the rural and urban systems; 3) the rural systems pre-dates the in-migration of the urban elements; and 4) includes more than one agricultural operation. Spatial limits to the rural-urban fringe were not established. Although set distances are frequently used to define the bounds of the rural-urban fringe based on such criteria as the maximum commuting distance, these

spatial limits when applied in a more general sense become artificial contrivances that can not adequately accommodate the complexity of the concept.

CHAPTER II

LITERATURE REVIEW AND PROBLEM STATEMENT

2.1 The Impacts of Urban Sprawl

Before elaborating on the nature of rural land use conflicts, the transformation of the countryside and the impacts of urban sprawl will be examined through a review of relevant literature.

2.1.1 Transformation of the Rural Landscape

The modern rural landscape or countryside can be thought of consisting of five main functions or systems: agriculture, forestry, mining, recreation, and urbanization (Beaubien and Tabacnik, 1977). The countryside did not always consist of these three systems though. At one time, rural areas were once comprised of only three systems: agriculture, forestry and mining. Hunting and fishing have been excluded from these lists as these activities do not necessitate the acquisition of property rights and involve migratory, renewable resource). When this nation was younger, there were rarely conflicts between the three systems. As the nation grew and the population became more established, a fourth system, recreation, started to occur in the rural areas, later followed by urbanization.

Until recently urban activities were essentially confined to the cities and towns with rural communities being culturally distinct from the cities (Campbell, 1975). A rural-urban dichotomy existed. However,

this separation of functions was to change:

The modern city until this generation was simply an enlarged version of the medieveal town. There was a center, a clearly marked periphery, and concentric rings of declining intensity of land uses that made it possible to utilize J.H. von Thunen's pattern of urban land use analysis well into the post World War II period even though von Thunen developed his theory on the basis of observed urban structures in Germany of the 1820's. All this has changed. (Raup, 1975, 372).

The nature and manifestations of this imposition of the urban system on the agricultural system will be described and discussed at greater length in this chapter as it is the main concern of this study. The forestry, recreational, and mining systems will only be looked at superficially, and mining will not be dealt with.

The conflicts between forestry and agriculture are not as severe or as complex as those between urbanization and agriculture. In fact, the harvesting of trees can, if the soil is suitable, make the land available for agricultural use. The harvesting of trees does not always come into conflict with adjacent land uses; although clear cut areas will be more susceptible to erosion which can cause excess siltation and flooding in some cases. While there can be competition between forestry and agriculture for the same land, the growing trees does not permanently alienate the land from agricultural use, it can always be cleared once the trees are harvested. Silvicultural practices don't come into conflict with agricultural uses with the exception of grazing animals. Foresters are concerned about livestock eating seedlings as browse while farmers worry about the tree cover becoming too dense. (If

the tree cover is too dense, sunlight can not reach the ground, therefore, the undergrowth which the livestock browses on doesn't grow in sufficient quantity). Farmers are also prevented from lighting fast bush fires that are needed for seed regeneration because it may destroy mature trees.

Recreation is another use that will sometimes, but not always, come into conflict with agriculture. It depends upon the nature and intensity of the recreational activity. Low intensity uses such as golf courses and cross-country skiing may not come into conflict with agricultural use of adjacent lands, but these uses consume large tracts of land. However, the land is not necessarily permanently debilitated for agricultural use and can be used for such purposes in the future. Other, more intensive recreational uses such as race tracks and campgrounds for trailers can permanently alienate the land from agricultural use. The traffic through an agricultural area to recreational facilities and the trespasses of users of the facilities onto agricultural lands are other causes of agricultural-recreational land use conflicts.

As far as mining is concerned, strip mining and open pit mining both require the removal of top soil which is essential for agricultural practices. Intensive mining of this nature would undoubtedly come into conflict with agricultural land uses as well as with many other uses of the land. Restoration of the mined area for agricultural use is nearly prohibitive in cost and would most likely be carried out only if reclamation had been a condition of approval for the mine. However,

there are examples of reclamation of quarry pits for recreational uses; a good example being Butchart Gardens which is located in the study area of Central Saanich. The conflicts between mining and agriculture will not be discussed further in this study.

2.1.2 The History of Urban Sprawl in Canada

A process of urban sprawl has been occurring in Canada since the 1930's when part of the social elite started to create enclaves in the countryside known as country estates and to build summer homes there (Troughton, 1978). (It should be noted that this last reference pertains to Eastern Canada, in particular, the Toronto area. In Vancouver, development of this nature started before 1910 with the construction of summer homes in Kitsilano, Brighton Beach and English Bay. Shaughnessy and Fairview slopes were the suburbs of the elite). Urban sprawl gained momentum during the 1950's and rapidly accelerated during the 1960's and 1970's as the middle class started its exodus from the city centres into the suburbs and beyond. According to Gertler and Crowley, in Canada, during the period from 1966 to 1971, "...399,000 people took up residence along a township road or on a country estate..." (1977, 71). Among the many other impacts which contributed to the transformation of the so-called 'traditional' rural landscape were: comparatively inexpensive land in the countryside which was readily available for subdivision and development; increased accessibility to the countryside afforded by freeways, expressways, and cheap gasoline; the diffusion of urban and suburban lifestyles on

television; better communication with urban centres by telephone; and the attraction of jobs in urban centres to ruralites. Today, an 'urban shadow' has fallen over the countryside and a recognizable and distinctive landscape had emerged. It is a mixture of the rural and urban ways of life, each accompanied by their respective physical manifestations.

As urban activities sprawled across the rural landscape, little attempt was made at first to hinder the process. As this 'rural-urban' landscape started being recognized as a distinctive area with its own identifying characteristics and qualities, it was termed, among other things, the 'urban field' (Friedmann and Miller, 1965). The urban field was perceived as being the land bank for the urban centres which one day would be absorbed into the enlarging metropolis. While it was appreciated that this expansion of the city into the countryside could have some negative effects, it was felt that the positive social benefits of development such as an increased standard of living, higher education and health indices, and better services outweighed the negative aspects of urban sprawl: on the condition that the 'environmental integrity' of the countryside could be preserved (Friedmann and Miller, 1965). The main concern at one time was over the cost of municipal services and the loss of the aesthetic appeal of the rural landscape.

2.1.3 Consumption of Agricultural Land: The Direct Impact

The prevailing attitude to urban sprawl began to change as it was realized that the 'environmental integrity' of the countryside was not

being preserved. There was a growing awareness of the negative effects that urban sprawl was having on the rural landscape. The most obvious impact being the vast amount of agricultural land that were consumed for non-farm purposes. D.M. Gierman estimated in a 1977 study that the average annual rate of conversion in Canada of good agricultural land (Class One to Three) to non-farm uses between the years 1966 to 1971 was 26,918 acres per year (1977, 31). In 1977, Gertler and Crowley calculated that approximately 1,650,000 more acres of land would be annexed by the outward spread of cities and towns by the end of this century, if the current rate of land consumption (about 60.7 hectares per 100 people) continued (1977, 268).

This dilemma is compounded by the fact that much of Canada's best agricultural land lies in close proximity to urban centres. More than one-half of all Canada's Class One agricultural land, nearly one-third of the Class Two land and approximately one-fifth of the Class Three land lies within an 80 kilometre radius of Canada's twenty-three Census Metropolitan Areas (Manning and McCuaig, 1977). "It is this fact which lies at the root of so much concern in Canada; the largest metropolitan areas are regions having lands of the widest agricultural productive capacity which can produce more efficiently than lands of more limited potential." (Bryant and Russwurm, 1979, 128).

In Canada where, due to climatic factors, there are limited amounts of good agricultural land, we have to be particularly cognizant of the attrition of agricultural land and of the possible ramifications that the destruction and alienation of good agricultural land has for the

future of agriculture in this nation. The land supply in Canada is finite and only so much of that finite supply of land can be improved for farming purposes. Yet, it is on these fertile lands lying adjacent to the urban centres where many rural land use conflicts occur and where the economic benefits of agricultural production are in jeopardy (Harris and Noonan, 1980,5).

One does not have to be a farmer to realize that the land is a basic factor in the production of agricultural goods. If that land is built upon, paved or otherwise alienated from agricultural use, it can not be utilized for food production unless the great expense of destroying the superimposed structure is incurred. During the time which the top soil is covered or left unmanaged, the biological processes of soil formation are altered, which can damage the soil and prevent agricultural production on that soil until such time that the natural processes of soil formation restore the soil to an arable state--which can be decades. For all intents and purposes, the alienation of land from agricultural use is irreversible.

2.1.4 Indirect Impacts of Urban Sprawl

A direct and tangible impact of urban sprawl is the removal of land from agricultural production. However, interactions between immigratory urban elements and the pre-existing farm uses can have indirect, intangible and less obstructive impacts. It is the management and control of these indirect and intangible impacts of urban sprawl that this thesis is concerned with.

The importance of land to the agricultural industry has already been stressed, however, equally essential to the production of food is the agrarian structure, as noted by Bryant and Russwurm: "Land possesses immediate agricultural value only when it becomes incorporated into an agricultural production system; agricultural resources include people, capital, the supporting service infra-structure, and climate just as much as land." (1979, 122). Therefore, good agricultural land is not defined exclusively by its physical qualities such as its capability for agricultural use based on the range of crops that can be produced on the land; the social and economic environment, the relative location of the agricultural land and the management of that land can also affect its agricultural productivity.

The encroachment of non-farm uses can gradually weaken and erode the existing agrarian structure. They can critically damage, "...the fabric of the farming community..." until the "...intrusion of non-farm uses must lead to the collapse of the balance of the farming community." (Rawson, 1976, 20) However, there is no identifiable threshold limit or critical point at which collapse of the farming community becomes inevitable.

2.2 A General Discussion of Land Use Conflicts

Non-farm uses can impinge upon the agricultural community and farm uses by coming into conflict with and negatively affecting the indigenous agricultural environment, hence, the term, 'rural land use conflicts'. Conversely, activities of the agricultural community

and its normal uses of the land can have a negative effect on and come into conflict with the non-farm uses, thereby, generating more rural land use conflicts. It can be argued that a certain amount of non-farm development or certain types of non-farm development or certain types of non-farm development presents no problems for agriculture and can even be beneficial to the agrarian community. Bryant and Russwurm give as an example 'country residential development', saying that it, "...presents no conflicts with agriculture and that beneficial relationships may even develop, eg. greater community viability and more integration of farm and non-farm people." (1979, 131-2) Bryant and Russwurm are of the opinion that it is only after, "...a certain level or rate of development has been exceeded that conflicts really develop." But, Mary Rawson (1976) warns us, we do not know at which point the conflicts become critical, and by then it is too late.

2.2.1 Land Use Conflicts

The term 'land use conflicts' refer to the incompatibility of uses of land. Certain land uses by reason of their intrinsic qualities are incompatible with other uses of the land. However, the performance and siting of a use can influence its compatibility with other uses as can the intensity of the use. The manner in which a use is carried out, the time at which the use occurs and the presence of buffers or barriers are other variables which affect the compatibility of land uses.

Because land is fixed in location, pressures often arise for the relocation, modification or termination of the land use which is in

conflict with other land uses. Although, there are conflicts between land uses which are so minimal or occur so infrequently that no action is taken to resolve the conflicts.

Conflicts between land uses usually infers change. A new land use has started in the area, otherwise, an existing land use has either expanded its operation or altered the performance of its operation, such that it is now coming into conflict with other land uses. Or conversely, a new land use might be affected negatively by the pre-existing land uses. However, as Janelle points out, ...land use changes per se need not necessarily lead to locational conflicts. Nonetheless, areas having high levels of land use transition may be expected to generate more overt public debate over land-use issues than areas of comparative stability. "(1977,311) In some cases, conflicts between land uses can be reconcilled or resolved through the modification of uses. For example, stopping the spraying of DDT on fruit trees and substituting less dangerous pesticides can make an orchard more compatible with nearby residential uses. However, there are certain combinations of land uses which are simply not compatible, for example, an apartment building adjacent to a feed lot. An impasse of this type usually results in one of the land uses being relocated or terminated.

To reiterate, because of the permance of spatial relationships between parcels of land, a conflicting land use will be subject to pressure for modification, relocation or termination. But it is not always the offending exogenous land use which is subject to change or

relocation; a pre-existing or 'passive' land use may be forced to change the nature of its operation, relocate or terminate its operation.

('Passive' use refers to that land use which does not have an impact on surrounding land uses, a vacant field being a good example.)

2.2.2 Rural Land Use Conflicts

Rural land use conflicts are indicative of changes which are occurring in the countryside as non-farm elements encroach on the rural community, and subsequently alter the composition of the community and disturb its stability. The influx of urban elements create problems for and come into conflict with the indigenous agricultural land uses. On the other hand, the rural land uses can have a negative impact on and conflict with the non-farm uses. Along with the conflicts between non-farm and rural land uses, there are also conflicts between the urban values and lifestyles and the rural values and lifestyles.

2.2.3 The Interrelationship Between Land Use and People

When examining land use conflicts, it is also necessary to take into consideration the relationships among land uses, human values, lifestyles, and community structure. Land uses can not be studied in isolation as it is people who are ultimately responsible for land use activities. These people have personal values which are likely to influence the type of land use activity that that person chooses to participate in or is responsible for. The values of an individual are typically reflected in that individual's lifestyle. (For example, a

farmer is likely to be an early riser.) The members of a community usually have common values and lifestyles (Horton, 1971).

This similarity of values and lifestyles was at one time typical of many rural communities, as most members of a rural community were either farmers, members of a farming family or farm workers. There were a few exceptions such as the local shopkeeper, the local school teacher, the law enforcement officer, a priest, and perhaps some miners or foresters. However, this relatively homogenous and stable community structure changed as the urban shadow spread across the countryside. For accompanying the migration of the urban dweller to the countryside were not only the urban-oriented land uses of housing, services and transportation, but also urban values and lifestyles which were alien to the rural community.

A German scholar, Toenies, developed the concepts of 'gemeinschaft' and 'gesellschaft' to denote types of group relations or communities. Gemeinschaft relations are personal, informal, traditional and homogenous, similar to those of the small rural town at the start of the century. Gesellschaft relations or communities are more impersonal, formal, utilitarian and heterogeneous as are the relationships in urban communities today (Horton, 1971). These differences between the rural and urban lifestyles and values will be integral to the discussion of rural land use conflicts, for not only do the rural and non-farm land uses come into conflict, but the affiliated values and lifestyles do so as well.

Today, there are very few purely rural communities in this nation;

with the exception of those agricultural communities or collectives that are composed of religious sects such as Hutterites and Mennonites. The communications revolution lies behind the rationale for this last statement. As Oberlander notes in Beaubien and Tabacnik:

As soon as you open up the radio, TV and newspaper processes, he and she are totally consumed by urban values, urban aspirations and urban incentives, and aspire to a Canadian-wide urban system of values. The dichotomy which is sometimes assumed between urban and rural really is no longer there. (1977, 87).

The communications revolution has had a homogenizing effect on the differences between rural and urban values (Qadeer, 1979).

2.3 Causes of Urban Sprawl

Before discussing rural land use conflicts in more detail, it would be useful to examine the causative factors of urban sprawl. Generally speaking, it can be said that there are five causes of the phenomena of urban sprawl: 1) the negative elements of the city (congestion, high crime rates, lack of space, higher taxes, etc.); 2) the positive attributes of the countryside as perceived by city dwellers (clean air, spaciousness, low taxes, lack of governmental control and interference, good environment to raise children, etc.); 3) the relative price of land (cheaper than in the city); 4) improved accessibility to and from the country-side because of freeways, highways, cheap gasoline and increasing availability of the automobile; and 5) improved communication

with the city and the rest of the world through televisions, the telephone syndicated newspapers, magazines and so forth. Collectively, these are the five general causes of urban sprawl which have lead to the changes in the countryside.

Conversely, there is also a gradual migration of ruralites to urban centres. Many of the same forces which have caused urbanites to move out to the suburbs and beyond, are causing the ruralite to move into the city. In a reversal of the 'push-pull' effect of the city (the push of the negative elements) and the countryside (the pull of its positive elements), the ruralites have overlooked the so-called negative elements of the city for what they consider to be positive aspects of the urban centres: the availability of jobs, the night life, the diversity of the urban landscape, the lack of conformity and social controls, and the close proximity of services. Ruralites were already aware of the negative aspects of rural living: the distances between locations, the lack of entertainment, rigid social controls, low wages, and the hard physical labour of most employment in agrarian communities. The same highways and freeways that offered urbanites improved accessibility to the countryside, allowed ruralites to commute to the city to take advantage of employment opportunities. Television and other mass media has diffused the urban way of life and urban values to the residents of the countryside. Increases in the price of land due to competition from non-farm uses for agricultural land discouraged farmers from buying more land for farming and has persuaded them to sell their land to developers and retire from farming.

2.4 Rural Land Use Conflicts: The Problem Statement

How the causative factors of urban sprawl transformed the rural landscape and lead to land use conflicts between agricultural and non-farm uses will now be discussed. No one single factor is the sole cause of urban sprawl; it is the inter-relations and the dynamics of the five factors cited above which have created the rural-urban fringe. No one factor can be said to be more responsible than another for causing the urban sprawl which has lead to the creation of rural land use conflicts.

2.4.1 Inflated Price of Land

The relatively inexpensive land in the countryside as compared to the land in the city offers some very attractive profits for developers and speculators. Raup comments:

Put yourself in the developer's shoes. Can he affect the labour wages that he pays? Only in marginal cases. Can he affect the interest rate he pays? In some cases, yes, but in general he must compete for capital in a national market. Can he affect the price of building material? Probably not very much, even if he is a large-scale developer. What can he affect? The cost of land. His success depends on buying land cheap, selling it dear. Everything else that he buys is purchased in a national market and at price levels over which he has little influence. But he can leapfrog, buy and develop cheap land, mount an adequate advertising campaign and persuade prospective home-buyers to share with him in the anticipated capital gain. His marketing and management skills are focussed on land value appreciation. He succeeds only if he can suburbanize the countryside. The present structure of the urban land market confronts him with an option that he can't refuse. As long as leap-frogging permits him to capture a part of the economic rent created

by land value appreciation, this source of potential profit will dominate his managerial activities. It is the main but not the only determinant of our pattern of dispersed urban settlement. (1975, 374)

Granted, this leapfrogging of development can be controlled through orderly development strategies, however, many communities facing development pressures do not usually have strategies for orderly growth in place until the increases in land prices become significant or the scattering of development throughout the community necessitates the upgrading or construction of local services. Many communities may also initially welcome all and any land development proposals because of the increased tax base and the perceived economic benefits of development.

There is also the problem of protecting agricultural land from, "...the dispersed influences of urban people seeking rural properties, rural recreation, or whatever else they are seeking in the countryside. This pressure is more subtle and widespread." (Rodd, 1979, 12) The demand for agricultural land by private buyers can also push the price up.

Irrespective of whether the land in an agrarian community is purchased by a developer, a speculator or a private land owner, the purchase of rural land for non-farm purposes can have significant implications for the agricultural community, particularly if large amounts of land are consumed for non-farm purposes. "Increasing non-farm ownership of land and farmland specifically, is held to have an inflationary effect on land prices, pushing the expected value of farmland far beyond its value for agricultural purposes." (Bryant and

Russwurm, 1979, 30)

Inflated prices for land make it expensive and uneconomical for the farmer to buy more land to expand the size of his operation. (Modern technology and the economies of scale can demand that an operation be expanded to remain commercially viable.) The high prices of agricultural land can also make it very expensive, if not impossible, for a starting farmer to be able to afford to purchase land. Even the rental price of leased agricultural land can be inflated by the demand for land or the terms of agricultural leases can be shortened. If the lease of the land is only short-term or there is uncertainty about how long the land can be leased before it is developed, the farmer can be hesitant to invest capital in improving the land and may have difficulties in obtaining loans to buy machinery and make improvements because of the lack of security. Conversely, the increased market price of the farmland makes it very attractive for the farmer to sell his property.

2.4.2 Land Fragmentation

In areas where there is an intensive demand for agricultural land for non-farm uses, unless there are adequate controls in place, the land can be subdivided for non-farm uses into parcel sizes too small for commercial agriculture. Subdivision of agricultural land into smaller parcels usually raises the cost of the land per acre, which can make it prohibitively expensive for re-assembly of the subdivided parcels at some future date into a parcel size large enough to be used for

agricultural purposes. Another problem is the difficulty of persuading all of the land owners of the subdivided parcels to sell their land. Therefore, it becomes both expensive and difficult to assembly smaller parcels at some future date into a parcel size large enough for agricultural use. While the consolidation of the fragmented parcels is technically possible, in reality, subdivision of farmland is virtually an irreversible process.

2.4.3 Taxation Increases Due to the Demand for Improved Services

Not only can the price of land be inflated, but the taxes on that land can also rise, as Bryant and Russwurm note:

Non-farm development, especially of the scattered type of residential development, has also been held to create problems in terms of property taxation, and conflicts due to incompatibilities. The property taxation issue, although an old one, is not extensively documented. As country residential development spreads and intensifies, there is an obvious demand increase for certain public services, even though some types of people who move to the countryside may shun these in their quest for a rural lifestyle. The overall increase in demand, however, requires incurring additional municipal costs, the apparent problem is that the increase in revenue from taxation of non-farm residential properties often has not been sufficient to cover such costs. The permanent farm population may have to carry an unfair proportion of the tax burden compared to the 'newcomers'. Evidence is sparse although it generally points in this direction. (1979, 131)

Ex-urbanites who have moved to the countryside are accustomed to a higher standard of services in the city. Services such as paved roads,

sidewalks, streetlights, pressurized water supply systems, sewer systems, bus service, a full-time fire protection service, a local hospital and a locally stationed law enforcement office are all part of every day life in the city. However, few of these services are considered essential to an agarian community. In an agarian community, one usually finds a volunteer fire department. Sidewalks and streetlights aren't usually found, nor are all the roads paved. Depending on its availability, water can be obtained from wells and streams. The parcel sizes are large enough to allow for septic systems. The hospital and police department can be located in a regional town centre. There is usually no local bus service.

Aside from expectations of a higher level of services, the influx of ex-urbanites into rural areas might necessitate improved services. The density of the non-farm residents may dictate the need for pressurized water supply systems and sewer systems. (The former depending on the source of the water supply and its availability and the latter depending on the percolation rate of the soil, slope of the land and parcel size.) With children in the area there is a need for more schools or else bus service to schools in the city. Commercial activities may need sidewalks and streetlights. Insurance rates for commercial activities and other non-farm uses are generally cheaper if there is a full-time fire department in the community. The paving of roads might be needed to overcome the dust and ruts created by the increased traffic. The ex-urbanites might need a bus service to commute to work in the city. Ditches might be required or else a storm sewer

system needed to handle the increased run-off from the built-up areas. Not only can the construction and installation of these services place an additional tax burden on the farmer but they can also consume agricultural land. Utility and transportation corridors can fragment the landscape and create obstacles to the movement of animals and machinery.

2.4.4 Competition for Agricultural Land by Non-Farm Uses Other Than Residential

To worsen matters, aside from residential development, there is also competition for agricultural land from commercial, manufacturing, industrial, institutional and recreational land uses. These types of land uses which can sometimes require large areas of flat land can have serious impacts on the surrounding agricultural land uses aside from the increases in property values and taxes described above. They can act as a magnet, attracting activities of a like nature into the area so that they can profit from the benefits of agglomeration. Classic examples of this are the industrial plants which develop into industrial parks and shopping centres which grow into sub-regional commercial centres. The labour force needed for these operations and activities often is found in the urban centre rather than the local community. Rather than commute, the members of the labour force may seek housing in the rural area thus creating a demand for residential development, which can in turn create a demand for improved services.

These activities also consume agricultural land. Agricultural land

because of its typically large parcel size, its usually flat terrain and its relatively affordable price combined with the growing lack of space in urban centres for these land-extensive uses can make agricultural land very attractive for commercial, manufacturing, industrial, institutional and recreational land uses. However, it should be noted that recreational land uses do not always have the same negative impact on the surrounding agricultural uses as do the other uses listed above. Moreover, the land itself may not be permanently destroyed for agricultural use by certain recreational uses, eg. a golf course.

Another possible non-farm use of agricultural land is the disposal of waste from the urban centres. Sanitary landfills not only consume agricultural land but they can also have a negative impact on adjacent farmlands by attracting birds (which eat the seeds and produce) and bears into the area and the possibility of the escape of leachates into drainage ditches.

This practice of locating commercial, manufacturing, industrial, institutional and recreational activities, not to mention waste disposal sites, in rural areas was brought about the lack of space in the cities and improvements in transportation and transportation networks. Freeways and highways allow consumers to drive to the commercial centres. Parking space can be provided. The Trans-Canada has reduced the dependance of industrial and manufacturing firms on rail and sea. Urbanites who wish to, can drive to the country on the weekends to recreate and escape the noise and congestion of the city.

However, despite the negative impact of these types of uses on

agricultural land uses, the consumption of agricultural land and the changes in the structure and environment of the rural community, many local governments are interest in attracting these uses and other development in their communities. The reason being that development does increase the tax base, it can offer employment opportunities to the local population and there is a movement of capital into the area.

2.4.5 Impact of Transportation Corridors and Utility Corridors

Transportation corridors (road and rail) can significantly affect land use distribution patterns, for as Wallerstein notes:

Improved regional accessibility precipitated by the highway may increase the region's employment opportunities. In turn, this increased activity may urbanize a portion of the region's agricultural land. At the rural-urban fringe, the usurption of agricultural land because of improved accessibility to the urban's region services and labour force is a frequent occurrence. In effect, the highway causes a redistribution of urban land use into the agricultural area. (1979,31)

Transportation corridors as well as utility corridors (hydrolines and pipelines) can also bisect agricultural operations if they do not follow property lines. A highway can become a major obstacle to the farm use of a property. It can disrupt any tile drainage systems and render regular farm machinery unuseable because of the irregular and reduced parcel size. Unless special underpasses or overpasses are constructed, the accessibility to any portions of the property on the other side of the highway is restricted. It is very dangerous for a

farmer to move farm machinery and animals across or along a highway.

2.4.6 Physical Impacts

Aside from those impacts of urban encroachment which affect the farming community as a whole (inflated land prices, competition between uses for land, increased taxes, the demand for improved services) there are also those impacts of non-farm development which affect farmers on a more individual and selective basis. Most of these types of rural land use conflicts arise from such things as waste management and disposal, odour problems, farm machinery and animals on the roads, the spraying of crops, early morning activities, and late night noise in the harvest season. All of these activities are indigenous to the agrarian community and the result of common farm practices. However, to the ex-urbanite, the smells and sounds of agriculture are not generally thought to be part of the pastoral setting of the rural landscape. Urbanites before moving to the countryside often forget that animal waste smells, that farm machinery moves slowly and that farmers start work at daybreak. Even if a farmer practices sound management, there are still going to be conflicts unless the ex-urbanite is willing to adapt to the realities of rural living.

