

THE ROLE OF THE STATE IN THE MODERNIZATION OF RURAL AREAS: A Case Study From New Zealand's Northern Province*

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In all nations surrounding the Pacific Basin there are areas in which the levels of living lag significantly behind the nation as a whole. Such areas are not restricted to developing nations. In fact, the level of living is more disparate and the people psychologically more frustrated in developed nations. Normally, they are agricultural regions, although there are instances where the decline of mineral exploitation is partially responsible for the maladjustment between population and resources. In these stranded areas, the people are incapable or unwilling to adjust to changing economic conditions. A sense of hopelessness pervades, which blights the progress of all. Changes must be motivated from beyond the region, and in democratic societies it is the state which generally accepts this role.

The state recognizes that the market process is biased; it rewards the proficient at the expense of the inefficient. Yet people are equal, and for this reason, people in economically stranded regions warrant special assistance programs so as to enable them to raise their level of productivity and to participate as equals in the nation's economy. The state, therefore, acts as an intermediary between the inequality of the market process and the principle of personal equality.

A wide range of direct and indirect political programs are used to assist development of economically stranded, or what I prefer to call marginal, areas. Some programs are nation-wide, whereas others apply specifically to the marginal area.

This article examines the contribution of the state to the modernization of a rural area in northern New Zealand. Principal programs are analyzed

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**It is appropriate that I should contribute thoughts on political influence in geographical change in a *Festschrift* in honor of Clifford M. Zierer, as it was Dr. Zierer who first drew my attention to the influence of politics on the process of environmental change. I well remember that day in the hallway of Haines Hall when he commented upon my field project for my doctoral qualifying examination by saying "Sound techniques and description, but you failed to appreciate the influence of the political boundary between Los Angeles City and Los Angeles County." This boundary passed through the center of the study area in the San Fernando Valley and explained much of the variation in the agricultural landscape. It was a valuable lesson, for, with subsequent nurture about the coffee-pot-cultural-center at UCLA, I have become increasingly interested in political influences as a process of environmental change. [Dr. Fielding's dissertation dealt with *Dairying in the Los Angeles Milkshed: Factors Affecting Character and Location*, (U.C.L.A., 1961)]. Clifford Zierer's pioneer contributions to the geography of cities in this region, his years of teaching Pacific courses and his efforts to ensure that the UCLA Library become a repository for South Pacific publications, have provided fellow geographers and students with a better appreciation of this region.

