RURAL DEVELOPMENT

AN AUSTRALIAN PERSPECTIVE

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ABSTRACT

A holistic national approach to rural development and adjustment that would see rural communities act in partnership with governments to tackle the multi-dimensional problems facing rural Australian communities is being developed by Commonwealth-State officials. Economic, environmental and social issues need integrated action; effective community ownership of the development process and better vertical and horizontal coordination of governmental activity are critical.

Two examples of how this approach is already being applied by communities are then described: a community renewal project among horticultural communities near Swan Hill, and the Cygnet Telecottage's plan to introduce information technology skills and modern work practices in the fruitgrowing industry

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INTRODUCTION

I want to begin today by talking about the nature of the present debate in government policy circles in Australia about what 'rural development' means. There is a lot of exciting work going on in terms of thinking about the concept of development in rural Australia, and of the respective roles of the main actors, who are the rural communities themselves (including business and industry), and government (which in Australia is at three levels - Commonwealth, State or Territory, and local). Such debates are always influenced by others' experience, and I have no doubt that much that I say will describe country that you have all visited and discussed at some stage. The issues facing Australian rural communities are quite typical of those facing rural areas in all the Western industrialised countries; and the conclusions coming out of the policy debate are also similar to those being arrived at elsewhere.

I then want to talk about a couple of current Australian examples of interesting development activity. These highly select examples from the range of diverse activity taking place in Australia demonstrate how the new policy approach could work in practice. They illustrate ways that rural communities can enhance their resources and skills to assist their continuing, self-managed development.

POSSIBLE DIRECTIONS FOR RURAL DEVELOPMENT IN AUSTRALIA

What does 'rural' mean?

One of the central difficulties of working on anything to do with rural Australia is to know what 'rural' means. I find that I spend a lot of time carefully explaining what I mean by 'rural'. For most people it conjures up some kind of instant image - dairy cattle grazing in a sunny, well-watered green field; acres of sheep being mustered by tall, laconic horsemen in dusty hats; perhaps a country town with wide streets, deep verandahs, picturesque pubs covered in lacy ironwork, centered around a clock tower, a small shady park, a war memorial; perhaps a big mining town like Broken Hill; a coastal town combining a strip of new motels and craft shops for the summer tourists and a fishing industry centered on a wharf or two; a tiny forestry settlement clustered around a sawmill on a little back road.

You'll notice that I started with agricultural images, and I think that is typical for most people thinking of 'country' or 'rural'. Implicit in all my images is the economic base of the communities, with agriculture followed by other natural resource based industries. There's also an element of the picturesque and timeless in my images, and again I think that is typical. The immediate physical appearance of many country areas still emphasises the historic and pioneering roots of their industries, the modern government offices and factories, satellite dishes and computers that are a part of successful rural areas take a bit longer to spot. So already we can see some of the assumptions and ambiguities that surround a term like 'rural', even when just focusing on industry issues.

There are equally ambiguities and assumptions about rural people and their lifestyle that we don't have time for today. Let us just quickly look at the basic population statistics. The 1991 Australian Census tells us that some 4.9 million people, out of a total population of 17 085 000 (about 29%), live in what is generally described as rural (meaning non-metropolitan) Australia.[1]

What does 'rural development' mean?

When we think about what 'development' might mean for those 4.9 million Australians, we have to look again at the sorts of ambiguities and assumptions that are built into our pictures of 'rural Australia'. It is true that in terms of industry, the big export earners for Australia are overwhelming located in rural and remote areas, and they are equally overwhelmingly the primary industries - mining and agriculture in particular. In 1991-92, mining accounted for 40.1% of total exports, and agriculture 22.6%.[2] Thus our main economic engines in that sense are still, as they historically always have been, the primary industries located in rural areas.

Clearly, however we define 'rural development', it must take seriously the needs of our still significant primary industries and maintain their viability and earning potential.

However, agriculture's contribution to GDP is only 3.6% and it employs only 5.3% of the total workforce. Mining contributes 7.9% of GDP off a tiny employment base of 1.2% of the workforce.[3] In this sense, the service industries and manufacturing are of increasing importance in our economy. So when we look at how the majority of people in rural and remote Australia are earning their livings, we find that only about twenty per cent of them are employed in the primary industries. These industries require a significant support structure of service industries, and that accounts for some of the activity of the remaining four-fifths of the rural population. However, a lot of people simply choose, for a variety of reasons, to live in rural and remote areas, but earn their living there in occupations pretty much indistinguishable from the usual run of urban categories - manufacturers and hairdressers; accountants, teachers and health professionals; Social Security staff and army personnel; artists, and consultants on practically anything you care to name; and the ever increasing army of those working in the recreation and tourism industries.

So rural development also has to take account of the needs of the large and disparate majority of rural dwellers whose concerns and needs are not entirely or necessarily tied to those of the primary industries.

All of these people have their reasons for wanting to live and work in rural and remote areas, and most of them are realistic about the fact that that means some sacrifice of amenities and services in comparison to metropolitan Australians. But equally most of us require some kind of minimum servicing to make life tolerable - the ability to secure food and clothing and necessities for the home and business, access to health and emergency care, access to education for our children, some kind of social and cultural life. The difficulty for rural areas, especially the more remote ones, is to find economically viable means of sustaining enterprise in and providing services to small, scattered populations, and to deal with the consequences of isolation.

At this point I really have to stop generalising, because the next generalisation about rural Australia is the huge variety of the rural regions and thus the often quite distinctive needs of their communities. The concept of 'rural development' also has to include this diversity, from the often acute adjustment needs of the long-settled inland agricultural areas, to the rather different issues facing the fast-increasing populations of the eastern coastal areas or the urban fringe areas. You all know the general picture of the situation in rural areas quite well, so I will just sketch a few main features briefly.

This audience is only too aware that it has been becoming more difficult to make a living from agriculture as each decade passes - 'rural adjustment' is a phrase we all use constantly. Recent hard times mean that some farmers now have very little equity in their farms, and disinvestment generally has been a problem for ten years. This is the familiar story of declining terms of trade, high interest rates, and specific local difficulties such as drought.

At the same time a significant proportion of the agricultural community is facing the consequences of a degraded natural resource base. Inland areas in particular are having to work hard at developing sustainable natural resource management regimes - and this can require significant investment.[4] The forestry industry, too, is facing unprecedentedly acute issues in terms of management of its resource base. Coastal zone management has been the focus of a recent national inquiry.