Unfortunately, rural land use conflicts can also be generated by the poor management practices of some farmers. Poor management can lead to instances such as the pollution of water supply sources from excess fertilization, contamination of water supply sources by cattle crossing streams, the attraction of rodents into the area, excessive odour

problems, and the accidental spraying of neighbouring properties. If the urbanites who live the rural community aren't already complaining about agricultural activities, they are most certain to complain about conflicts and problems attributable to poor management techniques.

Non-farm development can also have a negative impact on the natural environment in such a fashion that it comes into conflict with the agricultural community. This type of conflict most often arises over water supply. If it is limited or the water source is groundwater, there could be competition among the users for it. Farmers who need water for irrigation may find that they are competing with domestic users. Year round use of the water by domestic users can lower the amount of water in the storage reservoir, creating a short fall in the dry season. If there should be a lack of water in the summer, for whatever reason, irrigation would most likely be restricted or even stopped. In the case of groundwater, the depth of the aquifers may be lowered by the drilling of new wells and the increased consumption of groundwater. Farmers may be forced to drill their wells deeper to maintain their water supply or else build reservoirs or catchment basins on their land at the cost of arable acreage.

As mentioned earlier, another problem caused by non-farm development is the increased area of impermeable ground cover (i.e. buildings, roads) which causes increased run-off. "More pavement and less vegetation result in increased storm water runoff, and soil erosion will occur." (Council on Environmental Quality, 1974, 31) Soil erosion is a problem that most farmers are already facing. The excess run-off

can also accumulate in depressions and lowlands requiring improved drainage of fields.

2.4.7 Social and Psychological Impacts

Aside from these physical and economic incompatibilities which are created by urban sprawl, there are also the social and psychological impacts of urban encroachment. As the urbanites move into the countryside, they bring with them their urban-oriented values and lifestyles. The ex-urbanites are not usually assimilated into the rural community's social structure because of their social differences and urban-oriented outlooks on life. Ex-urbanites will usually maintain many of their urban values and lifestyles through urban friends and employment in the city. The associational relationships of the urbanite of 'gesellschaft' eventually predominant in the rural community as the 'gemeinschaft' relations deteriorate (Halverson, 1980, 369-70). As Rodd points out, "The traditional farm-based community characteristics are diluted and dislocated, with many farm families feeling alienated from their traditional social framework." (1976, 168) These differences in values, lifestyles and associated relationships between the rural community and the ex-urbanites are reflected in many of the rural land use conflicts already described.

Vandalism and trespass are land use conflicts which plague the farmer and can be attributable to social differences. Children from an urban background who have moved into the area oftentimes don't appreciate the nature of agricultural activities. They will open

livestock gates, harass farm animals, allow their dogs to chase animals, steal produce from the fields, drive all-terrain vehicles across the fields, and steal farm equipment and produce. The parents of these children are unlikely to warn them against these activities or even be aware of the problems that their children are creating. The adults may even be responsible for the children participating in these activities and may even do so as well.

These conflicts between the farmers and ex-urbanites can become so extreme that farmers just give up farming and sell their land. Several such instances have been documented in the Greater Vancouver area (Rawson, 1976).

Stephen Rodd has identified four reasons why farmers stop farming and allow their land to either lay idle or be sold for non-farm purposes:

1. After several years of low returns on crop sales, the farmer gives up hope of economic recovery and either gives up or sells out.
2. Personal reasons such as poor health, divorce, age, etc.
3. "A region's soils and climate may cease to give acceptable incomes because of prolonged gifts in technology, markets, or prices of inputs."
4. The whole region gradually starts to believe that there is no future for farming in the area. "This idea infects farmers, their neighbours, their dealers and the county council, despite good soils and good markets. An area's mood and character can change if many farms have become estates or hobby farms and if active farmers seeking to buy land to expand, or their sons wanting to own farms can not afford to buy land because some city mechanic, professor, doctor or salesman is willing to pay more than the farmer can justify." (Rodd, 1979, 12).

One or more of these reasons may cause a farmer to quit farming, however, it is the fourth which could be labelled the 'psychological' conflict of urban sprawl. The atmosphere in the rural community is no longer conducive to the continuance of agricultural practices. This pessimistic environment combined with the farmer's difficulties in coping with other rural land use conflicts and the inflated selling price of land, makes it very tempting for the farmer to sell his property.

2.4.8 Changes in the Political Composition of the Rural Community

If the ex-urbanite population continues to grow as non-farm development increases in the rural community, the exurbanites can become involved in local politics and have a voice in local government. The composition of the local political scene is changed and is, "...more influenced by the interests, needs and opinions of the new urban orientated inhabitants." (Rodd, 1976a, 168) Credence and political support are given to the ex-urbanites' demands for the upgrading of local services and the encouragement of more non-farm development in the community through their representation of the local council or board. The lack of understanding of the nature of the agricultural community by the ex-urbanites may be reflected in the decisions of councils which are dominated by ex-urbanites. Planning decisions may take on a pro-development bias. The representation of ex-urbanites in local politics can accelerate and exacerbate rural land use conflicts.

However, there are those ex-urbanites living in the countryside who

wish to prevent further development from occurring in the rural area. These ex-urbanites have moved into the area and wish to preserve its rural character. There may also be the fear the further development will mean higher taxes. Some of the ex-urbanites living on 'hobby farms' may farm their parcel of land because of a conscious rejection of urban values and lifestyles. Another common reason for farming the land is to avoid paying higher taxes on the land. (There are often tax reductions if the land is assessed for taxation purposes as farm land). Whatever the reason for the efforts of the ex-urbanite at farming, it does still help the ex-urbanite to empathize with the local farmers and to have a better understanding of agricultural practices. Ex-urbanites who are sympathetic to the farmer or wish to prevent further non-farm development in the area are not as likely to have a significant impact on the social and political composition of the rural community; although there will still be the physical impacts such as the alienation of agricultural land.

2.4.9 Speculation, Foreign Investment and Absentee Land Owners

Speculators, much the same as developers, buy agricultural land because it is cheaper than land in the city and can be purchased in large blocks. The speculator can then either try to get the land rezoned, wait until the land is rezoned, or else convince a buyer that the land can be rezoned for non-agricultural purposes. If the speculator can achieve any of these goals, then the land can be sold for a higher price than it was purchased for. The length of holding the

land depends on the anticipated returns from the sale of a rezoned parcel of land and the financial resources of the speculator to absorb the costs of holding the land. In certain instances, the returns from the land can be substantial. The concern here is not whether speculation is good or bad, rather it is the likelihood of absentee ownership while the land is being held.

There has been a trend lately for foreigners to buy land in Canada for various reasons such as the political stability of our nation. The intent behind the purchase of the land may only be for investment reasons or there may be the hope that the land may one day be developed for non-farm purposes. Irrespective of the nationality of the investors, foreign investment usually results in absentee landlords, as does speculation.

If the owners of a parcel of agricultural land do not reside on the property, i.e. they are absentee landowners, the land can either be removed from agricultural production and left idle or else the land can be leased out. Irrespective of whether the land is lying idle or being leased for agricultural use, it still can create problems for the agricultural community. If the land is idle, the lack of management may lead to its deterioration for agricultural use. As mentioned earlier, a short term lease on a parcel of agricultural land will discourage a farmer from making any capital intensive improvements to the land such as tile drainage fields and fencing. There is also a problem for farmers to get loans or government grants to make improvements to lands that they only lease. Idle and leased land can create an environment of

uncertainty in the surrounding area, as the adjacent landlords are not sure of the future use of the property. Because if the property should one day be utilized for non-farm purposes, it can have serious impacts on the neighbouring agricultural use, thus, the farmer becomes unsure of this future. This uncertainty created by speculation and absentee landownership combined with the other psychological impacts of urban sprawl can contribute to the disinvestment in agricultural use of land. There can be a shift to less capital intensive types of agriculture such as forage crops and those types of agricultural activities which require shorter term investments.

Farmers too, can become involved in land speculation. Often times, a farmer depends on the sale of his property to provide him with the necessary fund to retire upon. If a farmer can get his property rezoned for non-farm use or convince a speculator or developer to purchase the land with the intent of rezoning, the selling price of the land, hence, the farmer's retirement fund, will be much higher. However, if the land is not zoned as agricultural, the farmer has a better chance of a higher selling price for the land. This concern of the farmers with the selling price of their property influences their acceptance of any land use controls on their land and must be considered when discussing land use control of agricultural land. Many farmers will object to the implementation of stringent land use controls on their land.

2.5 Summary

In this section, sufficient evidence has been given to substantiate the need for a study of rural land use conflicts. Even though rural

land use conflicts are only one of the problems plaguing the agricultural sector today, the importance of the agricultural industry in Canada dictates that close attention be paid to every problem, including the less obvious, more discrete problems of rural land use conflicts.

The rural-urban fringe has been delineated as the context within which the problem of rural land use conflicts will be studied. The nature and causes of land use conflicts have been discussed in general terms and then applied to a more detailed examination of rural land use conflicts. The impact of urban sprawl and non-farm development on the rural community has been recognized as the instigative force behind rural land use conflicts. The direct and indirect impacts of urban sprawl were differentiated between. The direct impact of urban sprawl being the consumption of agricultural land. The indirect impacts of urban sprawl which cause rural land use conflicts were identified as:

- 1) inflated price of land; 2) parcel fragmentation; 3) taxation increases due to the increased demand for improved services; 4) competition for agricultural land by non-farm uses; 5) impact of transportation corridors on land use distribution; 6) physical impacts; 7) social and psychological impacts; 8) changes in the political composition of the rural community; and 9) speculation, foreign investment and absentee landowners. The resultant conflicts of each of these impacts were described. Interwoven in this description of rural land use conflicts were brief introductions to the interest groups of the rural-urban fringe and their concerns.

In the next section the legislative framework will be examined and the roles of the various levels of government will be discussed. This will establish the groundwork for the following section on the control and management of rural land use conflicts.

CHAPTER III

LEGISLATIVE FRAMEWORK

3.1 Delination of Authority

When discussing land-use policy, it is first necessary to delineate the respective powers of the two crowns. Under the provisions of the BNA Act of 1867, the federal government has limited jurisdiction over land use in the provinces. Its jurisdiction is restricted to federally controlled lands which are needed for such purposes as military installations, airports, major public works, and so forth. The federal government also has responsibility for "Indians and Lands Reserved for Indians" (BNA Act, 1867, Section 91 (24)). Section 92 which enumerates the powers assigned exclusively to the provinces includes subsection 8 "Municipal Institutions in the Province" and subsection 13, "Property and Civil Rights in the Province". Jurisdictional responsibility for rights to all of the property within its provincial boundaries is allocated to that provincial crown with the exception of those enclaves of federally owned lands. Therefore, responsibility for property rights within provincial boundaries, hence, land use, rests almost entirely with the provincial crowns at present.

While the BNA Act has placed land use control with the provincial crown, not to be ignored is section 95 of the act which says that, "Parliament from time to time may make laws in relationship to agriculture." This section leaves room for speculation, "...as to where the responsibility lies for maintaining agricultural use of land in

Canada." (Harris & Noonon, 1980, 6) With respect to legislation pertaining directly to agriculture, the federal government has, up to this point in time, restricted its role largely to financial assistance, the prevention of the spread of plant and animal disease, international sales of grain, and research and information. The federal government has not passed any legislation which directly controls agricultural land use.

3.2 Federal Influence Over Land Use

Despite what little authority it does have in the way of direct jurisdiction over land use, the federal government still manages to indirectly influence land use, "...as an incident to the exercise of other powers." (Ince, 1977, 7) This influence stems primarily from the fiscal relationships between the two levels of government. The federal government has regulatory authority over trade and commerce, interest rates and the raising of money by any mode or system of taxation. Whereas, provinces can only raise revenue by direct taxation. "It follows that the federal government is often accused of using its wealth as a lever to encroach on matters which are constitutionally outside its jurisdiction." (Barr, 1980, 1).

Conditional payments to the provinces are the method most often used to influence provincial land-use. Certain conditions for the expenditure of these funds are negotiated between the two levels of government before the monies are transferred to the provinces. The General Development Agreements (GDA) offered by the Department of

Regionale Economic Expansion (DREE) and the monies available through ARDA (Agricultural Rehabilitation and Development Act, 1961; Agricultural and Rural Development Act, 1965) through Subsidiary Agreements (now ARDSA) are both good examples.

The federal government believes that it should provide leadership and guidance in the areas of land-use and resource management (Trudeau, 1979 Speech from the Throne). The federal government feels a responsibility for "...the long-term maintenance of a sound economic, social and environmental system for future Canadians that transcends short-term or private interests." (Munn, 1980, 39) Of particular concern to the federal government are non-renewable resources and agricultural land. The basic premise behind the federal government's involvement in land-use policy is that:

Sound land use is fundamental to achieving the political, social, and economic goals of our society. The adoption of the Federal Policy on Land Use confirms the commitment of the Government of Canada to the sound management and wise use of a basic resource — Canada's land. It is not the intention of the federal government to trespass on provincial responsibilities for land, but rather to provide more effective federal support to the provinces in mounting an implementing land use policies and plans that reflect both provincial and national interest. (The Honourable John Roberts, Minister of the Environment, 1981).

As of March 1981, the federal government has a stated policy on land use which supports those provincial policies and programmes which are seen to be in the national interest.

Although the federal government's influence over land use is only indirect, it is nevertheless real. A report published in 1980 by the Lands Directorate entitled: Land Use in Canada: The Report of the Inter-Departmental Task Force on Land Use, confirmed that the federal government does indeed have an impact on provincial land use through its fiscal policies, its sectoral support programmes, its regional development programmes, federal lands and their management, its regulatory powers and its research and information activities (Munn, 1980, 42).

The federal government has also played a leading role in research and information. The Canada Land Inventory (CLI) which was approved in 1963 under ARDA was a co-operative federal-provincial research project (federally funded) that undertook a national inventory of Canada's resources. The Lands Directorate which was created in 1969 is now the agency responsible for the task of research and information. It has published many useful reports on such topics as the status of agricultural land and has monitored the results of some of the provincial land use programmes directed towards preserving agricultural land.

3.3 The Provincial Government's Role in Land Use Planning

The provincial government's have exclusive control over property rights within their boundaries. The provincial crown can enact virtually any land use legislation that it wishes to providing that the rules of natural justice are adhered to. A basic principle of the

English constitution which the Canadian parliamentary system is modelled upon is the supremacy of Parliament. "The only guide to what Parliament may do is what Parliament has done." (Challies, 1963, 2) This principle of Parliamentary supremacy can be applied to the provincial legislatures and their authority over land use. It will be important to keep this point in mind when reading the fifth and concluding chapter of this study as there are no limits to what the provincial government can do to control and manage rural land use conflicts.

An important concept to bear in mind is the difference between the physical entity known as 'land' and the bundle of rights which usually are associated with a parcel of land (Beaubien and Tabacnik, 1977). The provincial crown has the authority to dispose of the rights, title, interest or estate in its land as it sees fit. Possession of the aggregate bundle of rights to a parcel of land is known as 'fee simple' ownership, however, the provincial Crown still technically owns the 'land'. "The right to use land in a particular way is not, in itself, ownership of the land." (Beaubien and Tabacnik, 1977, 70) It is the provincial Crown's ownership of the land accompanied by its legal supremacy which gives it the right to expropriate land and to apply any land use regulations (e.g. zoning) that it wishes).

Under Canadian law, the right to compensation for the expropriation of land (removal of all rights) or the reduction of specific rights to land by a land use regulation, does not exist. The rights to compensation must be authorized by a legislative action of Parliament or a provincial legislature. However, if there is to be no compensation it

must be, "...expressed in clear and unambiguous words." (Beaubien and Tabacnik, 1977, 71) There is no right to compensation where land values are reduced by land use regulations.

The Canadian situation is quite different from the American. The Fifth and Fourteenth amendments of the United States constitution guarantee compensation in the case of expropriation and the due process of law in the 'taking' of property. Moreover, if the intensity or degree of land use control is considered to be so restrictive that it is a 'taking' of the land then the owner is also entitled to compensation. In the United States land can be owned, as opposed to Canada, where an owner is really just a 'trustee' of the land for the Crown.

3.4 Delegation of Authority

The provincial government can and does delegate many of its responsibilities over land use to the regional and local levels of government through enabling acts. However, by the virtue of the doctrine of paramountcy, provincial legislation still supercedes local and regional by-laws. Ince notes the restrictions on local and regional exercise of land use control and provincial delegation of that control:

Provincial land use legislation gives municipal and regional governments the power to control land use within their jurisdiction by by-law. By-laws can deal only with those matters authorized by provincial legislation. Municipalities must exercise only those powers granted by the Legislature. Any by-law which exceeds those powers will be struck down by the court as ultra vires. Furthermore, the by-law and the legislation supporting it must be within the constitutional jurisdiction of the province. (1977, 4).

Municipal by-laws can be quashed if they are found by the courts to be, "...passed in bad faith, for improper purposes, by a biased Council, or in violation of procedural requirements,...unconstitutional, unreasonable, or uncertain...", were enacted, "...without legislative authorization..." are found to be "...prohibitory or discriminatory." (Ince, 1977, 4).

Recently, provinces have begun to selectively exercise increased authority. A number of provinces have enacted (or propose to enact) legislation which would give the provincial government, "...a direct role in regulation of the use and development of private land in both their organized and unorganized areas. In effect, these provinces are regaining and/or expanding some of the land powers they initially delegated to municipalities." (Robinson, 1976, 169) The Agricultural Land Commission Act (RSBC 1979, Chap. 9) of British Columbia is a good example of this direct intervention by a provincial government in land use control at the local level and the rescinding of delegated authority. This ability of the provincial government to directly intervene in local land use control and the paramountcy of provincial legislation should be remembered as the provincial crown could prove to be the only level of government which is able to enact legislation which can cope with the problem of rural land use conflicts. For as Robinson notes, "Food production and the conflict between urban growth and the conservation of agricultural land illustrates one problem that shows no signs of abating, and points up the necessity for provincial intervention." (1976, 177).

The provincial government can also use its financial resources to influence and affect land use within a municipality. For example, the provincial government can give grants to the municipalities for services such as sewer and water. In 1977, the B.C. government amended the Municipal Act so that municipalities and regional districts could apply to it for grants to cover the expenses of the preparation of Official Community and Settlement Plans. This amendment to the Municipal Act also stated the requirements and necessary contents in an Official Plan for provincial approval. This provides room for a considerable amount of input and control from the provincial level of government to the local level of government in terms of the province's policies regarding land use. Aside from its direct and indirect influences over land use, the provincial government can play a significant role in the development of an area as the major constructor of highways and roads. The taxation of real property is another way in which the province affects land use and the power of municipalities. While the provincial crown has the authority to tax real property, it has (at least in B.C.) delegated the authority for tax collection to the municipal level of government but retained the authority to assess the value of the real property. The taxes collected by the municipal government are based on a mill rate approved by the province and as a portion of the assessed value of the property.

3.5 Local and Regional Control Over Land Use

Local and regional governments play an active role in land use

management, most commonly through locally administrated zoning by-laws. This is a power which is derived from provincial enabling legislation. Because of a past reliance on zoning to control land use, it is not surprising to find that many local and regional government bodies still turn to zoning by-laws to handle land use problems such as rural land use conflicts.

There are pros and cons to local and regional jurisdiction of land use control. Some of these which Platt noted are:

In theory, local control over land use is sensible. The minutiae of day-to-day decision making is more efficient when performed by local officials who know the facts personally. Local public hearings permit interested persons to participate in the decision process. Local administration also encourages citizens to donate their time to serve on boards in their spare time, thus reducing the public cost of the system. But all too often, the fundamental public purpose of protecting health, safety, and welfare is merely a recited catechism for justifying whatever, the community wants to do. Given the peculiar municipal geography of the United States, a local community's wishes and the larger society's best interest may be in direct conflict. Local administration of public land use powers presents several anomalies. (1976, 14).

To protect their parochial, self-interests, local and regional governments may choose not to exercise the enacting powers given to them by the province or, the local governments may choose to ignore or misinterpret provincial policy guidelines. The self-serving attitudes of some communities and regional governments can undermine provincial efforts to resolve problems such as rural land use conflicts which can

force the province to intervene in local affairs. "Experience indicates, and the circumstances of controlling urbanization more or less dicates, that local governments cannot be counted on to implement a 'save-the-farmland' policy." (Robinson, 1976, 178).

A situation which occurred in the Niagara fruit-belt region illustrates this last point about local government's occasional disregard for provincial policy. As Krueger describes it:

The Niagara local and regional municipal councils are pro-development in outlook. In formulating an official policy plan, the regional government merely put together the development plans of the constituent municipalities. All of which had overestimated their growth needs. The result was a proposed plan which designated more land for urban growth than the region's own population projections merited. Even after a roll back of urban boundaries by the provincial government, the proposed plan includes more than 5000 acres of prime farmland for urban growth beyond what is needed for that purpose. (1978, 191-2).

B.C.'s Agricultural Land Commission Act (ALC Act) which was enacted in 1973 is yet another example of provincial intervention in land use problems which affect the interest of the province as a whole but which local governments were unable or unwilling to resolve at the local level.

However, there is an argument is made by Qadeer against provincial interference in local or regional land use control:

Institutional approaches which blanket an entire region with standardized programs and procedures (e.g. official plans or zoning by-laws) can be detrimental to the interests of many rural communities. They neglect

differences among small communities and inhibit innovative solutions to local problems. Rural programs must be custom-made to the extent possible. (1979, 120).

Qadeer's argument is valid in the case of responsible local and regional governments which recognize the need for a co-operative approach to solving problems which affect the province as a whole and are willing to accomodate provincial interests. Central Saanich, the municipality which is being used for this case study, would appear to be an example of such a community.

There are other problems which affect primarily local governments, although some regional governments may also have them. Many local government bodies have their ability to control land use and plan for the future restricted by the apparent lack of financial resources. Many small communities do not have enough money in their budget to employ one full-time planner, let alone a planning staff. Even if a community adopts a plan (perhaps, with financial assistance from a senior level of government), there may be problems administering it due to insufficient manpower. As Troughton notes, "The erswhile rural administrative framework, for example, is finding great difficulty adapting to changing pressure; it is rarely ahead in terms of planning, and often lacks the means to cope with all the new demands." (1978, 13)

Some communities demonstrate an inability to cope with development and the high pressure tactics of developers. Many communities (not to mention provincial governments) welcome development because of an increased tax base and job opportunities. It is not unheard of for developers to purchase or to have an option to purchase land, being

fully aware that their intended development does not comply with local zoning, but hoping for the local council to, nonetheless, to rezone the property. Because of the higher tax revenues from non-farm uses of agricultural land, municipal councils are often predisposed to allow non-farm development to occur in their community and might even actively encourage it. All too frequently, land which is zoned agricultural or is in agricultural use is seen as a 'holding' area which will be developed in the future for non-farm purposes. As Harris and Noonon note:

...there is a concern that municipal councils face social, political, and financial pressures that predispose them to look favourably on applications for severances and development of farmland. Indeed, the financial prosperity of many municipalities in Southern Ontario is predicted upon continued growth and development irrespective of the quality of land consumed for urban use. (1980, 11)

Many councils have a laissez-faire attitude towards planning and development until there arises a crisis situation which jeopardizes their way of life or the council is faced with severe financial difficulties caused by development (e.g. servicing costs.)

3.6 Conclusions

Despite the doubts about the ability of local and regional governments to handle agricultural land use problems, it is the local level of government that this study is focussing on. Qadeer's argument in favour of local control because of the individuality of communities is thought to be valid, however, it is also thought that direction and

assistance from the provincial level is necessary, particularly, when dealing with agricultural land preservation. As the legislators of land use law within their respective boundaries, the provincial crowns are best equipped to enact land use legislation which is favourable to agricultural activities, affording local government the opportunities and the flexibility to implement land use control mechanisms at their level. At the very least, provincial policy guidelines for local governments are needed, as are province-wide strategies to promote and protect the province's agricultural industry. If the local governments refuse to co-operate by taking the initiative to follow guidelines of this nature or take advantage of any positive land use legislation, the province should then intervene. All of this, of course, requires the commitment and dedication of the provincial government to a policy of protecting farming and preserving agricultural land.

Although the analysis of mechanisms in the following chapter will emphasize local control and management of rural land use conflicts, provincial control will not be neglected. Attention will be given in the analysis to one method of provincial intervention in the control and management of agricultural land use by the Province of B.C. This is necessary to provide background information for the case study, recommendations for provincial policy and actions regarding rural land use conflicts will be made. While local control and management of rural land use conflicts is seen as the optimum situation, one of the conclusions of this study suggests that provincial intervention will be necessary if local government refuses, at the province's urging, to deal with the problem of rural land use conflicts at the local level.

CHAPTER IV

THE CONTROL AND PREVENTION OF RURAL LAND USE CONFLICTS

4.1 Introduction

In the first section of this study, it was established that rural land use conflicts were the by-products of urban sprawl. The next section of the study examined both the legislative framework in Canada and the jurisdictional responsibilities of the various levels of government as they pertain to land use control. This section of the study examined the control and prevention of rural land use conflicts and analyzes by comparison selected mechanisms of control and management. The term 'control and prevention' is used to mean both the alleviation or resolution of existing rural land use conflicts and the prevention or minimization of possible future rural land use conflicts.

However, the control and prevention of rural land use conflicts can not be studied in isolation; several facts must first be recognized. Non-farm development has occurred in rural areas, it is now permanently affixed to the rural landscape and has transformed it. The existence of the rural-urban fringe is a reality. It must also be appreciated that the operative forces behind urban sprawl are such and will continue to be so. It is only through a clear articulation of goals and objectives, intelligent planning and adequate land use control that urban sprawl can be contained and future incidences of rural land use conflicts reduced. Aside from the prevention of future rural land use conflicts, there is

also the problem of controlling existing rural land conflicts. Again, good planning and the application of suitable land use controls are required to assist in the alleviation and resolution of these conflicts.