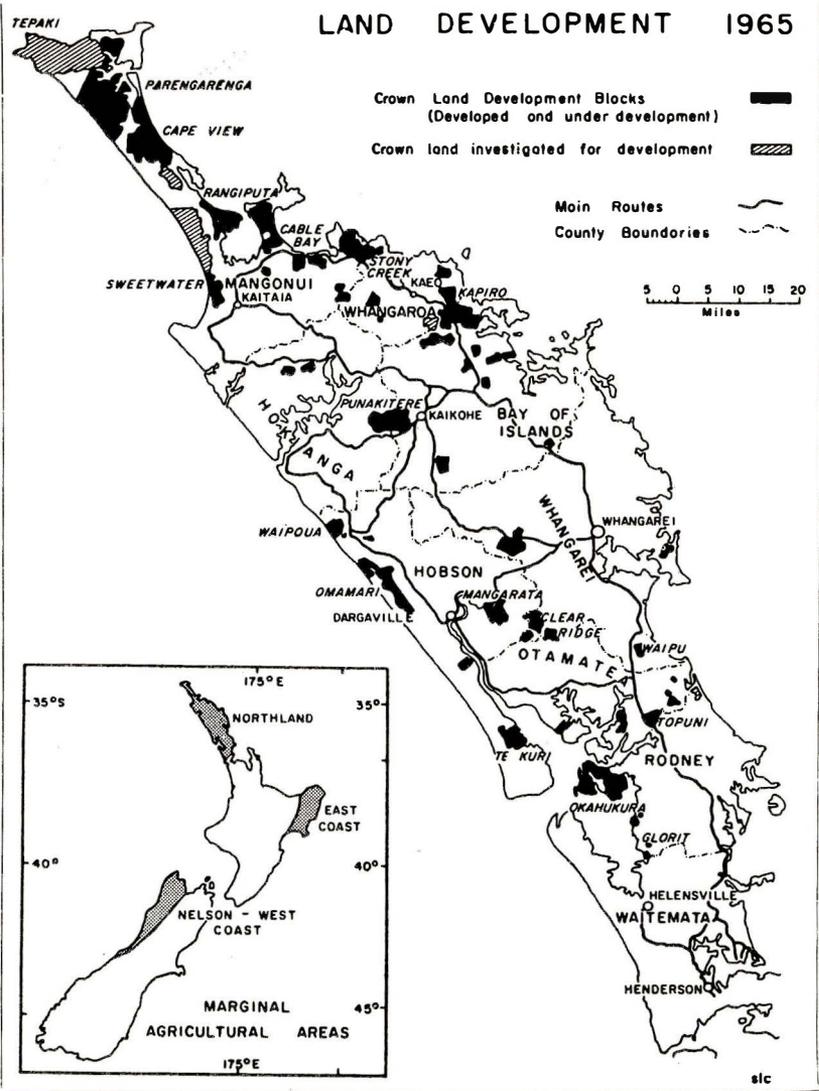


Figure 1. Study Case from New Zealand, Northern Province

and a hypothesis is advanced which outlines a preferred organization for regional planning and development.

Analyzing the role of the state in agricultural change is complicated by the varying motives involved. Superficially it is an economic problem: that is, improving the level of living of farm operators and increasing regional and national output. However, political action is frequently motivated by the prospect of increased political influence in economically marginal but politically influential areas. For this reason political, rather than economic, solutions are sought, although in the public presentation of policy, economic values are emphasized. Failure to accomplish economic goals is not uncommon nor unexpected, for the state is both operating in areas where private investors are unwilling to participate, and with objectives which are not exclusively economic. For this reason, it behooves social scientists concerned with the role of the state in economic development to evaluate programs so as to provide society with reliable assessments of the alternatives.

Recognition of the political motive in programs for the redevelopment of marginal farming regions is essential. Most uneconomic farms are in marginal regions, for in the more productive regions, normal market procedures result in the absorption of uneconomic units by more efficient operators. But, in the short run and from a national point of view, greater return from capital could be achieved on investment for the further improvement of farms in the most productive districts, rather than in marginal areas. In the long run, capital improvements ancillary to, yet necessary for, the development of agriculture in marginal areas can be amortized. The time period is not short. For this reason, investment in redevelopment of marginal areas must be recognized as a social, as well as an economic, investment. This complicates the use of rational methods of economic evaluation unless the social necessity for assisting these regions is recognized.

NORTHLAND EXAMPLE

There are three marginal agricultural regions in New Zealand: Northland, East Coast and the Nelson-West Coast (Figure 1). Each is somewhat isolated, both physically and in terms of communication from the centers of economic activity. Out-migration has been a feature of each, and all three have had special programs of economic assistance developed for them. For our present purposes either Northland or the East Coast would provide a suitable example. In both, farmers operate within the constraints of a difficult physical environment, both have a long history of agricultural development which has known more prosperous periods, and both have a higher proportion of Maori land and Maori farmers than the national average.

Northland was chosen because of the writers better acquaintance with the area and because of the promise it holds as a pastoral farming region. A promise which has begun to be realized, due in part to the assistance provided by the state.

Farming in Northland is a difficult, frequently frustrating enterprise. Each farmer has to manage a range of problem soils, frequently of low inherent fertility. Summer droughts are common, and in plagues of crickets, army worms, and grass grubs ravage pastures. In addition to the physical and biological burdens, there are economic and social problems. Distance

and poor access, especially in the far northern counties, increase the cost of marketing produce. Relative isolation has also retarded the diffusion of progressive farm management techniques common in other farming areas. For example, only sixty per cent of the cultivated area is top-dressed and a much smaller proportion receives an annual application. Even in the latter case, the amount applied is seldom sufficient.

Lack of capital is the primary obstacle to a more effective utilization of land resources. The change from farming as a way of life to farming as a business operation can only be achieved through the adoption of new techniques and the use of mechanical aids in the place of labor. Capital reserves, so essential for such change, are seldom accumulated in the semi-subsistence way of farm life which prevails. Normal lending institutions are unwilling to loan money to farmers without considerable collateral, because of the uncertainty of agricultural returns. In addition, some of the most ambitious farmers are inexperienced. Many have come to farming from other employment and with little capital. They have chosen land in Northland because of its lower cost and with no foresight of the difficulties involved in local land development. They are willing workers but need constant supervision and budget advice if they are to complete a development plan successfully. Banks, insurance companies, stock and station agents and even the State Advances Corporation are unwilling to provide either the capital or the supervision required.