Basic demographic trends are complex, but many areas highly dependent on agriculture are in long-term population decline. In some rural areas there are influxes of people dependent on welfare who are seeking a cheaper lifestyle, and they can add to the impoverishment of their community. In some areas, particularly along the coast, population is growing, and incomers can include wealth retirees. Employment opportunities and levels of services in smaller centres affected by dwindling population see their decline exacerbated as both government and the private sector find operations too difficult to maintain. Proposed closures of banks, post offices and railway lines have all led to significant explosions of anger in Australian rural communities in recent months.

Yet even within agriculture there is much that is positive. There *are* opportunities for those who have the initiative, and the money to invest - new niche products, new forms of value-adding, new markets are all developing. Government support is there to help farmers with the management and marketing skills needed to explore possibilities. Tourism is of increasing importance across the whole of rural and remote Australia, though of course it is not a universal or unproblematic solution. Communities and government are tackling service delivery problems by exploring innovative methods, and, as this paper will describe, often taking up the task of overall economic development to win back enterprise and employment opportunities in local areas.

These are the fragments of an interesting picture. For many commentators, the main element seems to be crisis, but for the optimistic it could equally be seen as opportunity. Certainly, change is the theme. The magnitude of current rural structural adjustment and development issus may require fundamental rethinking from policy makers and communities.

Essentially, the development of Australia's rural and remote areas confronts two problems, at least as far as government policy analysts are concerned. The first is - what is the importance of rural Australia to us as a nation, and thus what is our national goal for rural development, and secondly, given the huge geographic, economic and social diversity that characterises rural Australia, how can we best deal with the multiplicity of issues that confront us there? How we tackle the second question depends on the goal we set ourselves as a result of answering the first.

Activity within government

Over the past months there has been concerted action at Commonwealth and State-Territory levels in Australia to open up debate on these issues, mostly through the relevant primary industries and resource management agencies. The issues are not wholly

new - over recent decades the idea that the development of rural Australia needed closer attention, and a more integrated approach in terms of government action, has come and gone in a number of forms. But there are some significant new aspects to the current activity. These relate to the context in which it is taking place, and to some important features of the policy being discussed.

Firstly, the context. The policy debate is taking place at a high level, and with an impressive degree of common concern and purpose between the representatives of the two tiers of government. It is also occurring in a fast-changing political context. This context includes Prime Minister Keating's enhanced emphasis on regional development, which has taken the form of allocating specific responsibility for the function to the industry portfolio, and having Bill Kelty, the Secretary of the ACTU, head a Taskforce on Regional Development that has now presented a lengthy report to the Government for consideration.[5] The Taskforce report specifically endorses the cooperative Commonwealth-State discussions on rural development that are taking place.

Other activity that is concentrating on similar issues and concerns includes a review of urban and regional planning and development; the work of a committee of backbench parliamentarians looking at rural and regional affairs, the work of the Taskforce on Employment Opportunities; program activity to strengthen local government, particularly in the areas of integrated planning and economic capacity; the Industry Commission inquiry into impediments to regional development, the agenda on Ecologically Sustainable Development; the work of a Commonwealth-State working group on reform of the water industry; significant attempts by particular rural areas to engage communities and all levels of government in wrestling with rural environmental issues such as catchment management, rangelands management, and the urgent salinity and other problems in our major irrigation areas.

In their different ways, all these activities are contributing knowledge and opinion on the central issues of what kind of rural Australia we want, what urgent issues require resolution, and whether or not the current policy mix can provide what is needed.

National goal for rural development

Now let us look at the main policy emphases that are emerging from the debate.

I will deal first with the issue of rural areas' importance to Australia as a whole, and thus the idea of a national goal for rural development. What contribution does rural Australia make to the nation now? What kind of society and contribution do we want to see there in the future? Once we have established that overall goal, we need to look at how to achieve it. The importance of having a national goal is clear once we begin to look closely at the kinds of issues that urgently need to be addressed in rural Australia. Some important questions are

> What, in the long term, are the most productive and ecologically sustainable uses for national resources in each rural area - and who is to decide this, and how? In particular, if agriculture or other existing forms of economic activity are being too destructive of sensitive areas such as rangelands, how do we cost and pay for the various options of changing the way we use such areas?

> Some rural communities and industries will die; in a rational, long-term view of the national interest, how many and which should be allowed to decline (having outlived their purpose), how many and which should be helped (if necessary) to thrive?
>
> National population policies can play an important role in influencing the sustainability of rural communities and regions. What are the critical links between rural and urban development, with such effects as the relative costs of providing infrastructure and supporting industry?

To resolve these sorts of issues, we need to be clear on our overall direction for development. All national goals involve a statement of community values broad enough to be socially inclusive rather than exclusive, and only after that is clear can the task of answering hard questions, particularly those that involve competition between social groups for society's essential resources, proceed. To derive such a goal for rural development requires debate at public and government level, and the current context I have described is throwing up many useful contributory ideas.

Various government groups have tried formulating statements of a national goal for rural development in recent times. Several common elements are.

> (1) that communities, industries, institutions and infrastructure in rural areas must be sustainable - economic sustainability will always be crucial, but for many activities ecological sustainability will be even more fundamental,
>
> (2) that communities, industries, institutions and infrastructure must be able to deal effectively with change, since in all scenarios for rural Australia, change of some magnitude is a fundamental given,
>
> (3) that both government and the communities have a role to play, and both roles are equally important.

All these various tentative definitions of a national goal for rural development assume that rural areas will continue to have an important role to play in Australia's society and economy - that is, none assume large-scale depopulation of rural Australia

The social importance of maintaining rural areas was recently well put in a paper by Lars Qvortrup:

> The problems [of rural areas] are not just problems for the rural regions, they are of a more general societal nature. For our rural areas are not 'just' places where people live and work. They have vital functions for society as whole. Here our provisions are produced, here our ecological equilibrium is maintained, and here our cultural identity is based. A national society without its thousands of rural village communities would be a fundamentally different society.[6]

In terms of the continuing economic importance of rural Australia, it is not yet clear what answers will emerge on fundamental questions of competing uses for the natural resource base. However, the overall national goal for rural Australia assumes the continuing importance of the major export industries, and that the rural Australian economy as a whole can and should be healthy and dynamic

So the need for a national goal for rural development has been argued, and some of its important features have been suggested. Its exact components need to be formulated through public debate followed by political action.