4.2 Planning for a Rural Community

In today's urbanized world, there is a strong urban bias in planning (Lassey, 1977). The perspectives of the inter-relationships between the city and the countryside which permeate the field of planning perpetuate this urban bias. Qadeer (1979) identified three broad perspectives within which the facts for rural communities are interpreted: 1) the urban growth perspective whereby, "...rural needs are viewed as the requirements of accommodating expanding suburbia." (112); 2) the resource perspective or the 'core-hinterland' viewpoint which envisions the countryside as the resource base for the urban core; and 3) the development perspective which considers rural communities to be lagging in economic and social development (116). What is common to all of these perspectives is that they are urban-dominated or 'urban-centric'; for as Runka notes, "...planners tend to be urban oriented, preoccupied with looking from the urban core in concentric rings outward into the countryside." (1980, 14)

This urban bias to planning is compounded by the neglect of rural land use planning by planners. Rural land use planning requires a different approach than does urban planning (Rodd, 1976b; Lassey, 1977; Qadeer, 1979). Beaubien and Tabacnik chastise planners for this neglect:

Rural land use planning should have as high as priority as urban land use planning. Rather than endlessly debating conflicting uses for urban land, there is a need to consider the basic conflict between urban and rural uses. Most planners' basic perspective needs to change. They must become aware of rural land use issues and understand rural social patterns. They need a far better appreciation of the food-production landscape and its limitations. (1977, 123)

This urban bias of planners and their lack of understanding of the agrarian community and the agricultural industry can seriously affect the usefulness and the applicability of their plans and strategies for the rural-urban fringe. For as Troughton observes:

The challenge to resource management provided by the rural-urban fringe is both the most basic and the most sophisticated kind. There is a basic need to recognize the rural-urban fringe for what it is, and to investigate its fundamental relationships and dependencies as regards basic resources—for example, natural landscape, farmland, settlement and the related communities. There is also the need to devise strategies that are built on this overall concept and which, hopefully, reflect a composite direction for our basic human systems. In this case both concept and method are difficult; to impose goals on a society without goals, to alter inbuilt political structures, and finally to create a harmonious landscape of people and things. (1978, 27)

Planning for the rural-urban fringe is not an easy task. It is difficult to reconcile the incompatibilities between rural and urban land uses that occur in the rural-urban fringe and to, "...create a harmonious landscape of people and things." (Troughton, 1978, 27)

4.3 The Importance of A Plan or Strategy

Ideally, an essential ingredient in the control and prevention of rural land use conflicts is the existence of an overall plan or strategy for the area of concern. Master plans and growth strategies are mentioned in this study, however, those regulatory mechanisms or land use controls techniques which could be a sub-ordinate component of a master plan or strategy are concentrated on. For it is these planning mechanisms which are the operative tools of any plan or strategy.

In many instances, the intended purpose of a master plan or strategy is not specifically the control or prevention of rural land use conflicts. Instead, it is usually the containment of urban growth or the preservation of agricultural land. However, the prevention of rural land use conflicts might be an indirect result of such programmes. This can be explicitly recognized as a result, however, it may not even be realized that the plan will prevent rural land use conflicts. Little attention has been paid to directly coping with the problem of rural land use conflicts: the complexity of the problem; the higher priority placed on and more immediate problem of the preservation of agricultural land; the site specificity and local nature of the problem; a lack of understanding by planners of food production; the urban bias of planning; and the confusion of priorities placed on rural and urban land uses. As it will be demonstrated shortly, there is a lack of land use control mechanisms which are specifically designed to deal with the problem of rural land use conflicts. This makes it necessary to examine those planning mechanisms which indirectly assist

in controlling and preventing rural land use conflicts.

3.4 Local Resistance to Planning

One point to keep in mind when planning for rural communities is the possibility of local resistance to planning. There are not always clear-cut reasons for this resistance as it can involve reasons as diverse as misinformation, personal battles with the 'government', or a distrust of outsiders. Whatever the particular reason, they can all combine to create an atmosphere of resistance and frustration in the community. Nellis identified four general reasons for this resistance to planning in rural areas:

There are four: (a) strong emphasis on private property rights, (b) distrust of outside priorities for land use, (c) the inappropriateness of traditional urban planning tools and attitudes, all resulting in (d) a feeling that planners have little empathy with rural values and needs. (1980, 68)

These are all obstacles that must be overcome when planning for a rural area.

One way in which to start to tackle local resistance to planning and perhaps, to overcome it, is to adopt a 'transactive' approach to planning by involving local citizens and interest groups in the planning process. The use of advisory planning committees, and ad hoc citizen's groups and other local interest groups such as the Farmers' Institute can contribute immensely to the success of a plan (Nellis, 1980). These

groups should not be acting in a token role, they should actually be contributing to the planning process by offering advice and recommendations. The planner's role should be one of advisor and technical resource person. Citizen participation can help greatly in overcoming local resistance to planning, however, the question is how to get this participation? The answer would seem to lie in understanding and respecting rural values and lifestyles. On a more practical level, this respect and understanding can be translated into such measures as scheduling meetings for times and in places that are convenient for the local population and avoiding complex, technical language where it is unnecessary.

4.5 Selection of a Land Use Control Mechanism

Before selecting a regulatory programme, the goals and aspirations of the community should be articulated in the form of policy statements. (Citizen participation, which was discussed in the preceding section can help in doing this). The overriding goal of any regulatory programme should be the protection of the public interest. The standard ordinance, says Goldberg, "...represents an equitable method of ensuring that the public good is served by accomplishing what, it is said, the market can not accomplish. Most importantly, it serves the majority and protects property values." (Goldberg, 1980, 26) In this study we focus on the regulatory mechanisms which can be utilized to carry out a policy of preventing or controlling rural land use conflicts. It is important to differentiate between a policy to

preserve agricultural land and a policy aimed at the prevention or control of rural land use conflicts. A regulatory mechanism may not be explicitly directed towards the control of rural land use conflicts, it may only be an ancillary part of a regulatory programme or an indirect result. However, there are also policies and regulatory programmes which are directly and explicitly concerned with rural land conflicts. Regulatory mechanisms which pertain to rural land use conflicts, both directly or indirectly, will be considered.

There appear to be two main policy routes that politicians can choose from when dealing with the problems of the agricultural sector: agricultural support programmes and land use controls. While the two are not mutually exclusive, the emphasis of this particular study is local control of land use conflicts, therefore, agricultural support programmes of a fiscal nature will not really be considered. Most agricultural support programmes of a fiscal nature such as guaranteed crop income, the Agricultural Land Development Act, and ARDA, are administered by the senior levels of government rather than the local government. Moreover, most local governments can not bear the cost of an agricultural support programme.

It is important that once a regulatory programme is decided upon and implemented, that it be adhered to by the local government, unless the programme should prove to be unfeasible or else it is superceded by a better programme:

The proper scope of government, in this view, is to set down the rules of the game, clearly, and before the contest begins--and then not to continually alter them in the midst of the fray. Under these conditions, an individual is free to pursue his lawful ends, secure in the reasonable knowledge that the government powers will not suddenly be used to frustrate him at every turn. (Goldberg, 1980, xviii)

Therefore, the actual selection of a regulatory programme which is suitable for the community is crucial and of utmost importance, although it is only one step in the planning process.

When selecting a regulatory mechanism for implementation, there are several parameters which must be taken into consideration by the government body: the legal and jurisdictional constraints of the level of government implementing the mechanism; the financial resources of the government; any existing land use programmes; the likelihood of public acceptance; and the political climate. The parameters will undoubtedly narrow the selection of regulatory mechanisms which can be used. However, if these parameters are not taken into account when selecting a mechanism, the regulatory programme will probably encounter difficulties later. For example, if the local government lacks the necessary drafting expertise, and does not obtain outside help, the regulatory programme may be found, at a later date, to be invalid in court. Another example is, if the local government lacks the necessary manpower to monitor and administer the programme, it may become ineffectual. In other words, the mechanism must be appropriate for the local level of the government to implement.

Aside from these parameters, there are other considerations to be taken into account: what is the objective of the mechanism? What group of landowners are the target of the mechanism?; How difficult and complex is the administration of the mechanism?; how flexible is the mechanism?; how complex is the mechanism?; does the mechanism provide a reasonable degree of certainty about what will be happening in the future?; are all landowners treated equally by the mechanism?; is the mechanism effective?; and what are the distribution and magnitude of the costs? It is these considerations along with the parameters that were mentioned above, which will be discussed further and will be used in the analysis of selected regulatory mechanisms.

4.5.1 The Issue of Compensation

Before starting the selection of land use mechanisms for analysis, it is important to once again address the issue of compensation. In Canada, owners of land are essentially trustees of the land for the Crown. While the Crown must adhere to the rules of natural justice, it can still confiscate some or all of the rights to a parcel of land without compensating the owner. As noted earlier in Chapter Two, this is different from the United States where compensation is mandatory. Much of the literature on farmland preservation is from the U.S. and therefore, much attention is paid to the issue of compensation. However, as this study is concerned with the Canadian situation where compensation does not have to be an issue, it will not really be addressed in the analysis of land use control mechanisms. However, this

should not be interpreted as a statement in support of no compensation for the confiscation or restriction of development rights.

4.6 An Analysis of Selected Land Use Control Mechanisms

Before starting to analyze any regulatory mechanisms, it will first be necessary to explain the rationale behind the process of the selection of regulatory mechanisms for analysis. To analyze all existing land use control mechanisms would be far beyond the scope of this study and senseless, therefore, only certain land use mechanisms could be selected for analysis. In order to select the regulatory mechanisms for analysis, a list of six criteris was formulated. The mechanisms which would be selected for anlysis first had to meet the following criteria:

1. the mechanism had to either control or prevent land use conflicts;
2. the mechanism had to be suitable for application in rural areas;
3. the mechanism had to be implementable at the local level;
4. the method could not be too difficult or too expensive for administration at the local level;
5. the mechanism had to be considered legal for implentation in Canada, and in particular, in B.C.
6. the implementation of the mechanism had to be within the jursidictional powers of local government.

The parameters of the likelihood of public acceptance and political climate were not used as criteria for selection because of the

difficulty in defining them and the wide range of values which must be taken into consideration when making an evaluation of that nature.

Among the extensive literature review of material on the preservation of farmland and rural land use planning, the most useful for this purpose was the National Agricultural Lands Study (1981).

Drawing heavily on that, the following list of land use control techniques was composed:

1. Zoning: A. Non-exclusive:
 - i) Large Lot Zones
 - ii) Fixed Area Base (Clustering)
 - iii) Sliding Scale
 - iv) Conditional Use
 - v) Subdivision Design
 - vi) Performance (Green Zoning)

B. Exclusive Agricultural

2. Agricultural Districting
3. Tax Incentives:
 - i) Preferential Assessment
 - ii) Deferred Taxation
 - iii) Restrictive Agreements
 - iv) Tax Credits
4. Transfer of Development Rights (TDR)
5. Restrictive Covenants
6. Acquisition of Development Rights:
 - i) Voluntary Sale
 - ii) Gifts
 - iii) Public Purchase
 - iv) Expropriation

7. Purchase of Land

NB. See Appendix '1' for an explanation of the above-mentioned terms.

It is from this list of land use control techniques that the regulatory mechanisms will be selected for analysis. Not all of the techniques listed above are applicable in the control and prevention of rural land use conflicts, nor do all of the above meet the requirements of the stated criteria for selection of regulatory mechanisms for analysis. Moreover, several of the above-mentioned techniques are not really regulatory mechanisms which is the main concern of this study; they are actually incentives to agricultural use of land. For these reasons, not all of the land use control techniques were selected for analysis. Below an explanation is given as to why or why not one of the above-mentioned techniques was selected for analysis.

4.6.1 Zoning

Zoning is the most traditional method of controlling land use. It definitely meets all the criteria stated as being necessary for a regulatory mechanism to be selected for analysis and will therefore, be included. Of particular interest is performance zoning, or what can be called 'green zoning' in its application to rural areas.

4.6.2 Agricultural Districting

According to the National Agricultural Lands Study, agricultural districting is not appropriate for implementation at the local level of government (Coughlin et. al., 1981, 40). This conclusion is a product of the study's definition of agricultural districting. The study defines agricultural districting as, 'The designation of specific tracts

of long-term agricultural uses, usually coupled with benefits and assurances which improve the conditions for farming. Generally no legally binding controls are imposed on land use." (Coughlin et. al., 1981, 17) It would appear that local government is not able to give the necessary assurances and benefits which are necessary for the voluntary continuation of farming. It is also a question of scale. It is implied that large tracts of land are designated in more than one community. For these two reasons, lack of benefits and assurances and the question of scale, agricultural districting will not be analyzed as it is inappropriate for the local level of government.

However, it should also be pointed out that the writer feels that agricultural districting can either be voluntary or mandatory. A good example of mandatory agricultural districting in B.C. is the ALC Act. The provincial government has designated large tracts of land for long-term agricultural use. At first there were no benefits or allowances for lands in the ALR, however, there is now a fifty percent reduction on the school tax for ALR lands.

4.6.3 Tax Incentives

In B.C., the power to bring into effect tax incentives and benefits for agricultural land lies largely with the senior levels of government, which is one reason why tax incentives will not be looked at. Another reason for not analyzing tax incentives is that while tax breaks and incentives will influence land use and can encourage agricultural use of land, once the profits that could be realized by non-farm development of

the land outweigh the tax benefits, the land will most likely be converted to non-farm use unless other controls are in place. In areas under intense pressure for development, the tax benefits would have to be substantial to be worth more than the profits of development. One more reason for not analyzing tax benefits and incentives is that this land use control technique is not really applicable to the problem of rural land use conflicts. Land use of non-farm lands which may be in or near the agricultural areas would not be restricted by tax benefits for agricultural lands.

4.6.4 Transfer of Development Rights

The TDR has been touted as being a possible solution to, among other things, the problem of rural land use conflicts. However, the writer is skeptical that the TDR could be implemented with any measure of success at the local level. The questions about the success of the TDR centre on cost and the complexity of the mechanism. Because of its complexity, the effectiveness of the TDR would depend on the quality of administration of the mechanism by the local government (Gustafson, 1978, 258). It is questionable whether or not a local planning department (if there is one), can administer the TDR without hiring extra staff.

This brings up the problem of cost. In a large urban centre, the salaries of two or three more staff members would not have as significant effect on the budget as it would in a small rural community. (In a rural area, the salaries might have to be substantial

to attract qualified personnel away from the urban centres).

Another possible problem with the TDR that was discovered in the National Agricultural Lands Study was that in the two counties and 10 municipalities in the U.S. which have implemented the TDR, that, "...developers have shown little inclination to participate in them." (Coughlin et. al., 1981, 281). There seems to be a problem in gaining public confidence in the TDR. The reason for this could be the complexity of the mechanism and public difficulty in understanding the concept. Another area which raises questions about the appropriateness of the TDR is the possible impact of the programme on development rights and new housing. In areas of high pressure for development, the bidding for development rights could push up the price of acquiring development rights which would subsequently be reflected in the cost of the land and housing.

Because of the questions about the suitability of the TDR for application in a rural area, the likelihood of difficulties in implementing the mechanism at the local level and the expense of implementing the TDR, the TDR will not be analyzed. In B.C. there would also be problems in implementing the TDR as the necessary legislation and authority for local government to undertake such a programme is not in place.

4.6.5 Restrictive Covenants

While the use of restrictive covenants might be suitable for application in several specified areas, to apply them to a whole

community could prove to be too complex and too difficult. Restrictive covenants have to be made on a property by property basis. In the rural-urban fringe where there is an intermixing of rural and urban land uses, the landscape can be quite complex, which could necessitate complex covenants. There is also the problem of the legal expense of drafting up the restrictive covenants and who should bear that expense--the landowner or the municipality. In a municipality such as Central Saanich, there are probably in excess of 4,000 parcels of land. This would mean that there would have to be 4,000 restrictive covenants. It is doubtful that a local planning department could keep track of the specific terms of 4,000 restrictive covenants. There would be yet another problem in accommodating the changes over time in the community's goals and growth patterns. Because of these difficulties of cost and complexity, restrictive covenants will not be looked at. It would also seem that zoning can accomplish the same function as restrictive covenants more easily and at a lesser expense.

4.6.6 Purchase of Development Rights

There are three main limitations to the acquisition of development rights through voluntary sale and public purchase of the rights (mandatory sale by the owner), the cost of acquisition, financing and the loss of tax revenue (Roe, 1976, 434). The purchase of development rights would be far too expensive for local government as might be the costs of financing such purchases. The loss of tax revenue would not help in recouping the cost of such an expenditure. Moreover, in B.C.,

development rights can be confiscated without compensation. It is only when municipalities expropriate land that it becomes necessary to compensate the land owner.

In the case of the giving away of development rights as a gift, it would not appear to cost the municipal government anything. However, for any noticeable reduction success in a programme relying on the 'gift' of development rights, there would most likely have to be some form of remuneration or tax break in return for the 'gift' before landowners would participate. Therefore, because of the cost of the purchase of development rights, not to mention the ability of local government to acquire development rights without paying for them, the purchase of development rights will not be looked at.

4.6.7 Purchase of Land

Not only would the purchase of large blocks of land be too expensive for local government, there would also be the loss of all tax revenues from the property. This measure will not be considered as a suitable measure for dealing with the problem of rural land use conflicts with the exception of the purchase of strips of land for buffering purposes. However, once again, extensive buffering requiring large tracts of land would be too expensive for the local government level to enact.

4.6.8 The Mechanisms Selected for Analysis

The purpose of the preceding sections was to select those land use control mechanisms which are the most suitable for implementation at the

local level and which can be applied to the problem of rural land use conflicts. As a result of this process of elimination, zoning has been selected for analysis as it was found to be the most suitable and appropriate mechanism based on the six criteria listed in section 4.6.

4.7 Criteria for Analysis

Before starting on the analysis of zoning it will first be necessary to explain the criteria used in the analysis of the mechanisms. Since the analysis is largely descriptive in nature, it was thought to be necessary to establish a list of general criteria which could be applied to the analysis of land use control mechanisms. The nine criteria which were chosen are thought to represent the essential components and attributes common to any land use control mechanism. The reason for choosing some of the criteria will be obvious, however, there still will be an explanation of the importance and significance of each of the criteria. It is recognized that this is not the definitive statement on the analysis of regulatory mechanisms, however, it was felt that the list was comprehensive and appropriate for a study of this nature. The criteria are also the type of factors that a local council should be looking at when considering implementing a land use control.

The criteria are as follows:

1. Objectives: Questions which should be asked of any land use control mechanisms is what is its objective and what is it supposed to do? In this study we are looking for those land use controls whose objectives are the control or prevention of

rural land use conflicts. In the previous section, those mechanisms which did not have the prevention or control of rural land use conflicts as one of their objectives were eliminated.

2. Target Group: By this term it is meant, what type of land use is the mechanism directed towards? For example, the mechanism may be directed towards residential lands in the agricultural area and its objective might be preventing non-farm uses of that land which could come into conflict with nearby agricultural uses.
3. Implementation: Whether or not a mechanism can be implemented is a consideration that must be taken into account, as must the ease (or difficulty) of implementation. Some mechanisms can not be implemented for financial or legal reasons. Too much public opposition is another obstacle implementation of some mechanisms.
4. Administration: The concern here, is how difficult or easy for the local government to administer the mechanism. For example, the administration of the TDR was thought to be too difficulty and complex for a local government agency.
5. Flexibility: The flexibility of a regulatory mechanism is measured in its ability to accommodate irregularities in the landscape and changes in land use over time. In a diverse landscape such as the rural-urban fringe there is a need for a certain amount of flexibility in a mechanism to handle the

intermix of rural and urban uses. However, if a mechanism is too flexible, it can create uncertainty and lose its effectiveness. For example, spot zoning can make zoning more flexible, but this can cause uncertainty. If there is too much spot zoning, the zoning itself may become impotent.

6. Complexity: If a mechanism can not be understood by the staff who are administering it or the landowners who the mechanism is affecting, then it is too complex. There is a distinction to be made between a detailed mechanism and a complex mechanism. A zoning by-law is not a complex idea and most people understand that certain uses are allowed and others disallowed. However, that zoning by-law may have an extensive list of the uses which are allowed and disallowed, making it detailed.
7. Certainty: One important factor in the implementation of a mechanism is the perception of the longevity of the programme: both the public's and the government's. If the government is committed to a programme and is perceived as being such, then it creates an atmosphere of certainty. If there is certainty about the future use of a parcel of land, it can have positive psychological effects. For example, if certain that agricultural use will continue in future, a farmer will be more likely to make long term investments in the land. However, if the agricultural area is viewed as a 'holding' zone which will one day be developed for non-agricultural uses, it can cause

uncertainty and speculation. Farmers will be hesitant to make long-term investments in their land.

8. Effectiveness: The effectiveness of a mechanism would be measured whether or not it achieved its objectives. If a mechanism was supposed to prevent rural land use conflicts, and after it has been implemented, land use conflicts continue to be created, then the mechanism would not be considered effective.
9. Magnitude and Distribution of Costs: How much does it cost to implement a mechanism (to the municipality and to the tax payer) and who is paying the costs?

4.8 An Analysis of Zoning

Zoning in a general sense is the geographical separation of incompatible land uses. A typical zoning by-law divides a municipality into zones and regulates the use of land, buildings and structures in each zone. It can also regulate the size, shape and siting of buildings and structures within each zone. However, there are variations to this traditional type of zoning. Earlier in this chapter, seven types of zoning were identified. There was exclusive agricultural use zoning and six types of non-exclusive agricultural zoning. The six types of non-exclusive zoning were: large lot zoning, clustering, sliding scale zoning, conditional use zoning, subdivision design and green zoning. Of these seven types of zoning, only six will be looked at and of those six types, four will be grouped into two groups.

Sliding scale zoning will not be looked at, primarily because it can would not be applicable for the case study of Central Saanich, and because of its similarity to large lot zoning. Sliding scale zoning allows residential development in an agricultural area with the amount of development contingent on the parcel size. For example, one dwelling would be allowed on a parcel of five acres or less; two dwellings would be allowed on a parcel between five and fifteen acres; and so on. Sliding scale zoning works best in areas of large lot sizes. It is not very useful in areas where there are predominantly small parcel sizes (Coughlin et. al., 1981, 119) like Central Saanich.

Conditional use zoning will be grouped together with exclusive use zoning as it is really just a more lenient form of it. Conditional use zoning can allow those uses in an agricultural zone which are thought to be compatible with agricultural uses. Even in an exclusive agricultural zoning, there are usually provisions made for residents for farmers and farm workers and some of the support services necessary for agriculture.

Clustering is really just a specific form of subdivision design so clustering will be incorporated into subdivision design. Therefore, the four types of zoning which will be looked at will be: exclusive use zoning; large lot zoning; subdivision design; and green zoning.

4.8.1 Large Lot Zoning

Description: Large lot zoning is one of the most common and oldest techniques used to preserve agricultural land and prevent land use conflicts. By setting a minimum lot size in an agricultural zone it is

hoped that subdivision for non-farm uses, in particular residential uses, will be deterred. The minimum parcel size must be large enough to be utilized for agricultural purposes, yet, too large for residential use. It is usually applied in conjunction with exclusive agricultural use zoning. The problem with large lot zoning arises in the determination of the minimum parcel size. If the parcel size is too small, it might not support an agricultural operation. Conversely, if the minimum lot size is too large, then a farmer might not be able to afford the land. The type of agriculture found in the area will affect the minimum parcel size. Certain types of agricultural operations such as dairying, require a larger parcel size than do other types of agriculture such as fruity orchards. The productivity of the soil which can have an effect on the minimum parcel size needed for agriculture. However, in more complex soil landscapes, the variations in the soil's capability for agriculture can not always be taken into consideration when selecting a minimum parcel size. Another problem arises in that, over time, the affordability of the minimum parcel size for residential purposes can be realized. At one time, a 10 acre minimum parcel size was an adequate deterrent to subdivision for residential purposes, but this is no longer the case. People are now willing to buy a 10 acre parcel for residential use.

Advantages: This mechanism is relatively easy to implement if the minimum parcel size is not too large. It is not very complex and it is very easy to administer. If there is no spot zoning and the minimum parcel size is large enough discourage subdivision and use for non-farm

purposes, then large lot zoning provides a reasonable degree of certainty about future use (Gustafson, 1982). The effectiveness of this mechanism will depend on the suitability of the minimum parcel size. If the parcel size is too small to prevent subdivision for non-farm purposes, then the mechanism will not be effective. Large lot zoning is relatively inexpensive for the municipality and the taxpayers. With the implementation of large lot zoning lost of possible profits can be incurred by those landowners who were planning to sell their property for non-farm development. The price of land for agricultural purposes should not be affected by large lot zoning.

Disadvantages: The two main problems with large lot zoning are the difficulty in picking the right minimum parcel size and the inability of large lot zoning to take into account the complexities of the landscape. Both these problems were explained above. Another problem is the amount of non-farm development which has transpired before the implementation of large lot zoning. If there has been a fair amount of small lot subdivision and non-farm development occurring in the agricultural area, then the rural land use conflicts which already exist will not be alleviated. Changes in demand and the price that consumers are willing to or can afford to pay for residential land can affect the effectiveness of large lot zoning. The lack of flexibility of large lot zoning is another disadvantage. A way of providing flexibility is to spot zoning, however, this can create an atmosphere of uncertainty. One other problem is the lack of attention paid to the use of the land - it is assumed the large lot sizes will deter non-agricultural uses.

Conclusions: In a predominantly rural area, which has not yet experienced much non-farm development and is not considered to be in commuting distance of an urban centre, large lot zoning would be quite effective. Particularly, if the soil landscape and topography were not too complex, like the Prairies. However, in an area which has experienced non-farm development or if the minimum parcel size is too small, large lot zoning on its own is not an adequate mechanism to deal with rural land use conflicts.

4.8.2 Agricultural Use Zoning (includes conditional uses)

Description: Agricultural use zoning is a convenient and familiar method of protecting agricultural use of land. Agricultural zoning prevents rural land use conflicts through the separation of incompatible land uses. This method of zoning can be extended to those non-farm lands on the perimeter of an agricultural zone to ensure that incompatible uses do not occur in close proximity to the agricultural area. In other words, a transition zone can be established.

Advantages: The advantages to agricultural zoning are its lack of complexity and its ease to administer. The mechanism is not that expensive for the municipality or the taxpayers. The cost to landowners in the agricultural zone, however, will be the difference between the market value of the property for non-farm development and its agricultural value. Agricultural zoning can provide a reasonable amount of certainty about the continuation of farming for the foreseeable future. From a technical viewpoint agricultural zoning is easy to

implement. However, in reality, the ease of implementation will depend on the extent of the agricultural zoning, the restrictiveness of the zoning-by-law and the amount of development pressure in the area. The effectiveness of agricultural zoning is enhanced if it is combined with large lot zoning. Its effectiveness in controlling and preventing rural land use conflicts will also depend on the pre-existing landscape and the conditional uses or 'compatible' non-farm uses which are allowed in the agricultural area. If there was a lot of non-farm development prior to the implementation of agricultural zoning, then its effectiveness in alleviating rural land use conflicts will be limited. If the by-law is too lenient in the conditional or non-farm uses that it allows in an agricultural zone, then more rural land use conflicts might be created.