A measure of the agricultural problems in Northland is provided by the number of uneconomic farming units. The Department of Agriculture's Survey of *North Auckland Dairy Farms* in 1962 showed that 40 per cent of the 5400 farms supplying factories produced less than 10,000 pounds of butter-fat. As the average net income of farms producing from 10,000 to 12,000 pounds butter-fat was estimated at \$2,000, it is clear that several hundred Northland farms are yielding their owners incomes far below that acceptable to most New Zealanders. A study is currently in progress (1966) surveying sheep farms in Northland and provisional results indicate that approximately one-fourth of these farms are also uneconomic. As a conservative estimate, then, it is probable that one-third of the 10,000 farms in the region are uneconomic.

Northland's economic lag is due to a paucity of social and economic investment rather than the result of the niggardly physical environment. True, problem soils and insect and fungal pest create seasonal depredations, but the scientific knowledge and the mechanical and managerial methods to overcome practically all of these problems are available. The critical deficit is the low level of managerial ability displayed by most farmers. They cannot effectively utilize the techniques available to them, and because of the low level of achievement they do not possess the financial resources to provide security for farm redevelopment borrowing once they recognize the advantage of new methods.

The climate with its regular rain, humidity, warmth and minimum of frost, is ideally suited for pasture production given the knowledge to combat environmental problems. It is, in fact, possible to produce a greater volume of dry matter per acre from pasture in this region than elsewhere in the nation. And since New Zealand's agriculture in the foreseeable future will con-

tinue to rest on the productivity of pasture grasses, this is a resource of paramount importance for regional development.

In addition to pastureland capable of improvement there are extensive areas of idle, scrub-covered land suited to development on adjoining and within existing farms. The *National Resources Survey* estimates that there are more than one million acres capable of development north of Rodney County.¹ In a more detailed study of Mangonui County, Murray indicates that 173,000 acres presently idle could be developed.² More than half this acreage is within existing holdings. On the average, the grassed area of holdings constitutes only one-half of the total area.

For a century the agricultural advantages of Northland have been largely ignored. Early pioneers lacked the knowledge to cope with the difficult environment. Many enterprises failed, and the undeserved reputation of a poor agricultural region has persisted. Despite this history, agriculture is the basic resource of the region, and the whole economy reflects the state of agricultural development—marginal with considerable untapped resources.

Out-migration of people and comparatively low per capita incomes have resulted from the failure to develop regional resources. Local commercial leaders recognized the influence of this condition upon their investments and have on various occasions petitioned the government for assistance to agriculture. The government faced three alternatives: 1) they could do nothing and aid the resettlement of migrants in areas of rapid economic development, 2) they could encourage economic activities other than agriculture, or 3) they could assist the development of agriculture. All three alternatives have been practiced, but in this discussion we are concerned with only the latter.

The government's participation in agricultural development has been justified on economic grounds. However, its intervention has been precipitated by the wish to placate local leaders and to strengthen electoral power rather than to merely improve the regional and national economy. Any evaluation of the program needs to be mindful of this motive.

For this reason no comprehensive program of regional agricultural development in Northland has been introduced although such programs have been proposed.³ Instead of a rational program, the state has preferred to modify well tested programs of direct and indirect assistance to land development and to encourage their application in Northland through budgetary control. They have followed an incremental approach to policy making and planning as outlined by Lindblom rather than the rational approach presented by Banfield.⁴ And because the motives were more political

¹ Ministry of Works, Town and Country Planning Branch, *National Resources Survey, Part III, Northland Region*, (Wellington, 1964), p. 71.

² I. D. Murray, *State Impact on Land Development in Mangonui County*, (Unpublished M. A. thesis, University of Auckland, 1964). The calculations exclude land within state development blocks.

³ Wilfred Candler, "Can We Avoid Rural Slums in Northland?" *New Zealand Farmer*, July 5, 1962, p. 5.

⁴ Charles E. Lindblom, "The Science of 'Muddling Through,'" *Public Admin. Rev.*, Vol. 29, No. 2, (1959), pp. 78-88; E. C. Banfield, "Ends and Means in Planning," in S. Mailick and E. H. Van Ness (Eds.) *Concepts and Issues in Administrative Behavior*, (Englewood Cliffs: Prentice-Hall, 1962), pp. 70-80.

than economic the state has preferred indirect rather than direct programs of agricultural development; that is, through financial incentives they have preferred to encourage farmers to carry out development programs rather than allow state agencies to participate. The one exception is in the development of problem land where the costs of development and the length of time before satisfactory returns can be achieved precluded most individual investors.⁵

It is the writer's belief that it matters little whether direct or indirect assistance is used. The critical factor underlying the relative success of programs for improving the agricultural economy is whether or not the program is controlled within the marginal region. Centralized control of economic development, at least in the New Zealand experience is unsatisfactory.

Accordingly, this paper advances the thesis that *the most efficient way for the state to revitalize the economy of a marginal area is to organize assistance through a local redevelopment authority*. The various programs utilized in Northland will be considered in relation to this statement.

A regional authority for rural development requires a nominated board and a permanent technical advisory staff. Its purpose should be to coordinate the resources provided by the state and utilize them in a flexible manner to encourage individuals to improve their level of attainment. Such an organization should be controlled by persons appointed because of their familiarity with local problems and staffed by those capable of evaluating the costs and benefits of alternative approaches, as well as feasibility of an individual benefiting from state assistance.

The key to the modernization of rural areas is to obtain the cooperation of the man operating the land. Unless he is willing to cooperate, no amount of incentive the state provides will be effective in inducing farmers to increase output and raise levels of living. And farmers, as diffusion theory has demonstrated, are unwilling innovators. They seldom take the advice freely given by specialists. Local opinion leaders among the farmers are much more influential in implementing change. Therefore, it is a wise strategy which involves local opinion leaders in the policy-making structure. Also, there are some farmers who are not capable of raising levels of output. They are frequently trapped on their farms by overwhelmingly burden of debt but without the skill to engage in any other enterprise. They are equipped neither socially nor psychologically for the responsibilities of independent management. A local development authority can usually identify such persons, and if a flexible approach to problem-solving is allowed, subsidized migration and vocational redirection is probably the best solution. Centralized planning tends to overlook the individual. When he is inefficient he is kept on the land with costly subsidies. When he is efficient he is frustrated by regulations and an inflexible approach to his particular requirements.

A development authority of the type here outlined does not exist in Northland. However, some of the assistance programs introduced do pro-

⁵ An alternative would have been to encourage land companies to undertake development. However, the philosophy of 'one man, one farm' has been strong in New Zealand, and progressive land and income taxes discriminate against large holdings. Contemporary opinion is more favorable to such land enterprises although the deterrent taxes remain.

vide for a measure of local control, and it is upon the writer's evaluation of these programs that the thesis is based. They appear to have been more successful in remedying agricultural problems, and they probably would have been even more so had a multiple aid strategy been possible, involving all, or part of, the wide range of state assistance programs available.

The various state assistance programs are discussed under two headings: those which are coordinated at the local level and those which are not. They are presented more from the point of view of clarifying the thesis rather than of documentation.

DECENTRALIZED ASSISTANCE PROGRAMS

Decentralized programs operate with funds allocated on an areal basis by the state treasury. Use of the funds within a particular area is left to local administrators who function within broad constraints set by the state. Three programs are operated in this manner: marginal lands assistance, development of problem lands, and agricultural research. Only marginal land assistance has an appointed regional board of control of the type outlined in the thesis statement. The other two are directed by state departments. However, in both instances a higher degree of regional autonomy exists.

Under the Marginal Land Act of 1950 the state introduced the principle of lending capital to farmers willing to further develop their properties, but who had hitherto been handicapped by lack of finance.⁶ Interest is slightly below the prevailing rate. The principal advantage is that loans are granted to those who have the physical and human capacity for increasing production but lack the financial collateral. It is a condition that applicants must have previously refused assistance from normal lending institutions. Their application is carefully examined by an appointed board consisting of local farmers and financial and agricultural advisors. The board is primarily concerned with the ability of the individual and the feasibility of the development proposal. Their primary purpose is to ascertain whether the applicant, aside from current mortgage commitments, is capable of successfully completing the development plan. Emphasis is upon an evaluation of the personal capability of the applicant by a committee conversant with local conditions. In economic planning usually the personal factor is overlooked by political agencies, yet it is the key to infusing vitality into a depressed agricultural region. And for an area like Northland, where lending institutions have been cautious in farm investment because of the many local problems associated with agriculture, the shift of emphasis from land to man is significant.

The results of the program in Northland have been commendable. Between 1951 and 1963, 4.75 million dollars have been loaned to 325 farmers. In addition to the buildings constructed, loans have enabled the sowing of 30,000 acres of new grass and the rotation of 19,000 acres. In numerous instances carrying capacities of properties assisted have doubled and production trebled. And what is more important, the social fabric has been transformed in those areas where farmers have taken advantage of the

⁶ Gordon J. Fielding, "State Assisted Private Land Development in Northland," *Proceedings Fourth New Zealand Geographers Conference*, (Dunedin, 1965), pp. 113-120.

scheme. Faith in a profitable agricultural enterprise has been restored in areas where many had come to accept a semi-subsistence way of life. As agriculture is the primary economic base of the region, this spirit has been infused into the whole society.

The Northland region is organized into three districts for supervision of the Act. Each district has its advisory committee consisting of experienced farmers from the area together with agricultural specialists. Members selected from each district committee constitute the regional advisory board. Before considering a loan application the district committee visits the applicant's farm and assesses the feasibility of the development program and the likelihood of the applicant completing the program. The committees realize that, although the physical elements present many difficulties in this region, it is the human element which currently obstructs optimum development. Whenever they discover individuals who have the necessary capacity and energy to complete a development scheme, then they have the power to recommend loans which were not available from normal lending institutions at comparable rates of interest.

In many cases committees have found the farmer requesting assistance incapable of completing the development proposal. Either the farm unit is too small to be efficient or the land is unsuited to more intensive pastoral farming. In other instances the individual has been incompetent. Unfortunately the committee can do little to assist men in such plight. For this reason it is recommended that regional authorities should be established on a basis similar to those constituted for marginal lands assistance, but they should be able to coordinate the various state assistance programs rather than be restricted to a single program. They could then recommend a wider range of alternatives: use of the land for forestry rather than farming, enlargement of the property through purchase of additional land, or the subsidization of the farmer out of agricultural enterprise all warrant consideration for specific cases.

A recommendation of this nature recognizes the limited scope of a government in a democratic society to strengthen the economy of a marginal area through direct action. The government must work through the existing landowners by providing incentives for them to effect the necessary changes. Its approach must be indirect. Subsidies could be used to supplement rural income. However, this does not solve the problem of incorporating the region as a viable element in the national economy. Direct intervention is, of course, necessary where private enterprise will not or cannot undertake the task of development. The development of problem land is one such instance.

DEVELOPMENT OF PROBLEM AREAS

By the early 1930's most of the attractive land in New Zealand had been alienated. Only the difficult land remained unoccupied, and most of this was either Crown or Maori land. And yet, as a comparatively young, post-colonial nation, the pioneer spirit was strong. Men wanted land, but as Bowman stated in his classic work, "Men hunger for land only when they can get it under favorable conditions."⁷ The state recognized the desire, for

⁷ I. Bowman, *The Pioneer Fringe*, Special Publication No. 13, (New York: American Geographical Society, 1931), p. 33.

it enacted, in 1929, the Land Laws Amendment Act which provided for expenditure of funds in order to develop Crown Land for settlement. Development of Maori Land was authorized by a separate act, and until recently this development has proceeded in similar manner although under different departmental control. Both programs are now controlled by the Lands and Survey Department.

Because the costs involved in the development of the problem land and the length of time before satisfactory returns could be achieved, individuals were unwilling to undertake development. The state recognized the need for developing the land and was willing to sustain the cost. However, through economies achieved by a large-scale operation, the application of the most recent scientific achievements, and sound management of the program at the district level, the state has been able to develop and settle such land at no cost to the taxpayer.

Although the program is administered by the Lands and Survey Department, the principle of regional independence is fostered. Each district supervisor of land development is encouraged to use financial resources in a flexible manner so as to overcome the special development of each block of land. Four categories of land in Northland resisted earlier attempts at settlement: 1) the dug-over gumlands 2) the ironstone lands with impermeable soils 3) the steep hill country, and 4) the recently stabilized sand dunes. These land types differ from the land developed under the same program in central North Island and in Southland. In addition, each type exhibits considerable variety within the region. Without regional independence and encouragement of a flexible development program on each block, the program would not have been as successful. The development of Maori Land, which until recently was controlled by the Maori Affairs Department, suffered as a result of inflexible management policies. Its achievements were limited. Admittedly, in the development of Maori Land special tenure problems were encountered which have not bothered developers of Crown Land.

Although the state land development program was authorized in 1929, little was achieved between 1930 and 1950 in Northland and, in fact, in the entire dominion. The Great Depression curtailed developmental finance, and essential material was not available during the war. Available finance was used for the subdivision and improvement of estates for closer settlement. Development of unimproved and seriously reverted land in Northland was delayed until after 1950. Including the land settled through the subdivision of estates, 435 farmers were settled on 104,579 acres of land between 1941 and 1965. Some 236,521 acres are currently under development, of which 185,885 are for general settlement and 50,636 are being developed for the Maori Affairs Department. The current policy is to grass an additional 10,000 acres annually in Northland. Development areas are scattered in relatively small blocks throughout the entire peninsula (Figure 1). The exception is the 72,000 acres under development in the northernmost peninsulas of Mangonui County.

Large-scale and capital-intensive methods are used to develop the problem land. Development begins with the clearing of secondary growth

by fire and/or mechanical means. Where feasible the land is cultivated before sowing, but where the land is steep, fertilizer and grass seed are spread by aeroplane onto an ash seed-bed. Intensive stocking with beef cattle for short periods is practiced in the initial stages of pasture establishment. As the pasture is consolidated, the vestiges of secondary growth are removed by hungry animals.

The initial stages of development—clearing, pasture sowing, and elimination of undesired vegetation—can be accomplished within two years. The gradual build-up of fertility by annual applications of fertilizer and skilled stock and pasture management is a longer operation. Five to eight years may be necessary. Only when the land is capable of supporting a high level of production are the blocks subdivided and buildings erected for settlement of individual farmers.

The costs of development are not low, although the state is able to develop and sell the land without a loss. In Northland the estimated gross development cost per acre is \$115 for sheep farms and \$180 for dairy.⁸ Disposal price of farms is \$84 per acre for sheep properties and \$160 for dairy. The difference, together with interest at the rate of four per cent on the capital invested, is recovered from farming profits during the development stage.

By converting idle land into farms the state is able to increase the productive capacity of the region and the costs amortized by the project itself. In addition, land is available for those who desire it and have the necessary skill to utilize it profitably. Agricultural contractors share in the development project, and the local community benefits from increased demands for farm inputs and services.

The program for the development of Maori Land closely resembles that already described. In the development stage a longer period of operation by the state is usual. This further reduces the disposal cost, so that Maori farmers, who in general have less capital, are able to enter farming without undue financial burden. Occupiers are generally selected from the tribe owning the land, but, as Ishida has shown, the level of achievement is higher where occupiers are selected from a wider area.⁹

In general, land development by the state in Northland has been successful. This success has in no small measure been due to the flexible management policy under which the program has operated. The program was neither new nor specifically adapted to Northland. It has utilized a long established state function which has proved successful in other areas.¹⁰

Stock and equipment losses have at times been embarrassing, for they are publically linked with the likelihood of lax management in state operated enterprise, although similar losses are not unknown, albeit seldom advertised, in company operations.

⁸ V. P. McGlone, "The Cost of Bringing in Land," *Industrial Development Conference*, Background Paper II, (Wellington, 1966).

⁹ Hiroshi Ishida, *A Geography of Contemporary Maori Agriculture*, (Unpublished Ph.D. dissertation, University of Auckland, 1966).

¹⁰ R. G. Ward, "Land Development in the Taupo Country," *New Zealand Geographer*, Vol. 12, No. 2 (1956), pp. 115-132; L. Symons, "Land Development in Southland," *Ibid.*, Vol. 17, No. 1, (1961), pp. 87-93.

One failure has been the shortsightedness of the settlement policy. Because of the government's desire to involve as many settlers as possible in the benefits of the developments, blocks have been subdivided into minimum-sized family units. As farming techniques have improved farmers have not had sufficient land to fully benefit from labor-saving devices. Faced with stable returns, but increasing costs, many farmers have unwisely increased their indebtedness through borrowing. Properties become hopelessly encumbered and their owners disillusioned and stranded without full-time productive employment on their properties.

Apart for some noticeable exceptions, productivity per acre on settled areas is lower than that on adjoining development blocks. The primary reason is the failure of settlers to apply adequate annual dressings of artificial fertilizer — the key to grassland farming on the impoverished Northland soils. Fertilizers and pesticides tend to be the first items of the farm budget curtailed, when they ought to be the last. And if they should apply the fertilizer and the season is favorable, new settlers seldom have the resources to enable them to increase stock capacity in order to capitalize on the grass growth before it is wasted. Capital and superior management ability are scarce resources in Northland. The state development blocks have them, but few settlers possess either and many lack both.

Recognition of the paucity of managerial ability and of its primary role in a difficult-to-farm sub-tropical environment has resulted in the recommendation that the blocks be operated as large-scale company farms. Individuals would contract to perform certain services, but capital and management could be coordinated by central decision-making. Such recommendations come from those primarily concerned with the urgent need to increase agricultural production in New Zealand. The evidence tends to support their assertions. However, it is necessary to recognize the motive for government participation in land development: that is, to meet the demand for land for settlement at a reasonable cost and to stabilize the population in marginal areas. These motives could be satisfied by company operation, although it would necessitate a change of social and political opinion before it would be recognized by a wise politician.

In a sense I am asserting that votes count more than butter and mutton to the politician. This is a contentious argument in political economy and relates to the question as to whether governments should or should not participate in economic transactions when their decisions are made on a political rather than exclusively economic basis.

Another criticism of the land development policy stems from the claim that the funds allocated to the development of problem land could have been more profitably utilized in established districts: that there is an opportunity cost involved. Even in the most productive areas, farms are operated at well below their productive capacity. There is considerable lag in the diffusion of recent innovations, and farmers as entrepreneurs aim for satisfactory rather than optimal returns. It is asserted that capital allocated to fostering the adoption of improved techniques and more intensive use of the resources in established agricultural regions would have produced higher returns than are achieved through allocating similar amounts to the development of problem land. At least fifty per cent of the development cost

in new areas is for housing and road construction. A much lower proportion would be required in an established region.

Comprehensive regional development planning could permit flexible allocation of resources between developing and developed areas. As it is, substitution is virtually impossible because of the different organizational control. Frequently redevelopment assistance under marginal lands assistance is refused solely on the basis of the small size of the enterprise. The individual applicant would be ideally suited for a state developed farm. However, because of institution controls, he is seldom eligible. Another problem is the uncritical allocation of finances by the state treasury to different programs in terms of short run benefits rather than long term regional improvement policy. Obstacles to development of this kind need to be overcome if marginal areas are to be intergrated as self-reliant contributors to the national economy.

RESEARCH

Agricultural research is another area where conspicuous success has been achieved through allowing a regional program to evolve. To the pastoralist the sub-tropical environment of Northland presents problems somewhat different from those occurring elsewhere in the dominion. Research into such problems has not only been more fruitful when undertaken within the region, but also has aided in the diffusion of findings.

Nevertheless, most of the research which is relevant to Northland is conducted at research stations outside the region. The results are diffused through extension agencies and demonstration farms. Only the Grassland Division of the Department of Scientific and Industrial Research has a research station in the area, and it is significant to this appraisal of policy alternatives that the re-evaluation of the region's potential for pastoral farming followed the demonstrated effectiveness of fertilizer trials on tropical grasses at this station and on the state land development blocks. Local research achievements also have other benefits. Farmers are more willing to adopt agricultural innovations demonstrated by successful neighbors than they are from perusal of magazine articles describing success in another region.

The real problem of agricultural research in a marginal area is not in discovering new techniques, but in getting farmers to adopt what is already well known. The provision of small local experimental stations and demonstration farms concerned with regional problems can do much more to diffuse the results of their findings than isolated research institutes. As with the Marginal Assistance loans, the principle of local control of research and assistance would appear to carry special benefits. Where this principle has applied, albeit through chance, such programs have been more successful in meeting the needs of Northland farmers.

CENTRALIZED ASSISTANCE PROGRAMS

Centralized programs operate uniformly throughout the nation. Although they may have been originally designed to assist land development in marginal areas, they tend to be utilized primarily by farmers in the more

prosperous agricultural districts. These programs are generally constrained by regulations and tend to be impermanent.

Many different programs which could legitimately be included under this heading have been introduced at different periods. Most have been political solutions to perceived economic needs. Usually they are of short duration or are modified as the political needs change. Others lapse subsequently, through lack of financial support. A discussion of three programs should suffice to illustrate the nature of centralized assistance and to indicate their inadequacy in solving the problems of marginal agricultural areas. These programs are: 1) state loans, 2) taxation subsidies, and 3) farm income supplements.

The states offers normal and special loan privileges to farmers. Normal loans are granted through the State Advances Corporation and represent state competition with established lending institutions. Whenever the state grants developmental loans that have been refused by existing loan institutions because of their high risk, such are special loans. The State Advances Corporation was originally established to assist agricultural land development, although since 1945 it has become increasingly associated with urban housing loans. This latter aspect now represents their major interest. As a result, the capital available for farm loans is limited; those loans granted are low in risk and unrealistic in constraints. The program enables the government to influence the activities of private lending institutions, although it is of little aid to agricultural development in problem areas. Its principal concern is to grant funds to those who have never owned their own farm, but who have the necessary experience.

Some six million dollars are loaned annually to farmers in Northland by the State Advances Corporation. This is ten times the amount made available under special loan privileges by the Marginal Lands Assistance Board. However, the State Advances capital has little beneficial effect on marginal land where farming is well established. The advantage of the loan is that it makes funds available to those who have heretofore not owned farms at rates of interest which are slightly more favorable than those available from normal lending institutions. Largely because of the inflexible operational procedure it has ceased to serve this purpose. An exception is where funds are used to settle occupiers on state developed farms.

TAXATION SUBSIDY

Farm taxation is structured so as to provide special benefits to those who reinvest capital gains in improving farm enterprise. For the financially successful farmer such taxation benefits hold an advantage over comparative benefits available to non-farm investors. However, they are of no use to low income farmers in marginal areas. Their earnings are so low that normal family deductions cover returns from farm operations. Frequently tax subsidies are introduced in budget statements and justified on the basis of the need to aid farm development. They are political solutions to economic problems, and in the New Zealand experience their impermanence obstructs their possible value. The case of the fertilizer subsidy provides an illustration. In order to increase the carrying capacity of grasslands the government, in 1964, introduced a measure that allows farmers to deduct ex-

penditures on fertilizer at the rate of 150 per cent. Farmers took advantage of the incentive and increased the application of fertilizer. The following year the government did not renew the measure but replaced it by a transportation subsidy for farmers in marginal districts. However, most operators in marginal districts lacked the funds to enable them to increase their rate of fertilizer application despite either the tax incentive or the transportation subsidy. Operators in the more productive districts in which fertilizer is manufactured lost the incentive and many reverted to their original rate of fertilizer application designed to maintain pastures rather than increase carrying capacity.

This is but one of the many spasmodic attempts at indirect assistance for agriculture that study reveals. Little understanding of the state's positive role in the development of uneconomic farming is gained from individual discussion. All that is attained is a sense of the frustration created in attempting to solve economic problems by political means.

FARM INCOME AND CROP SUPPLEMENTS

Despite the well established principle of agricultural socialism in New Zealand, the state has been unwilling to award special income benefits for farmers with low incomes in marginal districts, although this would probably have been the most economic alternative. Indirect-production subsidies have had a somewhat more checkered political history, as demonstrated by the transportation subsidy on fertilizers, but they have had little consequence for agricultural development.

Product-inducement subsidies are established only for minor, domestically-oriented crops such as wheat, which is not present in Northland, and milk for urban use. Otherwise prices are established seasonally in anticipation of receipts. Occasionally anticipated export returns are lower, and state funds may be called upon to meet the politically approved basic price. In such instances, the state does play a role in stabilizing prices — i.e., guaranteeing prices — but the price level is not held at an artificially inflated level so as to induce production and bolster farm incomes.

Subsidies which exist are consumer subsidies on butter, milk, eggs, bread and flour. By increasing demand they do influence production. They were introduced during the Second World War so as to offset the rise in the cost of food. For political reasons, they have never been removed. They have had little or no effect upon agricultural development in marginal areas, as there would be little change in consumption patterns if they were removed. Nevertheless they persist and cost the state between thirty-five and forty million dollars annually.

CONCLUSION

In this essay, Northland has been portrayed as a marginal agricultural area in which those concerned with the region's economic development have recently realized the area's potential. Techniques are now available to handle the special environmental problems which had caused so many failures and much disillusionment in agriculture and which had permeated the entire economy. However, it is one thing to isolate the problems and another to obtain support of farmers to overcome them when many of them

have faced so many years of disillusionment. The potential is there, although many individuals lack the financial and managerial ability to realize the potential.

As an essay by a geographer, little attention has been paid to the impact of specific programs on the farm landscape. Instead, attention is focused upon a process of environmental change. However, it is hoped that the annotated illustrations of extent and nature of the state's direct efforts in land development will provide some appreciation of the impact upon the landscape for those unfamiliar with New Zealand.

The political success of the programs is difficult to gauge. Electoral results indicate no shifts which can be reliably correlated with different programs. Existing programs have been cited when the party holding power has been challenged. In this respect they have assisted in the maintenance of the two major parties, which have faced a greater challenge in Northland than elsewhere in the nation from their only serious competitor, the Social Credit Party.

The substantive conclusion to be derived from this survey is that effective modernization of rural areas achieved primarily through programs controlled within the development region itself. Some form of regional development agency is required, one which has power to allocate state funds to these projects appearing to hold the most promise for improving the regional economy. Such an agency is best governed by local residents conversant with the basic elements of the regional economy and not by central planners. Modern tools of analysis, like cost-benefit analysis and linear programming, should be employed to decide between alternative programs, but implementation ought to be guided by those fully conversant with the social and economic character of those whose cooperation the program requires.

The evaluation of alternatives by such a regional authority should not be restricted to agriculture. The use of the land for forestry or for the employment of farmers in non-farm occupations might offer more realistic alternatives for raising income levels. These alternatives should be considered in the analysis.

Planning for the improvement of rural areas should always be people-oriented rather than program-oriented. Decentralization of decision-making has been achieved with the Marginal Lands Assistance program, and this program more than any other has maintained people as its central focus. When the planning is centralized, programs tend to be designed for all farmers. They utilize the incentive approach to development which is attractive to the already successful farmer, but holds little immediate attraction to the uneconomic farmer in a marginal area. This is not to reason that such incentive programs should not exist, but that a more flexible approach to economic development is desired with programs tailored to the needs of individuals in the various regions.