Roles of government and the community in rural development

A second policy emphasis in the current debate relates to the question of the respective roles for government and the community. Past development initiatives, especially economic development plans, have often been 'top down': that is, conceived by government or some other organisation outside the community and imposed from above. Such initiatives are not generally successful, and there is now more enthusiasm for the 'bottom up' approach, which engages the affected community and its industries from the beginning. It has become a truism of development policy that effective community ownership of development is critical. The future of a farm, town or region is largely in the hands of the individual farmers, business proprietors, employees and communities who live and work there. Most adjustment and development occurs autonomously within communities. Individuals and industries, as those closest to the issues, need to get together and work cooperatively to plan and to develop strategies for their futures. Many are already doing this, and governments can help foster more local initiative.

Governments in many industrialised countries these days are not keen to intervene in development more than they need. However, social justice requires that rural people have a fair share of the community's resources, so that they can address their own needs as far as possible. Impediments to effective change can often only be tackled by government - for example, reform of institutions such as financial or commodity markets or taxation regimes, provision of major infrastructure such as telecommunications and transport. Government must also act to safeguard the interests of groups at the margin in terms of influence, special needs etc - particularly Aboriginals and Torres Strait Islanders, those of non-English-speaking background, the elderly and the young. In many other areas critical to development, joint action by both community and government is required - provision and analysis of information, education and training; seed funding; service delivery.

Government's role can be summarised as maximising opportunities for rural Australians to realise their own destinies, and make the greatest possible contribution to the national effort.

How can we best deal with the diverse development needs of rural areas?

As we have seen, the present policy debate has accepted the truism that development is done by, and not to, the people, and proposes a partnership between communities, including business, and government. A second truism of development that can no longer be ignored in dealing with rural Australia is this: while the most pressing problems may be economic and environmental, in fact economic and social development and environmental action cannot be treated separately one from the other. This is also in line with the Commonwealth's policy agenda on Ecologically Sustainable Development. The concept of development for rural Australia that is evolving at present is therefore holistic, recognising that issues and problems are intertwined, and their solutions are therefore interdependent (something which rural communities themselves recognise very clearly).

One of the clearest examples of the interconnectedness of rural issues is the extent to which primary industries' health is dependent not just on industry adjustment and reform, but also on the overall social and economic activity and optimism of rural communities. How can farmers

give their best endeavours to issues of international competitiveness if they are worried about problems such as the imminent closure of their nearest machinery repair facility, meaning they have to wait longer or travel further for service and spare parts; or the fact that local facilities for their children's education are inadequate; or that the dwindling number of general businesses in their town means that the off-farm employment often vital to generate income to help with their farm's survival is not available to their family members.

This particularly raises issues of coordination for all policy and program areas bearing on rural development. The coordination of policy and programs horizontally across portfolios and vertically between tiers of government is a perennial issue in several areas of public policy. Overlapping or duplicative activity is as wasteful as contradictions in policy or gaps in service provision are frustrating. Examples of significant activity to coordinate action that has important consequences for rural areas include the development of the Northern Australia Social Justice Strategy and the application of the Ecologically Sustainable Development Strategy. It will be important that we continue these kinds of activities in order to seek integrated solutions to the interconnected issues of rural development.

This means structures to deal with coordination effectively, and recognition of the time and resources needed to make this work on the ground. The structures needed include everything from effective intergovernmental machinery to better nationwide databases capable of integrating all information needed for decision-making, whether it be scientific, financial, economic, social or cultural. Appropriate consultative mechanisms, between communities and government and within government, are particularly crucial.

We have to be realistic about the overall constraints on rural development. If, as is often maintained, cities are the driving force for growth, then the more remote rural areas in particular will have to stay close to their natural resource base and the ancillary industries it can generate as they plan their social and economic development.[8] But an outcome for rural Australia that might mean fewer, but more successful communities offering an economically and socially richer lifestyle for their residents, supported by effective rural industries operating within the bounds of environmental sustainability, and in the most up-to-date and internationally competitive way, would be more in the national interest than a slow descent into stagnation and despair.

To sum up this segment briefly, therefore. Many areas of all levels of government in Australia are, in their different ways, exploring the economic, environmental and social issues that presently face rural Australia, and impediments to development there. The policy prescription that is emerging from the primary industries and resource management agencies is for a national goal for rural development that recognises the complexity and interconnectedness of issues in rural Australia. Rural development policy needs to respond in a similarly integrated way. Economic and industry development issues, while significant, form only one dimension of the problems; all dimensions need to be considered simultaneously as linked solutions evolve. Moreover, for rural development to be effective, relations between government and local communities need to evolve so that the two become partners in development.

TWO EXAMPLES OF DEVELOPMENT STRATEGIES IN RURAL AREAS

I now want to describe for you a couple of interesting examples of recent work on rural development in Australia. These examples illustrate the theme of rural people gaining access to some of the resources they need to manage change, enhance the quality of their lives and develop their choices of livelihood. They also illustrate how partnership between government

and community can work, with government's contribution being quite small, but strategic, and significant because of its catalytic effect in conjunction with community ambition and effort.

Neither of these development projects has yet been formally evaluated, to provide an assessment of the change undergone and the process used therein. However, this is likely to happen in the next couple of years, and the evaluation will undoubtedly enhance our understanding of what these communities have achieved, and therefore what others can adapt for their own adjustment and development processes. In the mean time, I shall describe these examples from the accounts we have from major participants.

The first is by Bruce McKenzie, a community development worker who has worked with rural communities in South Australia, Victoria and New South Wales to implement a model of local management of change. Last year he documented, at DPIE's request, the model as it was implemented by the communities of Nyah, Nyah West, Koraleigh and Vinifera, on the Murray River near Swan Hill.[9] It is useful to compare McKenzie's conclusions from his practical experience with the main themes in Ann Pomeroy's paper.

The second example comes from the telecentre at Cygnet in Tasmania. You have the opportunity at this conference to hear Ian Crellin's paper on the telecentres program which he administers for DPIE. Telecentres have considerable potential to be important foci for development in their communities - it was the overseas experience of their potential in that regard that was one of the reasons for DPIE's formulation of their program. All our telecentres are at an early stage of development, and Cygnet is no exception - it is in its second year of operation. There are many exciting activities going on under the aegis of all the centres - I have picked the Cygnet example because it (1) seems particularly well founded on and integrated with community need and aspiration, and (2) is dealing with the by no means easy issue of 'indigenising' computer technology in a rural industry and community.