Disadvantages: If there are many small lots already in the agricultural use zone or small lot subdivision is allowed to continue, agricultural zoning will most likely prove ineffective in preventing rural conflicts between agricultural and residential uses. (Most agricultural zoning by-laws will permit one residence per legal parcel). Agricultural zoning can be made flexible to a certain degree by allowing conditional uses and compatible non-farm uses. However, if spot zoning and rezoning are used to make the zoning more flexible, it can create uncertainty. An atmosphere of uncertainty will also be created if the agricultural area has been really zoned as a 'holding area' for future development. The effectiveness of agricultural zoning can also depend on its administration by the local government:

Although zoning per se has inherent problems as a means of land use control, these problems are often exacerbated by poor administration of zoning problems. Local governments authorized to use zoning, if they, in fact, adopt zoning regulations, are too often permissive, arbitrary and unco-ordinated in their enforcement of those regulations. (Roe, 1976, 421)

Another perceived disadvantage of agricultural use zoning is the agricultural designation of parcels of land or portions of parcels which are not suitable for agricultural use. These lands are to a certain extent rendered useless (Lapping, 1977). However, if these non-arable lands were to be used for non-farm purposes that were incompatible with the surrounding agricultural activities there could be land use conflicts. It is better to zone the non-arable lands in an agricultural area as agricultural and to then only allow uses on those lands which are compatible with the agricultural environment. Rezoning of spot-zoning of non-arable could create uncertainty and can cause rural land use conflicts.

Conclusions: Agricultural zoning can be effective in preventing rural land use conflicts if it is enacted before there is much non-farm development in an agricultural area. It is more effective when combined with large lot zoning. The problems with agricultural zoning centre around its flexibility. If it is too flexible, it can be ineffective and create uncertainty. If it is too rigid and arbitrary, then there may be a lot of public opposition.

4.8.3 Green Zoning

Description: Green zoning is an innovative type of zoning which is designed to prevent conflicts from arising between intensive agricultural operations and non-farm development over odour problems. Because of the relatively recent development of this type of zoning and the emphasis that will be placed on it in the following chapters, the description of this mechanism will be detailed and lengthy. Those who are familiar with the mechanism may wish to skip the next two or three pages.

The odour from intensive agricultural operations can be a continual source of annoyance and distension to ex-urbanites living in the vicinity. Even if the intensive agricultural operation is located in an agricultural zone, the odour from an operation can travel outside of it. Intensive agricultural operations typically involve the confinement of animals in close quarters, examples include poultry, dairy, cattle, beef feedlots and hog operations. Mushroom farms are also considered to be intensive agricultural operations as manure is used in the production. In terms of location, not all intensive agricultural operations require good land. However, compatibility with surrounding uses is an important consideration as most intensive agricultural operations are capital intensive and not highly mobile.

Green zoning is a method of zoning which (1) establishes setbacks from lot lines for the buildings, etc. on a parcel of land used from intensive agriculture and (2) establishes the minimum separation distances between an intensive agricultural operation and neighbouring

land uses. Green zoning can only be utilized to site new developments as it does not control in situ land uses. For example, green zoning can be used to site a new intensive agricultural operation an adequate distance from existing non-farm uses so that it has no impact on the existing land uses. Conversely, it can also be utilized to ensure that new non-farm development is sited far enough away from any existing intensive agricultural operations so the odour (and inadvertently, some of the noise) from intensive agricultural operations are not a problem. A buffer strip or 'green zone' is established around the perimeter of the intensive agricultural operation. The width of the buffer strip varies in accordance with the sensitivity of adjacent land uses to the odour and the intensity of the operation. These buffer strips are known as minimum separation distances (MSD).

The MSD and setbacks for intensive agricultural operations are based on four variables: 1) the type of operation; 2) the number of animal units; 3) the parcel size of the operation; and 4) the type of neighbouring land uses. An animal unit for the purposes of green zoning is essentially a standard measure of odour produced. The intensity of the odour produced and hence, the distance that the odour will travel depends on the type of animal manure, the amount of animal manure and the state of the manure (i.e. solid or liquid). Different types of animal manure produce more odour than do others (it depends on the nitrogen portion), therefore, there has to be different standards depending on the type of animal manure. The animal equivalents for one animal unity vary. For example, one bull equals one animal unit,

however, it takes 250 broiler chickens to equal one animal unit. The maximum number of animal units for any intensive agricultural operation is dictated by the area of land on which the operation is situated.

Parcel size combined with the number of animal units determines the setbacks from the lot lines for the actual site of the operation, or in other words, that portion of the parcel which may be used to accommodate animals, to store and treat manure, and to store food (Smith, 1982).

The MSD between an intensive agricultural operation and other land uses depends on what those other land uses are. Different types of land uses are more sensitive to odour than are others. The MSD calculated by the Green Zone Committee in B.C. (a committee of representatives from various branches and agencies of the Ministry of Agriculture and Food) have categorized land uses into five groups or zones of sensitivity: 1) rural and heavy industrial uses; 2) road allowances; 3) the nearest residence other than on the operation itself; 4) other uses in an agricultural zone; and 5) urban and other specified uses, e.g. a church or store. These land uses have been listed in order of their increasing sensitivity to smell. Refer to Appendix '2' for a sample copy of a green zoning by-law.

To give an example of the variance in minimum separation distances; under the model livestock by-law for swine, the MSD between a swine operation of 467 animal units on a 16 hectare parcel and rural/industrial land uses is 30 meters. The MSD between an urban zone and an intensive agricultural operation of the same size is 873 metres.

Advantages: The advantage of this mechanism is that it is specifically designed to deal with a land use conflict. It is directed

to the siting of both intensive agricultural operations and non-farm uses. The mechanism is very flexible and takes into consideration a wide range of variables. The flexibility of the mechanism does not seem to affect its effectiveness or create uncertainty. The mechanism would be very effective in preventing future rural land use conflicts, although it can do little about the existing land use conflicts.

Disadvantages: The complexity of the mechanism is its main disadvantage. It is a complex concept for a layman to understand, not to mention, some planners. This complexity of the mechanism could make it very difficult and burdensome to administer, especially for a small municipal office. The difficulty of administration could necessitate the hiring of extra staff which would increase the cost of the mechanism to the municipality and the taxpayer. The complexity of the mechanism and the difficulties that citizens might have in understanding it could make the implementation of green zoning a difficult task. There would be a problem with an established intensive agricultural operation that the owner wishes to expand on the existing site. It might be hard to monitor expansions (who would count the animals) and hard to refuse a request for expansions.

Although the issue has not yet been tested in the courts, there appears to be some question as to the legality of green zoning. There is a possibility that green zoning could be found to be 'uncertain', therefore, unconstitutional (Sands, 1983).

There is another legal point which might prove to be detrimental agricultural use of land, if green zoning were to be implemented. An

existing farm operation upon the implementation of green zoning might become a non-conforming use due to its proximity to non-farm uses. Under the provisions of the Municipal Act, if the farm (or any non-conforming use) were to stop operation for a period of more than 30 days (which is not unusual in the case of disease), or if more than 75% of the value of a farm structure were destroyed, the farmer might then be prevented from resuming operation. To circumvent an instance of this nature would require major changes to the Municipal Act -- something which would seem unlikely to happen.

Conclusions: While green zoning is very promising, expectations should not be that high. The complexity of the mechanism may restrict its application at the local level in rural areas. However, a hidden benefit of the mechanism is that it inadvertently alleviates more rural land use conflicts than just the physical impact of odour. Implementation of a mechanism of this nature by local government would indicate support for the continuation of agriculture in the community, thereby, alleviating some of the psychological impacts. It also might reduce the competition for agricultural land by non-farm uses since only certain compatible uses would be allowed in the 'green zone'; agricultural activities being one of those compatible uses. Further attempts at modifying and simplifying 'green zoning' should be made. More research on the legality of the mechanism is needed, particularly since the mechanism has already been implemented in B.C.

4.8.4 Subdivision Design

Description: Subdivision design can be utilized to alleviate existing rural land use conflicts as well as preventing further conflicts. Subdivision design is more useful along the interface of agricultural and non-agricultural zones. It involves control of an extensive range of variables including such things as lot layout, building siting, fencing requirements, buffering, ditches, berming, clustering of dwellings, retention of natural vegetation, the planting of trees, using roads as buffers and the design of lots with the intent of preventing further subdivision. Rather than describe these various techniques in detail, several diagrams have been included in Appendix '3'. Subdivision design control is mostly used for those non-farm uses abutting an agricultural area. It could also be used for those agricultural lands on the perimeter of the agricultural zone.

Advantages: Subdivision design is a very flexible tool because of the site specific application, however, it requires a good planner or Approving Officer to administer it. The administration and implementation would be easy if the existing legislation allowed development permits or gave the Approving Officer discretionary powers to approve subdivision plans subject to fulfillment of local goals. (Both these conditions prevail in B.C.) The administration would be more difficult in areas experiencing a lot of non-farm development. It would mean more work for the municipal staff because of the number of development permits, most likely increasing the cost to the municipality. The costs to the developer of subdivision design control

depends on the site and the design requirements. Although it is unlikely that the costs would be exorbitant (e.g. fencing and berming along the back of the property), the purchase of the property will end up paying for the costs. There is a certainty that the property can be developed, the only question is what the design requirements will be. This can require a certain amount of negotiation between the Approving Officer and the developer. An atmosphere of certainty is also created for the neighbouring farmer by the visible presence of a barrier or buffer between his farm and the non-farm uses.

Disadvantages: In an area experiencing rapid or extensive development, it might be too much work for the local municipal staff to handle. This might mean hiring more staff members which can increase the cost of implementation. If the design requirements and the reasons for these site designs are not made clear to the developer before the start of development there could be problems and extra expense incurred by the developer. Subdivision design can also be applied to existing development to a certain extent, however, the costs to the municipality would be higher than those of new developments. The landowners of developed lots might resist subdivision design requirements unless there was a financial incentive like a tax break. The cost of acquiring land for buffers and green zones could also be expensive for the municipality.

Conclusions: The success of subdivision design control depends largely on the ability and foresight of the Approving Officer. Aside from that, subdivision design is a very good technique for minimizing

Table I: A Summary of the Analysis of Selected Land Use Controls.

	Large Lot Zoning	Agricultural Use Zoning	Green Zoning	Subdivision Design
Objectives	Preservation of agr. land and reduction of non farmdevelopment in agr. areas	Prevention of rural land use conflicts by separating uses	Prevention of rural land use conflicts caused by odour of intensive agr.	Prevention of rural land use conflicts by buffering and physically separating uses
Target Group	Landowners in the agricultural zone	Landowners in the agricultural zone	Landowners of intensive agr. operations and non-farm use in vicinity	Landowners along the interface of the agricultural non-farm zones
Implementation	Easy if the minimum lot size is small enough. Harder if larger MLS	Easy if not too rigid and not too much pressure for development	Harder because of complexity of mechanism	easy if approving officer has discretion powers
Administration	Easy	Easy	Hard because of complexity and difficulty monitoring	Depends on amount of development pressure
Flexibility	Not very unless spot zoning which causes uncertainty.	Not very unless spot zoning or lots of conditional use which creates uncertainty	Very flexible	Very flexible
Complexity	Simple	Simple	Quite complex depending on site requirements	Simple to complex
Certainty	Certain as long as no rezoning or spot zoning and lot size large enough	Certain, if no rezoning or spot zoning	Certain if maintained	Certain if maintained
Effectiveness	-Effective if minimum lot size is right for area -More effective in less complex landscapes	-Spot zoning and rezoning and condition cases affect effectiveness -More effective if combined with large lot	-Very effective in preventing conflicts over odour	-effective for physical separation -long term
Costs	-Low to municipality -Lost of profits to be made by subdivision to landowner	-Low to municipality -Lost to landowner of difference between market price and agr price	-Medium for municipality -Medium for landowners limit development not prevent)	-Medium for developing municipalities -Medium to low for landowners

rural land use conflicts along the interface of the agricultural zone. It can create physical barriers and buffers between the agricultural zone and the rest of the community. This can clearly demark and identify the agricultural zone. Subdivision design can also be applied to some extent to existing development. This technique in conjunction with green zoning could prove to be very effective in the control and prevnetion of rural land use conflicts.

4.9 Summary

The purpose of this chapter has been to analysis by comparison selected mechanisms of land use control. From a list of potentially applicable land use control techniques, zoning was selected as being the most appropriate land use control mechanisms for the local government. This selection was made on the basis of specified criteria which considered such variables and parameters as cost, legality, and suitability to the rural environment. Four types of zoning were then analyzed on the basis on nine variables. The analysis was descriptive in nature. For a summary of this analysis, refer to Table 'I'.

The intent of this analysis was to determine which land use control mechanism would be best suited to control and prevent rural land use conflicts and would be suitable for implementation at the local level. The comparative analysis was done in order to assess the relative advantages and disadvantages of those mechanisms. A conclusion of this analysis was that a combination of land use control mechanisms can increase the effectiveness and ability of a regulatory programme.

Because of the diversity of the landscape of the rural-urban fringe in its land use patterns, soil complexes, values and lifestyles of its residents, combined with the complexity of the rural land use conflicts which are created by this diversity, there is a need for a comprehensive programme to tackle the problem of rural land use conflicts. The prevention and control of rural land use conflicts require a much wider range of techniques than just land use control.

CHAPTER V

A CASE STUDY OF CENTRAL SAANICH

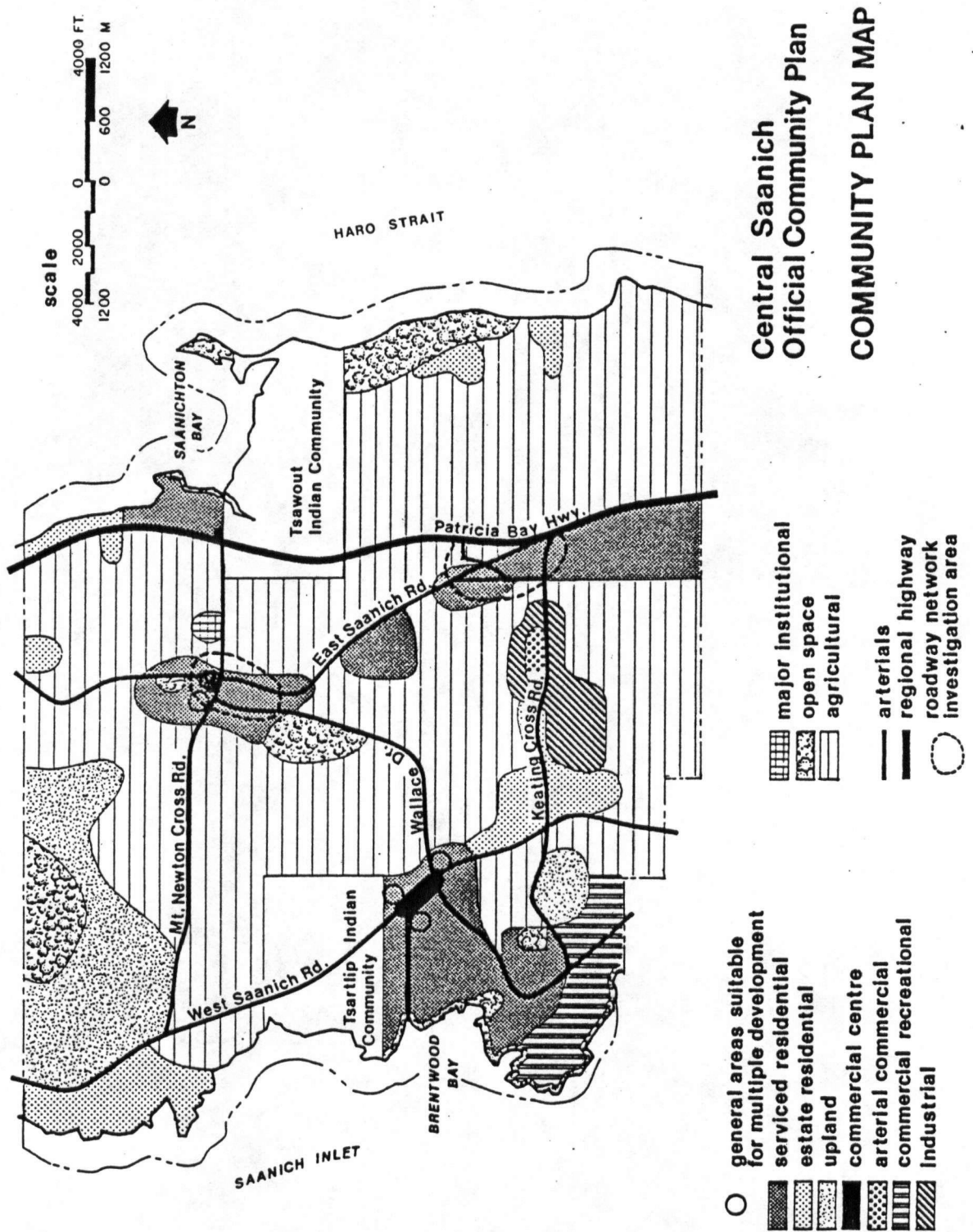
5.1 A General Description of Central Saanich

Central Saanich is located on the Saanich Peninsula of Vancouver Island in the south-west corner of British Columbia. It is a district municipality with a population of nearly 10,000 and an area of 42.58 sq. kms. It is bounded on the north by the municipality of North Saanich and the south by Saanich. Water bodies constitute the east and west boundaries of the community, with Saanich Inlet to the west and Haro Strait to the east. Refer to Figure 1. It is a small community in the rural-urban fringe area of Greater Victoria. Throughout the community, one can find residential subdivisions, institutional uses, commercial uses and industrial uses intermixed with the agricultural landscape. Central Saanich has been experiencing problems with rural land use conflicts as will be explained and discussed in this section of the study.

5.1.1 Climate

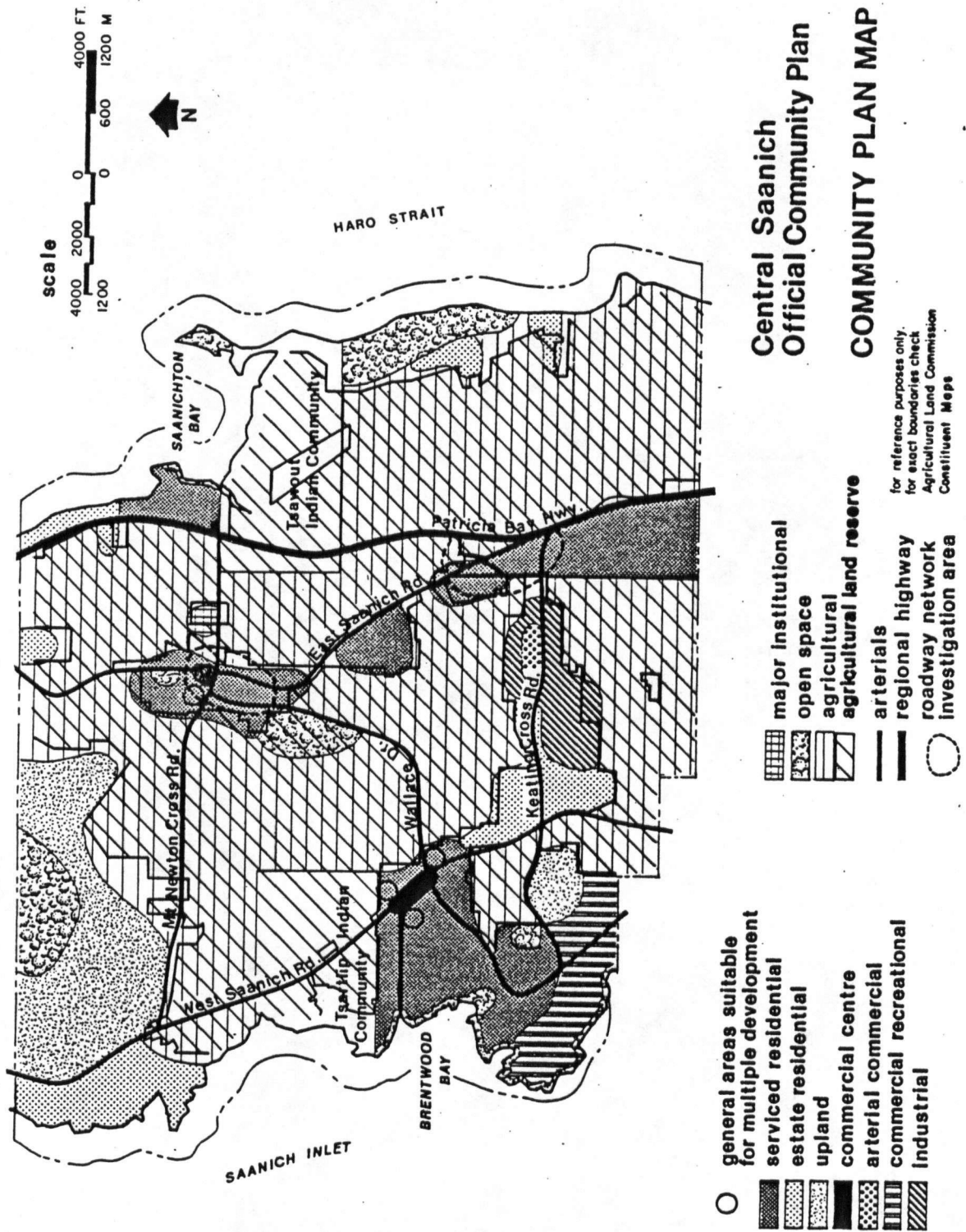
The Saanich peninsula lies in the farthest northern advance of a true Mediterranean climate regime. The growing season lasts from February to and including December with a mean annual temperature of 10°C (50°F). There is an average of 2000 hours of sunshine per year and an average annual precipitation of 33 inches. The irrigation season is from June to August and can include part of either May or September. Fifteen inches of rain are received during the summer and there is an

FIGURE 1: CENTRAL SAANICH'S OFFICIAL COMMUNITY PLAN



SOURCE: OFFICIAL COMMUNITY PLAN; CENTRAL SAANICH; 1979.

**FIGURE 2: CENTRAL SAANICH'S OFFICIAL COMMUNITY PLAN
INCLUDING ALR BOUNDARIES**



Source: Official Community Plan, Central Saanich, 1979.

average annual water deficiency of 10 inches (Piteau, et. al., 1976). The temperate climate is conducive to agricultural activities. However, the mild climate also makes it a very desirable area to live in, and in particular, retire in.

5.1.2 Physiography

The topography of Central Saanich is gently and rolling with lowland areas and several bedrock outcrops. In the south-west corner of the municipality, Mount Newton rises to an elevation of approximately 305 metres. Although there are some oversteep slopes, development is possible on the mountainside. Most of the bedrock is Saanich Grandorite with the exception of the southwest corner (Butchart Gardens and Brentwood Bay) which is Vancouver Volcanics (Piteau, et. al., 1976). The bedrock is covered by a layer of till, then a layer of sands and gravels and with layer of sandy till left by glacial meltwater on top (Piteau, et. al., 1976). There is a large underground aquifer in Central Saanich offering a water source that is available by digging wells. The soils in the area are mostly sandy loams and gravels. Much of the soil in Central Saanich is very fertile. However, in the lowlands, there is an underlying layer of marine clays which makes drainage difficult.

5.1.3 The Local Economic Base and Its Spatial Manifestations

The local economy is primarily based on agriculture and tourism with some light industrial activity. The world renowned Butchart

Gardens are found in an old rock quarry in Central Saanich. The traditional economic base of the community, however, is agriculture. The community today is still strongly agriculturally and rurally oriented with 8 large commercial operations and many smaller operations and part-time operations that sell their produce. There are also a number of hobby farms. These agricultural activities are mostly found on the fertile lowlands and valleys. See Table III.

Dairying is the main agricultural activity and the main crops are potatoes, forage, vegetables, berries and hard fruits. Horses are raised on several units. There is some light industrial activity, mostly manufacturing and warehousing, located along Keating Cross Road. See Figure 1. There is an old Ministry of Highways gravel pit along Keating Cross Road which is still in use today. Commercial activity in the area basically serves the local market demand, with the exception of one large hotel (the Waddling Dog Inn) and a couple of gas stations near the Pat Bay Highway. Most of the commercial operations are clustered in the commercial centres of Brentwood Bay and Saanichton or else found along Keating Cross Road or at one of the intersections along the Pat Bay Highway. Refer to Figure 3 for place locations. The major institutional uses in the community are the Municipal Hall which also houses the local police and the volunteer fire department, the Peninsula Hospital, several local schools, a community library and a community hall. Most of the institutional uses are located in either Brentwood Bay or Saanichton, however, the Peninsula Hospital and Stelly's Cross Road School are both found in agricultural areas. It is the siting of

Table II: Central Saanich's Population from 1951 to 1981

Year	Total Population	Population Increase (%)	No. of Males	No. of Females
1951	2069	19	1054	1010
1956	2477	19	1243	1234
1961	2952	23	1057	1445
1966	3640	41	1852	1788
1971	5135	41	2570	2565
1976	7415	33	3230	3750
1981	9890		4905	4985

Source: Statistics Canada and the Dominion Bureau of Statistics.

Table III: Selected Agricultural Statistics for Central Saanich 1951-76¹

Year	Farm Population	% of Total Population	Total Farm Area (Acres)	Number of Farms
1951	878	42	6826	225
1956	750	30	6174	192
1961	909	30	6793	183
1966	662	18	5757	168
1971	583	11	5724	161
1976	334	4.5	4434	95

¹Statistics from 1981 were not yet available.

Source: Statistics Canada and Dominion Bureau of Statistics.

the Peninsula Hospital that is of particular concern to the municipal council and local farmers. This issue will be discussed further.

5.2 Evolution of Land Use and Land Use Controls in Central Saanich

What is now known as Central Saanich was once a part of Saanich. A citizen's movement, lead by Sidney Pickles, voted to separate from Saanich because it was felt that a disproportionate amount of services were being received in comparison to the amount of taxes paid by the residents of the area. Central Saanich was granted its charter in January of 1951. At that time, Central Saanich was predominantly an agricultural community, although in the 1920's, there had been some subdivision in the Brentwood Bay area for summer vacation homes. (Many of those lots are now occupied year round). Other than that particular area of settlement, most of the development in Central Saanich was dispersed and agriculturally-oriented. At the time of the partion, Central Saanich adopted, for reasons of necessity and expediency, Saanich's subdivision by-law. This by-law allowed for the subdivision of a 60' by 120' lot anywhere in the municipality, providing the lot had piped water. If the parcel did not have piped water, the minimum lot size was 0.5 acres (Durrand, 1982).

The Capital Regional Planning Board was created in 1951 under the provisions of the Town Planning Act, however, it had no jursidiction over land use in any of the municipalities or the organized territories in the region, this included Central Saanich. The first planning study of the region, Capital Region takes stock, which was essentially an

inventory of land use and factors affecting future development of the Capital Region, was completed in 1954. Even at this early date, there was a recognition of the existence of urban sprawl in the region and an awareness of the problems that it was likely to cause in the future. Of particular concern, was the future cost of servicing. While Central Saanich was not regarded as a problem area at this time, the study did strongly recommend to its member municipalities that residential development should be controlled by the implementation of zoning by-laws, subdivision controls and public works policies (Capital Region Planning Board, 1954).

5.2.1 The First Planning Study of Central Saanich

A planning study specifically of Central Saanich was completed in July of 1957. The study was done by the Capital Region Planning Board (CRPB) as part of its preparatory work for the Capital Region Plan. From this study, a set of planning recommendations for the municipality of Central Saanich were tendered. Again, it was recommended that development take place in an orderly sequence in the community and that growth be directed and controlled by land use regulation. The plan, which recognized that Central Saanich was a rural community, stressed that scattered development would disturb the rural surroundings and that the agricultural use of the land would be 'prematurely interrupted' (CRPB, 1957, 2). This study suggested dividing Central Saanich into five zones with minimum lot sizes ranging from a low of 0.4 acres to a high of 20 acres in the agricultural areas. Two service centres were

identified in the plan, Keating and Saanichton, and one residential' area, Brentwood Bay. Forty-two percent of the 452 residential lots in the community were in Brentwood Bay in 1957. The remaining 58%, 262 households, were scattered along the main routes, along the water front and on higher ground that offered a view. It would seem that by 1957 urban sprawl was already happening. However, as of this time, there had been very little residential development on agricultural land. (Agricultural land meaning land used for agricultural purposes).

In 1956 the population of Central Saanich was 2,477 persons (CRPB, 1967). At an anticipated growth rate of 70 persons per year, the plan stated that future growth could easily be accommodated for the next 20 years (CRPB, 1957). However, despite the recommendations by the CRPB to control subdivision and scattered development, Central Saanich did not implement any new by-laws at this time, preferring to allow the existing by-law adopted at the time of secession from Saanich to continue to stand. It would not be until 1967 that a new subdivision by-law would be implemented. Therefore, until 1967, urban sprawl continued spreading over the rural landscape virtually unhampered.

The Capital Region Plan was completed in January of 1959. It, too, reiterated the recommendations of the preparatory study that urban sprawl should be prevented through zoning and subdivision control. Although no specific mention of Central Saanich is made into this regard, there is a map in the plan which depicts land use in 1956 that offers evidence that urban sprawl has already started to happen in Central Saanich. The map indicates the presence of residential

development as well as some commercial development along East Saanich Road. At this time, East Saanich Road was the main route to the north end of the peninsula, the Village of Sidney and the Pat Bay airport. The map also shows residential development along the waterfront in several places. Refer to Figure 1 for location of streets and to Figure 3 for place locations.

5.2.2 Infrastructure Improvements

There were two occurrences during the late 50's and early 60's that would accelerate the spread of urban sprawl on the Saanich Peninsula. Both occurrences involved improvements to the infrastructure serving the community. In 1958, Premier W.A.C. Bennett announced the take-over of the Black Ball Ferries after a reoccurring labour dispute threatened to shut-down ferry service to the island. The Pat Bay Highway which had formerly been a limited access highway was in the process of being realigned and widened so as to improve the road service to Sidney. Phil Gaglardi, the then Minister of Transportation, decided to extend the highway to Swartz Bay, to construct a terminal at Swartz Bay and to hasten and expand upon the road improvements to the Pat Bay Highway. The ferry terminal at Swartz Bay opened in June of 1960, and the terminal at Tsawwassen opened later that same summer (Cadieux, 1967). The improvements to the Pat Bay Highway would make feasible that daily commute to downtown Victoria (approximately 16 kilometres), thus, allowing working urbanites to move out of the city into the countryside. The present day subdivision of Keating, which according to

the land use map in the 1959 Capital Region Plan, did not exist in 1956, lies in close proximity to the Pay Bay Highway and is likely a result of the improvements to the highway, as is the industrial development along Keating Cross Road. See Figures 1 and 3.

The second occurrence that speeded up the process of urban sprawl was an increase in the community's water supply. One of the only conditions of subdivision in the early 60's was the availability of water (Durrand, 1982). However, the local water supply was limited; the Brentwood Bay Water Works being the only community water system at the time. All other water, both for domestic and irrigation purposes, was from springs or groundwater drawn from aquifers. This lack of water limited development in the community.

During WWII, the RCAF had constructed a well known as Stewart's well to supply the Pay Bay airport. The federal government also had control over the water rights to Elk Lake to assure a supply of water to the airport. However, in 1961, the federal government relinquished its exclusive control over the water supply from Elk Lake and Stewart's Well, thus enabling the municipality to pipe water for domestic and irrigation purposes and to increase its overall supply of water. This increased water supply, of course, facilitated the subdivision of more lots in the community.

However, by 1961, the municipality had established a minimum lot size of 15,000 square feet with piped water or a minimum lot size of greater than a 0.5 acre without domestic water (CRPB, 1967, 4). The acceleration of urban sprawl during the early 1960's, however, did

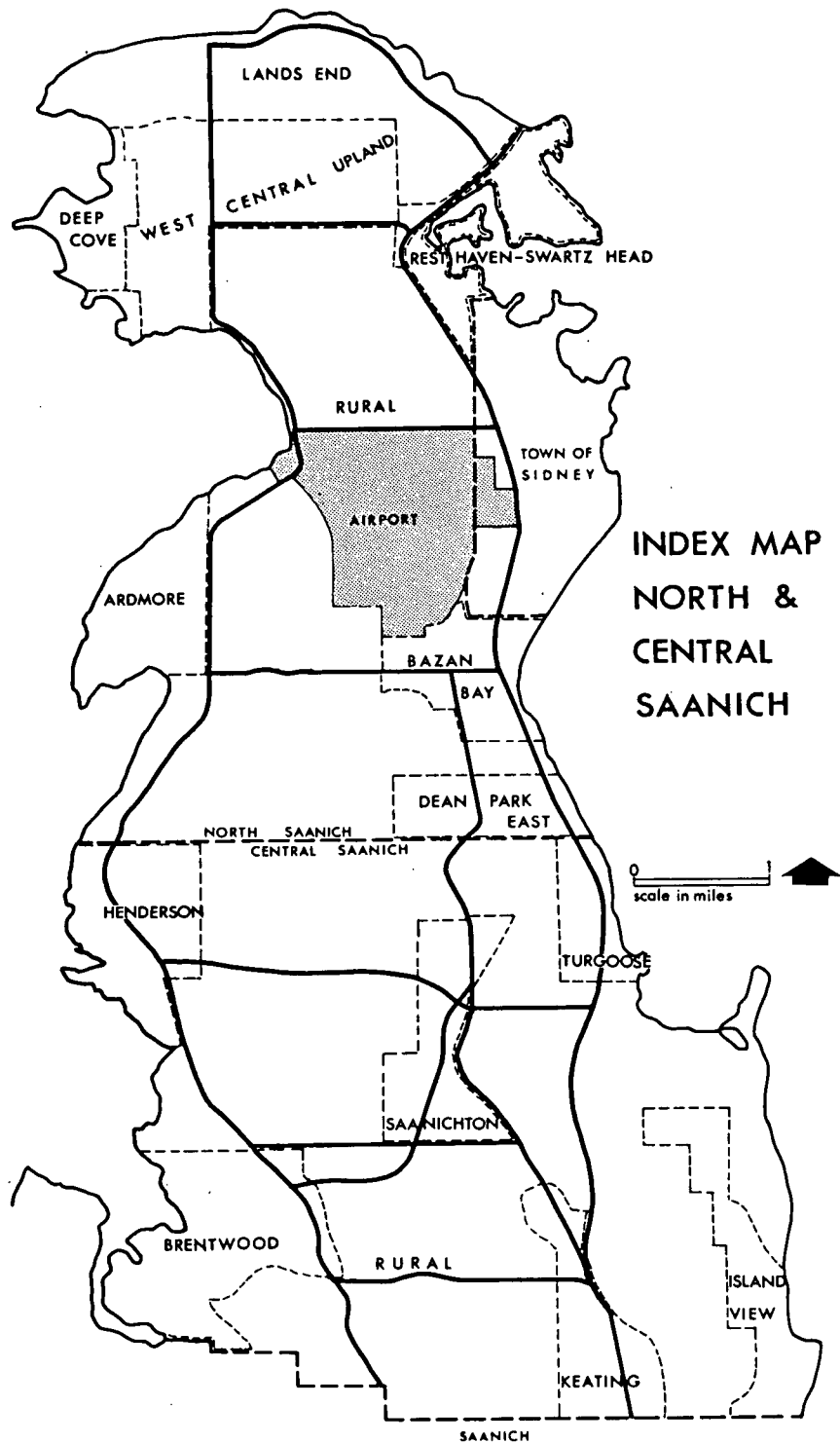
not bring about stronger subdivision control or zoning. It was not until a 'crisis situation' that the municipality decided to update its subdivision by-law and implement a zoning by-law.

5.2.3 Subdivision Activity From 1961 to 1966

A study done in 1967 by the Capital Region Planning Board (Analysis of Large Lot Development), recorded the amount of subdivision activity and residential building from 1961 to 1966 in the communities of Central and North Saanich. This reports lists the total number of parcels which were built on from 1961 to 1966, the number of parcels which were not built on after subdivision and sale, and the number of parcels which were neither sold nor built on after subdivision. The number of lots in each of the three classes is further categorized into one of eight planning areas and one of four lot size categories. See Figures 3 and 4. This study found that there had been a total of 310 homes constructed in Central Saanich from 1961 to 1966, that approximately 450 new parcels had been created and that there had been 530 sales of parcels of land (CRPB, 1967, 2). Unfortunately, this study did not seem to take into consideration that some of the lots built on from 1961 to 1966 could have been subdivided prior to 1966.

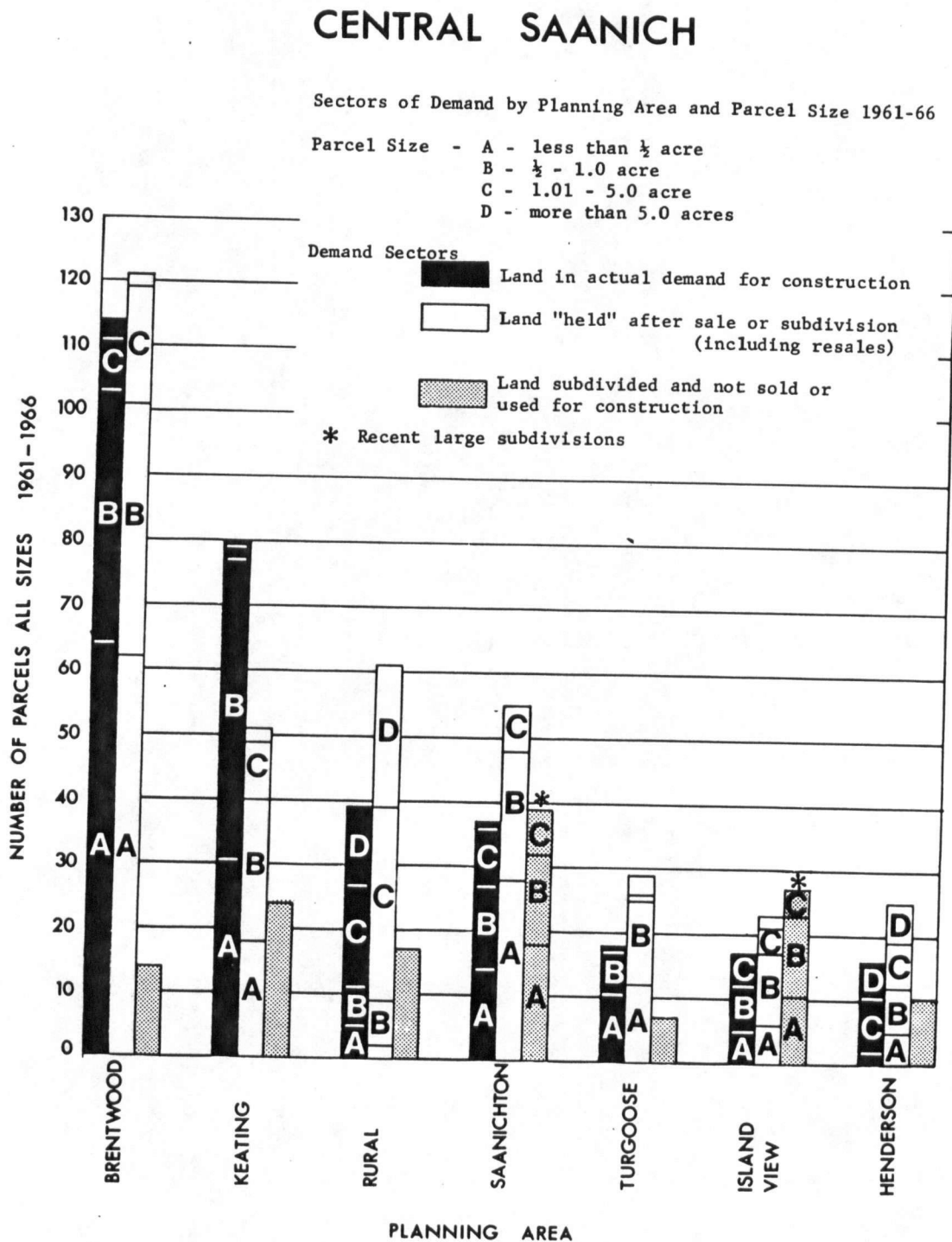
The most active area for subdivision over this period of time was Brentwood Bay, with the then new subdivision of Keating, being the second most active area. The so-called 'Rural' area was the third most active, with many of the subdivided lots being less than five acres in size. (The 'Rural' area is the residual area after the other

Figure 3: An Index Map of Central Saanich in 1967



Source: Analysis of Large Lot Development, CRPB. 1967.

Figure 4: Demand for Subdivision by Planning Area and Parcel Size 1961-66



Source: Analysis of Large Lot Development, CRPB, 1967.

subdivisions were identified. It is also the area where most of the agricultural activity would have been). It was noted that this demand in the rural area for these smaller lots could have been attributable to the desire for a 'country home'. The report also notes that the subdivision activity in general, was spread over too wide an area which could one day lead to extremely high costs for the provision of schools and services, and would detract from the municipality's appearance (CRPB, 1967, 2). The report expands upon the higher costs associated with low density and scattered development because of the distances between lots and the wide frontage requirements. An example of the proportional costs per household per annum for different lot size is presented in a chart. This chart of comparative costs indicates that costs rise as lot sizes increase (CRPB, 1967, 11). It was also pointed out in the study that the servicing of large parcels (i.e. larger than one acre) might, in fact, be considered to 'overservicing', in that curbs and sidewalks do not blend into the rural landscape (CRPB, 1967, 12). The study advocates smaller lots with smaller frontages and grouped closer together to avoid the diseconomies of large lot or scattered development. The study also argues in favour of preserving the 'rural identity' of the area but no mention is made of preserving farmland or competition between agricultural and non-farm uses.

5.2.4 Implementation of Zoning By-laws

In 1967, the increased run-off from a new subdivision overlooking Saanichton Bay (Islandview) greatly exacerbated the drainage problems

for neighbouring farmers. This incident combined with a renewed concern about the community's water supply and the increasing visual evidence of urban sprawl, lead to the municipality finally implementing zoning and stricter subdivision control. Three residential zones, Brentwood Bay, Saanichton, and Keating, and one industrial area, Keating Cross Road, were created. The minimum lot size in the residential areas was 0.5 acres. The remainder of the municipality was zoned as agricultural with a minimum lot size requirement of 10 acres. Therefore, lots of less than 20 acres in the agricultural zone could no longer be subdivided. At first, only one house per lot was permitted, but this was later amended to be able to accommodate those residences necessary for housing farm help. This ten acre minimum acted as a deterrent to further scattering of development, as ten acre hobby farms were not yet popular; however, it still allowed for the densification of the three residential zones. There was some resentment expressed by several of the local farmers who found that they could no longer subdivide their land, however, the majority of the residents supported the step taken by the local government (Durrand, 1982).

5.2.5 Upgrading and Extension of the Sewerage System

Early in the 1970's, the provincial government brought in the Sewerage Assistance Act. Because of inadequate tidal action in Brentwood Bay, the Provincial Health authorities had declared the Bay polluted in 1969, therefore, making it imperative to find a new sewage outfall point (Durrand, 1982). The municipality took advantage of the

grant in 1972 to install a sewer line across the entire width of the Saanich peninsula with the outfall point in Cordova Channel on the east coast of the peninsula.

The council and the citizens of Central Saanich were concerned that further subdivision would occur as a result of the new sewer line which traversed the peninsula for much of its length across agricultural land. To prevent the possibility of the sewer line opening up new areas for development, the sewer line was designed such so that trunk lines and hook-ups could not be added later to those sections of the line in agricultural areas. The sewer line which initially serviced the residential areas of Brentwood Bay, Saanichton and Turgoose, as well as, the industrial area of Keating Cross Road, is still in operation today. Several other residential areas have since been connected to the line and further extensions are still in process. The present capacity of the system is 10,000 people. With 9890 people living in Central Saanich in 1981, the system has nearly reached its capacity. The secondary treatment plant is being expanded so the system will be able to handle an additional 5,000 people.

All lots not hooked up to the sewer line must have their own individual sanitary sewage disposal system, therefore, the lot size must be adequate in area to ensure that the system operates effectively. The requirement for adequate area serves to limit the density of the development in unsewered areas.

5.2.6 Agricultural Land Reserves

On December 21, 1972, the provincial government by way of an order-in-council 'froze' development on all land in the province which was being assessed for tax purposes as farmland, was zoned agricultural or was rated as Class 1 to 4 by CLI. The Agricultural Land Reserve (ALR) boundaries that were designated by the Capital Regional District closely followed the boundaries in Central Saanich of the agricultural zone with its 10 acre minimum. There were two additional inclusions of blocks of land which had been zoned as residential by the municipality. The municipality of Central Saanich appealed to the Environment and Land Use Committee (ELUC) to release these two blocks of land from the ALR, soon after the designation of the ALR.

When the municipality had installed its sewer system in 1972, it had anticipated repaying some of the cost of the system through hook-up fees of new units in the area, with an expected rate of 110 new units per year. The municipality also wished to increase its tax revenues from more residential development. The two areas where this residential development was expected to occur was in one area of approximately 210 acres near Saanichton and another area of roughly 135 acres near Brentwood Bay. However, with the inclusion of these two parcels of residentially zoned land in the ALR, any further residential development was essentially precluded. In its appeal to ELUC, the municipality argued that it needed the development to finance the sewer system and to expand its tax base. The Land Commission, as it was known then, recommended that ELUC refuse the appeal as the land in question was

predominantly Class 3, improvable with irrigation to Class 2.

Furthermore, the Commission estimated that a population of 11,500 could be accommodated on those lands outside the ALR using a ratio of 10 persons per acre. ELUC followed the Land Commission's advice and the land is still in the ALR today.

At the time when all developments were halted by orders-in-council #4483/72 and #157/73, there were a number of developments already in progress. If a landowner could substantiate that there had been substantial commencement on a particular development prior to the 'land freeze', then the Land Commission would allow the development to proceed. Presently to be found in Central Saanich are several developments which were allowed to proceed under these provisions. One such example is a 5.5 acre parcel which was allowed to be subdivided from the corner of a cattle and poultry operation as the farmer had already started the subdivision. The farmer further argued that the money from the sale of the parcel would be reinvested in improvements to the remainder of the farm unit. Although the farmer did invest the money from the sale of the property into improvement of his farm unit, the 5.5 acre parcel was purchased by a developer and there is now a multi-unit residential development directly abutting the farm operation with only a page wire fence separating the two uses. Examples such as this serve as indicators as to what might have happened in Central Saanich had not the ALC Act been enacted by the provincial government.

At present, there are an estimated 7627 acres (3087 hectares) of land in the ALR in Central Saanich (Piteau, et. al., 1976). This

amounts to roughly two-thirds of its area (excluding the land in the two Indian Reserves) See Figure 2. Much of that land in the ALR is rated by the CLI as Class 3 land, improvable with irrigation to Class 2. Since the designation of the ALR on June 27, 1974 there have been nine requests for exclusion from the ALR and 39 requests for subdivision or non-farm use in the ALR. All but one of the requests for exclusion were refused and 13 of the 39 requests for subdivision or non-farm use have been refused. It is safe to say that in a period of nearly ten years the amount of subdivision and non-farm development of those lands in Central Saanich which are in the ALR has been held to a minimum.

5.2.7 Present Zoning and Subdivision By-laws

Prior to the orders-in-council freeze in 1972, By-law No. 464, which presently controls subdivision in the municipality was adopted. This subdivision by-law in conjunction with zoning by-law No. 465, divides the municipality into 20 zones with minimum lot sizes ranging from a low of 460 mm² in the R3 zone (residential semi-detached) to a high of 4 hectares in the A1 zone (agricultural). There have been only a few minor changes to these two by-laws since their inception in 1972. However, the ALC Act takes precedence for those lands in the ALR over the local zoning. It is only when an exclusion of land from the ALR is allowed or request for subdivision or non-farm use in the ALR is approved by the Commission, that local zoning and subdivision control becomes effective. For example, if the Commission allows the subdivision of a one acre parcel in the ALR, the municipality then has

the authority whether or not to allow the subdivision, depending on whether or not it conforms to local zoning and subdivision by-laws.

5.2.8 Indian Reserves

There are two Indian Reserves in Central Saanich, the Tsartlip Indian Community and the Tsawout Indian Community. The areas of these two reserves are 201 hectares and 257 hectares respectively. In 1967, (more recent figures could not be found) there were 263 people living on the Tsartlip Reserve and 220 people were on the Tsawout Reserve (CRPB, 1968). At present, these two reserves are largely undeveloped except for residential purposes for the native population. There were a few agricultural leases and log storage leases on the two reserves in 1967. However, since neither the province or the municipality has any jurisdiction or control over the land use on the two Indian reserves, they will not be discussed any further in this section. Concern about land use on the reserves would only arise if the Department of Indian and Northern Affairs granted a lease for purposes such industrial, commercial or intensive residential uses. These uses could come into conflict with the neighbouring uses off the reserve and could place a demand on local services. However, this has not happened in the past, nor is it likely to in the near future.

5.2.9 The Greater Victoria Water District

In 1975, an engineering firm was commissioned by Central Saanich to undertake a bulk water study for the Saanich Peninsula. The provocation

for the commissioning of the study was the complaints about the quality of water from Elk Lake, the shortage of water during the summer, seasonal low pressure, the insufficient recharge rates of some wells (necessitating digging the wells deeper), and the salt water contamination of some wells. (Durrand, 1982). One of the final recommendations of the report was for Central Saanich to become a member of the Greater Victoria Water District which pumps its water out of the Sooke Basin (Piteau, et. al., 1976). The municipality followed this recommendation and in 1976 joined the Water District. The municipality is now assured of a daily water supply of up to 7 million gallons per day up to the year 1996 for the cost to users of 38 per 1000 gallons (Durrand, 1982). At present, the municipality draws approximately 6 million gallons per day in peak season with an estimated 30 percent being used by agriculture. There are further plans to increase the water supply to the community.

5.2.10 The First Official Community Plan

In 1977, Bill 42 (an amendment to the Municipal Act) was approved by Cabinet. Among other things, it outlined the requirements for an Official Community Plan (OCP). The government also made available at the time funds for undertaking an OCP. The first OCP of Central Saanich was adopted in 1979 by the council. It is very cognizant of the need to protect agricultural land. Almost all of the lands in the ALR in the community are designated as agricultural in the OCP with only a few minor infringements. Compare Figures 1 and 2. This means that there

will be no non-farm development of these lands unless it is first approved by the ALC. Most of the anticipated future residential development over the next twenty years is to be handled through a densification of the Brentwood Bay and Saanichton areas; both of which are existing residential areas with servicing. The density of two areas designated as estate residential will also be increased (Planning Areas 1 and 17). Refer to Figure 5 and Table IV. The municipality has estimated that it can house a total population of 14,510 in the next twenty years using a family size ratio of 3.4 persons in a single dwelling unit and 2.2 persons in multiple units. (The Corporation of the District of Central Saanich, 1979, 66). Considering that the average family size ratio in 1981 was 2.8, the use of this ratio would seem reasonable (Statistics Canada, 1981). However, of the estimated 14,510 people, it would appear that 625 people are to be accommodated in planning areas which are in the ALR. See Table III. Whether or not there are vacant lots or housing in the ALR which will accommodate these 625 people is not made clear.

5.2.11 Land Use Policies of the Capital Regional District

The CRPB which was established in 1951 under the provisions of the Town Planning Act, produced its first regional plan in 1954. The Capital takes Stock was largely an inventory of regional resources, although the problem of rural land erosion was mentioned at this time. Urban sprawl was referred to as the 'urban octopus' and it was postulated that if this trend was allowed to continue unchecked that it would suburbanize the rural areas: "Rural becomes suburban and then

urban as the residential wave rolls on." (CRPB, 1954, 9). The CRPB was concerned with the impact that urban sprawl would have on land values for agriculture and the increases in servicing demands. Areas of particular concern were Central Saanich, Saanich and the Village of Sidney. It was recommended in this plan that the municipalities adopt zoning by-laws in order to protect productive lands and to direct growth to the poorer soils. It was suggested that regional growth be directed towards Langford and Metchosin.