Nyah-Koraleigh Renewal Plan

Background

The four small communities around Swan Hill that are taking part in the Nyah-Koraleigh Renewal Plan have a range of quite typical and serious environmental, economic and social issues to deal with. The communities have traditionally mainly engaged in horticultural production of typical irrigation areas crops such as citrus fruit and grapes. In the early 1980s problems diagnosed in a horticultural census were 'that the area of horticultural land was shrinking, modern techniques were not being readily adopted to increase production and the valuable irrigation infrastructure was not being fully utilised'.

Attempts to form a community action group at that time were unsuccessful. So the Victorian Department of Agriculture and the Rural Water Commission did what they could through extension activities. Then in 1988 a sociological survey documented the problems as perceived by the farmers: small farm size, the reduction of land under horticulture, high turnover of farms and the lack of experienced farmers, and also that the community had no sense of how to address the downward spiral.

The release of this information galvanised the community, which formed the Nyah District Action Group following a public meeting organised by the two Victorian government agencies in July 1989. The group, which soon became broadly representative of the community, was funded by the Victorian government agencies, the Murray-Darling Basin Commission Natural

Resources Management Strategy, and the Shire of Swan Hill, to develop a Salinity Management/Rural Renewal Plan for the Nyah Irrigation District. Funding from the Commonwealth Office of Labour Market Adjustment became available a few years later.

In 1991 and 1992 research was conducted (in ways I will describe in a moment) into the basic data on the district, and on community behaviour and attitudes to development and adjustment. The renewal plan thereafter broadened to include seven development strategies, ranging through value adding and horticultural diversification, broadening the economic base, improved land use, education and training, and developing community spirit.

The following points should be noted from this potted history:

- the original issues needing remedy related to agricultural decline and problems with natural resource management
- attempts by outside agencies to deal with the issues were fairly ineffective until the community decided for itself that the issues had to be dealt with
- the community made that decision as the situation failed to improve and after its own views were sought and documented in the sociological survey
- the more information the community gathered about its situation, the more broadly they saw the issues, and thus their strategy broadened to tackle every aspect of their living and working conditions.

McKenzie's principles for successful rural development and adjustment

I'll now talk a little about the principles for development and adjustment that Bruce McKenzie thinks are important, based on his work at Nyah-Koraleigh and elsewhere. I'll then briefly outline his view of the major developmental stages of the Nyah-Koraleigh process.

For Bruce McKenzie, one of the critical issues for rural communities undergoing change and development is the degree to which there is local management of change and 'the largely externally generated change forces'. He contends that when there is inadequate community involvement in the management of change, people become disoriented and 'lose their hold on the societal units fundamental to their lives'; and too often also lose the ability to earn their living in their home locality and become more dependent on government support.

He argues that the goal of rural development must be well-balanced, sustainable community development, and for this to occur people in the community must be 'themselves the subjects and initiators of development'.

McKenzie defines what is the appropriate social unit to undertake 'rural development'. This is an important question, given that discussion of national rural development in government circles is accepting in general terms the need to involve 'the community'. We need to know what 'the community' is for these purposes.

McKenzie states that development programs 'are generally established for geographically delineated administrative units'. There may consequently be a failure to link the programs with the actual households or businesses for which their benefits are intended. McKenzie believes that the most effective and holistic development will take place in what he calls 'attachment communities', and these units should be identified and fostered in rural Australia for that reason.

McKenzie's discussion of the meanings of 'community' and 'attachment communities' is too detailed to repeat here, but it is a valuable feature of his paper. Essentially, 'attachment' refers to the sense of attachment that people in a particular territorial area or interest group feel to each other (and to the place they have in common, in the case of a territorial area). McKenzie believes that 'some places are therefore communities of attachment, at a particular time, to a greater degree than others'.

This takes us back to one of the questions I posed for solution by reference to a national goal for rural development - which communities should be allowed to decline, which helped to thrive. The implication of McKenzie's view is that to a certain extent such communities will self-select - those who have or can develop a strong enough sense of attachment have the capacity to embark on effective change management for development. Government can assist these communities very effectively, if it chooses to do so. However, the implication is that if government tries to maintain communities without this sufficiently strong sense of attachment through a development process, it is likely to breed dependence in them, and therefore be committed to an overly expensive and not necessarily successful process of development. To rephrase a famous cliche, 'Government should help those that help themselves'.

While the strength of the community's attachment is an important precondition, those things that the community recognises that it has in common are accompanied by a range of divergent specialised interests. Moreover, power within the community may be reasonably dispersed, or it may be in the hands of an elite or elites. These sources of potential conflict have to be 'neutralised' so that the community's development can be conceived of in a way that all can share. McKenzie believes it is the community's self-organising capabilities that will be critical to establishing appropriate mechanisms for a new pattern of resource utilisation. The resources are everything the community needs for its living - land and water, physical labour, finance, information etc. The new patterns of self-organisation must make it possible for

- resources to be used for the whole community, according to organisational norms derived from traditional endeavours and acceptable to the community
- resource use and management to be modified as required by changing community goals and circumstances
- divergent interests to be held in place for the benefit of all

We could therefore summarise McKenzie's preconditions for rural development that is holistic and sustainable as follows:

- there is change occurring which the community recognises as threatening the long-term basis of their livelihood
- the community wishes to control their own destiny by understanding and managing the change
- the community is an attachment community - there is a strong sense of commitment to the group and an ability, arising out of its current organisational capacity, to create new organisations appropriate for the changes to be undergone and strong enough to harness divergent interests to the common goal.

He describes his role as the community development worker as being to establish that these preconditions for development are there; and

> to take time to understand the ... dynamics of [the] rural community so I can detect the sources of potential self-management, and work effectively with such people to enhance their self-organising capability and their long-term self-reliance.

He thus supports the people in their action, while at the same time mobilising the resources they need. He describes this as being 'the hands and legs of the community' - literally helping to organise all the details of implementing the community's objectives/vision. The temptation to be resisted, he says, is to be in any sense the 'brain' as well. All the thinking and decision-making must be done by the community itself.

McKenzie valuably reminds us again of the huge variety of rural communities, and of the complexity of the processes of change. This is something that creates real difficulties in community relations with government, which has broad responsibilities to the whole national community and consequently a generic program approach to service delivery. In McKenzie's words, 'the one-size-fits-all approach to rural community renewal is totally inadequate', each development process and outcome will be unique to its community because it is shaped by local issues and capacities.