In 1959, the Capital Region Plan was adopted. The plan relied heavily on the supposition that there could be containment of growth in the metropolitan area and that there could be an orderly phasing of development outwards from the core. In the plan, Central Saanich was primarily designed for agricultural use with some country homes. There were also lands allocated for tourist accommodation and parkland. urban residential uses were to be concentrated around Brentwood Bay. It was expected that this would accommodate the estimated 3700 people who would be living in Central Saanich by 1976. (CRPB, 1959, 27) The plan advised that urban sprawl be avoided as it would disrupt agricultural development. (CRPB, 1959, 20)

The plan did, however, recognize that Central Saanich would one day be subject to urban growth demands which it would have to accommodate. In the 1957 study of Central Saanich by the CRPB, it had been noted that there was a decrease in the average parcel size of newer farms in the community: "This may indicate the breaking up of farm holdings into smaller units of production which would have the effect of adding to the

population in the rural area. However, as the numbers involved are only a small fraction of the 20,000 population forecast for the rural area this process should not be significant in the future distribution of the regional population. (CRPB, 1959, 25) On this premise, it was recommended that a minimum lot size of three acres be adopted in zoning by-laws to control residential subdivision outside the designated urban areas. This would allow some of the subdivision supposedly necessary for the future.

After changes in 1965 to the Municipal Act, the CRPB became the CRD, but the functions of the new governmental body were essentially the same. In 1972, five alternative development proposals were presented to the CRD. Of these five proposals, the one which shifted development away from the Saanich Peninsula was chosen for the basis of the ORP. This choice was made in recognition of the need to preserve the valuable agricultural land of the Saanich Peninsula. In 1974, the CRD adopted this concept as the ORP for the Victoria Metropolitan Area By-law 1980.

In Central Saanich, Brentwood Bay, East Saanichton and Saanichton (Refer to Figure 5) were designed as established urban areas where urban growth could continue with the proviso that there be the necessary servicing and that the use was allowable under the OCP. There was an established industrial area along Keating Cross Road. Potential urban uses were designated around East Saanichton and along the uplands of the eastern coast. (See Figure 5) The remainder of the municipality was designed as either agricultural or uplands. Uses in the agricultural areas (i.e. the ALR) being restricted to those allowable under the ALC Act.

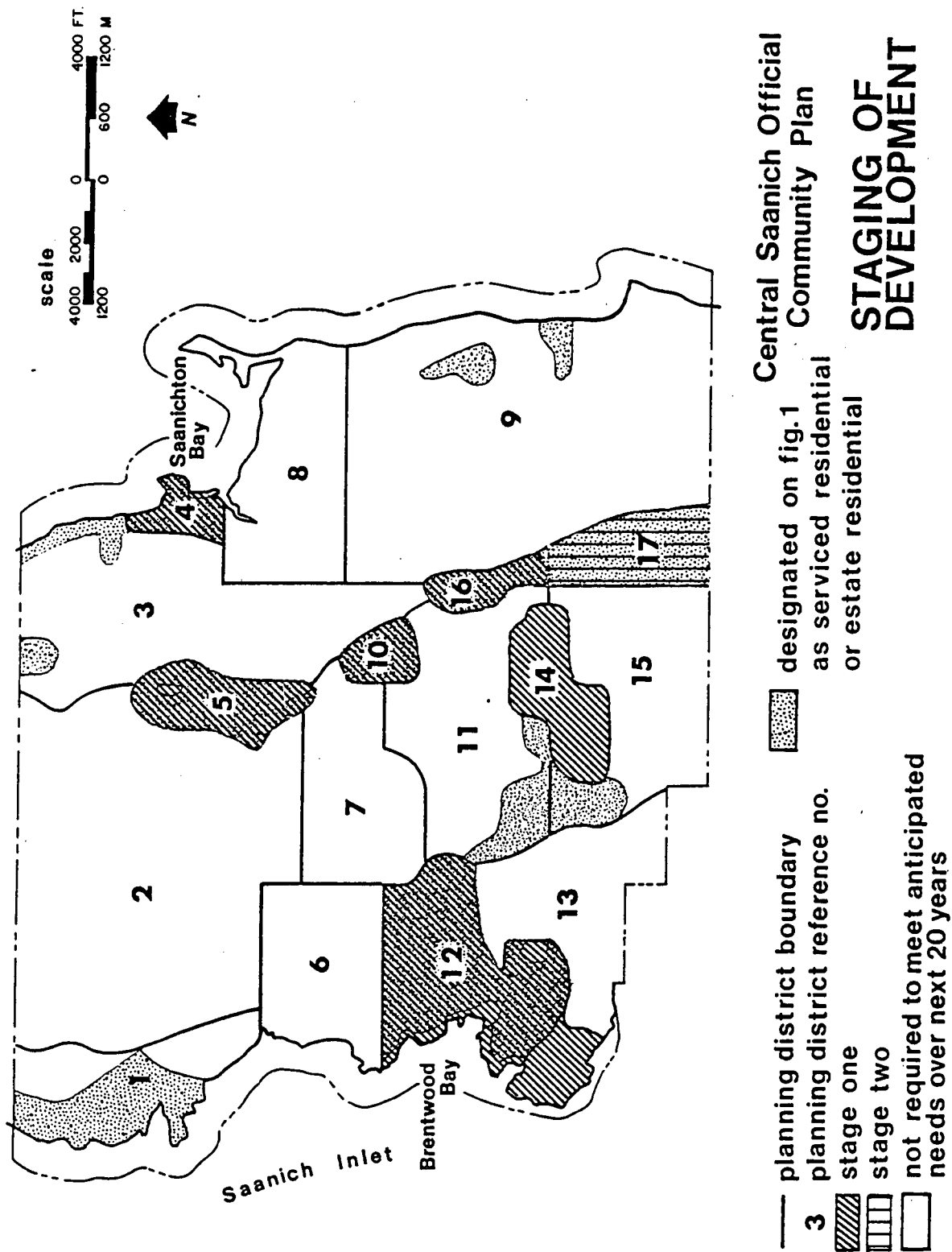
It was recommended in the ORP that there be compatible land use sited along the interface of agricultural and urban use areas, so as to: "... minimize incompatible land use relationships, particularly where the physical pattern of existing urban and designated ALR areas may result in mutually objectionable physical external effects such as noise, odour, dust, etc." (CRD, 1974, 17) It was also recommended that there be a clearer definition in the OCP regarding the relationship between lands in the ALR which were suited for non-agricultural development. Whether or not this is to suggest that there be non-agricultural development of these lands is not made clear.

At that time, under the provisions of the Municipal Act (RSBC 1960, Ch. 255), all OCPs had to conform to the ORP as did all local zoning by-laws. In the CRD's ORP, member municipalities were given a two year period in which to conform their by-laws. Under the act at this time, neither the regional board or council could enact any by-laws which would be contrary to the ORP.

5.3 The Present Situation

Central Saanich has a limited land base and of that land, approximately two-thirds is in the ALR. From 1973 to the present, there has been comparatively little subdivision activity or non-farm development of agricultural land, most likely because of the designation of the ALR. However, the community has continued to grow since that time. There was a 33% increase in the population between 1976 and 1981. (See Table II). The non-farm development which has not been

FIGURE 5: CENTRAL SAANICH'S PLANNING AREAS - 1979



Source: Official Community Plan, Central Saanich, 1979.

Table IV: Area, Population and Effective Capacity by Planning District.

Planning District	Area Hectares	Population June, 1976	Effective Capacity	Staging
1	202	190	330	-
2	862	590	780	-
3	462	535	600	-
4	40	240	680	1
5	97	580	1,820	1
6 (Indian Reserve) ²	201	-	-	-
7	222	230	280	-
8 (Indian Reserve) ²	259	-	-	-
9	860	530	750	-
10	38	410	660	1
11	323	195	240	-
12	272	2,230	4,930	1
13	270	360	405	-
14	115	50	0	1
15	299	310	420	-
16	36	215	565	1
17	112	910	2,050	2
	4,670	7,415	14,510	

¹Effective capacity relates to the population that could be accommodated under current development by-laws, allowing for inefficiencies in land assembly, and represents 75% of maximum capacity.

²Indian Reserves are not subject to municipal jurisdiction and are not covered by the Community Plan.

³Assumed household sizes: single family and two family units - 3.4 persons, multiple units - 2.2 persons.

Source: The Official Community Plan of Central Saanich.

happening in the ALR, has been taking place on those lands outside it. With a present population of nearly 10,000 an average annual rate of growth which has been greater than 6%, and all signs indicating that the trend of population growth will continue, the community will be faced with some serious choices or dilemmas in the near future. Particularly, if the OCP is correct in its estimation of the maximum number of people that can be accommodated in the non-ALR as being 14,510, given or take the 625 people referred to above.

The limited land base of Central Saanich, however, restricts its options. While the present local council appreciates that here will be more development in the community in the future and that growth should be accommodated, the Council still wishes to protect its agricultural land and the agricultural use of that land (Durrand, 1982; Corporation of the District of Central Saanich, 1979). While the present council does not have a 'pro-development' attitude, it does not overtly discourage development from taking place in the community. The council, however, does not wish the population of the community to exceed 15,000. One reason being that once that population is reached, it will be necessary for the community to employ a full-time fire department which would be a strain on its limited tax base and most likely mean a tax increase for property owners.

The attitude of many of the residents of Central Saanich appears to be generally sympathetic to the preservation of agricultural land and the agricultural industry. However, this support is not always attributable to the concern about self-sufficiency in food production or

the supply of food to other parts of the world. Instead, this concern is oftentimes due to the fear of crowding because of too much development, increased taxes, destruction of the pastoral atmosphere of the countryside and loss of the aesthetic attributes of the rural landscape. Therefore, a 'no-more-development' attitude prevails in the community and is reflected in the voting choices of the residents of Central Saanich. The attitudes and policies of the present council would appear to concur with those of the local populace. (The information for this paragraph was obtained from conversations with the mayor, an alderman, the municipal clerk, the development officer, a local farmer, several people in the community, and reading the local newspaper and the minutes of some council meetings).

5.3.1 The Saanich Peninsula Green Zone Committee

In January of 1981, a meeting was held by the Saanich Peninsula Farmers' Institute to listen to explanations from the representative of the Green Zone Committee of the Ministry of Agriculture, on 'green-zoning' and the Agricultural Environmental Control Programme. As a result of this meeting and other related issues (the Island Peninsula Hospital and a proposed piggery), which will be explained more fully later in this chapter, an ad hoc committee comprised of local farmers and local politicians from the various communities on the Saanich Peninsula was formed. This committee, called the Saanich Peninsula Green Zone Committee (Saanich Peninsula GZC), under its terms of reference wished to: "Consider measures to preserve and protect

agricultural land on the Saanich Peninsula from urban encroachment." (GZC, 1982, 3) The Committee wished to consider those measures which would be workable under the presently existing legal parameters, which would take into consideration the topography of the Peninsula and which would respect the rights and needs of the present and future residents of the area, who, "...may not be involved, concerned or knowledgeable of the need and problems of protecting farmland." (GZC, 1982, 3) In essence, the GZC not only wants to preserve the integrity of the ALR, but to go a step further, and to see what measures local government can implement to assist in strengthening the ALR and further protect agricultural land in the community.

In July of 1982, the GZC published a report entitled, "Preserving the Agricultural Land Reserve". In this report, what were thought to be the major issues pertaining to the protection of local agriculture were listed and explained. Recommendations were then offered on what course of action to follow for each of the eleven issues identified. The eleven issues identified were as follows: 1) Buffers; 2) Institutional Uses; 3) Minimum Separation Distances; 4) Expansion of Farms; 5) Development Rights and Compensation; 6) Taxation of Agricultural Land; 7) Irrigation Water; 8) Drainage; 9) Fencing and Landscaping; 10) Environmental Standards; and 11) Forested Agricultural Land. Some of these issues have already been discussed in the study in a general sense. Several of these issues will be discussed in greater detail in the following sections of this study. The purpose of this thesis is not to criticize the GCZ's report, and the writer would like to point out

that some very good recommendations were made by the GZC. However, there were also a few recommendations which might prove to be impractical or unnecessary.

5.3.2 The Peninsula Hospital Controversy

While the provisions of the ALC Act effectively prevent subdivision and non-farm development from happening in designated ALR's, there is, what is thought to be, one notable exception in Central Saanich: the Island Peninsula Hospital. Situated in the middle of a field and bounded by two agricultural operations, the Peninsula Hospital is a divergent land use. The question arises as to how and why permission for the construction of the hospital was given and who actually gave the permission. The present council of Central Saanich, the municipal staff and the Saanich Peninsula GZC are all under the impression that the Peninsula Hospital was approved as a conditional use by the ALC, pursuant to the provisions of B.C. Regs. 93/75, and therefore, blame the ALC for the land use conflicts created between the hospital and surrounding agricultural uses.

While it is true that B.C. Regs. 93/75 did class public institutions as conditional uses, and the Commission was more lenient in allowing institutional uses than other uses, an extensive search of the Commission's records showed no approval of the Peninsula Hospital under the provisions of B.C. Regs. 93/75 or even the Agricultural Land Commission Act. (B.C. Regs. 93/75 have been rescinded and replaced with B.C. Regs. 7/81 and 8/81, which require that application for

institutional uses be made under the ALC Act). It was noted that the property which the hospital is situated on is not in the ALR. Further search of the Commission's records indicated that at the time at which the ALR boundaries were designated, and the hospital land was deliberately excluded from the ALR. This non-inclusion of the property would seem to indicate that a building permit for the hospital had already been obtained or else construction had already started prior to the designation of the ALR. The order-in-council (o-i-c) maps were quickly drafted up after the orders-in-council were passed on December 21, 1972, 'freezing' development on all agricultural land in the province. These o-i-c maps show the hospital as not being in the 'land freeze'. There is no reference on the o-i-c maps as to why the hospital was not included in the 'land freeze' nor is there any record of any requests for exemption of the property from the provisions of the orders-in-council. It would, therefore, seem that permission to build the Peninsula Hospital was obtained prior to December 21, 1972, the day that the 'land freeze' came into effect. It would appear that the onus for allowing the hospital is with the local government itself, although it denies allowing the hospital.

5.3.3 Other Issues Concerning the Green Zone Committee

The controversy surrounding the Peninsula Hospital above served as one of the catalysts for the formation of the GZC. Another is the complaints from the hospital administration and patients regarding the smells and noises from the neighbouring agricultural uses. The GZC is

very concerned with preventing any further institutional uses or other urban-oriented activities in the midst of an agricultural area (GZC, 1982).

Another issue which served to instigate the formation of the GZC was a proposal to build a piggery on a property near the Peninsula Hospital. As with any intensive agricultural use involving animal husbandry, there is a significant odour produced. A piggery so close to the hospital would only exacerbate the incidence of land use conflicts and complaints. When faced with this proposal for a piggery, it was discovered by the local council that Central Saanich's by-laws would allow the use, as would the ALC Act. Fortunately for the council, the proposed piggery did not meet the required standards of the Ministry of Health, and the farmer could not obtain the necessary financing. However, this proposal alerted the council to its lack of control over the siting requirements for intensive agricultural operations and its present inability to prevent such a use in an agricultural zone.

The proposed piggery and the problems with the Peninsula Hospital prompted the local council in conjunction with the Saanich Peninsula Farmers' Institute to meet with the Green Zone Committee of the Ministry of Agriculture to discuss 'green zoning'. 'Green Zoning', sometimes referred to as 'minimum separation distances', is seriously being considered by Central Saanich's council for implementation in the community. One of the recommendations in the report prepared by the Saanich Peninsula GZC is that, the council, "Adopt the system of minimum separation requirements as modified by local conditions which are listed

below." (GZC, 1982, 12) Thereupon follows a list of ten ways in which to adjust green zoning to make it more suitable to local conditions. Some of these adjustments include spot zoning and leaving dairy operations under the existing regulations, i.e. not subject to green zoning. The problems that would be created by these adjustments would seriously damage the effectiveness of green zoning. The feasibility of implementing green zoning in Central Saanich will be discussed at greater length shortly. However, it should be noted that the writer is of the impression that the GZC and perhaps, the council have overestimated the capabilities of green zoning.

Some of the other concerns of the GZC are more accurately defined as solutions to the rural land use conflicts that the municipality is experiencing. These include buffers, 'Development Rights and Compensation', and 'Fencing and Landscaping'. The problems with 'Irrigation' and Drainage identified by the GZC have already been discussed in this study. The issues of 'Forested Agricultural Land' and 'Environmental Standards' were not really pertinent, in that, there is no active logging taking place in Central Saanich other than small woodlots which do not really harm the agricultural land or come into conflict with agricultural lands. Environmental Standards is a euphuism for the Ministry of Agriculture and Food's Agricultural Environmental Control Programme.

In the Agricultural Environment Control Programme (AECF), if there are frequent complaints about a farm operation regarding smell, noise, etc. which are likely due to poor management of the farm, a

representative group of farmers is selected by the BC Federation of Agriculture to go out to investigate the complaints. If these complaints are found to be valid and due to poor management or some other correctable reason, the group of farmers make recommendations on how these problems can be overcome. If the problem is severe enough, the Pollution Control Branch is called in. Although the AECP has no legislative foundation or powers, it is hoped that the peer pressure from the representative group of farmers will suffice. The only remaining issue in the GZC report was the problem of 'Taxation of Agricultural Land' which will be discussed in the following section.

5.3.4 Rural Land Use Conflicts in Central Saanich

In the course of the descriptions of Central Saanich, its planning history and the discussion of major issues, it should have become evident to the reader that many of the rural land use conflicts that were described in a more general sense in Chapter One can be found in Central Saanich. Now, the status of those rural land use conflicts in Central Saanich will be discussed. It should be remembered though, that not only has the enactment of the ALC Act alleviated some of the rural land use conflicts and prevented other rural land use conflicts from occurring, but some of the action of the municipal government have also done this.

(1) Inflated Price of Land: Whether or not non-farm development is responsible for the inflated price of agricultural land in Central Saanich is a moot point. A complex range of variables could possibly be

responsible for the increased price of land such as the normal rate of inflation, increase cost of services, the ALC Act, investment trends or an increased demand of agricultural land for agricultural purposes.

However, it is likely that the demand for agricultural land for non-farm purposes has had something to do with the increased price. Whatever the reason, the price of land not only in Central Saanich but the rest of the province has been rising. It is worth noting that today in Central Saanich that agricultural land costs between \$8,000 and \$10,000 an acre (Durrand, 1982). It is some of the highest priced agricultural land in the province today.

(2) Land Fragmentation: Evidence of past small lot subdivision in Central Saanich can be seen in present day legal maps of property. The 1967 study of subdivision activity in Central Saanich, documents the amount and location of construction and subdivision activity from 1961 to 1966. In the study, the rural area was found to have the third highest rate of subdivision and construction activity. See Figures 3 and 4. (NB. The holding category was defined as lots which had been subdivided and sold but not built on). Almost all of the subdivision activity represented a demand for parcel sizes of one to five acres, reflecting a demand for parcel sizes of one to five acres, reflecting a demand for 'country homes'. This trend probably continued into the early seventies. The ALC Act has effectively halted much of this fragmentation of agricultural land. However, the past fragmentation of agricultural land can not be erased.

(3) Taxation Increases: The municipal of Central Saanich makes a concious effort to keep down the taxes for those lands in the ALR as does the province. Land in the ALR receives a 50% reduction in the school taxes and if it is assessed as farmland by the BC Assessment Authority, this preferential tax assessment will result in a substantially lower rate of taxation. In 1980, those lands in the ALR generated 8.15% of the property tax revenues for the municipality, although those ALR lands constitute 51.6% of the total land base. Classified farmlands account for 40.6% of the land base and 4.05% of the taxes (Durrand, 1982) See Table V.

Table V: 1980 Taxation by Land Use Category

	Areas (in acres)	% of Area	% of Property Tax
ALR Land (Non-Farm)	1370	11.07	4.1
Classified Farm	5034	40.6	4.05
Residential/Commercial/Industrial	5966	48.3	91.85
Total	12370	100.0	100.0

Source: 1980 Assessment Roll.

The local council supports this disproportionate allocation of taxation. The rationale being that if the cost of living in the rural area is high becasue residential property owners are carrying the bulk

of the tax burden, then less people will move to the area. It is also though that residential property owners should be willing to pay higher taxes to keep the area rural (Durrand, 1982).

(4) Competition For Agricultural Land by Non-Farm Uses: The presence of this conflict is evident by the presence of residential development on agricultural land, the location of the Island Peninsula Hospital and Stelly's Crossroad High School in agricultural areas, and other such remaindes of the outcome of the competition between agricultural and non-agricultural uses. However, this type of competition for agricultural land has been halted by the ALC Act and local zoning.

(5) Impact of Transportation and Utility Corridors: The presence of residential and commercial uses along the Pat Bay Highway shows the impact of a transportation corridor on land use patterns. However, the Pat Bay Highway does not appear to have bisected any established commercial agricultural operations. The construction of the highway in the early sixties was largely an upgrading of existing roads. The highway did make a daily commute (approximately 16 kilometres) to a job in Victoria much quicker and easier which probably encouraged residential development in the community. There are no utility corridors to speak of in the Central Saanich.

(6) Physical Impacts: There are definitely rural land use conflicts in Central Saanich which are attributable to physical impacts. Examples such as the excess run-off from the Islandview subdivision, competition between agricultural and residential users of

water, complaints about the smells and noises of agriculture received by the municipal office, the concern over the possible construction of a piggery, and so forth have all been mentioned in the preceeding discussion of Central Saanich. It is the rural land use conflicts from physical impacts which seem to be the main concern of the local council and the GZC, and the one which they are now addressing. Most other types of rural land use conflicts have resolved to whatever extent possible. Although there are rural land use conflicts such as the Peninsula Hospital and the parcelization of agricultural land which it is too late to prevent; the conflicts can only be alleviated, if possible.

(7) Social and Psychological Impacts: This type of impact is very intangible and not readily evident. As shown in Table III, the farm population in 1976 was only 4.5% of the total population of Central Saanich as opposed to 42% in 1951. Not only has there been an increase in the number of non-farm residents in the municipality but there has been a decline in the total farm population as well. Because of the changes in the composition of the population (not only in terms of employment but accompanying lifestyles), there has likely been changes in the social fabric of the community as well. The decline in the farming population could be taken as being representative of the psychological impacts of urban sprawl and other rural land use conflicts. Despite this compositional change, there would, however, appear to be strong support in the community for the continuation of agriculture. But this, as it was explained earlier, could be due to the

fear of crowding, increased taxes and the destruction of the rural environment.

(8) Changes in the Political Composition: Many of the members of the local council are either hobby farmers or part-time farmers, whereas, at one time, all the council members would have been farmers. However, the local council is very supportive of agriculture and dedicated to the continuation of agricultural activities in the community. The attention paid to the problem of rural land use conflicts, the policy statements of the OCP and the number of aldermen who are also members of the Saanich Peninsula GZC are all indicative of this. While there have been changes in the political composition of the council, this has not manifested itself a change of attitude to agriculture. The council seems to be genuinely sympathetic to agriculture and the problems it is facing.

(9) Speculation, Foreign Investment and Absentee Landowners: Recently, there have been a couple of agricultural properties lying east of the Pat Bay Highway which have been purchased by foreign investors (Durrand, 1982). One of the properties lies idle while the other one is rented by a farmer.

5.4 Conclusions

Since its incorporation in 1951, Central Saanich has undergone changes to its land use patterns. Its population has grown from 2069 to 9890 people. The social composition has changed from predominantly rural to largely ex-urbanite. The importance to agriculture to the

economic base has decreased. There has been residential, industrial and commercial development both in agricultural and non-agricultural areas. The whole nature of the community is changing. These changes have resulted in conflicts between agriculture and non-farm development. Measures have already been taken at the local level, as well as the provincial level, to alleviate and prevent many of these rural land use conflicts. However, the measures have not been adequate to control and prevent all the rural land use conflicts. The community is still experiencing problems. Moreover, there are limits to what can be done to alleviate some of the problems created by the Island Peninsula Hospital and other misplaced land uses. While the prevention of future land use conflicts seems to be an acknowledged goal, and a goal which the community has taken many positive steps to achieve, there is still the problem of controlling the existing rural land use conflicts. It is the control of existing rural land use conflicts. It is the control of existing rural land use conflicts which is the main concern of the local council and in particular, the control of rural land use conflicts due to physical impacts. There is also the concern over the prevention and alleviation of future rural land use conflicts due to physical impacts, thus the interest in green zoning. It is the resolution of these concerns that the next section of this study is directed.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

As demonstrated in the case study traditional control efforts have too often proved incapable of preserving rural land resources, let alone preventing rural land use conflicts. If the traditional methods of control such as large lot zoning and agricultural use zoning had been effective in preventing and controlling rural land use conflicts, there would have been no reason to write this study.

The weaknesses and inadequencies of the more traditional regulatory mechanisms used to prevent rural land use conflicts, in other words, zoning, were discussed in Chapter Three. The possible weaknesses and problems of some of the more recent innovations in land use controls such as the TDR were also speculated on.

To conclude this study, recommendations for regulatory and non-regulatory measures which can be implemented at the local level for the purpose of carrying out a stated policy of controlling and preventing rural land use conflicts will be made. Recommendations as to how the provincial and federal governments through financial assistance, legislation and stated policy can facilitate and assist local government in implementing policies designed to manage rural land use conflicts will also be made.

5.1 Main Conclusions

It would appear that one of the main reasons why land use controls have been unable to cope with rural land use conflicts, is that the land use controls are implemented in response to a problem that has already been created. Oftentimes a near crisis situation has to develop before any measures are taken - and by then it can be too late. As shown in the case study of Central Saanich, the 'problem' is often happening before it is recognized as being a 'problem'. A substantial amount of subdivision activity happened in Central Saanich between 1961 and 1966 yet, it was not until 1967 that a zoning by-law of any real meaning was implemented. Even the latest concern about rural land use conflicts, is in response to the proposed piggery. Local zoning could not have prevented that use from occurring in the agricultural zone, yet it would have had a significant and negative impact on the nearby institutional and residential uses. Luckily for the local council, the piggery was not built, and the council has been alerted to a major shortcoming in its local zoning by-laws. In light of this, the council now intends to overcome this shortcoming, to attempt to prevent the possibility of future rural land use conflicts and to try to control existing conflicts.

While the ALC Act, which is presently in effect in B.C., is a very powerful land use control mechanism, it too has some flaws with respect to preventing and controlling land use conflicts. A major problem being that the ALC Act only applies to those lands in the ALR; it has no control over those land adjacent to the ALR. However, it is this

interface where many of the rural land use conflicts occur. It would appear that no one regulatory mechanism in itself, even as one as powerful as the ALC Act, is adequate to cope with complex problem of rural land use conflicts. A comprehensive programme involving both regulatory and non-regulatory measures as well as public and political support is necessary in tackling the problem.

6.1.1 Local Jurisdiction and Control

A major conclusion of this study is that there is a definite need for provincial guidance, leadership and assistance in approaching the problem of rural land use conflicts, but not necessarily provincial intervention. It is realized that local governments are not always equipped with financial or staff resources to cope with the complexities and range of rural land use conflicts. Moreover, local considerations such as an increased tax base, job creation, and development pressures can outweigh the concern for the preservation of farmland and the prevention of rural land use conflicts. Nor it is often realized or appreciated at the local level that day-to-day decisions regarding land use can make a significant difference in the long run. It is the cumulative total of all the local decisions which can result in the erosion of the agricultural base in the province.

However, because of the site specificity of land use conflicts, the uniqueness of each community's physical, social, and economic environment, the varying degrees of pressure for development in communities and the different types of land use controls already in

place in each community, it is felt that local government should have as much latitude as possible in the selection of a method to tackle the problem of rural land use conflicts. The individuality of communities makes the implementation of one arbitrary and mandatory solution at the provincial level nearly impossible. For example, not all communities have rural land use conflicts.

The province should try through guidance and leadership in such forms as articulated policy statements, financial assistance, suggested policy statements for local governments to put in OCP's, and supportive legislation to facilitate and assist local governments in tackling the problem at the local level.

Those who advocate exclusive local control without interference from state government(sic) are obligated to answer another kind of question: Can hundreds or thousands of local decisions, without benefit of comprehensive goals and guidelines, effectively protect an invaluable national resource? Is there a danger that the limited perspectives of local governments may fail to recognize what may be visible only in the larger context? (Schiff, 1980, 57).

If incentives and inducement does not work, the province should then consider passing legislation which would require local governments to implement a programme aimed at preventing and controlling rural land use conflicts. The province should also take measures to ensure that its own ministry's in particular, the Ministry of Highways and the Ministry of Lands, Parks and Housing are not responsible for causing and contributing to rural land use conflicts or other problems for the agricultural industry.

6.1.2 Retention of the ALC Act

The ALC Act has pre-empted much of the authority of local government over land use control of lands in designated ALRs. A strong recommendation of this study is that the ALC Act stay in effect and that it be given political support -- both provincial and local. Local control over lands in the ALR should not be reinstated at this time.

The supportive attitudes towards agricultural land preservation and the concern over rural land use conflicts found in Central Saanich are not representative of all communities. There are many communities in B.C. where a "pro-development" attitude prevails. To repeal the ALC Act, would remove the only obstacle in some communities to the subdivision of agricultural land and the permitting of non-farm uses in agricultural areas. Moreover, if control over lands in the ALR should suddenly be restored to local government, it might be unable to cope with the pressures for development. Local zoning may not be designed to halt non-farm development and subdivision because of the present reliance on the ALC Act to perform this function. Time would be needed for the implementation of stronger and more comprehensive controls at the local level before consideration to restoring local control over lands in the ALR is given. There is also a need for a demonstrated commitment by local government to the preservation of agricultural land and the protection of the agricultural community. Despite this recommendation of retaining the ALC Act, it is not advised that local authority over land use be further usurped in order to deal with the problem of rural land use conflicts.

6.1.3 Comprehensive Programmes

Because of the complexities of rural land use conflicts and the wide range of causes of conflicts, a comprehensive programme is needed. It appears that both regulatory and non-regulatory measures are needed in comprehensive programme:

Even when effectively and innovatively used, police power regulations (e.g. zoning) alone are inadequate for preserving important rural lands. Conservation of such agricultural and environmental important lands demands a fuller range of techniques. (Roe, 1976, 423).

The scope and the intensity of the programme would, of course, depend on the development pressures and the nature of rural land use conflicts in the community. Local governments should try to co-ordinate and design their policies and plans pertaining to growth management and infrastructure development such that they direct development away from agricultural lands to those areas already urbanized areas. All of the policies, zoning-by-laws, taxation practices and whatever else affects land use should be reviewed to make sure that they are co-ordinated and supportive of preventing rural land use conflicts:

Too few local governments in areas affected by rural development are prepared for its problems. Rural county, township, and village governing bodies are accustomed to small problems and small solutions, and usually see their role as providers of a limited number of essential services. In the smaller communities, little professional and planning expertise is available, and the implications of new development is often seen only with hindsight. (Porter, 1981, 12).

As noted above, it is very important for local government to consider local decisions in a broader context and to consider the implications of its actions. The local government should make an effort to familiarize itself with the problems facing agriculture and undertake to increase public awareness of the public. It must also be understood that there is no one to answer to the problem of rural land use conflicts, this is why such a wide range of techniques are needed.

6.1.4 Citizen Participation, Public Awareness, and Political Responsibility

A fourth conclusion of this study is that there is a definite need for citizen participation in the decision-making process at the local level, in particular, the participation of those involved in the agricultural industry, "The secret, according to the planners, is to have the participation and co-operation of the agricultural community from the very first." (Toner, 1978, 5). Public and political support and involvement can determine the success of any programme. However, to get public and political support, resistance at the local level to planning may have to be overcome. Recognition of local perception of planning and greater empathy for the local values and goals can help greatly in gaining acceptance of planning. Local needs and priorities must be addressed.

There is a need for the acceptance of responsibility at the local political level and a commitment from local politicians to resolving and preventing rural land use conflicts in their community. Local politicians should be made to realize that their decisions regarding

landuse do count and that local policy and the sum total of local decisions and policy can, at present, affect the future of agriculture in the province to a certain, if marginal, degree. While they must serve their local constituency, society's interests can not be totally ignored. All too often, local governments abdicate their responsibility to society as a whole in favour of local concerns about increased tax revenues and amortization of local improvements. It is feasible for this heightening of awareness to be undertaken by local government.

There is a need for the general public to be made aware of the problems facing agriculture, of how the urbanite population can cause problems for agriculture by trespassing, complaining about farm activities, etc. and what can be done at the local level to alleviate some of the local problems plaguing agriculture. It is only through public awareness and understanding of the nature of the problem and the ramification that it can have, that the necessary local support for a pro-agriculture programme can be obtained.

6.2 Recommendations for Local Government

As has been made very clear, the emphasis of this study is local control and prevention of rural land use conflicts. However, it is recognized that each community is unique and that each community will have its own particular problems. Because of the individuality of each community and the specific nature of land use conflicts, this study has attempted to offer recommendations of a more general nature so as to make them applicable to a wider range of communities. As Central

Saanich was used as a case study, there will be recommendations of a more specific nature made for it. It should be pointed out though that many of the general recommendations made for local government do apply to Central Saanich and indeed, have already been implemented.

However, before implementing any measures, be they regulatory or non-regulatory, the local government should consider the impact of its decision and the foreseeable implications that it could have. All too often a measure is implemented in response to a crisis situation without much thought given to the likely, long-term ramifications of the decision. It should be noted that all of the following recommendations will be suitable or necessary for all of the communities in the urban-rural fringe. Some of these proposed solutions may only exacerbate a local problem rather than alleviate it - it depends on the community.

6.2.1 Policy Statements

Local government should make clearly articulate of a policy to the prevent of future rural land conflicts. There should also be a policy of alleviating and resolving any existing rural land use conflicts within the community. These policy statements could be inserted into the OCP, if this issue has not already been addressed in the study. There could also be a policy statement in support of agriculture which recognizes the importance of agriculture not just to the community but to the province and nation as well.

6.2.2 A Comprehensive Programme

It should be recognized at the local level that there is the need for a comprehensive programme involving both regulatory and non-regulatory measures. There should be a review of existing by-laws and policy statements to ensure that the policies of preventing and controlling rural land use conflicts are supported and accommodated. If the policies and by-laws are not supportive of preventing and controlling rural land use conflicts then perhaps, they should be changed so that they do. Careful reflection and consideration should be made on the location of public facilities and services, especially with respect to the impact that they will have on agricultural land use and the direction of growth in the community. There should be an assessment of all rezoning applications and any other changes in land use, both in the ALR and outside of the ALR, and particularly on the interface between these lands, with respect to the possible impacts that the changes could have on the ALR, agricultural use in the ALR and any farming operations which are outside the ALR. Local government should consider implementing by-laws which are positive and supportive of agriculture such as traffic by-laws which respect the movement of farm equipment and animals along the road. Non-regulatory techniques and measures which are supportive of agriculture should also be looked at.

6.2.3 Growth Management

While the ALC Act implicitly requires that municipalities direct urban oriented growth away from agricultural lands, this message is not

always translated into local planning practices. The ALR is sometimes viewed as a holding zone which will one day be released from the provisions of the ALC Act for the purposes of development; therefore, local government may deliberately choose to direct growth towards the ALR based on this supposition. (The perception of the longevity of the ALC Act is dependant on commitment of the provincial government of lands in the ALR which are contingent on the success of appeal to ELUC for the removal of the land from the ALR. Some municipalities may even go so far as to orient infrastructure towards agricultural land in anticipation of its release from the ALR.

It is recommended in this study that local governments promote and direct growth to already urbanized areas and non-agriculrual lands. There should be stated policies to this effect. Infrastructure development should be co-ordinated with this directing of growth and can even be used to guide it. Local government should make a practice of good planning in its management of growth and development, and respect senior government policy.

6.2.4 Citizen Participation and Public Awareness

As discussed earlier the importance of citizen participation can not be underestimated. The success of a programme can hinge on public support and participation in the decision-making process. One way to obtain public support is to educate the public and make them aware of the problems that agriculture is facing. There are a variety of non-regulatory measures which can be utilized to bring this about. Public information meetings, newsletters (with tax notices, etc.) and

local newspaper articles can help to increase public awareness and encourage their participation. Local interest groups can be involved by having meetings with them and asking for their input. Information on the nature of rural land use conflicts and other agricultural problems can be presented to the local council, the APC and local interest groups such as the Farmers' Institute and the Chamber of Commerce. It is very important to involve the agricultural community in the decision-making process, this can be facilitated and assisted by making a concentrated effort to get their participation and being careful to schedule meetings at times that are convenient for the farmers. In the schools, children can be taught to respect agriculture and not to disturb agricultural activities.

6.2.5 Buffering and Transition Zones

Whenever and wherever it is possible, local council should attempt to have buffer strips created between agricultural and non-agricultural lands. These buffer strips can be open spaces, roads, trees, fencing or bridle paths, etc. There could also be transition zones along the perimeter of the ALR containing such uses as hobby farms, low density housing, golf courses and other uses that are compatible with agriculture. On lots being developed adjacent to the ALR landowners and developers should be encouraged or required to utilize subdivision designs which can minimize rural land use conflicts. (See Appendix '3') This should be mandatory for lots on which there is a high density development. Preferably, high density development should not be situated adjacent to the ALR.

6.2.6 Green Zoning

Green zoning by-laws should be implemented in communities where there may be intensive agricultural operation. These by-laws should be simplified. If there is a shortage of space outside the ALR available for development, green zoning should only be used to site intensive agricultural operations, high density residential developments and institutional uses. The local council should be made to understand that green zoning will only prevent future rural land use conflicts, it is directly primarily to the problem of smell and that it will do nothing about existing problems.

6.2.7 Servicing

Subdivision by-laws should allow for a lower standard of servicing in agricultural areas. There should not be sidewalks, an over-abundance of streetlights, not all of the roads should be paved, and there can be septic systems. As recommended earlier, the provision of services in the urbanized areas and area designated for urbanization should be used to direct growth.

6.2.8 Taxation

Referring to the lower level of standards mentioned above, it is would be recommended that farmers do not pay taxes for services and local improvements in the non-rural area. With regard to the province's practice of preferential assessment, and the subsequent low tax revenue for the municipality, the local government should respect this practice,

rather than complain about it. However, an unrealistic tax burden should not be assumed by the non-agricultural population in order to recoup the costs.

6.2.9 Local Representation

There should be consideration on the local level for implementing a ward system where agricultural areas are adequately represented. Although there are fewer people in an agricultural area, the amount of area per person is greater. The ward system could be designated to accommodate this lower density of population by basing the wards on area rather than population with each ward having one vote.

6.3 Recommendations Specifically for Central Saanich

The following recommendations are intended specifically for the district municipality of Central Saanich, remembering that many of the more general recommendations made in the preceding section are already in practice in Central Saanich. As discussed earlier, the type of rural land use conflicts which most bothered the local council were physical impacts. The council was also concerned both with preventing future conflicts as well as alleviating existing ones. Therefore, the recommendations are directed to the specific concerns of the council. The particular concerns of the GZC are also addressed.

6.3.1 Green Zoning

The local council and the GZC have very high expectations about the

likelihood of success of the green zoning to solve many of the problems of rural land use conflicts. The local council and the GZC should be made aware of the administrative difficulties and demands of monitoring green zoning. The possible legal implications for non-conforming uses and the question of uncertainty of green zoning must be pointed out to council. It should also be pointed out that the limited areal base of Central Saanich, the scattered nature of urban development and the large amounts of land in the ALR will restrict both agricultural and non-agricultural development more than seems to be appreciated.

Another problem is the application of green zoning to dairy farming. In terms of animal units relative to the number of animals, those for cows are the lowest, one unit per animal usually. This means that there would be greater MDS for dairy operations than other intensive agricultural operations. Dairying is the main type of intensive agricultural operation in Central Saanich. The GZC recommended exemption of dairy farming from the provisions of green zoning, however, it is one of the most offensive in terms of odour. For this reason it is recommended that dairy farming be subject to the provisions of green zoning. But it should also be pointed out to the council that due to the limited area of Central Saanich, the scattered nature of urban development and the large amounts of land in the ALR, that green zoning may restrict both farm and non-farm development more than is appreciated, particularly if dairy farming is included.

The local council should consider applying green zoning only to intensive urban development (apartments, town houses and institutional

uses) that are outside the ALR, rather than to all residential development. The rationale is that with the limited amount of space available in Central Saanich for development there is going to have to be some residential development near intensive agriculture operations and abutting the ALR.

From a technical viewpoint, green zoning should be included in the local zoning by laws pertaining to the agricultural zone. For lands outside the ALR, development permits could be used to implement green zoning rather than incorporating green zoning to the zoning by-laws affecting residential zones and other urban zones. This way the siting of the building on the lot can be better controlled. The Development Officer should contact staff members at the offices of the Municipality of Chilliwack to inquire about their green zoning by-law and any difficulties that they might be having with it. The ALC should also be contacted for assistance.

One issue that green zoning may cause that the council should be made aware of is the problem of the expansion of an intensive agricultural operation. What if a farmer should decide to expand his operation, and the proposed expansion would require that the farmer increase the lot size of his operation in order to comply with green zoning but none of the adjacent property owners would sell their land? Would the expansion be refused? What if this farmer needed to expand to remain commercially viable? Should he then have to buy another parcel of land which is not adjacent to his and would require the construction of new buildings, etc.? This type of problem must be considered by the local government.

There are also problems with the inherent the complexity of the mechanism. It is very difficult for a layman to understand. The mechanism does not take into account such factors as prevailing winds and management of operations. (A poorly managed operation will smell more than a well-managed operation).

All of these potential problems and issues connected with the implementation of green zoning must be examined and considered by the council. Using green zoning as a blanket solution to the problem of rural land use conflicts may be more difficult than council anticipates and may do more damage than good to the agricultural community in Central Saanich.

6.3.2 Subdivision Design

There could be much greater utilization of subdivision design in lot design, the citing of uses and buffering in Central Saanich than there has been in the past. The development officer in his administration of local zoning by-laws should make a practice of using development permits for non-agricultural development along the boundaries of the ALR.

In new residential developments, houses should be sited as far away as possible from agricultural uses. Cul de sacs can be used in subdivision designs to discourage further extension of roads into the agricultural uses. Cul de sacs can be used in subdivision designs to discourage further extension of roads into the agricultural area. Cluster designs as depicted in Appendix 3 are useful in accommodating

these design considerations. Linear lots which abut the ALR with their narrow width should not have parallel road allowances that lead into the ALR. Road allowances of this nature could encourage further subdivision from the backs of lots in the ALR. Linear lots can be sited length-wise along the interface of the ALR to minimize the number of lots directly abutting the ALR. However, care should be taken in the siting of houses so that the possibility of future subdivision is reduced. These design principles and considerations can be extended to industrial and commercial uses as well. Most importantly, the development officer could incorporate some of the basic MSDs and siting requirements of queen zoning into the administration of development permits.

6.3.3 Buffering

Buffering is a useful tool in alleviating some types of rural land use conflicts, in particular, those conflicts related to trespass, noise, and physical separation of functions. In lots which are already developed, the council should examine methods of improving the buffer zones between the ALR and non-farm development. The municipal government may have to take it upon itself to plant trees, build a few fences and do some berming in order to improve or to create a buffer strip. This might necessitate the acquisition of some land for public space, but it could be kept to a minimum. These buffer strips can be used as trails, bike paths and bridal paths. Buffering between the ALR and future subdivisions is also recommended.

The council should be made aware, however, the tight confines of

Central Saanich will make the practice of extensive buffering an unfeasible solution to the problem of rural land use conflicts. The amounts of land which are needed for extensive buffering are simply not available in Central Saanich.

6.3.4 Zoning

It is recommended that the council avoid spot-zoning as much as possible when attempting to resolve rural land use conflicts, as too much spot-zoning can create an atmosphere of uncertainty. Spot-zoning can also encourage the instigation of subdivision plans with other spot-zonings being cited as examples of precedents.

Because of the correlation between the ALR and the areas zoned as A1 in the municipal zoning by-law, the council should increase its minimum parcel size for the A1 zone from 4 hectares to 8 hectares. This would serve as a further deterrent to requests for exclusions from the ALR.

Pursuant to section 717(4) of the Municipal Act, a development permit can not vary the permitted uses or densities of lots from those which are established in the existing zoning by-laws. Therefore, in its zoning by-law, the council should try to create a transition zone along the interface of the ALR. This transition zone could have larger than average residential lot sizes and be restricted to those uses which are compatible with agricultural land uses. The incorporation of these considerations regarding use and density into the zoning by-law will assist the Development Officer in the administration of development

permits and the utilization of subdivision design techniques.

6.3.5 The Official Community Plan

In the OCP, there are three areas in Brentwood Bay which are thought to be suitable for multiple development. (Refer to the general areas suitable for multiple development shown on Figure 1.) The development area south of Wallace Drive is quite close to the ALR and perhaps, its suitability for multiple development should be reconsidered. In the section of the OCP pertaining to Agriculture, the the council should give thought to including a policy statement to the effect that the council will not support any applications for the subdivision and non-farm use of lands in the ALR or to requests for conclusions from the ALR. In the sections of the OCP on Pedestrian Movement, and Bicycle and Equestrian Facilities, the council should entertain as a suggestion the locating of recreational pathways, bikeways and bridle paths such that they serve as buffer strips between the ALR and other areas, wherever possible.

In the OCP, it was estimated that it would 20 years before the uplands would be required for housing development (Corporation of the District Municipality of Central Saanich, 1079, 20). The data and information used to arrive at that time estimate should be checked, as it would seem that at the present rate of development in Central Saanich (See Table II) and the limited amount of undeveloped land outside the ALR, that a ten or fifteen year time be more reasonable.

6.3.6 The Peninsula Hospital

The council and the GZC should be made aware of the repeal of B.C. Reg. 93/75 and their replacement with B.C. Regs. 7/81 and 8/81. These new regulations require permission for institutional uses to be made pursuant to the ALC Act. Under the present application procedure, this means that the local council will be able to make a recommendation to the Commission on any applications. The council and the GZC should also be informed that the ALC did not allow the Peninsula Hospital. The records at the municipal hall should be checked to verify which agency actually did allow the construction of the hospital.

6.3.7 Citizen Participation and Public Awareness

The local council has done much to increase the awareness of the local population of the importance of the community's agricultural base and as to what can be done to protect it. For example, in the newsletter which the municipal government mails to its taxpayers on occasion, there is usually a section devoted to agriculture. The council endorses the practice of informing people who complain about farm noises and smells are justified. It is recommended that this practice be continued, however, if there are too many complaints about a particular farm operation, it should then be referred to the BCFA for a peer group evaluation. The newsletters should be continued as well.

Some other methods of increasing the public awareness of the rights of the agricultural sector which the council might wish to consider are greater enforcement of trespass laws by the RCMP and the posting of

signs in agricultural areas to warn drivers to yield to farm machinery and animals on the road. The council could suggest to the local School Board that it implement a programme whereby school children are made more aware of the importance and requirements of agriculture through field trips to local farms, class room presentations and projects.

6.3.8 Water Supply

The council is undoubtedly aware of the importance of an adequate supply for both domestic and irrigation purposes. It is, therefore, recommended that council continue to do its best to ensure that there is an adequate water supply year round, both for domestic and irrigation purposes, and that the water is affordable.

6.4 The Effectiveness of Local Government in Coping with Rural Land Use Conflicts

There is much that can be done at the local level to control and prevent rural land use conflicts. The first, and most difficult step though, is to encourage a pro-agricultural attitude at the local level. Once the local government and the community are supportive of agriculture and cognizant of the problems facing the industry, it is then possible to implement policies and programmes designed to protect and foster the local agricultural base. In many ways, Central Saanich with its pro-agricultural attitude and its programmes and policies which reinforce that attitude, is a model community and one which other communities should try to emulate.

If a pro-agricultural attitude has been adopted in a community, it can lessen the negative effects of rural land use conflicts. The atmosphere of uncertainty about the future of the local agricultural industry can be alleviated by a strong commitment on behalf of local government to the preservation of agricultural land and the protection of the local agricultural base. If this is complemented by strong local zoning and the existence of the ALR, rural land use conflicts such as land fragmentation, competition for agricultural land, can be decreased.

Although foreign investment and absentee landownership are not necessarily problems, short-term leases on the land can create an impression of uncertainty for the farmers working the land. If it is obvious that the future use of the land, in the long term, will be restricted to agricultural, then the farmer might be more willing to make improvements to the land. Also, the owners of the land might be more willing to negotiate a longer term lease, if it is realized that the only use of the land that will be allowed is agricultural.

By lowering servicing standards in agricultural areas and not taxing agricultural areas for improvements in the urbanized areas of a community, the local government can prevent tax increases to farmers that are needed to pay for urban-oriented services. The use of green zoning, development permits along the interface of the ALR, good subdivision design, transition zones and buffer strips can prevent or at least alleviate many of the physical impacts of non-farm development on agricultural uses and vice-versus. Careful planning of the location of services such as roads, sewers and water supply systems can direct

growth to non-agricultural areas of the community. The lack of major roads and hook-ups to service systems in an agricultural area can discourage the infiltration of non-farm uses into an agricultural area.

The negative psychological impact of urban development on agricultural communities and the changes in the social milieu of the traditional agrarian community can not always be prevented. But, the espoused commitment of local government to the protection and continuation of agriculture in the community can offer encouragement to farmers. Attempts to make the urbanite population aware of the problems facing the local agricultural industry and the importance of agriculture can alleviate some of the land use conflicts and foster a more harmonious relationship between the rural and urbanite populations.

The changes in the political composition of a rural community is a problem to which there are no real answers. Once the urbanite population outnumbers the rural population, they will have more votes, and therefore, can influence the policies, the programmes and the finances of the local government. One way to prevent the majority from influencing the future of a community, is to base electoral representation on area rather than population, ie. a ward system. This would allow the agricultural population a stronger voice in local politics. However, this ignores the question as to whether or not this is fair to the urban-oriented majority. It is necessary though, to involve local area farmers in the decision-making process, regardless of their numbers.

6.4.1. Limitations of Local Government

While there is much that can be done at the local level in the resolution of rural land use conflicts, it is vital to note that there are limitations to the ability of local government to cope with the problem alone. There is a need for the support, guidance, and perhaps, intervention of the senior levels of government. As discussed earlier, local government is bound by whatever legislative constraints that senior levels of government may choose to impose on it, as the municipal and regional levels of government have only the authority delegated to them. Also, there usually are financial limits as to what can be done by the local government to cope with rural land use conflicts. Conversely, if a senior level of government is oblivious to the problem of rural land use conflicts or exhibits a lack of concern about protection of the agricultural base, it then can become very difficult for local government to cope with the problem on its own. There is a need for legislation which enables local government involvement in conflict resolution.

There are also instances where a local government body may refuse to do anything about rural land use conflicts. In which case, there may be the need for the existence of an appropriate piece of legislation which could be capable of compelling local government to attend to the problem.

In the following sections, recommendations will be made as to what senior levels of government can do to facilitate and assist local government involvement in the control and prevention of rural land use

conflicts. These recommendations are made in the belief, which, hopefully, has been substantiated, that local government can not cope with the problem of rural land use without the support and assistance of senior levels of government, it will first be necessary to address the regional level.

6.5 Recommendations for Regional Government

Up to this point, little attention has been paid to the role that regional government has in land use control. It is essential to remember though, that the regional level of government has a great deal of authority over land use in the unincorporated areas within the regional district boundaries. Many of the regional government's powers are the same as those of local governments within their incorporated areas. Official Settlement Plans (OSPs) are used instead of OCPs for comprehensive planning purposes in unincorporated areas. Therefore, many of the recommendations made as to how the local government can control and prevent rural land use conflicts are also applicable to the regional level. To reiterate all of the same recommendations for the regional level of government, would be redundant.

Through the general land use designations on its ORPs, the regional government does have some jurisdiction over land use in incorporated areas. A regional district can also affect, the direction of growth in a region through its control over certain other regional functions, in addition to its planning function. (It should be noted that not all regional districts choose to become involved in the full range of

functions that are available. This range of functions includes refuse disposal, regional transit, regional hospitals, regional parks, economic development, and recreational facilities.) Because of its influence over land use and involvement in selected regional functions, regional government can influence the direction of growth and have an effect on the conflicts in the rural-urban fringe. The following are recommendations for the regional level of government, and more specific recommendations for the CRD are made later.

The regional level of government should make a conscious effort in its regional plans to direct growth towards non-agricultural areas. It should use its regional functions and services to encourage this direction of growth, including regional infrastructure such as sewer and water. Special care should be taken not to site regional hospitals, offices, libraries and other buildings in an agricultural area where they could come into conflict with nearby agricultural uses. Statements that are supportive of agricultural land use should be contained in ORPs. The problem of rural land use conflicts should also be addressed. As stated earlier, many of the recommendations made for local government could also be implemented by the regional level of government in its planning and administration of the unincorporated areas.