He is equally concerned to make the point that the rigidity of government requirements for funding can hamper the community's change processes. Effective development processes must be flexible, to accommodate the community's developing view of its direction and needs as well as changing external circumstances. It would be desirable, in McKenzie's view, if government funding could be designed to be equally flexible. For example, Nyah-Koraleigh had to emphasise the 'environmental' aspect of its situation to attract initial funding; once the adjustment process began to cross portfolio and discipline boundaries, funding became more difficult to attract. Yet the achievement of community development goals broader than those allowed by the funding criteria was perceived by the community as essential to achieving their environmental objectives.

I said in the first part of this paper that rural development needed to have a national, cross-portfolio approach. It follows from this too that funding designed to assist such development should be equally broadly structured. Finding solutions that will meet both the community's need for flexibility and self-direction and government's need to meet its own policy imperatives and accountability requirements is not a simple task, but one that needs to be pursued.

The process in action

McKenzie's paper then describes in some detail how he put these general principles into effect at Nyah-Koraleigh. The process shows how complex it can be to try and work alongside a group in a way that proceeds always from their assumptions, knowledge, will, and not your own. The first three stages prepare the community for development, the last two implement the development program.

1. Firstly, McKenzie discusses the importance of the community starting with a sense of positive self-regard, rather than the sense of inadequacy and guilt he believes is induced by many development programs that start with the community's problems in the present, rather than its past and present achievements. The first stage is therefore to affirm the community's

record as good practitioners, judged in the light of their knowledge and resources, and thus their capacity to develop 'best practices' that incorporate new knowledge.

Another important aspect of this stage is for people to affirm all the reasons they have for being a part of that particular community, and celebrate all that they value therein. This sense of identity and confidence is important as change induces uncertainty and anxiety during the development process. Affirming activities can include centenary or other celebrations, or community activities such as picnics.

This stage can encourage people who have not previously been community leaders to take on that role.

2. The next stage is for the community, with outside assistance where relevant, to create a common base of knowledge about the community. This must be highly accurate to be convincing to all community members. This body of data forms the basis for the community to formulate scenarios for change, and to evaluate the change activities undertaken.

Again, it is important that the community decide what are the significant areas of information they need, and collect as much of the information as possible, including by interviewing as many of the community as possible. Outside assistance can be required with organising and interpreting data available from external sources such as the Australian Bureau of Statistics. This latter exercise demystifies the use of statistics for community members and helps them realise that this is a skill they can exercise.

Once collected, the information should be made available to the whole community. This can be done, for example, at a public gathering, which can be made into a significant occasion by including a shared meal, children's drawings of the community's future, a photographic display of community residents.

As we saw in the history of the Nyah-Koraleigh Renewal Plan, the results of this research were very significant in that community, causing them to embrace a set of strategies for holistic community renewal that went beyond their initially more limited goals.

3 The next stage that McKenzie describes is that of the community constructing a vision for itself that stretches 'its options beyond present behaviour and parameters', but 'does not overreach the community's capacity for change'. The visioning process, which can happen in a number of ways, gives the community members permission to take risks and think laterally, thus releasing creativity.

4. The fourth stage is, in McKenzie's view, one of the most difficult: that of establishing legitimate networks within the community that will function as efficient means of communication to work for change management. Rural communities need to embrace significant attitudinal and behavioural changes to go beyond their traditional 'grapevine' and sectional interest networks to form a community network that reaches the greatest possible diversity of members in the community, that prevents the hoarding of information in certain segments of the community, and presents everyone with a diversity of views so that everyone can consider a range of options on any given issue. Such a network, if successfully built and maintained, is a major force for cohesion in the development process. But McKenzie emphasises how different such a network is to the usually highly exclusive traditional networks in rural communities, which will usually work against change. He also stresses the need for

adequate resourcing of the network. In Nyah-Koraleigh one of the network's main forms is a newsletter called *Local Link* that serves all four communities

5 The final stage McKenzie describes is that of choosing strategies and undertaking tasks to achieve development. He believes the four previous stages of community development are necessary before 'a confident, informed and forward-looking community joins in partnership with governments, commercial interests and educational institutions'. At this point in the developmental process, the community needs information from the outside world on the range of alternatives possible for it; and it may also need specific assistance, such as education and training so its members can undertake the tasks they set themselves.

For example, in Nyah-Koraleigh, the community invested funds in buying a TAFE course in tissue culture to help them with one of their planned diversification activities. With information available to them, community members make an informed choice of strategies. McKenzie also stresses that strategy choice is an evolving process, not a one-off setting of a program that is then adhered to regardless of circumstance. Community members then each choose which of the strategies they want to work on. Individual strategy task groups generate lists of manageable staged tasks that will lead to the accomplishment of their strategies. The facilitator contributes labour to all strategy groups to help them with their tasks, and relationships/partnerships are established with individuals and organisations that can assist also.

Outcomes

As I have mentioned, a full evaluation of the Nyah-Koraleigh process is still to come. But it is already clear that the process is resulting in real and effective changes for industry and the community. Three examples of strategies from Nyah-Koraleigh are as follows.

> Diversify the community economic base by researching and promoting alternative horticultural commodities suitable for the district.
>
> Present local natural resources in a manner that is ecologically sustainable and attractive to tourists in the district.
>
> Promote and conduct activities for local residents that enhance their participation in community life, their pride in the district and their self-esteem.

I will talk a little about the outcomes of each of these. I was one of about 50 public servants and others invited to a workshop held in Nyah-Koraleigh in 1992 and I was able to see how far some of these strategy groups had come in implementation. Diversification of crops had certainly taken place, following careful research about markets, needs and how to go about propagating new crops. McKenzie states that in the first season of the program's implementation, 'acreage used for new commodities increased by 180% and now represents 8% of the district's total horticultural land'. He says that about 28 new commodities were trialled and most produced financial returns greater than those from existing commodities. These new commodities have the capacity to generate levels of income sufficient for all existing horticultural properties in the area to be sustainable. There has also been flow-on to value adding industries, such as packaging produce for export and producing dehydrated fruit and vegetables.

One of my favourite stories from Bruce McKenzie about the outcomes of the development process in Nyah-Koraleigh is about a consortium of farmers who got together to explore and fill a niche in the Japanese market. The niche was for squabs dressed ready for cooking, and these farmers are now supplying this market direct. This required cooperation between those raising the squabs, and those who had joined the recent trend to herb growing (another result of the diversification strategy). The squabs are raised in the neighbouring region around Wycheproof; community networks led to the cooperation with the Nyah-Koraleigh herbgrowers. Each of the half dozen people involved also chose to become expert in one of the skills required for the project to succeed - marketing being an obvious example - and to exercise that skill on behalf of the whole group. The achievement of this small group of people from a small community successfully broaching a highly competitive international market is satisfying and inspiring, and shows what real outcomes are possible from an appropriate development approach.

The second strategy relates to tourism. Being close to a major tourist centre at Swan Hill gives Nyah-Koraleigh the opportunity to capture some of the visitors to the general area; but they also have to offer something distinctive to draw visitors, given Swan Hill's better known attractions (which include the Swan Hill Pioneer Settlement). The tourism strategy group were being quite realistic about this, and producing a modest but interesting package that focused on the Aboriginal and European history of the area, including its industrial history. They were responsible for organising lunch on the day that our rather large group visited. This took the form of a picnic by the river that centered on pioneer food cooked in an earth oven and included local produce: orange juice, baked pumpkin, locally made loquat jam with our damper. The organisation of the whole lunch was impeccable, and the tourism group were visibly pleased with themselves at having such a success despite their inexperience. The tourism group contained a relatively high number of unemployed people, so this boost to confidence was the more important to them.

The third strategy, of promoting participation in community life, had as one of its first, and resoundingly successful, outcomes, the organisation of a monthly farmers' market. Again, the pride and enthusiasm that this event was generating were made very plain to us by community members. While the market had some room for stalls for outsiders, and there was enthusiasm at the idea of attracting visitors from far afield to the regular event, it was clear that the major importance of the event was in its capacity to bring the community together, and for them to celebrate their own achievements in produce-growing, baking, handicrafts, etc.

It needs to be noted how profound a community involvement is represented by McKenzie's approach. 'Community *managed* change' is a very long way from more traditional approaches, particularly in the economic development or regional development field, where advanced thinking often advocates and practices community *consultation* in change processes that are often initiated outside the community. That both initiation and management of change should come from and remain in the community represents quite a significant shift in both principle and practice - a truly 'bottom up' approach.

Cygnet telecentre project to implement a computerised payroll scheme for local growers

What is a telecentre?

Telecentres, as funded under the DPIE program, are community-managed non-profit businesses whose purpose is to encourage enterprise development and employment creation and improve service delivery in rural areas, and to do so in particular by making use of the

opportunities afforded by telecommunications and computing technology. Familiarity with these opportunities is uneven in rural and remote areas, and in general is lower than in metropolitan areas.[10]

Rural businesses can be disadvantaged competitively if they fail to make use of these modern technologies, and rural workers equally need to acquire labour market competitiveness through understanding of and skill in the use of such technologies. There are efficiencies and advantages to be gained in such areas as business management and property planning; land care and management; contact with markets and financial information; a range of specialist information and advice that is sometimes most accessible through computerised databases; and professional networking of various sorts

Telecentres typically contain equipment such as a telephone, fax and photocopier; a range of computers of varying capacity; and a modem to make possible data transfer over the telecommunications system. Some also have satellite receivers, and audio or video conferencing capacity. They also have conventional office furniture and equipment.

The centres can help rural businesses and workers by being centres of specialist advice; by making the technology available for use, by teaching people how to use the machines; and by providing the combination of skilled workers and machines to supplement the workforce of local businesses. Telecentres also typically assist in the delivery of distance education into their communities; and some are exploring the possibilities of long-distance working - teleworking or telecommuting.

The fundamental concept behind the telecentres is the broad one of community economic and social development, and while the telecentre's core activities are typically those described above, they will usually become important social and cultural centres for their communities also. They often undertake such basic community development tasks as publishing a local newsletter, assisting community groups to produce their newsletters and brochures, and providing electronic bulletin boards for social and cultural groups as well as businesses and students. They can become a drop-in centre for students, housewives, the unemployed, the elderly, who want to enhance their skills or simply experiment with the machines. They can take on some of the functions of an employment agency by keeping a register of people with appropriate skills who can work for or through the telecentre. At DPIE we are constantly impressed and delighted with how varied and inventive are the uses which communities find for their telecentres, and the same inventiveness is characteristic of rural telecentres worldwide

Information technology and rural development

In a recent article, Seamus Grimes has highlighted as a major issue whether information technology will encourage greater centralisation or decentralisation. Because of the importance of this technology in economic development in particular, it is important that it becomes a tool to assist with rural development, and not a means for increasing rural disadvantage. The technology as it is deployed in telecentres can reduce the effects of isolation and distance in the most amazing ways. It links people and transmits information across vast distances, bringing the resources of the metropolitan centres, of international centres, and of other far-flung communities within reach and making all sorts of fruitful interaction possible. The fact that anything that can be computerised can be telecommunicated, and anything that can be telecommunicated can be computerised, makes it possible to bridge organisational and cultural as well as physical distances.[11]

However, what is possible and what has been achieved to date are rather different. So far, computer networking is still 'mainly controlled by large organisations, including foreign and native multinational companies, government departments and semi-state companies'. It is estimated that in the United Kingdom, 60% of all data traffic is generated by 300 large companies, and in Norway between 40 and 50% of all traffic is between 25 companies. Interconnection between organisations or sectors is still not routine. The ownership of company networks and computerised information databases can be of concern: it tends to be in private hands, which can create a range of public policy problems.

The provision of suitable telecommunications infrastructure is another issue. In Australia, for example, segments of the telecommunications infrastructure in rural and remote areas either cannot handle electronic data transfer (because of the technical incompetence of old-fashioned systems, or because not enough lines are available), or handle it at a lower speed than in metropolitan networks. The costs of transmission time and of supplying infrastructure can both militate against equity of access to information technology. Although Telecom has made a significant effort through the last decade to improve the reliability of the Standard Telephone Service in rural and remote Australia, it is still an open question how soon further upgrading of the network to provide for high quality electronic data transfer will proceed, and who will pay for it. This is a question of no small importance to the future of telecentres specifically and of rural development generally.

Grimes's article returns a similarly open verdict on whether information technology is likely to assist centralisation or decentralisation. There are forces operating in both directions, including the declining cost of much of information technology, the need for increasing flexibility in new production and distribution systems in industry, and the still strong human (and especially rural) preference for face-to-face contact, both socially and in business. Qvortrup has suggested that 'although the electronic infrastructure makes decentralisation possible, ... in all probability it will not be accompanied by the decentralisation of firms, administrative units and social networks'.[12]

Community acceptance of information technology and understanding of its potential are not just a matter of how much is known, although this is a critical issue. There are also psychological and cultural barriers to be overcome, even to quite obvious applications such as electronic funds transfer in the more highly computerised countries.[13] All of these barriers can be more acute in rural areas. It is in this context that I want to discuss the Cygnet Telecottage's project.

I should just explain that 'telecentre' is the generic term DPIE uses for these centres and for its program. Established telecentres name themselves as they please, and some prefer the term 'telecottage'.

The Cygnet community

Cygnet is the second oldest of the Australian telecentres, having commenced operation in late 1992. It is situated on the eastern side of the Huon River valley, some 60 kilometres south of Hobart. The population of the town of Cygnet itself is just over 3000 people. The population of the Huon valley area is some 12 700 people. The main industries in the Huon valley are fruit growing (apples, pears, berries and stone fruit); forestry; beef and lamb raising; a growing aquaculture industry; wholesale and retail trading, including services to tourism,

community services, and some manufacturing (shellfish production; dog food; furniture; and crafts).

The area feels itself to be isolated, and is not well served with State or Commonwealth facilities despite a high level of reliance on social security, the Department of Social Security's nearest office only operates part-time, and there is no local schooling available above the lower secondary level.

At 17.4%, the Huon valley's unemployment level is significantly above that for Tasmania as a whole (11.1%) Youth unemployment is high; women are significantly underrepresented in the labour force; and nearly 30% of the labour force works only part time - largely in seasonal employment in the fruit industry.

Progress of the Cygnet Telecottage

The group that has successfully established the Cygnet Telecottage was formed during a long process of community consultation that included holding a future directions conference to establish developmental opportunities and barriers for the area The mission statement for that group is 'To identify and implement development projects in a manner that will best meet the needs and wishes of the people within the Huon region'. The mission statement of the telecentre itself is 'To provide a self-sustaining commercial and technological infrastructure to facilitate the development of specific regional enterprise, educational, cultural and social activities'. The Cygnet Telecottage's operations demonstrate that it is adhering closely to the community-directed focus evident in these statements. It engages in regular community consultation, especially through surveying, to keep in touch with community views. It is following strategies to make the telecentre self-supporting financially, which is a part of the requirements of the DPIE program; and at the same time it provides support, within the limits of its resources, through free or discounted services to community groups that support its overall developmental objectives.

Its first year of operation has been one of significant achievement Based on a relatively small DPIE grant of $36,000, a $5000 subsidy from Telecom, plus $10,000 in cash and considerable in-kind support from the local community, the Telecottage in its first year has achieved its objectives, kept to budget, and reached a turnover of more than $65,000. This is a testimony to the efforts of all involved, and to the degree of community support generated for the centre.

Payroll project

As with all telecentres, there are many notable aspects to the way the Cygnet Telecottage is operating. I want to discuss here just one of their projects, that of implementing a computerised payroll scheme for local fruitgrowers. This project is particularly significant because of its imaginative tackling of the general issue of how to introduce new technologies to very traditional rural industries, and to traditionally educated communities that often have relatively low skill levels. As the Telecottage's Business Plan puts it, 'Clients must become exposed to these powerful tools [telecommunications and computer technology] through experiences that are non-threatening and understandable'.

In line with the Telecottage's philosophy as a community-managed enterprise, this project is both a sensible business proposal and a project that gives a contribution back freely into the community. It has been developed through discussions with growers and accountants, and

there will be a need, recognised by Telecottage staff, to maintain a high level of detailed face-to-face contact if the project is to succeed.

The project responds to two sets of problems:

- in the case of the growers: in the peak thinning, picking and pruning seasons, they hire much additional labour and often work most of the night to calculate wages, while still putting in a long day in the orchards. In addition, they often do not understand their liabilities in relation to taxation, superannuation or the Training Guarantee Levy - legal requirements, some of them recently introduced, that represent significant business risks for the growers,

- in the case of the seasonal workers: they usually receive only the most basic training, and very few receive contributions to a superannuation fund or access to the potential benefits of the Training Guarantee Scheme

The Telecottage aims to offer a computerised payroll package to the growers, charged at a percentage of the total gross payroll. They will also offer a free computer training package to the growers, to develop an understanding of what computer technology can offer them, and prepare the way for the introduction of a range of more efficient work practices. As Ian Crellin has pointed out in his paper to this conference, telecentres provide a 'supportive and practical learning environment with a network of similar people' - a real strength for rural people who may have had no formal educational experience for decades and are now grappling with quite unfamiliar areas of study such as computing.

The project will also allow for the pooling of Training Guarantee Levy payments, enabling the Telecottage to provide training for the pickers, many of whom have received no formal training beyond secondary school. The importance in both social and economic terms of enhancing skills for this workforce is obvious. The project will doubtless also require the provision of some training for people to enter the data for the payroll system, and generate some employment in that way.

The Telecottage has carefully planned the implementation of the project to take place in three phases over the next couple of years. This phasing mirrors the overall Business Plan for the Telecottage. In the first (or establishment) phase, the Telecottage sees itself providing 'high quality access to traditional business support services and technologies' for the community. In the second phase there is a shift away from 'paper-based' information exchange and delivery of services to computer-based delivery, including training community clients in the use of the technology. In the third phase, service provision shifts entirely to the use of telecommunications and computer-based data manipulation technologies.

Thus, in the case of the payroll scheme, operations such as data collection and data entry will initially all be manual, working from growers' written records. Greater degrees of automation will be gradually introduced; it is hoped that at least a significant proportion of growers will eventually have their own computers and data will be transmitted directly via modem. Funds transfer, likewise, will develop from cheques to electronic funds transfer over the period, and the Telecottage hopes to cooperate with a bank in undertaking necessary trials for this aspect of the project. It is envisaged that the payroll system will be able to be offered to growers in other regions over time, spreading eventually to the whole state.

As familiarity with the technology increases among the growers, other important business skills and opportunities will become available to them. Services the Telecottage hopes to supply include:

- ordering and account management services
- access to market, technical and research information
- a farm machinery sharing scheme
- a cool-store availability register
- training in farm management software
- an apprentice-sharing scheme in cooperation with the growers and Tasmanian Group Training Ltd.

I find this carefully planned and balanced package very impressive in concept. Based on discussions with those affected, it builds slowly and carefully, with telecentre staff and people in the industry working together to provide modern solutions to acknowledged problems, and contributing to the skills of both growers and their seasonal workers along the way. Once the technology has been thus demystified and made culturally acceptable, the industry should smoothly manage further transition such as adopting more modern work practices and exploring such possibilities as enhanced value adding and niche marketing, assisted by up-to-date market and technical information. In fact, if these Cygnet fruitgrowers follow the example of other farmers in other industries, once the possibilities and the skills to exploit them are within their reach, they will themselves quicken the pace of change.

The telecentres experiment has still not been going long enough for us to really be sure what its outcomes will be, and there are unresolved questions about how effective these community-managed enterprises will prove to be. However, this one aspect of the Cygnet Telecottage's operations shows the huge potential such centres have for acting as catalysts for change within rural communities. It is going to be fascinating to see whether such a well-thought-out approach works in practice Its success will depend on many factors, including acceptance by the industry and individuals of the need change and Telecottage staff keeping the pace of the project in line with the level of that acceptance. This takes us back to the points made earlier on the basis of Bruce McKenzie's work about how critical is community management of the evolving process of change, and by Ann Pomeroy about the need to communicate information in ways that ensure community members will find it relevant and timely for their own decision-making.

CONCLUSION

Let me just conclude briefly.

Many Australian rural communities are displaying a determination to remain vital and to manage their own development processes. The two examples I have discussed here show these two communities capably demonstrating the real possibilities of rural development and their own ability to manage change for themselves. They are doing so in ways that tackle the full range of issues facing them in a holistic and integrated way.

As a matter of principle, and because government resources are never adequate for the demands made on them, it is important that such autonomous rural development should be encouraged by government. The key is to increase the resources available for communities to meet their own needs, and provide their own services adapted to local conditions. This is the most effective and efficient route to development that is in both the community's and the

national interest. The policy debate I discussed in the first part of this paper reflects these ideas.

Some of the most critical resources for transfer into rural communities are information and skills. These are some of the most important tools for community and individual empowerment anywhere. This is a transfer that government can facilitate, in ways found appropriate by the community, so that the community becomes a true partner in development with government. The community development process described by McKenzie makes it clear how such a partnership can develop. The Cygnet Telecottage project demonstrates how a relatively small amount of government funding has enabled one community-managed enterprise to devise its own scheme for improving the community's skills and information base, founded on local diagnosis of local needs and their appropriate remedies.

The situation facing rural Australia is multi-faceted and complex. Because needs and opportunities are so varied, responses adopted by communities will be equally varied, and government's policy response therefore needs to be flexible, as well as based on a clear and publicly agreed sense of the national priorities for rural development. Change and adjustment are clearly continuing dominant themes in rural life, and are causing quite acute misery in some areas.

It has been said that one of the major contributions that social science research has made to agricultural economics and agricultural practices is 'the development of methodologies and practices which enhance the probability of successfully undertaking change' [14] The motivation of individuals and communities, and their willingness to alter their institutions and practices in the face of changing circumstances, is one of the most important keys to dealing with change. We still have more to learn about change in complex situations, but the theory and practice of both McKenzie and the people at the Cygnet Telecottage are illuminating when we consider the challenges facing rural areas today.

It may be no accident that the group of officials that are opening up new avenues of debate on rural development is a multidisciplinary group: we include scientists, economists and social scientists. I believe that we have all found it stimulating and helpful to be able to pool ideas and approaches and knowledge as we wrestle with problems that, though they show each of us a different face, are in fact common to us all.

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ENDNOTES

1. The 4.9 million consists of those Australians who live in the non-metropolitan, that is, rural and remote, areas, and that is what I mean by 'rural Australia' in this talk. 'Metropolitan', in Australia, refers to only about a dozen cities. See Leon Arundell, *Rural, Remote and Metropolitan Zones Classification: A classification for Australia as at 30 June 1986 and a methodology for 1991 Census data*, DPIE, Canberra, 1991.

2. National Farmers' Federation, *New Horizons: A Strategy for Australia's Agrifood Industries*, Canberra, 1993, p 8. Processed agricultural exports provided 42% of total agricultural exports; there has been a steady rise in that percentage in recent years.

3. Ibid, pp 5-6. While the service industries now make the greatest contribution to Australia's GDP and account for most of our employment (72% and 79% respectively), they contributed 20.5% of exports. Manufacturing contributed 14.8% of GDP, employed 14.5% of the population, and manufacturing other than that related to processing primary products accounted for 16.9% of exports.

4. Interesting discussion of some of these environmental issues is contained in Graeme Robertson, 'Nurturing the Resource', in Simon Field (ed), *Making It Happen: Developing a National Strategy for Professional Support for Australian Agriculture to the Year 2020*, Report of the National Conference 1993, Australian Institute of Agricultural Science, pp 105-12.

5. *Developing Australia: A Regional Perspective*, A Report to the Federal Government by the Taskforce on Regional Development, 2 vols, Canberra, 1993.

6. Lars Qvortrup, 'Community Teleservice Centres and Rural Revival', in the Proceedings of Telecottage '93 International Symposium, 'Telecottages, Teleworking, Telelearning: Road to Rural Revival', Gold Coast, 29 November-1 December 1993, pp 69-70.

7. Michael Cuddy, 'Rural Development: The Broader Context', in Micheal O Cinneide and Michael Cuddy (eds), *Perspectives on Rural Development in Advanced Economies*, Centre for Development Studies, Social Sciences Research Centre, University College Galway, 1992, pp 68-76.

8. Bruce McKenzie, *Rural Community Development: A Discussion Paper*, forthcoming publication by the Department of Primary Industries and Energy, pp 72-9. We asked him to document the approach because he is a widely respected practitioner whose principles can be and are being adapted by a range of communities. My account draws heavily on his, which will be available as a publication from DPIE in the next month or two.

9. It is important that the community keeps its developmental objectives within the bounds of its own resources. Self-managed change processes can be 'captured' by outside interests if, for example, the strategies require large injections of outside capital or expertise. See Emily Phillips and Hugh Campbell, 'The Contemporary Meaning of Rural Development in New Zealand', *Rural Society*, vol 3, no 2, July 1993, pp 9-11.

10. Seamus Grimes, 'Information and Communication Technologies: The Prospects for Rural Areas', in O Cinneide and Cuddy, op cit, p 128.

11. Ibid, pp 123-35.

12. As summarised by ibid, p 127.

13. Ibid, p 125.

14. John Childs, 'Agriculture - A Learning Experience', in Field (ed), op cit, p 124.