6.5.1 Recommendations for the Capital Regional District

A study by the CRD on the comparative costs of developing infrastructure in the western communities of Langford and Metchosin

versus the cost of infra-structure for the Saanich Peninsula found that the costs would be higher for the development of the western communities. It was therefore, recommended that the CRD direct growth towards the Saanich Peninsula (Stewart, 1982). Despite the greater expense of development of infrastructure for the western communities, the regional Board must consider that much of the land proposed for development on the Saanich Peninsula (3000 acres) is in the ALR. It is doubtful that the ALC would allow large tracts of good agricultural land to be excluded from the ALR, particularly in view of the availability of non-agricultural land in the western communities. There is also resistance from the communities on the Saanich Pnninsula to the proposed development and some questions as to the validity of the cost estimates (Durrand, 1982). Therefore, it is recommended that the CRD choose to direct growth to the western communities of Metchosin and Langford, and to develop the necessary infrastructure in these communities--rather than on the good agricultural lands, of the Saanich Peninsula.

There has been criticism of the ORP for the CRD because it refers to agricultural lands as 'rural lands'. (Central Saanich Council Minutes, 1982.) It also considers agricultural lands to be 'greenbelts' rather than a use of land which contributes to the local economy and to the regional food supply.' These problems should be rectified in any ORP updates or revisions. It was also noted that there were no positive directives in the ORP regarding agriculture. The Board should revise the ORP to include positive directives and policies regarding agricultural land and agricultural land use. Considering the concern

over rural land use conflicts that has been exhibited by some of its member municipalities, the CRD should also think about addressing the problem in its ORP.

Irrespective of the ORP, the Board of the CRD should consider adopting a policy which recognizes that some of the best agricultural land in the province can be found on the Saanich Peninsula, therefore, the Board supports and encourages agricultural use of these lands. The CRD could also adopt a policy of encouraging and assisting the district municipality of Central Saanich and any other interested communities in their endeavours to prevent rural land use conflicts and to preserve agricultural land.

6.5.2 Conclusions Regarding the Role of Regional Government

The regional level of government is in the position of being able to co-ordinate the efforts and plans of the local communities in the region, and to assist on a regional scale in directing growth away from agricultural areas. Some regional districts in the province have undertaken this responsibility while others have not. To a certain extent, local governments do not need regional support to undertake a programme of controlling and preventing rural land use conflicts, however, regional support is a decided asset. Moverover, lack of concern by regional government towards rural land use conflicts can be detrimental and an impediment to any local programmes. Most importantly, it is with the regional government that much of the responsibility for planning for the unincorporated areas lies.

Therefore, the regional government can play a major role in the control and prevention of rural land use conflicts in these areas.

6.6 Recommendations for Senior Government

The focus of this study was local control of the problem of rural land use conflicts, however, a conclusion of this study is that there is a need for leadership and guidance from the senior levels of government, as well as financial and legislative assistance. Local governments can not tackle the problem of rural land use conflicts alone. There is the need for the involvement of senior government. For these reasons, and others discussed earlier, the following recommendations for senior government have been made.

6.6.1 Recommendations for the Provincial Government

It is with the provincial level of government that most of the responsibility over land use lies. Any authority that the local level of government has, is delegated to it by the provincial government. However, as stressed throughout this study, it is local control that is focussed on. Therefore, the following recommendations are directed towards those actions which the province could undertake to assist local governments in coping with rural land use conflicts and to facilitate local implementation of some of the measures proposed earlier in this chapter. Recommendations are also made as to what can be done by the province to motivate unco-operative communities into doing something about the problem of any existing or potential rural land use conflicts.

An implicit intent of these recommendations is that the amount of change to the status quo is minimal and in particular, to the existing amount of control and autonomy over land use and local affairs that the local government presently has delegated to it.

While it is in the B.C. context that these recommendations are made, many could be applied to other provinces. It must be remembered that B.C. is one of the few provinces in Canada which has legislation that is intended to preserve agricultural land for future use. Despite the existence of the ALC Act, however, there are still problems for the provincial agricultural industry -- one of these being rural land use conflicts. A recommendation though, to those provinces which haven't already, would be the enactment of legislation designed to protect and preserve agricultural lands, similar to the ALC Act.

6.6.2 Enabling Legislation

It is by virtue of the doctrine of paramountcy that the province can facilitate management of rural land use conflicts at the local level through the enactment of appropriate legislation. It can also prevent the implementation at the local level of any by-laws or other programmes which could discourage or impede agricultural use of land. Revisions to existing legislation can also achieve these same objectives.

One piece of legislation which the provincial government should give thought to enacting is a 'right-to-farm' law. The intent of this legislation would be to protect farms from nuisance laws and other laws, including zoning by-laws, which do not respect the normal operations and

activities of farming. However, this type of protection from nuisance laws should not be extended to improperly managed farms.

The Municipal Act is a significant piece of legislation which deals with the responsibilities of local government over land use control and other municipal and regional affairs. There are some changes and additions to this Act which could assist in the control and prevention of rural land use conflicts. For example, section 733(2) of the Act allows for the sub-division of a parcel of two hectares or less from an existing lot for a relative, providing that the remainder is not less from an existing lot for a relative, providing that the remainder is not less than two hectares if the property is classified as farmland for taxation and assessment purposes. There is no reference made as to whether or not it matters that the land is in the ALR. This section of the Municipal Act generates a large demand for subdivision of lands in the ALR, despite the fact that the ALC Act supercedes the Municipal Act. Although requests for subdivision of lands in the ALR made be refused by the ALC, it still creates confusion and resentment among the members of the public. It is also a request which the Commission finds difficult to refuse at times, particularly if the land proposed for sub-division is not of a high capability for agricultural use. The province should, therefore, give consideration to rewriting this section of the Municipal Act so that it either states that this section does not apply to lands in the ALR or it at least mentions, that permission to subdivide from the ALC is required if the land is in the ALR.

Revisions are needed to the Municipal Act, in order to make it easier for local government to implement green zoning, if they so choose. There has been discussion in the Ministry of Municipal Affairs about the possibility of including a section in the Municipal Act which would provide for a system of development permitting specifically for intensive agricultural operations. (Sands, 1983) The siting requirements and MSD of green zoning could then be taken into account by the development officer (or who ever is responsible) in the granting of the permit. However, a permitting system of this nature gives rise for the opportunity to be excessively prohibitive in the granting of permits for intensive agricultural operations. If there could be a safeguard in the development permitting system which could prevent this from happening, then development permits for intensive agricultural operations might be an acceptable way of administrating and utilizing green zoning at the local level.

As discussed previously, there is difficulty created for green zoning by subsections (2) and (4) of section 733 of the Municipal Act, whereby an agricultural operation could become a non-conforming use and if destroyed or shut-down for more than 30 days, not be allowed to rebuilt or continue its operation. Whether or not this section should be changed to make an exception for green zoning and in particular, agricultural operations, is debatable. Although it is not really a discretionary issue, the way it stands now, it is up to the discretion of the local government to enforce section 733 of the Municipal Act. (Local government may choose to overlook restoration or a recontinuance

of an non-conforming use on occasion.)

6.6.3 Policy Statements

Although not as enforceable or as explicit as legislation, policy statements are an effective method of carrying out objectives. Accompanying its existing laws of preserving agricultural land, the province should clearly state that it has a policy of encouraging and protecting agricultural use of those lands. A policy statement of this effect could even be included into the preamble of the ALC Act. This would probably assist the Commission in defending its refusal of applications involving lands of low capability for agricultural use which are in agricultural areas. Local and regional could then be encouraged (or required) to review their zoning by-laws to ensure that they do not contradict the province's policy of encouraging and protecting agricultural use of those lands in the ALR.

The province could require local governments and regional governments to have specific policy statements in their OCPs, OSPs and ORPs pertaining to rural land use conflicts. One such policy of local/regional governments could be to the effect that the local/regional government recognizes its responsibility to ensure that land uses on those lands adjacent to the ALR will not have a negative impact on the agricultural use of those lands in the ALR. Another policy statement regarding the protection of agricultural use of land and recognition of the impact that rural land use conflicts can have on agricultural land uses would be important.

It is suggested that the province adopt a policy of refusing to give any provincial funding to those local projects and programmes which do not respect agricultural lands, direct growth towards agricultural lands or else could negatively affect agricultural land uses. Because the construction and expansion of many local improvements are dependant on financial assistance from the province, this could be a very effective policy measure.

6.6.4 Financial Assistance and Taxation

The province can use its financial resources and jurisdiction over taxation in a variety of ways to achieve its policies. The province can pay for its own undertakings. For example, the province is now funding a 'fine-tuning' programme which entails revising the CLI mapping at a larger scale (1:20,000) and then readjusting the boundaries of the ALR based on the new mapping and other considerations. Therefore, areas which are too urbanized or have land of a poor capability for agricultural use will be removed from the ALR. Lands with a good capability for agricultural use may be included.

The province has in the past offered grants to finance local comprehensive plans such as OCPs with the stipulation that the objectives and policies of the province be respected. This practice can be continued by the province. As mentioned above, the province could refuse to grant monies to programmes and projects which are harmful to agricultural land uses.

A problem which plagues farmers that was discussed in the initial

stages of this study is the high amount of taxes that farmers might be required to pay by virtue of that amount of land needed to farm. In B.C., where tax assessment is done by the province, there is a practice of preferential assessment and taxation of farmland. It is recommended that the province continue this practice. Due to the variances in annual harvest quantities and the fluctuations in market demands for agricultural goods, the province should consider implementing a programme of deferred taxation for individual farmers in years of hardship.

6.6.5 Provincial Ministries

The province should take care to ensure that its own ministries do not undertake programmes or actions which could result in rural land use conflicts. Of special concern are the Ministry of Highways and the Ministry of Lands, Parks and Housing. "Severance has long been a concern among farmers whose farms might be divided by new highways." (Wallerstein, 1979, 31) The Ministry of Highways should be advised to try to avoid the construction of roads that bisect agricultural operations or restrict the access of farmers to the rest of their fields. In the selection of a transportation right-of-way, the Ministry should also take into consideration the effect that transportation routes can have on land use patterns and the direction of development. It should extend special consideration to agricultural areas and recognize the needs of farming activities.

The Ministry of Lands, Parks and Housing administrators, among

other things, crown lands, leases on crown lands and the alienation of crown land. The use of crown land is often specified by the Ministry. Crown land is usually alienated for specific use. Therefore, if the crown land is in or adjacent to an agricultural area, the Ministry should take care to ensure that the use of the crown land does not come into conflict with the neighbouring agricultural land use.

6.6.6 Conclusions on the Provincial Government's Role

While the preservation of agricultural land is an essential ingredient in the protection of the agricultural industry, it is meaningless unless the land can and will be used for agricultural purposes. Although rural land use conflicts are only one problem facing the agricultural industry, it is a major and complex one. There is the opportunity for the provincial government to play a major role in the control and prevention of rural land use conflicts without having to make significant changes to existing legislation and policy. If anything, many of the above-mentioned recommendations would enhance and justify the provincial government's policy of preserving agricultural land by encouraging and maintaining agricultural use of those lands. Moreover, these recommended changes could have a positive effect on the problem of rural land use conflicts. This is not a definitive list however, as there are other actions which the provincial government could undertake in tackling the problem of rural land use conflicts.

6.6.7 Recommendations for the Federal Government

The federal government does not exercise direct control over land use, but it can influence it extraneously by its control over other functions such as taxation, banking and internal gain sales. The federal government has expressed interest and a concern with the protection of agricultural lands and the use of those lands. It has a stated policy to that effect and has reinforced that policy by playing a major role in the research on agricultural lands and their use, and the distribution of information on that topic through the Lands Directorate. The federal government also assists in the funding of provincial programmes and projects involving agricultural lands such as the CLI mapping and Agricultural and Rural Development Subsidiary Agreements (ARDSA). It is recommended that the federal government continue to set an example for the provinces and to continue its existing agricultural support programmes. The federal government should also take steps to ensure that the actions and programmes of its departments do not cause or contribute to rural land use conflicts. The concern could possibly be included as a part of the Environmental Assessment and Review Process.

6.7 Concluding Statements

The rural-urban fringe and the land use conflicts that occur there are a reality of today's world. It is not possible to restore the countryside to the pristine agrarian state of yesterday. The development of the rural-urban fringe and the resultant land use

conflicts have evolved over a period of years and the situation will not be easily or quickly resolved. Rural land use conflicts are complex, subtle and diverse. Moreover, the impact of these conflicts are not always readily discernible nor quantifiable. There is no one easily identifiable solution to the problem of rural land use conflicts. Resolution of this problem will not only require a cohesive and co-ordinated effort from all levels of government, but an awareness and support from members of the public as well.

The initial and most important step in this process of resolution is a recognition of the problems that rural land use conflicts are causing for agricultural land uses and the possible ramifications that it could have in the future. The responsibility for deciding to prioritize the issue lies with the government. Once the protection of the agricultural industry is established as an objective of the government and rural land use conflicts are identified as a problem confronting the industry, the government's policy and legislation can reflect this.

Land use controls are the traditional approach taken to resolve land use conflicts. One finding of this study, however, has been that there seems to be a lack of land use controls which are designed specifically for the rural environment or which are suitable for application to the rural situation. This finding was substantiated in the review of land use control mechanisms undertaken in Chapter 3. Because of the complexity and diversity of rural land use conflicts, however, it does not appear as though land use controls alone will be able to solve the problem. A wider range of solutions must be looked. This includes comprehensive programmes which consist of more than one

land use control mechanism as well as non-regulatory mechanism. To achieve this though, greater attention must first be given to the problems of the rural-urban fringe by planners and politicians and a better understanding of rural values and agricultural activities obtained.

Central Saanich, the district municipality used as a case study, exemplified well the evolution of the rural-urban fringe and its land use conflicts. Many of the rural land use conflicts common to the fringe can be found in this community. What makes Central Saanich different from many other communities however, is the attitude of the local government and the public towards the problem. There is a conscious recognition of the problem and a sincere attempt underway to control and prevent rural land use conflicts in the community. This attitude along with some of the steps being taken by local government will assist greatly in managing the problem. In the course of this study, there have been some recommendations suggested for Central Saanich, that perhaps, could assist council in implementing and carrying out its objectives.

The conclusions and recommendations that constitute the last chapter are restricted to those which the author considered to be reasonably and realistically acceptable for implementation without serious disruption to the status quo. However, there is also a realization that there are not answers for all of the problems caused by rural land use conflicts. Rural land use conflicts might well be an irresolvable problem, however, this suspicion should not serve as a deterrent to the challenge.

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APPENDIX 1

DEFINITIONS:

Large Lot Zones: Explained on pages 80-1.

Fixed Area Base: Property owners are allowed to build one house for each unit of land of a specified area that they own. The ratio does not vary.

Sliding Scale: Explained on page 80. NB. The number of dwellings per unit acre decreases as farm size increases.

Conditional Use: Explained on page 80.

Subdivision Design: Explained on page 91 and see Appendix '3'.

Performance Zoning (Green Zoning): Explained on pages 86-8.

Exclusive Agricultural Zoning: An area where only agricultural land uses are allowed.

Agricultural Districting: See below.

Tax Incentives: See Differential Assessment below.

Tax Credits: A property owner receives credit towards taxes (either income or property) in exchange for restricting the use of his property to agricultural. Tax credits may also be obtained when the value of the property tax exceeds a certain percentage of the property owner's income tax.

Transfer of Development Rights: See below.

Restrictive Covenants: A legally binding agreement is drawn up between a property owner and government, whereby, certain restrictions are placed on the use of the property and/or its subdivision.

Aquisition of Development Rights: The rights to build or develop a property can be purchased by government. This transfer of rights can be done through voluntary or mandatory sale and is equivalent to acquiring an easement. A property owner may also give up the development rights to a property to government as a gift. Compensation may or may not be received in exchange. Development rights to a property can also be expropriated. Refer to pages 50-1 for further explanation. Another way for government to acquire development rights is to purchase the property and then resell it with the development restrictions imposed on it.

Purchase of Land: Self-explanatory.

Agricultural Zoning - A legally binding designation of the uses to which land may be put, including the type, amount, and location of development. Agricultural zoning restricts uses to agriculture and related uses such as a farmstead. Often a large minimum lot size (20-160 acres) is stipulated in an agricultural zone.

Agricultural Districting - The designation of specific tracts for long-term agricultural uses, usually coupled with benefits and assurances which improve the conditions for farming. Generally no legally binding controls are imposed on land use.

Purchase of Development Rights - Purchase of the right to develop from owners of specific parcels, leaving the owner all other rights of ownership. The price of the rights is the diminution in the market value of the land as a result of the removal of the development rights. The remaining value of the land is the "farm use" value.

Transfer of Development Rights - Development rights on land in a designated preservation area may be purchased by a developer and transferred to a designated area where the equivalent amount of additional development can be constructed.

Differential Assessment - Assessment for property tax purposes based on the farm use value of the land rather than on its market value. There are three major types of differential assessment: pure preferential assessment with full abatement, deferred taxation with partial or with no abatement, and restrictive agreements under which a farmland owner contracts to maintain his land in farm uses in return for a lower assessment.

APPENDIX 2

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An Example of a Green Zoning By-law:

TABLE 1

Minimum Separation Distances for Intensive Swine Operations
from the Perimeter of the Intensive Swine Operations Site
to Specified Uses

Column 1	Column 2 ¹	Column 3 ²	Column 4	Column 5	Column 6 ²	Column 7 ²
Area of Land (Parcel Size)	Number of Animal Units Permitted	Lot Lines and/or Zone Boundaries of Rural and Heavy Industrial Zones	Boundary of Road Allowance	Nearest Residence	Other Use In Agricultural Zone and/or Specified Zone Boundaries	Urban and Other Specified Zone Boundaries
Ha (acres)		metres (feet)	metres (feet)	metres (feet)	metres (feet)	metres (feet)
4 (9.87)	41	15 (50)	40 (131)	130 (427)	250 (820)	500 (1641)
4 (9.87)	82	17 (56)	45 (148)	142 (466)	250 (820)	500 (1641)
4 (9.87)	123	20 (66)	50 (164)	154 (505)	250 (820)	542 (1778)
4 (9.87)	164	22 (73)	55 (181)	166 (545)	275 (902)	582 (1910)
4 (9.87)	205	25 (80)	60 (197)	178 (584)	300 (984)	622 (2041)
4 (9.87)	246	27 (90)	65 (213)	190 (623)	325 (1066)	662 (2172)
4 (9.87)	287	30 (100)	70 (230)	200 (656)	350 (1148)	702 (2303)
4.5 (11.10)	323	30 (100)	72 (236)	205 (673)	356 (1168)	742 (2435)
5 (12.34)	359	30 (100)	73 (240)	210 (689)	362 (1188)	782 (2566)
5.5 (13.58)	395	30 (100)	74 (243)	215 (706)	369 (1211)	812 (2664)
6 (14.81)	431	30 (100)	76 (250)	221 (725)	375 (1230)	843 (2766)
6.5 (16.00)	467	30 (100)	78 (256)	226 (742)	382 (1253)	873 (2864)
7 (17.28)	503	30 (100)	79 (259)	231 (758)	388 (1273)	903 (2963)
7.5 (18.50)	539	30 (100)	81 (266)	237 (778)	394 (1293)	929 (3048)
8 (19.25)	574	30 (100)	82 (269)	242 (794)	400 (1312)	945 (3100)
9 (22.22)	646	30 (100)	85 (279)	252 (827)	412 (1352)	964 (3163)
10 (24.69)	718	30 (100)	88 (289)	263 (863)	425 (1395)	997 (3271)
11 (27.16)	790	30 (100)	90 (295)	273 (896)	432 (1417)	1016 (3333)
12 (29.62)	861	30 (100)	92 (302)	284 (932)	450 (1476)	1046 (3432)
13 (32.09)	933	30 (100)	94 (308)	294 (965)	462 (1516)	1060 (3478)
14 (34.56)	1005	30 (100)	95 (312)	305 (1001)	475 (1558)	1074 (3524)
15 (37.03)	1077	30 (100)	96 (315)	310 (1017)	488 (1601)	1100 (3609)
16 (39.50)	1148	30 (100)	97 (318)	315 (1033)	500 (1640)	1124 (3688)
17 (41.97)	1256	30 (100)	98 (321)	320 (1050)	512 (1680)	1147 (3763)
18 (44.44)	1328	30 (100)	99 (325)	325 (1067)	525 (1722)	1169 (3835)
19 (46.91)	1400	30 (100)	100 (328)	330 (1083)	538 (1765)	1179 (3868)
20 (49.38)	1471	30 (100)	101 (331)	335 (1100)	550 (1805)	1189 (3901)
21 (51.85)	1543	30 (100)	102 (335)	340 (1116)	562 (1844)	1200 (3937)
22 (54.32)	1615	30 (100)	103 (338)	345 (1132)	575 (1886)	1213 (3980)
23 (56.74)	1687	30 (100)	104 (341)	350 (1148)	588 (1929)	1226 (4022)
24 (59.25)	1758	30 (100)	105 (345)	355 (1165)	600 (1968)	1244 (4081)
25 (61.72)	1830	30 (100)	106 (348)	360 (1181)	612 (2009)	1261 (4137)
26 (64.19)	1902	30 (100)	107 (351)	365 (1198)	625 (2051)	1274 (4180)
27 (66.66)	1974	30 (100)	108 (354)	370 (1214)	638 (2094)	1287 (4222)
28 (69.13)	2045	30 (100)	109 (358)	375 (1230)	650 (2133)	1300 (4266)
29 (71.60)	2117	30 (100)	110 (361)	380 (1247)	663 (2175)	1313 (4308)
30 (74.07)	2189	30 (100)	111 (364)	385 (1263)	675 (2215)	1326 (4351)
31 (76.54)	2261	30 (100)	112 (367)	390 (1280)	688 (2258)	1339 (4393)
32 (79.01)	2332	30 (100)	113 (371)	395 (1296)	700 (2297)	1350 (4429)

¹ See Table 2 for animal unit equivalents

² The distances from an intensive swine operation to specified zones can vary

An Example of a Green Zoning By-law Con't:

TABLE 2

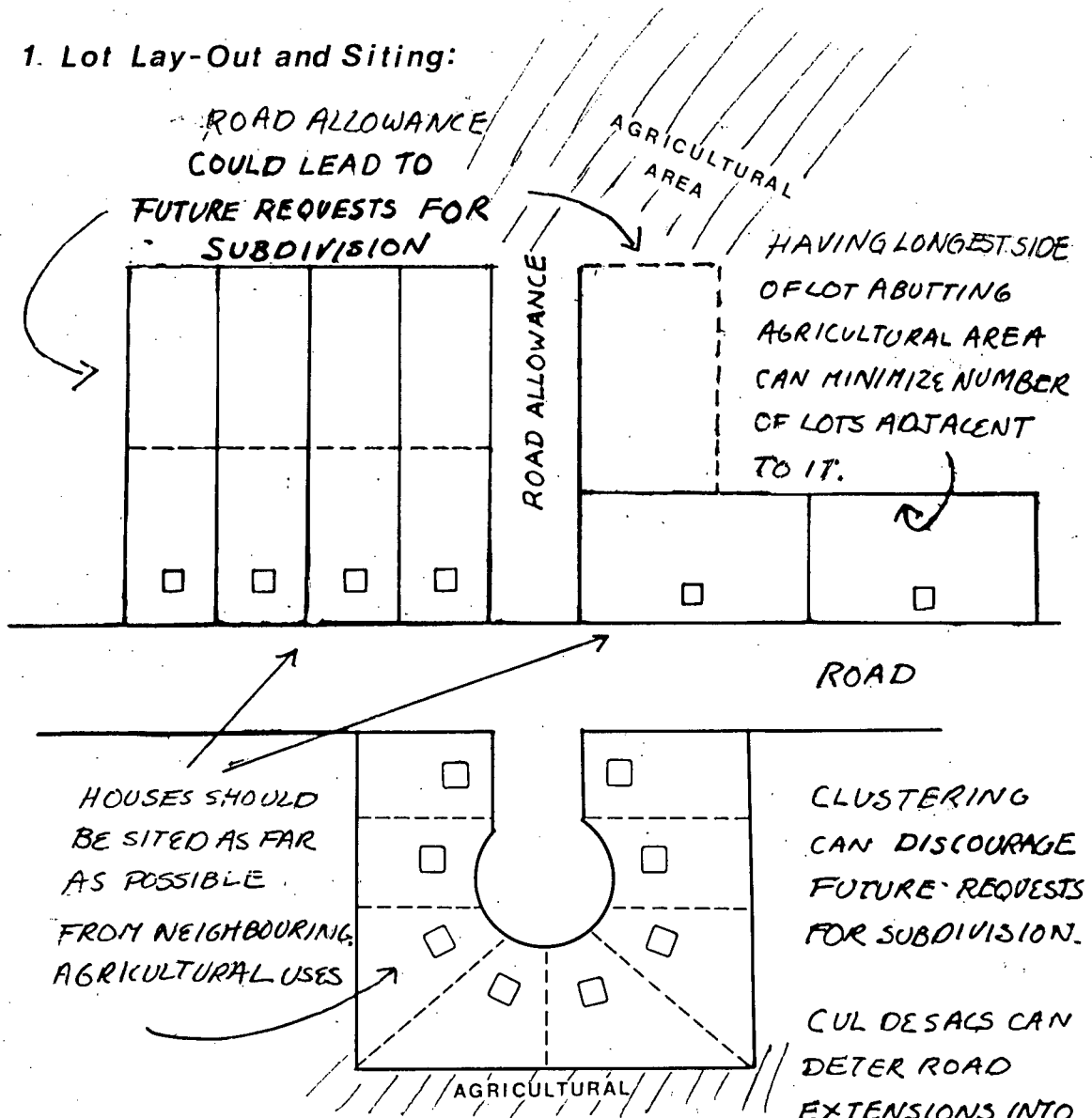
Animal Equivalents for Ascertaining Animal Units

4	swine
1	dairy cow (plus calf)
1	beef cow (plus calf)
1	bull
2.5	beef feeders - gain 182 - 341 kg. (400 - 750 lbs.)
1.67	beef feeders - gain 182 - 500 kg. (400 - 1100 lbs.)
10	veal calves - up to 136 kg. (300 lbs.)
1	horse (mare and foal, or stallion or gelding or donkey or mule or hinny)
4	sheep (plus lambs) or goats (plus kids)
12	feeder lambs
125	laying chicken hens
250	broiler chickens, roasters or pullets
100	turkeys - heavy, over 5 kg. (5 kg. = approx. 11 lbs.)
200	turkeys - light, 5 kg. or less
125	geese or ducks
40	rabbits (bucks, or does plus progeny to weaning, or growers)
80	mink (males, or females plus progeny to weaning, or growers)

APPENDIX 3

SUBDIVISION DESIGN

1. Lot Lay-Out and Siting:



2. Buffering:

