

Department of Employment, Education, Training and Youth Affairs

**‘Creative Associations in Special Places’:
Enhancing the Partnership Role of
Universities in Building Competitive Regional
Economies**

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Contents

Acknowledgments	v
Executive Summary	vii
1 Introduction	1
1.1 Introduction	1
1.2 Structure of the Report	5
2 The Spatial Configuration of Universities	7
2.1 The Pattern of University Location	7
2.2 Issues of Equity, Efficiency and Management	10
3 The Changing Regional Community Paradigm in the Global Economy and Relations with the University	15
3.1 The Changing Role of the Regional Community in the Global Economy	15
3.2 The University–Community Connection	18
3.3 The Changing University–Community Relationship	21
4 Passive Economic Impact	27
5 University Teaching, Research and Development, Leadership and the Regional Economy	31
5.1 Background	31
5.2 Teaching Impact	31
5.2.1 Specific Impact	31
5.2.2 Pervasive Impact	35
5.3 Research and Development	37
5.3.1 Background	37
5.3.2 Research Precincts	41
5.3.3 Industry Specific Research and Development	44
5.3.4 Enterprise Specific University Research and Development Partnerships	46
5.3.5 Student-oriented Research and Development	48
5.4 Regional Leadership	48
5.5 Promotion Activities	51
5.6 Information	52
5.7 Networks and Brokering	52
5.8 American University—Examples of Community Partnership	53

6	The Learning Region–University Community	55
6.1	Background	55
6.2	The Learning Region	55
6.3	Management Implications	58
6.4	The North West Sydney Example	59
6.5	The Greater Green Triangle Post-secondary Education Consortium	60
7	Implementation Steps and Impediments to Greater Connections Occurring Between Universities and their Regional Communities	61
7.1	Background	61
7.2	Steps Required	61
7.3	Impediments	62
8	Policy Implications	63
8.1	Introduction	63
8.2	At a Government Level	63
8.3	At a University Level	66
8.4	At the Regional Community Level	67
9	Conclusions and Recommendations	69
9.1	Conclusions	69
9.2	Recommendations	71
	Appendix 1 University Survey	73
	Appendix 2 University Regional Community Facilitated Workshops	83
	References	85
	Tables and Figures	
	Table 2.1 University Campus Location	8
	Figure 6.1 The Learning Region	58

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Executive Summary

This project has investigated the relationship between universities in Australia and their regional communities from an economic development perspective.

The project is stimulated by the confluence of three trends:

1. the increasing location of universities in regional areas throughout Australia;
2. the increasing requirement for regional communities to pursue their own initiatives to maintain the viability of their 'sense of place' and add more to the competitiveness of the nation in the context of their economic positioning in a rapidly changing global economy; and
3. the increasing requirement for universities to be more entrepreneurial, corporately efficient and financially independent.

Information for the study was obtained from a number of sources, the two main sources being a comprehensive survey of the management aspects of university location decisions and their connections with the regional community and six facilitated university/regional community workshops.

The project identifies a range of policy and other actions to enhance the economic relationship between universities and their regional communities and identifies a number of examples of good practice which universities and their communities may wish to consider in their management planning.

The main conclusions of the investigation are:

- there is an increasing will on the part of universities and their regional communities for closer economic relationships that go to the heart of the contribution the university can make via its teaching, research, leadership, information and networking and other strengths;
- universities can make a far more substantial contribution to the economic development needs and viability of regional communities beyond that of being a simple employer and local purchaser, and can contribute more to university and national objectives, by being more assertive in the way they involve themselves with the economics of the region they are located in;
- while there is evidence of good practice in a number of universities in terms of their economic connections with the regional community at a project level, there is at present no consistent or concerted effort on a whole-of-organisation and whole-of-community basis; and
- there are a number of impediments at a government policy, university management and at a community level which are holding back the strengthening of these relations.

The study makes recommendations for government, universities and communities.

Changes are recommended to the formula criteria that underpin university operating grant funding and changes to specific-purpose and grant programs targeted at universities or to enhancing general economic competitiveness for the Commonwealth to take more explicit account of the economic potential of regional communities and the university's role in fostering this. In this regard, the Commonwealth should also examine how universities, in association with their regional communities, can play a role in ensuring the integrated delivery of government projects and programs to best meet the identified economic development priorities of different regional areas.

It is also recommended that there be a continuation and expansion of some of the university/community workshop discussion initiatives begun in this study to enhance the relationship between universities and their regional economies in more strategic and practical ways on a wider front and provide support for learning to occur between universities on a national basis in relation to the initiatives they have put in place with their regional communities.

At the university level, it is recommended that there be management attention across a number of strategic, human resource, organisational design, access, collaboration, communication, leadership, promotion and other areas so as to make more of the growing interest in fostering strong and meaningful relations in an economic development sense with the local regional economy.

At the community level, there needs to be more efforts at better articulating the economic development requirements in which they expect the local university to collaborate with them on.

Finally, it is suggested that this study should be seen as a starting point for other investigations that seek to explore ways in which universities may contribute to and benefit from stronger economic development associations with the regional communities they are located in.

Introduction

1.1 Introduction

The societal and economic positioning of our publicly-funded universities is undergoing a process of considerable review at present in the context of the achievement of national economic, social, environmental and cultural objectives. As part of this, the corporate management and the financial performance of universities are under scrutiny with reduced availability of public funding to support their core functions fully.

These reviews go to the heart of what should be the role of the university generally in the community in an environment of rapid change and how this could best be managed.

An emerging dimension of the way universities can add more to our national objectives and be seen to be more relevant to the community, is the way they involve themselves with the futures of their local and regional economies.

In concert with their nationally and internationally focused actions, more focused local and regional community actions by institutions such as universities can enhance the achievement of national objectives. Managed the right way they can add substantially to the sustainability of our 'sense of place' during times of change, whether the places are neighbourhoods, towns or cities.

Enhancing the connectivity between universities and their regional economies raises issues for the university of equity and efficiency, organisational design and management. It is a challenge many universities are beginning to take up with their communities, and some have made considerable progress. On the whole, however, what we have found in this project, is that there is no confident and concerted whole-of-organisation approach by any of the players—government, universities and communities—in this area at this stage.

While this study will not provide all of the answers to what could be the role for universities in the economic development of their regional communities, and through this their contribution to enhanced national objectives, it will provide some guidance for decision makers at all levels.

There are a number of broad reasons why in recent years the role of universities in contributing to the economic competitiveness of their regional and local communities has become more important.

First, universities, through their campus location policies and actions and through their evolving partnerships with other university and with non-university education organisations, now have a presence in one form or another in most regional communities throughout the country.

Second, with the increasing rationalisation and centralisation of many private and public sector activities (such as banks and other corporate branch plants and a wide range of government service agencies), the higher education institution, along with the local government authority, now represent one of the few remaining identifiable institutions with the independence, critical size, skills, information and networks to assist regional communities develop their own resource capabilities in order to be competitive in the context of the global economic environment.

Third, as the pressure for economic change becomes greater in the context of a competitive global environment, regional communities themselves are adopting their own self-help approaches to the economic development of their areas so as to ensure there is some ongoing economic viability and sustainability to their sense of place. Communities are beginning to see the role of the university in this sense not only in terms of the stimulus the institution can provide as an employer and purchaser of local goods and services, but as a knowledge provider that can underpin strategic approaches to the economic positioning of the regional economy and be a stimulus to its industry and employment.

Fourth, public funding constraints have forced universities to seek out private sources of funding and market niche areas for their non-core activities and, increasingly, for their core functions, and the regional milieu provides an arena for the local university to grow its own advantage in both its core and non-core activities vis-à-vis other universities it sees as its competition. In other words, as with other forms of business, a supportive competitive regional economy will generate a competitive university.

Finally, issues of geographic access to higher education, along with socio-economic and cultural access, are not only being seen as necessary parts of a fair Australia, but as a means of raising generally the stock of skill supply—particularly in non-metropolitan areas, thereby addressing one of the key impediments to economically viable non-metropolitan regional communities.

Many universities are examining how they can have a stronger relationship with their regional economies beyond their traditional core business of educating local students. Many now include an explicit reference to the local and regional economy in their operational and strategic plans.

Understanding the dynamic of the connections between the university and community and how the role of the university in its regional economy can be enhanced are not readily discernible when it comes to matters of economics as opposed to the achievement of cultural and social objectives where the connections have been developing for some time.

For a number of years the economic connection between the university and the regional community simply reflected a residual objective in the university strategic

plan where it wanted to be seen as a ‘good corporate citizen’. It extended little beyond providing an economic stimulus to the local economy through its employment, everyday purchases and providing community access to campus facilities.

Traditionally, it has included access to such areas of the university as sporting fields and gymnasiums, libraries, auditoriums—increasingly on a cost-recovery basis—the hosting of cultural and artistic events, holding conferences and workshops, community radio stations, the representation of academic staff on local statutory and institutional boards and advisory groups, and some areas of direct involvement with local business enterprises and institutions.

While a number of studies by universities and their regional communities have identified the local and regional economic impacts associated with the presence of the university, we have found in this study that the potential of the university for adding value to the underlying requirements of competitive economic growth in their regions can be greatly underestimated.

The university may take its involvement in the economics of its regional community far beyond that ordinarily attempted by other institutional and corporate entities by providing a focus on the way it can enhance the knowledge and skill levels that underpin business competitiveness, leadership, networks and support-service capability of the regional economy. Such a strategic focus adds more to the viability of the local economy than simply injecting direct dollars.

Importantly, the university may determine to assume a totally involved approach with the regional community it is in by taking on community leadership responsibilities that embrace the region’s strategic economic direction as part of its own strategic priorities. At this level the university and the community pursue a whole of institution/whole of community partnership approach to their respective economic futures, rather than a sector by sector approach, that embody characteristics of a learning region.

While this study covers all of these various aspects of managing the relationship between the university and its regional economy, it is important to stress this is not a study about the so called ‘regional university’.

As with all other institutions, universities are part of a global market economy and should see themselves in that light. The university that constrains its operations purely to a particular sub-state regional geographic catchment limits its options in the global economy.

Some have defined the ‘regional university’ in the first instance as one with ostensibly a non-metropolitan presence (see, for example, the discussion paper of the Higher Education Financing and Policy Review Committee 1997). This

project has found that some universities in metropolitan regions appear to have a greater economic connectedness with their local and regional economy than do some universities in rural areas.

In this study we are talking about a set of relationships that occur *within* a regional economy and the institutional, local, regional and national benefits that can occur as a result. The study therefore is about the relationship between all Australian universities, metropolitan and non-metropolitan, and their respective regional economies.

In terms of this relationship, at one level the study seeks to identify the policy and program initiatives that governments and universities might employ to generate better outcomes. It is also about the actions by local and regional communities, in partnership with their universities, in fostering the more intangible, but not necessarily less significant, economic returns via a strengthened 'sense of place' or sense of community at the regional and local levels.

The study seeks to identify ways greater national benefit from the economic connections between universities and their regional community can be captured, to enhance the economic efficiency of the institution and the community in an increasingly competitive and fiscally-constrained operating environment. The study does not therefore argue a mendicant line for some universities over others. However, it does advocate that a greater university/community dimension be built into policy and program action by government, universities themselves, other institutions and regional communities.

There is a part to be played by all of these stakeholders in enhancing the partnership role of universities in building competitive regional economies.

At another level, the study is concerned to point to good collaborative practice by particular universities and their communities so that they might be explored and adapted by other higher education institutions and their regional communities as worthwhile models.

The study has relied on information coming from three sources.

First, public access material (annual reports, strategic plans, web pages, etc.) and other written material available from universities and their centres, faculties, research arms and institutes as well as from relevant personal contact in Australia and overseas; information about university involvement in community economic priorities from the communities themselves; and some of the submissions made available to the Higher Education Financing and Policy Review Committee.

Second, an extensive questionnaire to all universities (refer Appendix 1) covering a range of structural, management, teaching, research and other information with a geographic emphasis not covered in other centrally available statistical information about universities. The information from the questionnaire was intended to explore aspects of the nature and extent of the economic engagement of each university with its local region. A sixty percent response rate to the questionnaire was

obtained—indicative of the growing interest by universities and their regional communities in this dimension of economic management.

Third, six case study facilitated workshops comprising key university representatives and key stakeholder group representatives from their respective regional communities (refer Appendix 2).

The case study universities, and their respective regional communities, were selected to give a spread across States and Territories, as well as new and old, rural, provincial, metropolitan, multi-campus, teaching and research dimensions of universities. The workshops were designed to explore in closer detail some of the particular associations and outcomes that universities have had with the regional economy in which they have a presence, as well as to assess the potential for other on-going partnerships and relationships that address some of the concerns and opportunities that universities and regional business and other organisations see for the future. An average of twenty key stakeholder representatives from the university and the regional economy attended each of the workshops.

The workshops also gave the opportunity to add to the survey information and gain insights into some of the system wide impediments and policy perspectives that need consideration by decision-makers at all levels if there is to be a meaningful association between universities and the economies of their regional communities.

The facilitated workshop approach was chosen to create an arena for communication to occur between the university and the community around these issues of current and potential future connectivity. The approach was welcomed in a number of cases as the first such discussion that had occurred within a community context. In some cases it was the first time that different areas of the same university had made a connection.

Each of the case study universities and communities were provided with their own report of the outcomes of the workshop so that they might take both the strategic issues and some of the more practically-oriented connections further in their own regions. There was also an interest among universities in sharing some of the good practice in this area with other universities so that they might learn from each other.

1.2 Structure of the Report

The report is organised as follows:

The structural and spatial configuration of universities is outlined in Section Two to provide a picture of their current physical presence in regional communities. The material for this has come from the survey information and therefore is limited to the extent that sixty percent of universities responded to the survey. Section Three sets the general scene for the remainder of the report in terms of the basis for a potential stronger relationship between the university and its regional

community on matters related to economic development. First, it examines the changing position of regional communities in the global economy and the changing way, as a consequence, they now view their local universities in the context of their future economic viability. This section is a community perspective. The section also includes a university perspective on what changes have affected them in a system wide sense over the past decade and what they believe the changes over the next decade will be in terms of a greater role they may take in the community.

In Sections Four, Five and Six, the three levels by which universities can become involved and contribute to their region's economy are outlined in detail giving a range of examples that demonstrate good practice.

In Section Four, the base level or passive economic impact of universities as economic entities in their regional communities is discussed. Section five examines the teaching, Research and Development, leadership and other possible contributions of universities to the economic viability of the regional community. In Section Six, a potential leadership role for the university in the context of a more integrated involvement of the institution with the community is discussed and provided as an ideal that universities and communities consider working towards.

Section Seven explores the steps universities will need to take to enable stronger links to occur with their regional communities and identifies the impediments that might preclude those actions from being effective.

Section Eight identifies a range of policies, programs and practices for consideration by government, universities and regional communities. In section nine, the conclusions and recommendations are provided.

The Spatial Configuration of Universities

2.1 The Pattern of University Location

The growth of university campus locations means that now there are few regions in Australia where there is no higher education presence.

Table 2.1 shows the spatial configuration of campuses of universities that responded to our survey. It shows not only the type of location of the main campus but also the number of ancillary campuses and their location in metropolitan and non-metropolitan areas and their respective student and staff sizes.

Our survey of universities has shown that almost all respondent institutions have undertaken some form of recent campus and associated office expansion initiatives in regional and rural areas, either on their own or in partnership with other post-secondary education institutions such as TAFE. In all cases, enhancing geographic access for students was given as the prime reason for these location expansion actions.

Of the 22 universities that responded to our survey, 15 had their main campus located in a capital city, five were located in provincial centres with a population of more than 100,000 and the remainder were in smaller rural areas. These 22 universities had a further 102 additional campus locations, with 44 in metropolitan and 58 in non-metropolitan areas, an average of almost five additional campus locations for each university. In addition, a number of universities had arrangements for teaching program delivery to many other smaller townships and isolated communities.

The Central Queensland University, with its main campus at Rockhampton, has recently established non-metropolitan campuses in Mackay, Gladstone, Bundaberg and Emerald and is considering a presence in the far west of the Central Queensland region and the Banana Shire area to cater for the educational needs of all Central Queenslanders.

Table 2.1: University Campus Location

University*	Main Campus			Other Campuses			
	Location [#]	Student No.**	Staff No.	Location		Student No.	Staff No.
				Metro	Non-metro ^{##}		
Victoria							
1. RMIT	Metro	35,000	2,700	3	1	7,050	576
2. Ballarat	Prov'l	na.	450	-	4	na.	400
3. La Trobe	Metro	13,217	1,817	1	7	4,621	480
4. Deakin	Prov'l	13,735	1,326	3	1	5,071	607
5. Monash	Metro	20,208	3,777	3	2	21,836	1,431
Western Australia							
6. Edith Cowan	Metro	5,069	620	2	5	15,064	1,065
7. Curtin	Metro	20,463	2,287	1	4	2,126	188
8. WA	Metro	14,114	2,413	-	-	-	-
9. Murdoch	Metro	10,546	1,157	1	1	na.	na.
Tasmania							
10. Tasmania	Metro	6,509	1,041	-	2	3,505	461
Queensland							
11. Central Qld.	Prov'l	na.	370	3	4	na	530
12. James Cook	Prov'l	7631	1126	-	2	1,748	169
New South Wales							
13. Catholic	Metro	1,258	142	5	2	8,379	796
14. Newcastle	Prov'l	16,831	1,989	-	3	1,775	167
15. Western Sydney	Metro	@	@	7	-	24,492	2,340
16. Southern Cross	Rural	8,683	551	1	2	810	52
17. Sydney	Metro	23,200	4,500	6	1	10,500	900
18. Sydney Technology	Metro	17,722	1,508	2	-	4,789	344
19. Charles Sturt	Rural	@	@	2	6	24,737	1443
South Australia							
29. South Australia	Metro	3,916	553	4	1	19,605	1,573
Northern Territory							
21. Northern Territory	Metro	11,199	800	-	10	na	36
Australian Capital Territory							
<i>National</i>							
22. ANU	Metro	8,422	3,537	-	-	-	-

Notes:

* Universities responding to the project survey

** EFTSU except for Charles Sturt which are head count figures

- # Metropolitan locations refer to capital city locations, provincial locations are urban areas outside of the capital cities with populations of more than 100,000 people and rural locations are those outside the metropolitan and provincial cities.
- ## Non-metropolitan refers to both provincial and rural locations.
- @ University of Western Sydney is a federation of three (Hawkesbury, Macarthur and Nepean) each with their own campuses. Charles Sturt is a federated structure. Figures have not been separately worked out.
- na not available

(Source: Survey results)

In addition to its campus locations in the larger inland New South Wales cities of Albury Wodonga, Wagga Wagga, Bathurst, Broken Hill and Dubbo, Charles Sturt University delivers, in partnership with TAFE, teaching courses to the smaller inland towns of Parkes and Bourke. The University of South Australia has campuses in the Greater Adelaide metropolitan area and Whyalla and has entered into partnership with TAFE in that State to support students in Mount Gambia, Port Lincoln, Renmark, Coober Pedy and the Aboriginal communities in Pitjantjara lands.

A characteristic feature of the campus location strategies of the metropolitan universities in particular is the partnership arrangements they have entered into with existing TAFE colleges, so as to defray some of the up-front infrastructure costs associated with decentralised campus location, and to create a greater throughput of student numbers in them by widening the range of post-secondary education options for the local population.

Edith Cowan University, with its main campus in Perth has established campuses in Mt. Lawley, Joondaloo, Claremont, Wanneroo, Bunbury, Midland, Albany and Geraldton with several others planned to cater for the education needs in areas of population growth in non-metropolitan Western Australia.

La Trobe University has its main campus at Bundoora in the city of Melbourne but has more recently located campuses with local TAFE institutes throughout rural Victoria in Bendigo, Wodonga, Shepparton, Mildura, Mount Buller and Beechworth. The Curtin University in Perth is considering establishing links with all Western Australia agricultural colleges (Esperance, Kalgoorlie, Albany, Geraldton and Morawa) to provide a coordinated approach to agribusiness education.

An aspect of enhancing access to post-secondary education has been to widen the options for the regional population to include degree and non-degree university courses, technical and in some cases community education courses. However, according to the survey responses there does not appear to be a strong connection between courses being offered in the regional campuses and the nature of the region's economic base.

Following a partnership between the Bendigo College of Advanced Education and the Sunraysia Institute of TAFE in 1987, degree courses became available to the rural community in Mildura and the Sunraysia region. When the Bendigo College of Advanced Education became part of the La Trobe University in 1996, the Mildura campus of La Trobe University was established in its own right. Through alliances with the University of Melbourne and the University of Ballarat and Deakin University, a suite of diploma and degree courses have become available via the La Trobe University campus of Mildura to people of the Sunraysia region. The location of the campus has brought higher education to a range of groups previously denied access because of their physical isolation.

2.2 Issues of Equity, Efficiency and Management

Interestingly, the teaching courses offered at Sunraysia include such areas as education, social work and business, whereas the region itself is well known for its irrigated agriculture, particularly dried vine fruits and citrus and more latterly vegetables, stone fruits, nuts and vineyards. The non-irrigated areas of the region are mainly based on cereal, wool and meat.

Similarly, the Deakin University has until now operated an integrated cross-campus teaching program without any campus or region-specific degree programs. The University is however now in the process of redesigning some of the courses at its Warrnambool campus to better align them to regional needs. For example, the Centre for Regional Development and the School of Aquatic Science and Natural Resources Management at Warrnambool campus are currently developing an extension program with WestVic, representing the local dairy producers and processors, and the Glenelg–Hopkins Catchment Management Authority—which are essential to future economic development of dairy farming in the region.

The University of Ballarat has amalgamated with the Wimmera Institute of TAFE and the School of Mines and Industries Ballarat and campuses are being established in Stawell, Longernong and Horsham in Western Victoria. The University, through these alliances, aims to provide increased higher education opportunities for the people in Western Victoria, thereby raising the productivity level of the area. In addition, their objective is to target those courses that will enhance the further development of the local area tourism and hospitality industry, health industry and mining and engineering.

On the whole, however, our survey of university locations indicates that few universities have sought to tailor the nature of their teaching program delivery and design to the particular economic strengths and needs of the regional locations in a demand-responsive way. As a result, the contribution of the university to the regional economy and national objectives may be lower than it might otherwise be.

The New South Wales Central Coast campus of the University of Newcastle began as a joint venture of the Hunter Institute of Technology, the University of Newcastle and the Central Coast Community College thereby bringing together university, technical and adult and community education. More recently it has formed a close alliance with the Central Coast Conservatorium of Music. The campus is jointly funded and managed as one organisation within the mission statements of the partner institutions (Eastcott 1997).

The model was designed not only to overcome the costs associated with new campus location, as with other universities, but to bring a full range of post-secondary education to an area with arguably one of the fastest population growth rates in the nation and at the same time one of the lowest rates of participation in university education. The region has the lowest participation rate of people in university education in New South Wales and a lower than state average in most education levels (Eastcott 1997).

The Central Coast campus has become a community resource that theoretically enables students to begin at the lowest level technical certificate and progress through to a PhD on one campus and under a single administration. The campus also caters for the needs of the educationally and socially disadvantaged student.

The Sunraysia campus of La Trobe University has been designed with similar objectives.

A small number of universities have viewed their campus location strategy as a means of extending the less tangible impacts of the university to benefit the region through opportunities for research by university staff and encouraging initiatives in local leadership.

The ‘...presence of La Trobe University in Mildura has led to the establishment of links between the University’s research expertise and regional agricultural and environmental research bodies namely Riverlink, CSIRO, Murray-Darling Freshwater Research Centre Lower Basin Laboratory and SunRISE 21’ (The Sunraysia Higher Education Board of the Sunraysia Institute of TAFE 1997, p. 8).

The Royal Melbourne Institute of Technology has its main campus in Melbourne City but has since 1992 established campuses throughout the northern suburbs of Melbourne in Bundoora, Brunswick and Fisherman’s Bend. In establishing these campuses, the University was concerned to do more than enhance access to higher education but also to contribute to the economic, cultural and social development of the northern metropolitan region of Melbourne, add value to its industry, enhance the region’s school education, to contribute to the provision of health and community services, provide services to local government in the region and assist local community groups. They have appointed a senior executive to manage the University’s regional role in Melbourne’s north.

The other interesting trend has been the location of campuses in metropolitan areas by the non-metropolitan universities. This highlights a different strategy by universities to capture part of the growing overseas student market for their institution.

Central Queensland University, for example, has recently established campuses in Melbourne, Brisbane and Sydney to raise its national profile to attract overseas students, recognising that these students do not ordinarily travel beyond the capital city where their cultural and family support network exists.

Similarly in 1998, the Southern Cross University at Lismore established a new campus in Sydney in partnership with the Inter Continental Hotel Group to capture the overseas student market and the Sydney metropolitan market for its courses in hospitality studies.

A key question that is raised by these various recent moves to extend university campuses throughout many regional areas is their cost and the return on investment they generate.

There is no doubt that infrastructure and operating costs are being reduced in such situations through strategic alliances with other education providers and private sector partners and by targeting of a wider range of student demand through broadening course coverage to include technical and non-degree courses. We have not been able to determine the degree of cross subsidisation, if any, that might be occurring in these circumstances. Nor have we been able to ascertain whether the whole strategy as being implemented is value for money as far as public outlays are concerned.

However, the economic development benefits that can be generated at the regional scale by such location strategies can be enhanced beyond current levels. Only when these benefits are added in, can the option of establishing a physical campus presence be seen as a more viable proposition in terms of the use of public funds compared to other options such as distance learning, the use of video conferencing and other computer assisted teaching, or the notion of the 'virtual university'.

Inevitably, it comes down to a decision of balance for the university between the costs and returns from 'access and equity' objectives and those from 'economic efficiency' objectives. From our investigations we argue that the latter objective at this stage is given insufficient attention in many universities.

Apart from equity and efficiency, the whole process of university campus location expansion also raises issues associated with organisational management. At present the usual approach does not appear to have much management logic to it, probably more closely resembling a kind of federated model where power and control are vested in the central organisation and the outreach areas remaining as mini-versions of the central area but without effective control.

At the facilitated workshops the difficulties were highlighted of a regional campus of a university in a situation of tight central control and where course availability is

simply a mini-version of central campus courses rather than teaching and research being tailored to the particular regional circumstances.

The trend in corporate organisational management in recent years has been toward federated systems where core business is centralised and complementary specialist units are tied in a loose way and even contracted out (see, for example, Handy 1995). Universities in this country appear to have been doing the opposite. From our survey of universities we found that many of the new campus locations that have recently been established have similar teaching and research functions, modelled on the main central campus.

It begs the question that if a *where you do things* perspective of doing business is as much a part of an organisation's management strategy as a *what you do* perspective on business, then it is time surely for the university to put some flesh on to the bones of what is meant by their economic association with the places they reside in.

The recent proactive self help initiatives by regional leadership groups to identify, support, coordinate and drive economic development in their areas in a way that is consistent with local resource capabilities and expectations; the increasing spatial presence of universities; the need of universities to generate greater levels of independent income and to be seen to be playing a fundamental part in their communities, provides a confluence of potentially mutually reinforcing interests in many places across Australia that is yet to be explored fully.

In relation to economic development, the connections from a university point of view are still very tentative at a whole-of-organisation level although on a project by project basis and organisation to organisation basis there are emerging, as we will see later, some good examples of close partnership arrangements.

The success of these projects in stimulating the overall economic capacity of the region, and hence the viability of the university, hopefully will encourage the university leaders and the economic development leaders in the regional community to have a more fulsome association for their mutual advantage that goes beyond the project-specific level.

The Changing Regional Community Paradigm in the Global Economy and Relations with the University

3.1 The Changing Role of the Regional Community in the Global Economy

Our sense of community of place, in our regions, towns and neighbourhoods, built on generations of commitment and belonging, history, family and friendship, and a concern for the present and the future, provides an important crucible that shapes the capability for innovative achievement and resilience in times of economic change.

While economic activity occurs in places, these human determinants are less and less finding their way into the organisational decision-making processes that currently drive economic activity in the new global economy.

Traditional human associations in locations are being replaced by geographical determinants of a more pervasive nature.

...globalisation changes the terms of engagement around community issues, threatening to divide cosmopolitans [internationalised companies] with global perspectives from those pushing local causes.

(Kanter, p. 175)

Many places as a result are running the risk of becoming mere assemblages of organisations of various kinds that go about their own private business with a dilettante attitude toward the community of place they are in and with an outlook of being more *in the community than of it*. Without a *where you do it* business perspective to balance the usual *what we do* perspective to an organisation's 'core business', the economic futures of places become more and more determined by organisation-centric decision making constrained by a mostly self centred and insular paradigm of institutional and corporate management that is controlled from a distance to the priorities and resource capabilities of the community.

For many organisations, place, whether it be the city, region, neighbourhood or town, is seen as little more than a convenient address. The considerable interrelated human, physical and economic resource capability of places, underpinned by their history of belonging and capacity for nurturing and creativity in times of fundamental change, increasingly go unrecognised as a source of input in shaping a conducive environment for the competitive economic development equation for the community, the organisation and, as a result, the nation as a whole.

Microeconomic reform, centralisation, rationalisation and agglomeration have been tools by which many institutions and corporations have sought to achieve economic improvements within a paradigm of cost savings through outsourcing, moving off -shore and shifting responsibility from provider to purchaser. Inevitably, people in their communities of place and the knowledge, skill, infrastructure and natural resource capabilities of regions do not fit within this received paradigm of organisational competitiveness.

Charles Handy (1995, p. 4) in *Beyond Certainty* stated that ‘Organisations are rightly seen as the instruments of wealth creation ... but we now see more clearly, in their turn, the individuals inside the organisation have become its instruments, subordinated to the goals of the organisation, used and/ or discarded as needed’. Indeed, these same individuals, it is sometimes forgotten, also make up the community of place where the organisations are located and as a result we appear to have ‘...replaced the community of place with the community of self interest’ (Handy 1995, p. 249).

Many regional communities are feeling the demographic, social, economic and environmental impacts of their area growing at rates either well above their effective capacity to manage or well below the potential of their human, economic and physical resource capability. Conflict, uncertainty, inefficiency and lost opportunity result from poor regional management.

Places in the global economy will not survive unless their businesses and institutions are linked to the global economy.

... communities must offer more than their connective physical infrastructure of roads, bridges, subways, airports, seaports, electric power lines and telecommunication networks. They must also have a social infrastructure that helps forge linkages relevant to global success ... I call this the infrastructure for collaboration.

The infrastructure for collaboration consists of the pathways by which people and organisations come together to exchange ideas, solve problems or form partnerships ... to recognise, value, and leverage their area’s assets for mutual gain.

(Kanter, p. 362–363)

The disengagement of institutions from communities of place, and with it the connectivity between economics and humanness and the serious undervaluation of social capital in the economic equation, highlights a number of effects and incongruities about the role of the community of place in economic development.

These effects have many communities exhibiting characteristics of the neurological medical condition 'locked-in syndrome' with respect to the global forces increasingly determining economic change impacting on them. They lack credible and organised leadership, access to authoritative research, information and networks and knowledge to have a deterministic influence on the location decision making of corporations and institutions in their areas.

The decision by BHP Co. Ltd. in 1997 to withdraw its steelmaking operations, with the loss of 2,500 jobs, from Newcastle and the Hunter region after an association of some 80 years, despite the considerable resource capability of the region, emphasises the inability of regional communities today to influence globally focused organisations unless they also adopt a more informed, authoritative and organised approach to their futures.

In the last couple of years however, many communities of place have gone beyond being simply dissatisfied with the remote institutional and corporate decision-making affecting the economic viability of their areas. Because they intuitively put a value on the sense of place of their local and regional communities, they are now beginning to pursue greater degrees of their own organised local and regional leadership initiative to generate regional outcomes consistent with their own local objectives and potentials, within the context of opportunities and issues emerging in the global economy.

For a discussion on valuing local, regional and national return from policy initiatives targeted at enhancing a 'sense of place' in the community, there are a number of articles by Bolton (1992) that are worth referring to.

Kanter (1995, p. 353) says, 'Communities must open their connections to the world. Success for locals in the global economy will derive from their ability to become more cosmopolitan, to forge linkages to the rest of the world. And local communities must exert leadership to develop these links, with or without the help of national governments'.

While one cannot argue against the need for such self reliance by our regional communities and towns if they are to be successful in the global economy, these same global forces have rapidly exposed them to an almost infinite and complex array of new challenges in marketing and promotion, financial, cultural, jurisdictional, legal, social, political and other questions, issues and threats that they have not been well prepared for, in terms of their skills, intellectual know-how, information and networks.

Communities have a long way to go and the game is much tougher for the region, city and town now that they and the enterprises that reside in them are part of a global and borderless economic environment. It is particularly tough for regions in the Australian landscape where the forces of economic decision making are being increasingly centralised to a few major metropolitan centres.

Regions have now to compete and formulate strategic alliances with other regions and cities around the world for recognition and sustainability rather than relying on

the increasingly amorphous trickle down impacts from national and international private and public policy decisions and actions that more and more miss their mark by not taking into account differing location circumstances.

For many regions it has become doubly difficult in pursuing these self help initiatives, as they are faced with the increasing removal and centralisation of previous local decision-making authority and leadership capability such as existed with banks, key infrastructure management, key business branches, government agencies, peak business and union organisations.

Most regions in Australia now have their own leadership groups in place and have strategic plans concerned with the integrated economic development of their regional communities in line with their own community requirements. These groups are pursuing a range of initiatives with the key stakeholders in their areas to improve generally the supporting capabilities of the regional milieu for local business competitiveness. While still in its early days, this organised community capability has the potential to be an important interface with institutions to ensure institutional objectives and community objectives can be consistent.

Apart from the local government authority, in many regional communities today there are few organisations outside the higher education institution that have the interest, the independence, the authority, the networks, the knowledge and information and the critical mass to add real value to the economic development leadership role of the regional community in the context of the global economy, free of outside organisational controls.

3.2 The University–Community Connection

Many universities, too, are considering how they can have a stronger relationship with their regional economies beyond that provided for through their traditional core business of educating local students. Many universities now include an explicit reference to the local and regional economy in their operational and strategic plans.

This is particularly the case with the newer universities and those located in non-metropolitan centres, the older and larger universities, generally located in the metropolitan centres, remain more focused on the international market for students, and research and the traditional areas of higher learning rather than the global economic competitiveness needs of their local region. But this is not always the case and even with some of the metropolitan and more nationally-focused institutions, such as the Australian National University and the Royal Melbourne Institute of Technology, a stronger regional community involvement is beginning to occur.

In many cases, universities are becoming part of regional community leadership groups. In some cases, such as the Hawkesbury campus of the University of Western Sydney, the university provides considerable in-kind resource to house the regional development body that supports the regional economic development leadership group.

Like a number of universities, the University of Western Sydney has within the functions stipulated in its Act, a requirement that it involve itself with the regional community. The University's strategic plan includes at least 40 of its 118 objectives that directly relate to the local region and includes key performance indicators for each of them (Lindsay and Jones 1997).

The University's Hawkesbury campus at Richmond has sought to ensure its teaching and research profile fits with the needs of the region. As a result, following close community consultation, it provides a key focus to agriculture, environmental management, tourism, high technology and education services.

The University is involved in several joint region-wide projects with the various stakeholder interests in the regional community. University academics, local business and non-government groups are involved together in exploring opportunities in agriculture export and horticulture industries in the Northwest Sydney region and are working jointly in relation to the construction of a research wetlands incorporating effluent and stormwater runoff; a one stop shop for best practice and monitoring on environmental research; education and community awareness for access by the community; and a flora and fauna park focusing on locally endangered species.

A good example of a strong partnership between the university and other post-secondary and secondary education institutions in responding to articulated regional community needs is the Nirimba Education Precinct in Western Sydney (Lindsay 1997). The Precinct is a joint venture between the University of Western Sydney, Western Sydney Institute of TAFE and the State and Catholic secondary education systems to deliver life-long learning opportunities and training programs for residents and business in the Western Sydney area.

The Act establishing the Royal Melbourne Institute of Technology campus of Bundoora in northern Melbourne states that it work for the 'development and provision of educational, professional, technical and vocational services to the community and in particular the fostering of participation as a university of technology of persons living or working in the northern Metropolitan region of Melbourne'.

As a result, the University has established a number of strong alliances with the business sector in northern Melbourne so as to meet its objectives of contributing to the economic, cultural and social development of the region, adding value to industry, enhancing school education, contributing to the provision of health and community services, providing services to local government and assisting community groups.

The Rockhampton City Council and the Central Queensland University have combined together in three projects concerned with the economic development of the local area. The University also has developed strategic alliances with the Central Queensland Regional Economic Development Organisation with that organisation's chairman sitting on the University Council, and has put in place a series of community civic leadership programs in the surrounding shires of Charters Towers, Dalrymple, Livingston, Rockhampton and Emerald.

From our survey of universities and from other information, we found a number of universities, such as the Australian National University, Southern Cross, Central Queensland, Newcastle, Wollongong, Latrobe, South Australia, Adelaide, Tasmania, Ballarat, the rural campuses of Deakin, Monash, South Australia, and others are engaged with the various regional economic development leadership organisations in their respective communities.

The Australian National University, for example, while on the one hand seeing itself as a national university, maintains a strong and growing relationship with its regional economy. It has established alliances with the Canberra Enterprise and Employment Development Association, the Canberra Business Council and the Australian Capital Region Development Council.

Communities are also now looking more and more toward their universities and other higher education institutions to provide them with some of the skills, tools, research and development, intellectual argument and analysis, information and networks they need to give them the edge to compete with credibility and authority with other regions in the national and international arena. Strengths in these areas for regional communities are necessary to enable them to take the initiative in forming a successful bridge between the economic objectives of place and those of institutions and corporations in their areas.

The University of Tasmania, with campuses in Hobart, Launceston and Burnie, is involved in a number of collaborative economic development partnerships with the Tasmanian business community through the Tasmanian Institute of Agricultural Research, Tasmanian Electronic Commerce Centre, the Centre for Ore Deposit and Exploration Studies, the Centre for Research and Learning in Regional Australia and the National Key Centre for Teaching and Research in Aquaculture.

The Southern Cross University in northern New South Wales has recently established the Southern Cross Regional Research Institute as a joint partnership with the Northern Rivers community to undertake research on the regional economy to support investment and job-generating location strategies by business and other institutions.

A number of universities now have a designated liaison person or chancellery section for bridging the link between the university and its local community such as at Curtin University, at the University of Tasmania and at the Australian National University, while in others the task is devolved to the Deputy Vice-Chancellors, Pro Vice-Chancellors and Heads of Schools and is included in their position descriptions and management performance agreements. This occurs, for example, at Ballarat where the University has a strong commitment to its policy of ‘adding value’ to the local region and at Newcastle where there is a Pro Vice-Chancellor for External Relations.

At Royal Melbourne Institute of Technology, all faculties are required to establish strategic activities and targets for community service consistent with the university’s goals. Staff promotion includes criteria involving community leadership contributions and a competitive annual award (\$10,000) is granted for quality management of a community service project.

The University of Tasmania, encourages and facilitates the usage of its infrastructure to add value to Tasmanian industry and gives effect to it by requiring its executive deans and heads of divisions to include collaborative arrangements and strategic partnerships with key industry and government agencies in their management performance plans.

A number of universities, such as the University of Western Sydney, Tasmania, Ballarat, Royal Melbourne Institute of Technology and Latrobe have a formal and on-going consultative process in place that seeks to build connections between the strategies and objectives of the university and those for the regional community as a whole.

The University of South Australia is part of a state wide *Vision 2010* initiative that also involves the South Australian Employer’s Chamber of Commerce and Industry, the South Australian State government and various community groups. The initiative enables various organisations working together on projects to create a more collaborative environment. To date there have been initiatives to create a leadership institute and generate clusters of industry activity around such activities as spatial information, defence, water, irrigation and electronics.

The University of Tasmania has established the *Tasmania 2010* initiative in that State as a forum for Tasmanian business and public interest bodies to promote coherent regional strategic planning. The forum also provides input into the strategic direction policy of the university as well as assisting with that for the wider community.

3.3 The Changing University–Community Relationship

What we found when the university and the community came together in the six facilitated workshops was that, while there was an overwhelming desire for there to be closer links between the university and the local regional community on

matters economic, and some useful examples could be pointed to, in the main the relationship was still rather tentative. This was the situation in the metropolitan, the provincial and the rural universities and their respective regional communities.

In the workshops we asked participants to consider two questions that provide a general perspective on what the relationship between the university and the regional economy had been over the previous ten years and what they would expect it to be by the year 2010. The discussion outcomes provide a platform to consider, in later sections, some of the more specific relationships between universities and their regional economies that are currently occurring.

The communities believed that:

- universities still did not have an adequate presence in the day to day issues confronting the region's future;
- that it was difficult for local business and community groups to effectively access academics and information held by the university;
- the university competed against local business through its research activities and auxiliary services such as printing, travel, computing services, catering, etc.;
- marketing and promotion of its activities in the community was generally poor;
- its teaching courses were supply driven and did not really align with community needs or the community's economic strengths; and
- its links with local business, and particularly with small business, were poor; and it tended not to take a high profile leadership stance on matters of significance to the local economy.

Through the university/community workshops, the university view expressed was that, generally, the community appeared uninterested in the detail of what the university was doing and regarded the university as a free good that should provide a community service at no cost. The university also saw the community as not being particularly clear about what it really wanted from a university and that in the case of universities that were former colleges, the community still only saw the university, particularly the rural university, in a teaching sense.

Some rural universities argued that their communities did not have the breadth or depth of business to facilitate links with the university. They also argued that where there were substantial business enterprises in operation in the region, these tended to seek academic input from the metropolitan universities via their head offices rather than seek support from the non-metropolitan universities in their own region.

The community saw that the local university could have a role as an interface between government and the community as an honest broker and as a program deliverer, it could have a role as a coordinator of the local areas at the regional community level and of different industry and non-government groups and could be a broker of commercial research and development, become more involved with

local business and industry and take a key role as a facilitator and leader in the community.

To enhance the relationship between the university and the regional community from an economic development perspective, the university/community facilitated workshops identified the following steps that needed to be undertaken.

1. The need to build into the criteria for general operating grant funding for universities, and into the criteria that underpin relevant government program-specific funding that is accessed by universities, a dimension so as to facilitate collaborative associations occurring between the university and the regional economy.
2. There needs to be a mechanism to enable an effective interface to occur between the community and the university. Described variously as a 'one-stop-shop' or 'shop-front' presence in the community where the community could better understand the ways the university could assist it to facilitate access and form links between academics and business needs.
3. There needs to be a marketing and promotion program to try and break down the 'ivory tower' or 'black box' perception of the university held by many in the community, highlight its capabilities as an information provider, as an advocate on issues relevant to the community and its successes in teaching and research.
4. The university should take on a more proactive leadership role in the economic direction of the community as it relates to teaching and research as well as being a facilitator and catalyst for change.
5. There is a need to link university management strategies, including strategic planning processes, budgetary control and planning and human resource management, to the achievement of community objectives—not just based on rhetoric but on practice.
6. Universities must ensure that there is a close synergy between their teaching and research objectives and the strengths and requirements of the regional economy through an on going formal consultative and review process.
7. The university should build collaborative linking mechanisms with other regional education providers and with the business community to ensure holistic human resource pathways that are important to the regional community's future.
8. The university must be an integral part of the promotion of the region to economic interests.
9. The university should encourage cross-discipline collaboration within the university to better address the multi-objective needs of the regional economy.

10. There needs to be team leadership and project management training programs within the university to overcome some of the current in-built cultural impediments among academics that detract from open and collaborative commercial working practices.

Looking out to the year 2010, the workshops felt that universities identified the following characteristics that universities would need to have to strengthen associations with their regional economies.

1. Senior management positions of universities will include less of the traditional academic and more of the entrepreneurial management specialist who can, among other things, build strategic alliances with business, the community and others.
2. There will be stronger collaborative partnerships and joint venturing alliances between the university and regional business enterprises and industries across areas of research and development, exporting and investment facilitation.
3. There will be stronger collaborative partnerships between universities and their regions with those in other countries.
4. There will be a greater number of short non-degree flexibly delivered courses to meet the immediate and longer term needs of local business, life-long education needs of an ageing population and the job ready needs of the working age population.
5. There will be greater cooperation between centres and faculties within the university in joint projects for the regional community.
6. The university would have a greater coordinating role between regional community stakeholder interests.
7. The university would play a greater intermediary role in a purchaser/provider service delivery sense between government, business and community.
8. A greater number of graduates will be retained in the region to boost the entrepreneurial capability of the regional economy.
9. There will be stronger relations with TAFE and other education and research providers in the regional economy.
10. There will be greater specialisation and global excellence in niche areas important to the regional economy.
11. The community will have much easier access to the knowledge, advice, mentoring, coaching and advocacy expertise of the university.
12. The university will give fearless opinions on issues of significance to the regional economy.

13. There will be a reduced emphasise on larger physical university structures and greater emphasis on smaller more flexible units and on virtual learning processes within the community.
14. There will be reduced overall university staffing levels and an increased proportion of staff who can operate flexibly including the usage of consultants and business people.
15. There will be a greater connectivity between regional community visions and university strategies and objectives.
16. A greater level of university income will be drawn from their involvement in the local regional community.
17. There will be greater accountability and quality assurance expected in university outcomes.

Passive Economic Impact

In many regional areas today, the university is one of the largest economic entities and generators of employment and income. This has become noticeable particularly as higher education has grown and as larger private sector enterprises have either downsized, centralised their operations or moved off shore and as public sector service provision has either been centralised or replaced with technological substitutes for service delivery arrangements.

The most basic impact that a university may have on its region is simply via its role as an economic entity, the same as all other entities that employ people and trade within the local community.

This is the type of limited or passive impact normally measured through multiplier analysis which seeks to consider the university only in terms of its employment, its purchases and sales, student and visitor expenditure in the community and the direct and indirect jobs, income and output all of this provides. In this sense the university is seen as being little different to other private and public sector service institutions such as health centres, defence force bases, correctional centres, tele-service centres and so on in terms of their contribution to the regional economy. A policy of university location in this sense may not always be considered a particularly good public sector stimulus for the economic development of regional communities outside of enhancing geographic access to higher education.

Nevertheless, many universities have analysed their relationship with the local and regional community along these lines, variously claiming regional impact employment multipliers of between two and four (depending on the size of the region or local area being studied and the size of the institution) and benchmarking their contribution to gross regional and state product against other more traditional industry sectors to highlight their significance.

The South Australian universities, for example, directly contribute around \$0.6 billion to gross product of that State while the University of Western Sydney contributes around \$0.2 billion to the gross product of New South Wales (see, for example, South Australian Centre for Economic Studies 1996 and University of Western Sydney 1997).

A study of *The Economic Impact of Southern Cross University on the City of Lismore* by Davis and Buultjens (1996) for example, estimated that around 1400 additional full time equivalent jobs, \$90m in output and \$34m annually in income are added to the Lismore economy through second and subsequent iterations on top of the initial university and student expenditure in the local area.

A study by Milbourne et al. (1993) examined the economic impact of the University of New South Wales on the Randwick Municipality in New South Wales. The study found, using a multiplier of around 1.8, that the university through its expenditures and employment and the expenditure by its students and visitors generates a net saving to each local ratepayer of around \$413 per year because of the rates contribution provided to the local council. It also found that it contributed to the growth of housing prices and rental investments thereby providing a capital gain to private housing market owners in the area and that the services it provided for use by local residents would have a value of around \$1m per year.

Zimmer (1992) in a study of the contribution of the Central Queensland University on the region's economy also emphasises the impact on the local private housing rental and investment market, which in most non-metropolitan areas is usually quite thin.

The Warrnambool campus of Deakin University puts around \$20m into the local Warrnambool economy through salaries, equipment and social and cultural events and students also have a big impact on the local rental housing market. The Australian National University puts around \$400m into the local Australian Capital Territory region with each of the 3040 students coming into the region contributing around \$1500 per annum.

As part of the Review of Higher Education and Financing Policy (1997), the Centre for International Economics made a comparison of some of the studies of the economic impact of universities in non-metropolitan areas (see Appendix 12 of the report). The study went on to draw some conclusions about the kind of impact that universities have on their regions and whether the benefits might be greater to each of the regions with the funding being diverted to other forms of non-university expenditure in each region or with the funding eventually trickling down via an injection of an equivalent amount into broader macro instruments.

The study concludes (page 33) that no other government-funded activities could have as great a positive impact on the regional economy than the local university. While recognising the limitations of the various local impact studies that have been done, it also rightly concludes that the impacts of a university are greater than those identified in the studies quoted because of the need to include the potential impact of the less tangible benefits. Unfortunately, the study does not attempt to describe or put figures on these less tangible benefits.

On one hand, it is likely that the passive, or tangible, economic impact analysis of the kind referred to are likely to be overstated due to the linear input-output multiplier technique used and their failure in the calculations to allow for the take-up of existing slack capacity in the regional economy (e.g. part-time to full-time employment, the progression of standard wages to include overtime wages, etc.) and its failure to account for competitive crowding out.

On the other hand, such studies understate considerably the flow-on effects of universities by not taking into account many of the spillover benefits to the regional

economy that result from the university. These benefits include the university as a place for skill enhancement or a place that can add, through research and associated non-teaching functions, leadership and promotion, to the best practice economic decision-making of others to boost overall competitive outcomes.

It is in this area that universities can make far more substantial contributions to their communities than has so far been recognised as was highlighted by the study of universities and communities in the United Kingdom (Centre for Urban and Regional Development Studies 1994 and University of Newcastle upon Tyne 1996).

It is this area that provides a more valid rationale for universities to be seen as an economic development policy instrument for regional communities through their region-specific location strategies. The university can also generate a potential income stream from its more involved participation in the regional milieu if the connection is managed in the right way and if its regional economy is sufficiently large and diverse enough. An income stream that, on the back of the region, could be generated via the global economy.

In all six of the university/regional community workshops that were held, there was a recognition that there needed to be a closer self generating economic relationship between the university and the community that goes well beyond the traditional passive impact view of the university of simply being seen by the community as a large local employer and purchaser that is no different to other enterprises and infrastructure.

All workshops saw the university by the year 2010 being more of a centre of excellence for the local region to draw the best economic, social and cultural potential out of local people and businesses. They saw there being closer links between community and university objectives and strategies for economic development. They also identified the kinds of initiatives that could be undertaken to make this occur and the conflicts and impediments that stand in the way, at a university, community and government level, of pursuing these in a more fulsome way.

The workshops and the survey identified many of these initiatives where regional relevance and international significance for universities can go hand in hand and these areas are examined in detail in the following sections.

University Teaching, Research and Development, Leadership and the Regional Economy

5.1 Background

The university may take its involvement in the economics of its regional community far beyond that ordinarily provided by other institutional and corporate entities of simply injecting dollars and direct employment. It can supply:

- innovative, entrepreneurial and productive people;
- knowledge and advice across a broad spectrum of endeavour;
- targeted research and development for regional business; and
- and contribute to the dynamism of the regional community's economic development and associated resource allocation decision-making process through leadership, networks, information provision, advice and marketing and promotion.

These aspects are examined with respect to the Australian university system in this section.

5.2 Teaching Impact

The higher education institution can contribute to the economic viability of its regional economy through its teaching role—its ability to provide the region with the skills it needs to enhance the competitiveness of its industrial base. This contribution may be both specific and more pervasive in nature.

5.2.1 Specific Impact

In a specific sense, the university can provide its region with targeted 'just in time' skill-building to meet the needs of business and other organisations to enable them to become more efficient at what they do, to become more export oriented, productive and competitive in the global economy.

Increasingly, partnerships between universities and key business and government enterprises as well as industry groups are being formed to develop and implement tailored enterprise or industry-specific, management focused accredited degree and non-degree teaching courses. Many universities pursue these strategies as money making ventures for themselves.

Southern Cross University, for example, provides the Telstra Certificate of Management for Telstra front-line managers and team leaders. With the objective of enhancing Telstra service delivery skills, a suite of five certificate and diploma

modules are provided and are delivered by Southern Cross through distance learning and work place study groups. These Telstra-designed courses can also lead on to qualifications at the MBA level. The University has tailored similar partnership programs with Ansett, the Australian Department of Defence and the Inter-Continental Hotel Group in Australia and in some overseas countries.

Deakin University has established Deakin Australia as a wholly-owned enterprise to design and deliver accredited and non-accredited off-the-shelf and specifically tailored training and development programs for a wide range of Australia's largest private and public sector enterprises as well as overseas. Programs are delivered either on the job, via workshops, residential programs or as open learning modules. Deakin Australia operates from a dedicated campus in Melbourne with a staff of around 120 and argue they can provide any type of course in any field of study.

Most industry-targeted teaching programs of these kinds that have been put in place by universities we have contacted are determined more by what the university sees as its current strengths and what income it can generate. Only a few of the business enterprise and industry targeted teaching programs have as their start the needs and priorities of the local region.

One of the main reasons for this lack of targeting of higher education teaching to the priorities of the regional milieu is that, apart from a few exceptions, regions in Australia have not organised themselves well enough to identify and articulate what their skill-enhancement needs really are to enable university providers to design appropriate courses.

It is only over the last two years or so that a few regions have carried out detailed regional skills audits that identify training needs and which are linked to their regional community's identified economic objectives and strategies.

The Employment Studies Centre at the University of Newcastle has identified skills shortages in the Hunter Region which are being considered in the course planning of TAFE in the region. Similarly, in other regions such as East Melbourne, the Northern Rivers, Mid-North Coast and Riverina regions of New South Wales and in North Perth, studies of skills shortages and skills audits have and are being undertaken.

Transcribing these regional labour market situations into possible targeted teaching program planning of the regional university, however, appears to be still remote in most places.

The concentration of the motor vehicle manufacturing and distribution industry in South Australia has led to the University of South Australia's School of Management, in conjunction with the Australian Centre for Automotive Management, to develop a two year Graduate Certificate and a four year Graduate Diploma Mitsubishi Motors Management Program to assist supervisors and managers to meet the needs of Mitsubishi at their local manufacturing site. They are also developing a postgraduate program in association with the Motor Trader's Association (SA) Inc. and the Automotive Industry Training Board (SA) Inc. specifically for people involved in automotive dealerships.

Within the campus objectives that the Royal Melbourne Institute of Technology has set for its northern Melbourne campus at Bundoora, the University has identified three zones focusing on technology, community services and health science around which to frame its teaching program in order to best support the primary economic competitiveness needs of business enterprises and the effective and efficient delivery objectives of community service organisations in the local region.

Northern Melbourne, as a key manufacturing area of Melbourne, has been undergoing a long process of structural change in its traditional industries of textile, clothing and footwear, engineering, fabrication and motor vehicle manufacturing. The Bundoora campus of the University has a range of technology-based teaching programs there to create a major technology zone for the benefit of local business. Within the zone, diploma, graduate degree and masters courses in engineering (manufacturing systems), applied science (manufacturing operations) and textiles in courses that have been designed by industry for industry are offered on site. The computer science, mathematics and mechanical engineering departments of the university have also located within the technology zone in northern Melbourne and provide a range of industry-accredited graduate degree courses.

In the community services zone, the University has clustered a range of degree programs in criminal justice, cultural studies, education, hospitality, languages, leisure, social and community services, tourism, vocational training and youth studies. In the health services zone, degree programs on human movement, chiropractic, osteopathy, complementary medicine and nursing are provided to address changes in health care provision in the region.

The University of Tasmania has identified four theme areas for undergraduate and post-graduate teaching that are of particular economic significance to the State of Tasmania, viz.:

- Antarctic and Southern Ocean studies;
- population, health and community studies;
- National and State development; and
- natural environment and wilderness.

The Australian National University has in place a Public Policy Program and a national Internship Program to provide teaching on public administration to support the business of most departments of the Federal Government. It has also developed, in conjunction with the National Gallery of Australia, the Art History Curatorship teaching program

The Northern Territory University has also developed courses in public administration and business management in a consultative way with local industry. A Bachelor of Public Administration course has been established in consultation with the Northern Territory Public Service to meet the needs of public sector employees with at least 2.5 years public sector experience. The University has also responded to the needs of the development industry in the Territory by establishing a Master of Developmental Management.

At the University of South Australia, there is a continuing strategy to increase the number of teaching programs, in partnership with industry stakeholders, that are effectively linked with the region's economic development. For example, a nest of graduate certificate, graduate diploma and MBA programs have been developed in advanced manufacturing education for managers in manufacturing industries in South Australia in association with the employer organisation Australian Business Limited.

On the whole, however, apart from one or two major programs, we found that region-specific training initiatives at this stage are small and in their early stages and tend to be focused on the metropolitan and larger industrial areas.

In the facilitated workshops, universities and their regional communities stated that only the large business enterprises or organised industry groups could participate in university partnerings for teaching purposes and that these tended to be in the metropolitan centres rather than the non-metropolitan regions. Even where there were large corporation activities in the non-metropolitan region, issues such as training program alliances with universities were generally centred around the corporation's head office location in the metropolitan area and tended to favour the metropolitan universities as a result.

This was not always the case with the larger provincial centres, however, where there were some training connections between the local university and the large regional industries. The relationships between the University of Newcastle and the energy industry and the University of Wollongong and the steel industry are examples here.

Nevertheless, the university/community workshops identified the need and a general preparedness for universities to become more corporate in their focus and formulate stronger strategic alliances with business that include teaching courses. Many of the respondent universities to the survey had similar views.

All universities involved in the workshops indicated that they were looking for business partnerings. Many, however, found the combined burdens of the university management system and prevailing introspective academic culture, pressure resulting from Government university operating grants funding criteria and the difficulties of gaining a critical mass of involvement with regional industries an impediment to further action.

Small business enterprises in particular felt they were being disadvantaged in relation to teaching connections with the region's university because of their lack of a critical mass, and the workshops identified a need for industry-oriented courses tailored to the specific circumstances of the regional economy.

A further issue impacting on the introduction of new courses introduced in the regional university to respond to local demand was accreditation procedures. National and state accreditation procedures where they exist, set requirements that smaller university campuses sometimes find difficult to meet despite there being adequate demand for the programs (Lee and Underwood 1997).

5.2.2 Pervasive Impact

The second area in which university teaching can add value to the regional economy is through the retention of its graduates in the local region.

Graduates provide a bridge between the university and business in the region. This enables the regional community to retain innovative, entrepreneurial and management skills that can foster new businesses, attract inwards investment and enhance the productivity and market competitiveness of existing business. For many years, however, business has argued that this contribution is overstated as graduates are under-prepared to be effective in a commercial context—particularly as it relates to their entrepreneurial ability.

In 1995, the Karpin Committee Report of the Industry Task Force on Leadership and Management Skills highlighted a number of recommendations by which higher education institutions could better assist business managers to be more effective through partnership teaching programs. One of these was that secondary and tertiary education institutions should be providing their students with a better hands-on appreciation of small business entrepreneurship skills, attitudes and behaviour to enable them to be *job-makers rather than job-takers* in their communities.

A number of universities around Australia are taking up this challenge to enhance the innovation and entrepreneurship skills of students and increase their regional retention rate by offering industry-linked education programs.

The University of Adelaide has developed three industry-linked education programs. The Cooperative Education for Enterprise Development program, the Graduate Industry Linked Entrepreneurial Scheme program and the Project Plus program bring together research organisations, industry, various University departments and students to develop entrepreneurial skills and incubate student-

generated business ventures as research projects in their final year of study. Operating via the Thebarton Research Precinct, students are supported as part of the Graduate Entrepreneurial Initiative Scheme.

The University of Newcastle, via the Engineering Department, also has had final year degree and post-degree student placement arrangements with BHP in the research area. There is a recognition, however, that these links with industry could be made even stronger.

The ability of the region to retain graduates with the skills it needs is also likely to be a function of the concordance between courses studied and the skill needs and size of the regional economy. Those universities that retain few of their graduates in their local region are indirectly enhancing the competitiveness of other regions relative to their own.

A study of graduates from the University of Western Sydney (1997) estimated that because of the geographical accessibility of its seven campuses across the region, its particular specialisation of courses, the diversity of the regional economy and size of private sector enterprises offering graduate employment, around 56 per cent of the University of Western Sydney graduates joined the workforce in the Western Sydney region. A study of the three South Australian universities (University of Adelaide, Flinders University and the University of South Australia) found that around 80 per cent of the more than 10,000 students graduating each year found employment in South Australia (South Australian Centre for Economic Studies 1996).

The University of Tasmania estimates that around 65 per cent of undergraduates are retained in the state after graduation. At the University of Newcastle, around 72 per cent of students are drawn from the regional catchment (Hunter and Central Coast) and around 55 per cent are retained in the regional economy after graduation.

In the case of the Southern Cross University, the proportion of graduates remaining in its North Coast region catchment after graduation is only around 32 per cent whereas 48 per cent of the University's students are drawn from the region. This is despite the University having three campuses being spread throughout the region, no immediate geographic competition from other universities, and new and innovative courses being available that correspond with the region's emerging resource strengths (e.g. tourism, naturopathy, coastal management, forestry, coastal management and club and restaurant management). The university's newness, its relatively small population catchment (one quarter the size of Western Sydney) and importantly the narrowness of the regional economy's industry base, relative small size of business enterprises, and current general community attitude typical of rural communities towards the benefits of higher education, provides limited potential for graduate employment opportunities in the local region.

It means the university, and others in similar positions (e.g. Central Queensland University has a similar graduate retention rate in its local region), will have more difficulty relying on its teaching programs, as currently conceived, as a strategy that can add significant value to the underlying long run dynamism of the regional economy as opposed to universities where the economies are more robust with a critical mass and diverse economic base that enables a greater graduate retention rate in the local economy.

Strategies that widen and deepen teaching and training supply need to be matched by strategies that creatively determine regional training needs in the context of being competitively positioned in the global market economy. Outside of this, regions such as the North Coast of New South Wales (Southern Cross) and Central Queensland (Central Queensland University) will need to rely more on the attraction of innovative and entrepreneurial skills from outside the region by offering other incentives.

5.3 Research and Development

5.3.1 Background

A potentially significant contribution the higher education institution can make to the regional economy is through its research and development activities, its information and analysis and the expertise and networks of its academic and other employees. Through this the university can assist the investment environment for indigenous industry in the region, the commercialisation of research and development, the creation of spin-off companies and the encouragement of inwards investment through creditable and reliable data, brokering arrangements, industry partnerships, networks and the transfer of best practice ideas.

Historically, however, universities have not had a strong research connection with their regions. There have been a number of factors, identified via our university/community workshops and the university survey, that have contributed towards this.

First, the culture of the university has traditionally been one of protective introspection rather than collaboration and the sharing of ideas. The higher education operating grant funding policy arrangements, among other determinants, tend to exacerbate the competitive rather than the collaborative tendencies of university research staff towards others. As a result, universities have tended not to go looking for partnership alliances with other research and development type operations within the university or with other universities.

We found some exceptions to this however. For example, the Employment Studies Centre at the University of Newcastle with some 25 to 30 active researchers combines the expertise of the faculties of Management, Economics, Geography, Sociology and Tourism.

Similarly, non-university research and development providers in the region (e.g. larger private sector research and development organisations) believed the links between themselves and the local university, outside of the partnerings based on the competitive Cooperative Research Centre grants processes, were poor even though there were similarities in the work they each did.

Second, most universities have seen themselves as being either national or international in their focus. They have not seen that a connectivity in a research sense with the local community can be a vehicle to satisfy these loftier ideals of being recognised on a national and international stage.

Despite some more recent positive changes in this area, our workshops highlighted there is still a hiatus between the expectations and operating style of the corporate sector and that of academia. Nevertheless, the workshops also showed a distinct willingness on the part of the universities to try to bridge this gap with their regional communities as soon as they can.

Know-how and cleverness are the key drivers for economic growth in the global economy.

Recent years has seen stronger links being built between the research agenda of universities and national social, environmental and economic objectives in Australia.

In relation to research and development, between 1986–87 and 1994–95 total funding from various public and private sources in Australia increased from \$3.37b to \$7.32b (a 60 per cent real terms increase) with the higher education sector's share of the funding remaining at around 25 per cent over the period (Department of Industry, Science and Technology 1997).

In 1994 and 1995 the higher education sector received \$1.83b in research and development funding (the fifth highest amongst OECD countries), \$1.63b of which came from the Commonwealth Government. The remaining amount, around \$200m, came from the private sector.

The Commonwealth Government provides financial support for research and development through the 125 per cent research and development Tax Concession (\$470m in 1997–98), the research and development Start Program (\$128m in 1997–98), the Cooperative Research Centre Program (\$147m in 1997–98), through a range of rural research and development type programs (around \$140m in 1997–98) offered via the various rural industry councils and corporations (e.g. fisheries, forestry, RIRDC and the Land and Water Research and Development Corporation) and through a number of Ausindustry enterprise development programs (around \$40m in 1997–98).

In terms of private sector research and development, the telecommunications, energy, chemicals and heavy metals sectors are the heaviest users. In most of these sectors again there are only a few major companies involved.

Outside of the above research and development funding focused on business, universities also receive research moneys via a number of Department of Employment, Education, Training and Youth Affairs grant programs and grant programs from other government agencies where universities and Cooperative Research Centres are eligible bodies. These include research infrastructure grants (\$85m in 1997), special research and key centre grants (\$18m in 1997), research fellowships (\$27m in 1997) and so on.

A study by Marsh, Turpin and Hill (1992) collected information about the operations of 610 university research centres in 32 institutions from the perspective of their funding source, duration of existence, research focus, employment level, management structures and linkages with other research centres.

The authors found that half of the centres surveyed came from only seven universities, all of which were located in metropolitan centres. The highest ranking non-metropolitan university in terms of the number of research centres was sixteenth. By far the majority of research centres occurred in New South Wales, Queensland and Victoria. The newer universities represented around one quarter of all research centre numbers with their main areas of concentration being in the social sciences, applied technology/engineering and information technology fields. The older six universities accounted for nearly 30 per cent of all research centre numbers with a heavy emphasis towards medicine/health, social science and biology/chemistry/rural science.

When it comes to examining a university's specific research and development contribution to the economic development of its region, the information is not so readily available and has to come from each individual institution, as Marsh, Turpin and Hill found, rather than from a collection of ready made statistics.

There are different arguments as to the benefits of having a region-specific focus to research and development and innovation.

As research and development is an expensive activity it is more likely to be carried out only by a small number of larger companies operating via their metropolitan head offices or in large provincial centres. Smaller non-metropolitan regions, where branch plants and small and medium enterprises tend to proliferate, are less likely to benefit from any university/business research and development partnering in this sense.

It is also likely that business located in non-metropolitan regions are less likely to have an research and development culture and will be conservative towards the use of university research skills relative to those businesses in the metropolitan areas.

On the other hand, certain cluster synergies can occur in research and development between purchaser and provider when they are physically close, as embodied in the notion of industry precincts (following Porter 1989).

The uncertain, iterative and sometimes disjoint nature of the innovation process in real life means that a tight synergy between research and development providers and purchasers will probably be best delivered via a region-specific milieu approach.

Where research and development does occur between the higher education institution and business on a regional basis it can contribute to economic development through technology transfer and the consequent expenditure by the research and development purchaser on new technology equipment and the employment of specialist skills, the creation of new spin-off companies through the commercialisation of technology, the provision of on-going technical assistance and the generation of agglomeration economies (such as through the sharing of information infrastructure, etc.).

The information that is available from individual universities paints a patchy picture of their involvement in regions from an research and development perspective, although a number of patterns are reasonably clear.

1. Metropolitan and larger provincial universities have the strongest research and development relationships with their regional centres through industry and technology precincts, some project-specific relationships as well as via their affiliated non-metropolitan area campuses.
2. Metropolitan universities are ostensibly research and development providers across a number of industry sectors, and hence regions, depending on faculty/school expertise although again there are exceptions to this.
3. While these patterns of research and development involvement are not universal across all universities and their regions, the extent of university involvement appears to be due to a number of broad factors, including:
 - (a) whether the university has a stated policy of involvement with the regional economy in their operational plans and how actively the leaders within the university pursue it;
 - (b) the kinds of faculties and research centres in which the university has its strengths and how these correspond to the industry-base of the regional economy and their research and development interests;
 - (c) whether the university has a strong engineering faculty;
 - (d) whether there are innovation hungry businesses in the region such as telecommunications, aerospace, biotechnology, information technology, electronics, etc.;

- (e) the industry structure of the regional economy (including the types of products and services generated, the diversity and complexity of operations, the size and ownership characteristics of business enterprises, attitude and entrepreneurial behaviour toward research and development) and the extent of their innovation and entrepreneurial attitude that encourages such research and development partnering connections from an industry perspective;
- (f) the ability of the research institution and the industry to attract research funding, taxation concessions for research and development and public sector program support in the particular area of inquiry; and
- (g) the degree to which the regional economy is organised in terms of having articulated its industry development priorities in a strategic way.

Kanter (1995) identifies the core assets needed for competing successfully in the global economy as concepts, competencies and connections. Different regions have a different mix of these strengths. Three types of regions are defined by Kanter:

- thinking or knowledge based;
- those that are makers and those that are traders; and
- networkers.

The relative success of involvement of universities with their regions will depend on their capacity to tailor their programs to these regional situations.

A number of different types of regional involvement by universities in relation to their research-focused connections are emerging. In this report we look at the university experience with respect to science and technology parks and research precincts, industry focused research and development, enterprise specific research and development partnerships and student oriented research and development.

5.3.2 Research Precincts

The first of these, research or technology precincts, relates to the development of synergies between research and industry across different fields. In a sense these attempt to mirror the industry cluster situations such as in Silicon Valley (connections with Stanford University), Boston's Route 128 (connections with Harvard and Massachusetts Institute of Technology), North Carolina's Research Triangle, the M4 Corridor near London and so on. In these situations it is important for industry to have close access to skilled researchers and facilities.

The literature about the successfulness of technology parks in relation to their contribution to stimulating the regional economy is inconclusive.

On the one hand is the work by Scott (1988), Porter (1990) and others, that argues spatial agglomeration benefits (such as the reduction in transport costs, the build up of local know-how, the exchange of information, a culture of labour flexibility

resulting from the social interaction, etc.) accrue to firms, and as a consequence benefit the regional community, when in a cluster situation such as an industrial district or technology park.

On the other hand, Amin (1993, p. 283) argues that clusters like Silicon Valley are not as observably successful in generating sustainable regional economic growth as is made out by their advocates as they are starting to fragment internally because of the power relationships with external parents and the increasing substitution of external links for localised ones. Amin also argues that many clusters occur in metropolitan regions as a matter of course because of their general pull of finance, infrastructure, business services, etc. and are not as successful in greenfields regional centres.

One reference worth considering on the effectiveness of technology parks is Massey, Quintas and Wield (1992). In a study of a number of science parks in Europe and America, they conclude that, by separating out science from production, sunrise from sunset industries, academics from the general community, clean from dirty work and so on, science parks tend to cause social polarisation in the regional community by being exclusive, elitist and divisive in the kind of employment they generate and tend to generate elite locations and declining locations. They also find that much of the high-tech hype about the success of science parks is a myth. 'The archetypal science-park model is founded on, and reinforcing of, social inequality' (Massey, Quintas and Wield 1992, p. 244).

In relation to science parks as instruments of regional economic development, Massey et al. (1992, p. 248) conclude that they offer no panacea and that their benefits for a region really depend on the particular region's competitive requirements.

While in some cases their [that is, science parks] most appropriate role may be to attempt to introduce new sectors into an economy, in many others the more appropriate strategy for a region may well be the modernisation or transformation of the existing industrial base. It is this latter approach which will usually be more able to draw on the existing strengths of an area, its already established infrastructure, its history of labour skills and developed forms of social organisation.

While to date technology parks have not been a great success in Australia, tending to have too strong a focus on property and too little focus on commercialisation and company spin-off, there are a number of useful examples that do have relevance as a means whereby universities can in the future contribute to boosting regional economic development through research and development.

In Victoria, the Monash Technology Precinct (Monash University), in South Australia the Thebarton Commerce and Research Precinct (University of Adelaide) in Perth the Bentley Technology Park (University of Western Australia, Curtin University, Edith Cowan University and Murdoch) and in Sydney the

Australian Technology Centre (Universities of Sydney, New South Wales and Technology and TAFE) are examples of where research and development partnerships with clusters of firms with complimentary interests are occurring.

At the Thebarton research and development park, less than four kilometres from the Adelaide CBD, the University of Adelaide has established one of Australia's largest university-owned and managed science parks. The Park comprises research activities in mechanical engineering, telecommunications, botany, labour studies, electronic and chemical engineering, petroleum geology and geophysics collocated alongside commercial activities in engineering, biotechnology, industrial design, laser/optics technology, radar systems, telecommunications and environmental services.

After five years of operation, there are now over 30 commercial tenants, eight research groups, eight businesses in the incubator stage and over 400 people including 80 postgraduate students at the research precinct (Hunter 1997).

The precinct is totally self funding and regarded as a campus of the University. It encourages tenants to the precinct that are able to form strategic alliances with University academic activities and can contribute to clustered industrial activity.

Utilising previously derelict land and buildings, the investment by the University has generated a return via the Precinct's activities through the provision of subsidised research and development facilities for university researchers and by building links between the University and the business community. The Precinct has generated over 30 businesses, created jobs for over 400 persons and has links with schools, local industry, service groups, local councils and job creation schemes.

A significant technology precinct is the Australian Technology Centre Sydney Limited at Everleigh. The Centre has 50 research and development tenants on the premises, including various faculties and centres of the Universities of Sydney, New South Wales and Technology as well as TAFE and other commercial business enterprises, engaged in a range of activities including fibre-optics, multimedia, super-conductivity, waste water, bio-materials, bio-medical, oral health and others. Operating as an research and development incubator, when the research and development of a venture moves to commercialisation, the enterprise moves out of the park.

In 1985, the Western Australian Government established the Western Australian Technology Park at Bentley. The universities Western Australia, Edith Cowan, Curtin and Murdoch are all involved in the Park. Its objectives are to facilitate the growth of key technologies through research and development, innovation and technology transfer and the provision of land for the establishment of commercial business enterprises utilising the new technologies.

There are now 70 firms in the Park, mostly focusing on software/innovation technology, mining and pharmaceutical sectors. Employment totals 1,100 and is forecast to grow to 2,000 by 1998. Export earnings amount to around 70 per cent of the total turnover of the Park of \$170m. In Western Australia the Park is being used as a model to develop other specialist parks and there are plans to develop the Park further to become a technology precinct.

5.3.3 Industry Specific Research and Development

The second way a university can contribute to the economic development of its regional community via research and development is where there is a partnership between the university and a particular industry that predominates the region.

The Cooperative Research Centre program, which began in 1990, has now funded 62 collaborative research ventures in the fields of engineering and natural sciences between universities, the public sector and business. Cooperative Research Centres aim to concentrate research effort around the scientific and technological needs of industry and to capture a greater amount of its commercial value.

The Cooperative Research Centre program, supported by the Commonwealth Government to the extent of \$140 million each year, has a national rather than a regional focus. Nevertheless, the concentrated location of targeted industries in the Cooperative Research Centre program in a 'de facto' way can provide some regional economic impact.

For example, Wollongong University is involved in Cooperative Research Centres in the areas of materials welding and joining and intelligent manufacturing systems which will benefit the region's heavy steel and engineering manufacturing. Newcastle University is involved in Cooperative Research Centres dealing with the firing potential and emission control aspects of black coal utilisation and renewable energy which has a benefit to the region's extensive coal mining and energy production industries.

James Cook University at Townsville is involved in a sustainable sugar production Cooperative Research Centre which, with its industry partners, will benefit the sugar producing regions of central and northern Queensland. Beef producing regions in the north of Australia will benefit from the Cooperative Research Centre into cattle and the beef industry at James Cook and Darwin universities.

Wine producing regions will benefit from the research and development being undertaken by the Cooperative Research Centre in which Charles Sturt University is involved and tourism regions in the far north coast will benefit from Cooperative Research Centre involvement with the sustainable development of the Barrier Reef, tropical rainforest ecology and sustainable tourism.

The timber and fishing industries in Tasmania will benefit from Cooperative Research Centres based at the University of Tasmania into temperate hardwood forestry, sustainable production forestry and for teaching and research in aquaculture. Tasmania's seafood industry is one of the State's strongest growth sectors and the forestry and logging sector is a significant contributor to the State's economic activity.

The University of Tasmania is also taking strategic economic advantage of the State's proximity to Antarctica with the establishment of a Cooperative Research Centre for the Antarctic and Southern Oceans Environment and a National Key Centre for Antarctic and Southern Ocean Studies.

At Curtin University, the Australian Petroleum Cooperative Research Centre, in partnership with the CSIRO and other partners from the petroleum industry, will add value to the oil and gas production industry which is a significant industry in Western Australia.

The Australian Capital Region economy has identified the information technology industry as a key strategic focus for the future. The Australian National University has a Cooperative Research Centre for Robust and Adaptive Systems and a Cooperative Research Centre for Advanced Computational Systems that have the potential to attract considerable work to the local information technology industry.

The Southern Cross University has four Cooperative Research Centres (Sustainable Production Forestry, Molecular Plant Breeding, Sustainable Rice Production and Sustainable Tourism) in areas that are relevant to the future development of the New South Wales North Coast economy. The University has a research strategy of working closely with industries such as forestry, tourism, plant genetics and natural products that are a key part of the region's economic base. The University believes this strategy has helped it become more financially secure.

Apart from the Cooperative Research Centres there are also a considerable number of other university-based research centres that do and can potentially contribute to the research and development needs of the regional economy. There are around 800 such centres, including Key Centres of Research and Teaching and Special Research Centres funded centrally via the Department of Employment, Education, Training and Youth Affairs as well as many others funded by industry, project contracts, from specific government programs and other sources.

Most universities responding to our survey identified some of their non-Cooperative Research Centre type research centres, particularly those in the engineering faculties, as now working on projects of relevance to their local regional economy. These involve partnerships between universities, industry and other region-specific interests such as local government and regional economic development organisations that have more of an emphasis on particular identified community driven regional priorities rather than industry or university driven priorities only.

At the Universities of Newcastle and Wollongong, the Key Centre for Bulk Solids and Particulate Technologies plays a significant role in better understanding the behaviour of bulk materials handling commodity storage, flow and transportation.

At Charles Sturt University, the National Wine and Grape Industry Centre (NWGIC) is a collaborative project with the New South Wales Government Department of Agriculture and with wine companies in Griffith, Cowra and Tumbarumba on grape vine productivity.

The establishment of the Lincoln Marine Science Centre, with the involvement and funding of the Flinders University, South Australian Research and Development Institute, South Australia Department of Primary Industry and the Spencer Institute of TAFE as well as the fishing, shellfish and crustacean industries, through its research into aquaculture, fishing, marine science and shellfish health will benefit the sustainability of the sensitive and significant fishing industry on the Eyre Peninsular in South Australia.

The Gippsland Regional Economy and Ecology Network Technology and Business Development Centre (Green Inc.), opened in October 1997 at a cost of nearly \$6m, is a joint venture funded regional partnership in the Gippsland region of Victoria. Its partners include Monash University (via its science, engineering and computing faculties) at its Churchill campus, the Latrobe Local Council, the timber industry and the Commonwealth Government.

Green Inc. aims to promote the adoption of new ecologically sustainable technologies and management across agricultural, pastoral, horticultural, viticulture, tourism, information technology and manufacturing industries that are important in the region.

Another region-specific research initiative, driven by community priorities and involving the local university, is the International Business Exchange of Central Queensland. The Exchange is a joint funding venture between the Central Queensland University at Rockhampton, local government throughout the Central Queensland region, private industry in the region and State and Commonwealth Governments. The project aims to coordinate Central Queensland's regional resources to enhance overseas trade, encourage inwards investment and develop value adding opportunities.

5.3.4 Enterprise Specific University Research and Development Partnerships

The third approach by which universities can have an impact on the economic development of their regions through research and development is where there is a specific partnership between the university and a particular regional business enterprise.

Southern Cross University's involvement in the development of the tea tree oil industry involves an research and development partnership with the Main Camp tea tree oil group in the Northern Rivers region and the formation of the Australian Tea Tree Oil Research Institute to research the pharmacological properties of tea tree oil for a range of natural therapy products (Southern Cross University 1996).

The interesting aspect of the Southern Cross research program is the method of its funding. Commercialised research generally has had to rely on seed capital and venture finance which have not been easily come by for such products.

Funding for the research and commercialisation of tea tree oil products at Southern Cross comes from the private managing agents of the venture offering a public share prospectus based on the expected product market results of the research undertaken by Australian Tea Tree Oil Research Institute. The research share offerings provide certain taxation benefits to the contributor that make the delayed generation of a return attractive enough for the scheme to have been totally capitalised to the extent of around \$80m for the research and commercialisation.

Australian Tea Tree Oil Research Institute at Southern Cross University carries out analysis and certification of tea tree oil and other essential oils and extracts, the development of processes of extract production and product types.

The success of the tea tree oil venture by Southern Cross University as a private sector funding source for university based research and development, has stimulated research activities in a number of other natural remedy, agricultural and animal and animal husbandry products through a new research company, the Australian Agricultural Research Institute formed in 1997 (Southern Cross University 1997). It has also led to interest by the private sector in working with the university to develop a technology park in the natural products area in the region.

If the technology park project goes ahead, it would be one that is totally product oriented, rather than process oriented as many other science parks are. It will also be a science park that will have the opportunity of being embedded in the regional community from its beginning, thereby seeking to overcome some of the divisive community aspects of traditional science parks as evidenced by the Massey et al. (1992) work.

The Department of Chemical Engineering at Newcastle University has also developed a number of large enterprise research partnerships with companies in the Hunter region like BHP, MIM, Boral, Incitec. The Department of Electrical and Computer Engineering and the Department of Chemistry also have a range of specific business enterprise research partnering in the Hunter Region in both large and small companies.

5.3.5 Student-oriented Research and Development

The fourth way partnerships between the university and regional community may be built around the economic needs of the region from a research and development point of view is through graduate and post-graduate research projects with local business.

While not having a region-specific focus, Commonwealth Government programs such as the Strategic Partnerships with Industry—Research and Training (SPIRT) Scheme, can facilitate economic development in the local region.

A good example of a student oriented research and development program is the Graduate Entrepreneurial program at the University of Adelaide. The Program offers opportunities for recent graduates to move from university study into business using their specialist skills or project ideas (Hunter 1997). There are three elements to the Program, viz.:

- the Business Initiatives from Graduates (BIG) program;
- the Graduate Business Support (GBSS) program; and
- the Graduate Industry Linked Entrepreneurial Scheme (GILES).

Under Business Initiatives from Graduates program, four or five graduates a year from the University who have an innovative idea for a product, process or service are supported with a scholarship and enrolment in a Graduate Diploma of Business Enterprise, an intensive Small Business Training course, a business mentor, a university supervisor, a university contribution to their business operating expenses and access to some venture finance.

Through the Graduate Business Support program, PhD candidates approaching the end of their research are provided with help to convert their project and skills into a business enterprise. The Program places graduates with a company that has an interest in the further development of a product or idea that has come from the student's research. The company pays a scholarship contribution towards the student's living expenses and training costs.

To date these graduate research and development programs at Adelaide University have supported 24 participants starting 16 businesses in product development and consultancy services most of which are still continuing (Hunter 1997).

5.4 Regional Leadership

Another way the university may contribute to the regional economy is through its staff as knowledgeable people with vision and contacts who can take a leadership role and, with other key people in the community (such as business, local government, unions and environmental groups), be agents for change in the regional economy and help set a strategic path in the context of the global environment.

Over the past few years in Australia a number of studies of regions have identified leadership as the key ingredient for enhancing the economic prospects of business in non-metropolitan areas. The Task Force on Regional Development in its 1993 report noted that wherever it went ‘... it found men and women of experience, authority and vision. These are people who want to build and strengthen their region, but who look out to the world to see their place in it’ (Task Force on Regional Development 1993, Vol. 1, p. 1).

Similarly, a study of regional business undertaken by international management consultants (McKinsey and Co. (1994, p. 33) for the Federal Labor Government found there was no shortage of talented people with the potential to play leadership roles but to make them truly effective there was a need to raise their profile so that the importance of regional leadership is understood; and there was a need to provide community and regional leaders with an understanding of the key levers they have at their disposal so that their efforts are focused on the right issues. They identified the characteristics of a good regional leader as:

...those people who can make change happen, can make the investments, can help change attitudes.

(McKinsey and Co. 1994, p. 30)

In 1996 McKinsey and Co. concluded ‘Twenty years from now we must have a culture of outstanding regional leadership to have the economies and lifestyle we aspire for our children. We will look back at our commitment today as critical to that’ (McKinsey and Co. 1996, p. 6).

From their 1996 review, McKinsey and Co. found that leadership in regional communities, while dedicated and enthusiastic, was patchy in developing a compelling vision for their areas, enrolling the participation of non-regional institutional players as stakeholders in their community’s future, building a dynamic learning environment, creating a distinct regional identity, building regional cooperation and presenting themselves as professional and credible.

In a review of 15 Regional Economic Development Organisations, Fulop and Brennan (1997) found leadership to be patchy in some areas but in others they found there was high performance even after a short period of only several years. They found in some cases that regional leaders performed well in creating a leadership team and creating team work in the region, building trust amongst regional stakeholders, forging a strong regional identity, having a clear energising vision for their region, setting tough but achievable objectives and getting ‘quick runs on the board’ in the region.

It takes time to build a true community-based leadership team at the regional community level which emphasises collaboration and cooperation. Issues of competitive interests between regional community stakeholders (political and sectoral allegiances) are a key impediments to developing an enterprising community with a bias to action.

Gray (1996) and Stewart (1997) found that good performing leadership in the cross-sectoral (and cross-institutional) environment of the regional community is probably best reflected in skills in building collaborative partners and in being seen by the community to be an honest broker. Universities have long seen their independence of institutional control and non-partisan status, rightly or wrongly, as one of their key strengths. In the sense of Gray and Stewart this so called 'honest broker' status enjoyed by universities should stand them in good stead from the perspective of being effective leaders at the regional community level.

Many regional leadership groups in Australia now have higher education institutions represented on them along with key business, local government and environmental organisations.

Some universities have provided office accommodation on campus for the regional economic leadership team and have taken a high regional community profile in supporting regional economic priorities. The University of Western Sydney at its Richmond campus, for example, has provided the office infrastructure and location for the North Western Sydney Regional Economic Development Organisation. Its chairperson is an executive of the University. Comprising business, local government, environment and education stakeholders in the region, the University sees the regional grouping as playing a major formal advisory input role to the direction of its teaching and research programs.

The Centre for Regional Development at Deakin University's Warrnambool campus played a key role in the establishment and early development of the Greater Green Triangle Regional Development Association as the regional economic development leadership group for the South West area of Victoria and the South East area of South Australia.

As a training discipline, regional and community leadership to enhance economic competitiveness in this country is something to which we give little attention. One of only a few fully operational leadership program examples is the Williamson Community Leadership Program operating out of Melbourne. Funded by the Hugh Williamson Foundation, the Program trains future community leaders in and around Melbourne over a year-long period.

Apart from initiatives in the Gippsland which is supported by Monash University's Churchill campus and in the Murray-Goulburn area that are modelled on the Williamson approach there are few other practically oriented training initiatives targeted at developing regional community leadership skills currently in place that focus on the economic sustainability of a region's 'sense of place' in the context of the pressures of the global economy.

In South Australia, the *Business Vision 2010* initiative which involves the State Government, the South Australian Employers' Chamber of Commerce and Industry and the universities, is planning to put in place a Leadership Institute that will develop the skills of existing and future leaders in industry and the community to deal with change, innovation and motivation.

The extent to which there is a juxtaposition between the university's strategic plan and that prepared by the regional leadership team for the economic direction of the regional community is also a difficulty. A number of universities in our survey indicated that this was a direction they proposed to address.

Through the *Tasmania 2010* Forum, the University of Tasmania is able to align the direction of its research and teaching programs with the priorities identified by the local community.

A strong connection between identified regional community priorities and the strategic directions for the regional university exists at the University of Western Sydney. As indicated earlier, the University's strategic plan includes at least 40 of its 118 objectives that relate directly to the local region and includes key performance indicators for each of them (Lindsay and Jones 1997).

The University's Hawkesbury campus at Richmond has sought to ensure its teaching and research profile fits with the needs of the region. As a result it provides a key focus to agriculture, environmental management, tourism, high technology and education services.

The University of Newcastle, via its External Relations Division, works with more than fifteen regional organisations in a cooperative approach to the region's economic development planning. Similarly in the Northern Rivers region of New South Wales, the Southern Cross University is involved with several community based economic development leadership bodies and Monash University, via its Churchill campus plays a key role in the Board of Gippsland Development and the Gippsland Area Consultative Committee in Victoria.

5.5 Promotion Activities

Lifestyle attractiveness including a healthy environment, access to education, a rich cultural life, diverse recreation and sporting options, are important soft infrastructure elements that have as much an impact on the location decisions of enterprises as hard infrastructure. Many of these soft infrastructure resources in the regional economy are provided by the university, but while they are often part of the university's responsibilities, they are infrequently seen by the university or the community as being elements of any region-wide promotion or marketing program targeted at fostering regional economic development through the attraction of investment into the region.

The University of Tasmania is currently in the process of signing a Memorandum of Understanding with the Tasmanian State Government Department of Education on jointly approaching the marketing of Tasmania as an education destination for overseas students. Similarly, Edith Cowan University participates in several marketing programs operated by the Western Australian State Government. In particular, the University has been part of the promotion to attract foreign investment into the State.

Ballarat University has been involved in regional promotion activities with the City of Ballarat Council as has been the Royal Melbourne Institute of Technology with the City of Melbourne local authority and other city-based organisation to attract business and institutional investment. The University of Newcastle has played an active role in the 'Hunter Advantage' promotion and marketing program and Monash University at Churchill has been involved in the economic promotion of the Gippsland region.

Charles Sturt University has participated in a number of community promotion programs in its regions with other stakeholder groups. Through the Bathurst Education Advancement Group some 50 education institutions in Bathurst have joined forces to promote Bathurst through its educational facilities.

5.6 Information

The regional economy cannot develop a vision and investment growth strategy unless it has extensive, accessible and updateable information on its knowledge, infrastructure, skill and other resource capabilities for trade in the global economy. Regions also need good information about how their area compares in a performance benchmark sense against other regions both domestically and internationally.

Universities provide much of the data survey and information technology expertise to help regional leaders better understand their region's distinctive competitive strengths and design their region's strategies for realising their potential. A number of regional universities have established centres and research institutes to provide this advice to their regional communities.

The Southern Cross University in northern New South Wales, for example, has recently established the Southern Cross Regional Research Institute as a joint partnership with the Northern Rivers regional community to undertake research to support investment and job-generating location strategies by business and other institutions. The Centre for Regional Development at the Warrnambool campus of Deakin University undertakes similar work for the Greater Green Triangle region.

The Illawarra Information Service supported by the Illawarra regional community and the University of Wollongong provides timely information about the regional economy to a wide range of users. At Charles Sturt University, the Regional Economics Research Unit carries out in-depth analysis of the local economy for a variety of stakeholder interests.

5.7 Networks and Brokering

Regions need to be linked into the global economy so as to be able to provide technology transfer and market access support for their businesses. Through their research activities, many staff in universities have extensive international networks that are potentially beneficial for embedding the regional milieu into the global market place.

Unfortunately, most university staff see the networking activities they are involved in at the university as something separate from the requirements of the regional community they live in.

5.8 American University—Examples of Community Partnership

One of the defining characteristics of the Land Grant and State University systems in the United States has been their alignment and partnership in promoting the economic, social and civic vitality of their communities. Many of these universities offer industry extension and outreach services, formal training modules, advocacy, information and research and development in response to articulated community demand with funding from government, industry and the community.

Examples of regional community partnership programs for economic development operated through the universities include the Cooperative Extension Service at the University of Wisconsin, the Centre for Rural Community Revitalisation and Development at the University of Nebraska, the Business Retention and Expansion program at the University of Minnesota, and the Northern Crops Institute at North Dakota State University.

Many of the university extension systems operating through these universities also provide formal training modules to enhance skills in the area of local and community economic development and are accredited with the university systems and with professional bodies such as the American Economic Developers Council.

The Council runs a continuing education program for regional and community workers involved in matters dealing with economic development through a confederation of universities across the United States of America that have accreditation with it. There are at present around 20 programs in operation. The programs are aimed primarily at community leaders, local authorities and local development practitioners.

The Rural Policy Research Institute is a consortium involving the universities of Missouri, Nebraska and Iowa State. Based on a grant of \$3m from the Federal Government, it links over 100 scientists (across 15 disciplines) in eight major project areas (rural medicare, rural policy, rural health, rural education, rural telecommunications, community analysis, regional analysis and rural finance). The Institute conducts research and facilitates public dialogue to assist policy makers understand rural impacts of public policies and programs.

Advocacy on behalf of their communities is another role performed in particular by the universities in rural areas of the United States of America. The Community Policy Analysis Centre at the University of Missouri for example acts as an intermediary between government and the community on a range of economic development and social issues. The Centre has set up advisory panels in each community to discuss the impacts of development, and to develop strategies to diversify their economic base. The Centre is able to utilise its research and information to ensure there is an effective relationship between policy and program design at a government level and the differing requirements at the rural community level.

The Learning Region—University Community

6.1 Background

In the previous sections we have seen that the connections between the university and the regional community are for the most part project specific and still tentative at a whole-of-organisation level on matters to do with economics. There are emerging however some good examples of close partnership arrangements at a project level.

The outcomes of these project partnership arrangements will need some monitoring to ensure that real regional benefit can occur through stronger connections between the university's skills, knowledge, information and networks and the goals and strategies agreed to by the regional community. It will need a local mechanism, not unlike the Greater Green Triangle Post Secondary Education Consortium or the Regional Development Office of the University of Western Sydney Hawkesbury campus at Richmond, that can ensure there will be a:

- (a) coming together of the stovepipes of the schools, faculties and centres of the various higher education institutions in the regional community as relevant; and
- (b) means of ensuring a relationship between the strategies, objectives and priorities of the regional community and those of the higher education institution in a way similar to that occurring with the University of Western Sydney and the North West Sydney regional community.

6.2 The Learning Region

One approach that offers the possibility of creating an arena of arbitrage to strengthen the connectivity between these various structures, goals and strategies is the notion of the learning region.

The field of organisational learning and action research embodies principles of collaborative sharing of information. It provides tools to explore the ways functionally specific institutional objectives, including those of universities, are dependent on a wider array of interconnected territorial considerations that go beyond the organisational structures of the individual institution. The facilitated university/regional community workshops we held were an effort to explore some of these relationships.

In the *Fifth Discipline: The Art and Practice of the Learning Organisation*, Senge (1992) outlines the need to master five disciplines: systems thinking, personal mastery, mental models, building shared vision and team learning, as a way that organisations can become more in touch with matters that are important to them but which go beyond the organisation's traditional structural and intra-organisational way of doing things.

There are some recent examples in the United States where these principles of collaborative learning are being extended to the interface between the business organisation and the community (refer section 80 in Senge, Roberts, Ross, Smith and Kleiner 1994). However, as yet these examples appear to be limited largely to 'wise-minded' innovators and the 'civic-minded' corporation, rather than embracing the notion, that this report asserts, that an organised region or place might negotiate on equal terms with regional institutions to improve the achievement of each others objectives.

The concept of the learning region, also referred to as the innovative or enterprising community, was a recommendation of the Industry Task Force on Leadership and Management Skills (Karpin Committee 1995) to enhance entrepreneurship outcomes beyond the levels currently contained within the culture of business enterprises. According to the Task Force, a community that has an enterprising culture would generate greater wealth from self-initiating action in business. The Task Force saw initiatives to stimulate community entrepreneurship occurring at the regional level via leadership programs that foster partnership arrangements with industry, professional associations and state and local governments (recommendation 1).

The recent report commissioned by the Australian Business Foundation Ltd, *The High Road or the Low Road?—Alternatives for Australia's Future: A Report on Australia's Industrial Structure* (1997), suggests the need for Australia to be more competitive in knowledge-intensive industries through becoming a 'learning' economy in which business forms collaborative linkages to complementary activities in order to trap value-enhancing knowledge.

The report (Australian Business Foundation Ltd 1997, p. 8), drawing on OECD work, concludes that '... one of the characteristics of the learning economy is the degree of linkage between production and research institutions' and that these associations of learning and the sharing of learning are maximised where there is a proximity in the context of some milieu '... where collaboration and competition act as constant spurs to further innovation'.

The regional milieu provides a catchment where such networks or clustering of complementary activities can be worked up effectively. It represents an area '... big enough to embrace a wide range of the essential ingredients required to generate competitive economic development, but also small enough to have a clear and unambiguous focus for this activity' (Garlick 1997, p. 282).

The report by the University of Newcastle upon Tyne on universities and economic development in the United Kingdom (1996), explored the concept of the learning

region as a means of providing common ground between the higher education institution and regional communities in the North East of England.

The study found that, while there was considerable evidence of networking between businesses and universities in the region to deliver technology support (such as occurs in science parks), there was less evidence of an actual exchange of learning and skill enhancement with the human resource of the business sector to ensure ongoing sustainability in a knowledge-based arena. Universities, in a competitive arena, tend to see knowledge as their domain or market niche and traditionally have not been keen to share it.

A learning organisation in this sense can be defined as one that promotes the learning of all its members and has the capacity of transforming itself continuously by rapidly adapting to changing environments by adopting and developing innovations (Lundvall and Johnson 1994).

Asheim (1996, p. 40), argues that the regional milieu provides an ideal context for the learning economy to enable the necessary fusion of the economy with society for regions to be innovative and competitive. He argues that 'learning regions' could overcome the usual contradictions between functional (or sectoral) priorities and territorial (or spatial) priorities.

In his classic work *Small is Beautiful: A Study of Economics as if People Mattered*, over 20 years ago, E. K. Schumacher (1974) made a plea for us to introduce more wisdom and creativity into economic processes through smaller structures of people. According to Schumacher, such wisdom and creativity in the world economy was basic to our survival and self fulfilment as humans and necessary to achieve more balance between man and the environment, between the haves and have-nots and between work and society.

But Schumacher was concerned with more than just the effects of structural size on the viability of the economy, environment and society. What he saw as missing, and what he understood as smallness, were real and close associations between people, built on ethical principles, common goals and a sharing of understanding that allows their collective creative potential and their sense of belonging to flourish and yield sustainable and recognisable outcomes.

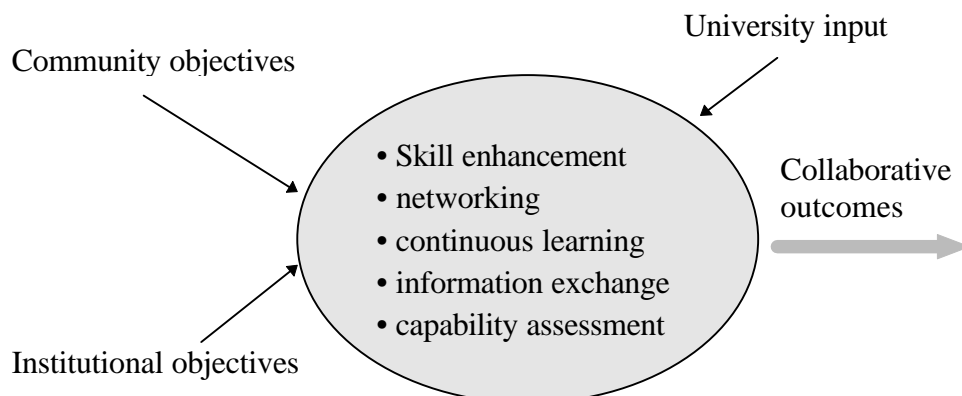
Regions, towns and cities, provide us with a capability to make more understandable the connections between what seem (to most of us) to be increasingly ethereal and increasingly complex institutional levers that provide the stimulus for much of the change impacting on our local communities, and those more comprehensible and observable matters that give shape to the structure of those things that mean so much to us in our everyday lives in our regions and towns.

The learning region concept provides a framework for these various learning connections, their sharing and the sustainability that results.

Because of their presence and their prime focus on learning, together with their independence, networks, information and research and teaching capabilities, higher education institutions are well placed to take the lead in creating a learning region

environment that can provide the platform for mutual cooperation to achieve priorities (see Figure 6.1). A ‘learning region’ approach to regional development would also provide the arena in which communities have something to bring to the negotiating table across the spectrum of their natural, economic and human resource capabilities (Garlick 1997).

Figure 6.1: The Learning Region



6.3 Management Implications

Managing economic change at the regional community level is now more than at any other time in this country left to the regional community itself to find the solutions. The implications of managing change within the context of the global economy is now such a complex task for national and state governments with the resources they have that they do not have the capability or the connectivity of being able to intervene in regional economies in any meaningful and organised way as they once were able to in years past (for a short history of government involvement in regional development in Australia over the past 50 years refer to Taylor and Garlick 1989; Garlick 1997).

Similarly, for local governments, the issues of economic change operating at the regional scale are becoming too complex for their resources alone (Garlick 1997, p. 288).

Economic development at the ... regional level over the last decade has become considerably more complex, particularly as the links between business enterprises, investment/ownership power relationships, the forces of structural change, environmental management infrastructure management and financing, research and innovation, capital and labour markets, social justice, information technology, and the international trading economy have become so intertwined. It is no longer a ‘game for part-time players’ and requires expertise, networks and continual monitoring far beyond the resources of most local councils.

Many of the leadership groups established by communities in their regions to tackle economic development issues, as outlined in earlier sections, already have some university involvement. When this involvement goes beyond so-called ‘civic responsibility’ and moves onto a relationship more fundamental to the mutual

benefit of the community and the university in a holistic sense, then the basics are in place for a potentially powerful economic development management mechanism at the regional scale.

Such arrangements provide a mechanism not only to manage the interface between the university and the achievement of the regional community's priorities but also to provide a means for the university to take on other responsibilities (for a financial return) such as the coordinated delivery and extension of government programs to better meet regional community priorities. There are many examples of American universities, particularly amongst Land Grant and State Universities in rural communities, that take on this more holistic type of extension, information provision and coordinating role for central administration service delivery and policy agencies.

As mentioned in an earlier section, the Rural Policy Research Institute, at the Universities of Missouri, Nebraska and Iowa State, is concerned about integrating a suite of rural information, policy, and extension service activity for the Federal Government in the areas of health, finance, education and telecommunications.

A whole new array of products and services open their doors when a learning connection is made with the region by the university.

Within the university too there are a number of strategic, resources, service provision and communication management implications which need to be worked through before the university can take on a whole-of-organisation role in facilitating the growth of a learning region.

6.4 The North West Sydney Example

The collaborative activities of the University of Western Sydney at its Hawkesbury campus at Richmond and its North West Sydney regional community come close to the beginnings of the notion of a learning region.

At its Hawkesbury campus, the University has established a regional development office attached to the office of the Deputy Vice-Chancellor and University President. The Office, which comprises a number of community-based working groups each focused on community priority areas for the regional economy, will assist the University in linking formally and informally with its regional communities and key industry groups. It will ensure there is an action-oriented link between the strategic objectives set by the economic development leadership group for the regional community and the strategic objectives the university has established. Results are already occurring with university staff becoming more closely involved in environmental management and horticulture exporting priority projects. If, through these projects, there is a transfer of learning between the university and the community then it will provide the basis of a learning region approach.

6.5 The Greater Green Triangle Post-secondary Education Consortium

Another example that offers the prospect of a seamless interface between all areas of higher education in a region and the way it could be more responsive to community priorities for education, training and research is the Greater Green Triangle Post-secondary Education Consortium..

The Consortium comprises Deakin University's Warrnambool campus, the South West Institute of TAFE (Victoria), the South East Institute of TAFE (South Australia), Glenormiston College (Melbourne University), Longernong College (Melbourne University), the Wool and Rural Industries Skills Training (WRIST) Centre at Hamilton and the Wimmera TAFE. The group is convened by an independent representative of the Green Triangle community.

While the group was initially formed to provide a community response to the Government's Higher Education Financing and Policy Review, it has continued its operation and enables the post-secondary education providers in the region to exchange information about teaching and research activity and priorities and to identify and undertake areas of collaborative action. The participants are involved together in a project on sustainable development for the region and are preparing to undertake a regional skills audit. The Consortium has enabled a degree of trust and collaboration to occur in the region that otherwise would not have resulted.

Implementation Steps and Impediments to Greater Connections Occurring Between Universities and their Regional Communities

7.1 Background

In the six university/community workshops, there was general agreement that stronger involvement by universities in their regional economies was desirable if the regional community and the university were to make the most of their role in the competitive global economy. Groups were asked to identify the steps that are needed to be put in place by university management for these stronger partnerships to be built and to identify what the impediments might be that could prevent it occurring.

A commitment by this project was that it leave the universities and their communities a report of the discussion and outcomes of the workshops to enable them to continue working together to achieve the kind of outcomes they identified as worth pursuing. Each workshop group believed the discussion process had been successful and should not only be continued by them through further working arrangements but should be made available to other regions and their universities.

7.2 Steps Required

- A more explicit consideration of the issues involved in creating stronger university/regional community links to foster economic development be included by the university in its strategic planning fora and management mechanisms. The university strategic plan needs to include elements that ensure there are closer relations with regional business, assist in breaking down the barriers between schools and centres within the university and focus academic staff toward such objectives.
- Establish industry-based groups in the region, or work with relevant existing groups, to identify the specific ways the university can assist business become more efficient.
- Establish a program of staff exchange with industry in the region.
- Establish a research fund or foundation within the university to seed regional research projects that enhance the competitiveness of local industry.
- Develop a comprehensive marketing and promotion strategy to strengthen strategic alliances between the university and business inside the region and to disseminate university outcomes to the community.

- Provide a central point of access or one-stop shop to enable business to approach the university and which can also serve as a point of outreach to the community from an economic development perspective.
- Get a better appreciation of the full range of relevant government funding programs for which regional business and the university can compete.
- Get together with other universities as a group on a regular basis and learn more about good practice initiatives they have employed to enhance their relationship with their region's business economy.
- Get together with other education providers in the region to develop a collaborative approach to regional priorities.
- Strengthen business innovation and entrepreneurship dimensions of core teaching courses and research programs.
- Take a stronger more involved leadership role in the community.

7.3 Impediments

- The need for a champion within the university hierarchy to give support to these initiatives.
- The need for academics to have more of an entrepreneurial, team-based and commercial focus to their work.
- The non inclusion of community partnership in performance criteria underlying operating grant funding mitigate against collaborative research links between university academics and the regional community.
- On-going restructuring processes occurring in the face of university changes are rapidly causing apathy by academic staff towards any form of further organisational change.

Policy Implications

8.1 Introduction

By focusing some of its activities toward realising the economic potential of the regional community, the university is playing its part in preserving the community's 'sense of place' in the context of a rapidly changing and increasingly competitive global economic environment.

However, apart from capital funding the location of university campuses and their associated centres across regional Australia, and the resulting contribution universities bring through their local purchases and employment, there appears to be no explicit policy or program either at a government, university or community level that seeks to facilitate this greater economic engagement by the university with its regional community. What many universities are doing in their regional communities to foster economic development, some of which have been highlighted so far in the report, results from:

- the university's own initiative as members of those communities and working to demonstrate its civic responsibilities (as unpaid social capital);
- there being a *de facto* synergy between particular national objectives and regional needs such as occurs for example via some of the projects funded through Cooperative Research Centre programs; or
- where the region's economy has the diversity and critical mass (such as in metropolitan areas) to provide the capability for worthwhile partnerships to occur between regional business enterprises and the local university that allow them to be still consistent with current public sector funding mechanisms for universities.

For universities to have a more concerted impact on the economies of their regions, beyond that typically measured via the impact of their presence as employers and spenders in the regional economy, there will need to be, as raised in all of the university/community workshops, some broad policy changes and other strategic action at a public sector and university level. There will also need to be some action by the communities themselves.

8.2 At a Government Level

First, there will need to be an explicit regional dimension built into public sector funding criteria that takes into account the teaching, research and development, leadership and other connections the university can have within its regional community to drive economic development.

All six facilitated workshops identified this area as the main policy change that was required. It was generally acclaimed that while community connections were identified in university strategy plans and incorporated in its staff management performance agreements, because of the central government operating grant funding formula for universities these were rarely if at all taken into account by individual university authorities for staff promotion/recognition purposes. The result was that there was no incentive for academics to substitute the current requirement for authored publications and obtaining competitive project grants for any research, teaching, regional leadership and other connections they could make with regional business and other community interests.

Because universities can play a far more fundamental role in the economic sustainability and competitiveness of their regions than is currently occurring, the return on national objectives from a shift in the balance of the formula in this direction would singularly be the most significant policy change that could occur.

Some universities were of a view that the balance of the formula in this regard might be weighted more heavily towards the non-metropolitan university than the metropolitan university because this is where the connection between university and community can have the greatest impact. This may or may not be the case.

As stated in the introduction to the report, we have not taken a rural versus metropolitan approach to regions in this study so as to ensure there is a focus on excellence among all universities in working with their respective communities. We have also taken a view that the 'sense of place' in some metropolitan regional communities is as strong a phenomenon as it is in some non-metropolitan areas and that the activities being undertaken by a number of metropolitan universities with their communities in some cases we found were as strong as those in non-metropolitan areas.

The second policy area for government to consider to enhance the contribution of universities to the economic sustainability and competitiveness of their regional economies is the need for an explicit regional dimension to be built into the criteria for some of the specific-purpose funding that finds its ways to universities.

There are a range of overlapping Commonwealth Government programs that support the greater involvement of universities, in partnership with business and other groups to enhance national economic development and business competitiveness through research and development and innovation. The Cooperative Research Centre program, the Research and Development Start program, the Technology Support Centres program, 125 per cent Research and Development Tax Concessions, support for Rural Research and Development, support for Technology Centres, the Enterprise Development program and the Small Business Innovation program to name the main ones.

In addition, there are competitive research grants programs provided direct to universities such as for research infrastructure, Special Research Centre and Key Centres of Teaching and Research grants, Strategic Partnerships with Industry—Research and Training (SPIRT) Scheme grants and research fellowship grants.

None of these programs have an explicit regional community dimension to their design or delivery arrangements that would enable a strong whole-of-region partnership approach between the community, industry and university.

There are also a number of development grants programs that, while they do not necessarily have a tight research and development focus or encourage partnerships with business and are not included in the university performance formula assessment process, arguably do have a regional focus to their implementation and can involve universities. These include for, example, the National Heritage Trust program, the Regional Telecommunications Infrastructure Fund, the Forest Industry Structural Adjustment Package, the Wood and Paper Industry Strategy, the On-Line Public Access Initiative and the National Tourism Program (although under the latter program while Cooperative Research Centres are eligible bodies, universities are not). There are some 24 different programs of this kind across a range of agencies at the Commonwealth level alone that claim to address regional issues (refer 1997–98 Budget paper, *Regional Australia: Leading the Way* Commonwealth of Australia 1997).

Third, all the university/community workshops highlighted the need for a mechanism that would bring a coordinated, focused and strategic approach to the way the various areas of government program and project funding currently finds its way to regional communities to enable universities to have a whole-of-organisation involvement in the sustainable future of their regional communities. Universities felt that their involvement would enable a stronger link to be made between government policy, program design, delivery success and the research , information and skill enhancement that it can contribute to generate better outcomes from policies and programs on the ground in the regions in which they are located.

Fourth, universities during the workshops felt that there needed to be some parity in salary levels between universities and the business community if they are to attract staff with commercial and entrepreneurial skills to help the universities make the necessary strong business and community connections.

Fifth, the university/community workshops highlighted an enthusiasm by universities to find more about what other universities were doing in relation to their economic development engagement with their regional economies. They saw the need for the Commonwealth to support an annual national forum for this exchange of experiences to occur.

Sixth, there is a role for the Commonwealth in supporting the expansion of the six university/community workshops initiated in this project to other interested universities and their regional communities.

8.3 At a University Level

First, explicit criteria should be built into university staff management performance agreements that recognise effort by them in pursuing economic development objectives in partnership with regional community stakeholder groups and business enterprises, consistent with the university's strategic objectives. More than this, the criteria should be actually taken into account in performance appraisal processes. It was argued this would help overcome the cultural and attitudinal impediments among many academics that has them focused on protective introspection rather than collaborative sharing approaches.

A second and related policy change is for universities via their strategic plans and various human resource and budget management instruments to be explicit in fostering cross-faculty and centre team-based approaches to regional problem solving.

Third, universities should establish a kind of one-stop-shop or single entry point, not unlike the office of regional development being established at the Richmond campus of the University of Western Sydney at Hawkesbury, to enable the wider regional community to engage effectively with the university and all of its capabilities in an integrated and simple way.

Fourth, universities should seek to foster ongoing collaborative ventures in their region with other education providers using collaborative mechanisms not unlike the Greater Green Triangle Post-Secondary Education Consortium.

Fifth, seek to align the university's strategic objectives in some way with the vision and strategic objectives that the regional community has done. Don't just see the university's contribution in the area of its involvement with the regional economy in a community service obligation sense.

Sixth, universities should be more overt in challenging the regional community about issues that require effort to be applied to if they are to move forward in a sustainable way in the context of their positioning in the global economy. The regular news sheet 'Thinking Business' put out by the University of Newcastle is an example of the type of stimulation that can be done in this area.

Seventh, in relation to teaching strategies, the university should seek a better balance between its need to generate income, by diversifying the target market for its teaching programs, including through the growth of decentralised campuses, and its need to be seen to provide a stimulus for adding more to the process of sustaining a viable regional community.

Where the local economy is large and diverse enough with sufficient growth it is likely that a majority of student numbers can come from the local economy and upon graduation will be retained to add value to the overall growth, innovation, enterprise and competitiveness of the region. Where this is not the case, such as

with some of the newer regional universities, there will need to be considerably more thought given as to how to design, market and deliver courses that add to the knowledge base of the region at the same time as maintaining an income stream from teaching.

A failure to more closely tie university teaching to the needs of the regional community, short-changes the return the university gets from its current regional practice of campus expansion. It also short-changes government funding agencies in terms of the return they expect universities to make through such practices towards national economic objectives.

8.4 At the Regional Community Level

The community should carry out resource and capability audits of their regional economy, that detail the knowledge and skill base of the region as well as community agreed economic development visions and implementation strategies to better articulate the region's needs of its university for economic development purposes. While there has been some work done by communities in this area, the workshops that we held between the universities and the regional communities indicated a need for more to be done in this area in collaboration with their universities.

Conclusions and Recommendations

9.1 Conclusions

Despite their sometimes considerable physical, human and economic resource capabilities, regions are becoming less and less deterministic in generating the necessary economic solutions and providing the support and creativity they once were able to at the very time when fundamental change is affecting them most.

Economic globalisation has created a new paradigm which regional communities need to be more cogniscent of if they are to realise a sufficient economic return to sustain their 'sense of place'. They are, more and more, taking steps of their own to develop a regional milieu that is supportive for the long run viability of their economies. They are seeking to become much more self determined, organised, informed, professional and globally and locally connected in their approaches than they ever used to be.

Whether intended or not, universities, as a result of their campus location expansion strategies and the simultaneous loss of much of the other institutional presence from regions, particularly in rural areas, have become a significant potential mechanism to guide and stimulate the long run economic futures of regional communities. Regional communities for their part are now increasingly looking to their universities to provide them with the skills, research and development, information, networks and leadership for them to be more competitive in the global economy.

Universities have a far more substantial contribution to make to the viability of regional economies than simply as employers and purchasers.

While among many universities, in cities, provincial and rural areas, there is an apparent will to play a greater role in their region's economic development, there is not yet a comprehensive strategic approach in place to how this can best be done in a whole-of-organisation sense within an environment of public sector funding and functional constraints and requirements. The workshops we carried out identified the policy and management issues universities and communities felt needed to be addressed to progress further on making these creative regional associations more effective.

A number of worthwhile project-specific examples being implemented by universities in their regions were identified in the study that are worth investigating further from a government, university and community perspective. These examples provide the basis to generate a more consistent and wider approach to the relationship between universities and their communities from an economic development perspective.

We found evidence of universities taking action within their regional communities to target skill enhancement to areas of priority shortage to boost business competitiveness, to enhance the research and development capability of industry and enterprises, to take a leadership role in strategically focusing the economic direction of their regional economy and other initiatives. Although in its very early stages, we also found evidence of university involvement in trying to create a learning environment within their regional economies.

Those universities participating in the workshops expressed a keen desire for regular fora among all universities to explore good practice on how to strengthen the connection with their regional communities in an economic development sense.

There are actions to be taken at all levels to strengthen the connection between universities and their regional communities to enhance economic outcomes.

At a government level, performance criteria, that focus on the engagement of the university with its regional community, should be built into operating grant funding formula allocations and region-specific criteria should be built into program-specific funding allocations and coordinated program delivery arrangements that are focused on economic competitiveness objectives.

Universities need to underpin the rhetoric of their stated connectivity with their regional communities with management systems that allow this connectivity to be manifest in real economic development associations built on their teaching, research, leadership and other attributes. The current practice of expanding the number of regional campus locations, to meet access and equity requirements and to generate income from teaching, needs to be underpinned with more strategy than simply organisational size or marking out turf. Enhancing national and regional economic objectives in a rapidly changing and increasingly connected global environment dictates that relevance and flexibility be dimensions in these campus location management strategies.

Universities also need to consider their internal management practices to enable collaborative ventures to be created that cross faculties and research centres.

Finally, policies and programs focused on fostering learning regions and regional economic development leadership should be explored at the regional level to spread and deepen the benefits that can flow from the kinds of economic development relationships that can occur between universities and their regional communities, some of which have been explored in this report.

9.2 Recommendations

Government should amend the performance criteria associated with university core operating grant funding to include a dimension that provides a stimulus for universities to strengthen their teaching, research, leadership and other connections to their regional community so as to explicitly enhance the competitiveness of the regional economy.

Government should build a regional dimension into the criteria for those areas of specific purpose program funding designed to enhance research and economic competitiveness so that universities can target their research and teaching expertise to regional priorities.

Government should consider ways universities may be involved, with their regional communities, in coordinating various areas of government program and project funding that currently finds its way into the regional community in a purchaser/provider sense to ensure a strong link is made between government policy and program design and delivery success by factoring in their research and information about the region's needs and potentials.

Government should support the continuation and expansion of some of the university/community consultative initiatives begun in this study to enhance the relationship between universities and their regional economies in more strategic and practical ways on a wider national front.

Government should support national fora that enable a greater sharing of best practice ideas and experiences between universities in enhancing the partnership arrangements their regional communities to facilitate economic development outcomes.

Universities should take steps to put in place a range of management measures that will:

- strengthen the links between the university's operations and the goals and priorities of the regional community in which it is located;
- encourage staff participation in regional goals and priorities in a meaningful way;
- foster cross faculty and department collaboration and team based approaches on regional community initiatives with complementary objectives;
- foster collaborative initiatives with other education institutions and activities where there are regional goals to be achieved;
- encouraging staff involvement in regional leadership initiative and on commentary about issues of regional community importance;
- establish a single point of entry for the regional community to more effectively engage the appropriate expertise in the university;
- be more proactive in making connections between regional teaching and

research and development needs and university capability; and

- develop a long term strategy, in cooperation with regional leaders, to pursue a learning region approach to the economic competitiveness of the regional community.

Regional communities, through their economic development leadership initiatives, should work to obtain information on the teaching, research and development, resource capabilities, knowledge and skill needs and goals and strategies for the region to facilitate a more creative association with their university to boost economic competitiveness.

Appendix 1: University Survey

Study of the Role of Universities in the Economy of their Region

General Information

The Department of Employment, Education, Training and Youth Affairs (DEETYA) have asked us to undertake a study of the role of universities in the economic development of their regional communities. Funded via the Evaluation and Investigations Program, the study may be a consideration in the Government's wider review of higher education policy.

Through this survey in particular, we wish to explore aspects of the nature and extent of the economic engagement by your university with the local region. The information obtained in the study will highlight overall patterns. The cases of individual universities will only be highlighted in a positive way and we will seek later permission from you for this to occur.

Universities contribute to the economy of their region in many ways, viz.:

- through their local purchases and employment;
- through their teaching programs;
- through their research and development and partnership activities with industry and other organisations in the local region;
- through local leadership initiative with other key regional stakeholders;
- through networking with industry;
- through the provision of information about the region; and
- by promoting the general attributes of the university in the context of regional marketing to stimulate new economic development.

The following questions attempt to gain some perspective on these matters. More detail will be sought at a later date from direct facilitated consultation with a sample of universities and their regional communities.

At this stage we would ask that you endeavour to answer as many of the questions as you can. It is possible that someone in the Office of the Vice-Chancellor could readily answer most of the questions without the need to seek information from elsewhere in the university.

We would ask that you complete the survey form by and return it in the enclosed stamped addressed envelope by **[date to be inserted]**

Should you require assistance with any of the questions or would like feedback from the study I would encourage you to contact:

Stephen Morris
Southern Cross University
P O Box 157
LISMORE NSW 2480
Ph: 02 66203266
email: smorris@scu.edu.au

Part A: General Questions about your Organisation

Q1. Name of Organisation

.....

Q2. Administrative catchment coverage (Statistical Divisions/sub divisions, etc.)

.....

Q3. List the names and addresses (including local government area) of all your Australian campuses, annexes and other key offices.

1. Main campus:

(name)

Physical address

LGA

Other campuses/annexes/offices/outreach centres, etc.:

2. (name)

Physical address

LGA

3. (name)

Physical address

LGA

4. (name)

Physical address

LGA

5. (name)

Physical address

LGA

6. (name)

Physical address

LGA

- 7. (name)
Physical address
LGA
- 8. (name)
Physical address
LGA
- 9. (name)
Physical address
LGA
- 10. (name)
Physical address
LGA

If there are more separately located establishments that are part of the university, please add a separate sheet.

Q4. For each of the above listed university locations please detail the main function and number of staff and students (if relevant):

Location 1:

main function
staff numbers
student numbers (if relevant)

Location 2:

main function
staff numbers
student numbers (if relevant)

Location 3:

main function
staff numbers
student numbers (if relevant)

Location 4:

main function.....
staff numbers
student numbers (if relevant).....

Location 5:

main function.....
staff numbers
student numbers (if relevant).....

Location 6:

main function.....
staff numbers
student numbers (if relevant).....

Location 7:

main function.....
staff numbers
student numbers (if relevant).....

Location 8:

main function.....
staff numbers
student numbers (if relevant).....

Location 9:

main function.....
staff numbers
student numbers (if relevant).....

Location 10:

main function.....
staff numbers
student numbers (if relevant).....

Part B: Questions about your Organisation's Management in its Regions

Q5. What strategic objectives has the university been attempting to meet through its placement of campuses and associated offices as outlined in Part A?

.....
.....
.....

Q6. In what other regional locations would your university consider establishing a campus/office and for what objective?

.....
.....
.....

Q7. Could you please give brief details of any official alliances/partnerships the university has with other organisations (including tertiary institutions such as TAFE) on economic development initiatives and projects in the region?

.....
.....
.....

Q8. What staff management mechanisms (e.g. management performance agreements, incentives, etc.) does the university use to foster the greater participation of university staff in addressing economic development issues in the local community?

.....
.....
.....

Q9. Is the university directly involved in any community leadership programs or projects in the region with other community leaders designed to enhance the region's economic development? Give detail.

.....
.....
.....

Q10 Does the university provide any in-kind or financial assistance to enhance the economic development leadership capacity of the local region? Give detail.

.....
.....
.....

Q11. Is there any consultative or other process in place that seeks to build connections between the strategies and objectives of the university’s strategic plan and the economic development strategy plan for the region as a whole? Give detail.

.....
.....
.....

Q12. Does the university have an extension officer whose job it is to maintain a liaison with the regional community including matters to do with economic development? Give detail.

.....
.....
.....

Part C: Questions about your Organisation’s Teaching Programs

Q13. Could you list some teaching programs, with their objectives, that are specifically designed, and delivered by your university to meet the particular needs of businesses and institutions in your regional economy?

1.
.....
2.
.....
3.
.....
4.
.....

Q14. What have been some notable measures of success of these teaching initiatives?

.....
.....
.....

Q15. In terms of your overall student numbers, what estimated proportion are:

- (a) on campus from the local region
- (b) on campus from other parts of Australia
- (c) on campus international students.....
- (d) distance learners

Q16. What do you expect these proportions to be in five years time?

- (a) on campus from the local region
- (b) on campus from other parts of Australia
- (c) on campus international students.....
- (d) distance learners

Q17. Could you give an estimate of the proportion of graduates from your university (including by campus if possible) that remain in your catchment region after graduation?

.....

Q18. What teaching programs are there within the university specifically targeted at improving the entrepreneurial capacity for graduates to generate jobs in the local economy?

.....
.....

Q19. Do you expect the future pattern of teaching engagement with the region's economy will increase or decrease and why over the next five years? And why?

.....
.....

Part D: Questions about Research and Development Initiatives

Q20. What non-Cooperative Research Centre research centres and institutes do you have that specifically focus on the economic advancement of the local and regional economy?

- (a)
- (b)
- (c)
- (d)
- (e)

Q21. List Cooperative Research Centres your university is involved in that have relevance to enhancing the economy of the local region.

- (a)
- (b)
- (c)
- (d)
- (e)

Q22. List any non-Cooperative Research Centre strategic research partnership projects between the university, local business and institutional establishments that will add to the economic performance of the local region.

- (a)
- (b)
- (c)
- (d)
- (e)

Q23. Is the university involved in any research, innovation or industry precincts in the local region? Give detail.

.....
.....

Q24. Does the University have any extension programs with the local region that focus on its economic development? Give detail.

.....
.....

Part E: Questions about Regional Promotion

Q25. Does the university promote its research and teaching capabilities, its facilities, and its cultural and other programs as part of any general marketing of the capabilities of the region to attract business or institutional investment? Give detail.

.....
.....

This is the end of the survey—thank you for your time and your assistance.

Steve Garlick
Director of Research
Southern Cross Regional Research Institute

Appendix 2: University Regional Community Facilitated Workshops

Background and Purpose

Six case study universities and their regional communities were selected to be the focus of a series of facilitated workshops to explore interactively in closer detail some of the particular associations and outcomes that universities have had and would like to have with business and other institutions in the regional economy.

The following universities, and their regional communities, were selected to give a spread across states and territories as well as the new and old, rural, provincial, metropolitan, multi-campus, teaching and research dimensions of universities:

- The Australian National University and the Australian Capital Region Community;
- The Central Queensland University and the Central Queensland Region community;
- The Warrnambool campus of Deakin University and the Greater Green Triangle Region community;
- The Richmond campus of the University of Western Sydney at Hawkesbury and the North West Sydney Region community;
- Newcastle University and the Hunter Region community; and
- Adelaide University and the Greater Adelaide community.

The facilitated workshop approach was chosen so as to create an arena for communication to occur between the university and the community around these issues of current and potential future connectivity. The approach was welcomed in a number of cases as the first such discussion that had occurred in the community. In some cases it was the first time that different areas of the same university had made a connection.

Structure of Workshops

Each workshop attracted key stakeholder representatives from the region's economy as well as key personnel and interested academics from the university. In all cases a member of the university senior executive was involved. Average attendance at the workshops was 20 and each workshop went for around four to five hours.

The following issues were addressed:

- the trends and changes expected to occur with respect to the current role of universities to the year 2010;

- the key factors which have affected the function and role of the university in their region over the past 10 years;
- the strengths of the university's role to date in the regional economy;
- the weaknesses of the university's role to date in the regional economy;
- identifying an ideal but realistic future role for the university in its regional economy; and
- identifying the steps, responsibilities and impediments of moving towards this stronger relationship with the community.

Follow-up Action

Each of the case study universities and communities were provided with their own report of the outcomes of the workshop so that they might take the strategic issues and some of the more practically oriented connections further in their own regions. There was also an interest among universities in sharing some of the good practice in this area with other universities so that they might learn from each other. It is felt some on going monitoring of progress by each of the universities involved in the workshops in implementing their goals would be worthwhile either by the Department of Employment, Education, Training and Youth Affairs or by the Australian Vice-Chancellor's Committee.

References

- Amin, A. 1993, *The Globalisation of the Economy: an Erosion of Regional Networks*, in Grabher, G. (ed.), *The Embedded Firm: On the Socioeconomics of Industrial Networks*, Routledge, London
- Asheim, Bjorn. T. 1996, 'Learning Regions' in a Globalised World Economy: Towards a New Competitive Advantage of Industrial Districts?, a paper presented at the European Urban and Regional Studies Conference on 'A Changing Europe in a Changing World: Urban and Regional Issues', Exeter, England, 11–14 April.
- Australian Business Foundation Limited 1997, *The High Road or the Low Road?: Alternatives for Australia's Future, A Report on Australia's Industrial Structure*, Sydney, August.
- Bolton, R. 1992, 'Place Prosperity vs People Prosperity' Revisited: An Old Issue with a New Angle', *Urban Studies*, Vol. 29, No. 2.
- Centre for Urban and Regional Development Studies 1994, *Universities and Communities: a Report for the Committee of Vice Chancellors and Principals*, London.
- Commonwealth of Australia 1997, *Regional Australia: Leading the Way*, a statement by the Hon. John Sharpe, MP, 1997–98 Budget Papers, AGPS, Canberra, 13 May.
- Davis, D., Buultjens, J. and Whelan, M. 1996, *The Economic Impact of Southern Cross University on the City of Lismore*, Southern Cross University, Lismore.
- Department of Industry, Science and Tourism 1997, *Australian Science and Technology at a Glance*, Canberra.
- Eastcott, L. R. 1997, Integrating Education Sectors: A Case study of the Central Coast Campus, paper to the *Tertiary Education and Regional Development Conference*, University of New England, Armidale New South Wales, 27–29 November.
- Fulop, L. and Brennan, M. 1997, *Meeting the Challenge: Regional Economic Development Organisations (REDOs) in Australia—A National Study*, Australian Local Government Association, Canberra, November.

- Garlick, S. 1996, The Incongruity of Place and Institution in Spatial Economic Development—Some Early Thoughts, paper to the *Regional Science Association of Australia and New Zealand Annual Conference*, Australian National University, Canberra, 23–25 September.
- 1997, Regional Economic Development: New Partnership Challenges for Local Government, in Dollery, B. and Marshall, N. (eds), *Australian Local Government: Reform and Renewal*, Macmillan Education Australia Pty Ltd, South Melbourne.
- 1997, The Ebb and Flow of Regional Development Policy and Practice in Australia: An Overview and Future Possibilities, paper to the *Meeting the Regional Challenge Conference*, Greening Australia and the Australian Local Government Association, Canberra, 22–25 November.
- Gray, B. 1996, Cross Sectoral Partners: Collaborative Alliances among Business, Government and Communities, in Huxham, C (ed.) *Creating Collaborative Advantage*, Sage, United Kingdom.
- Handy, C. 1995, *Beyond Certainty*, Arrow Books Limited, London.
- 1995, *The Empty Raincoat*, Arrow Books Limited, London.
- Higher Education Financing and Policy Review Committee 1997, *Learning for Life: Review of Higher Education Financing and Policy—Policy Discussion Paper*, AGPS, Canberra.
- Hunter, R. 1997, Business Incubators and Research Parks: ‘Making a Buck’ For Whom, For What?, *ANZABI National Conference*, Brisbane.
- Kanter, Rosabeth Moss 1995, *World Class: Thriving Locally in the Global Economy*, Simon and Schuster, New York.
- Karpin, D. 1995, *Enterprising Nation: Renewing Australia’s Managers to Meet the Challenges of the Asia-Pacific Century*, Report of the Industry Task Force on Leadership and Management Skills, AGPS, Canberra.
- Lee, M. and Underwood, R. 1997, Professional Accreditation of a Regional Course, paper to the *Tertiary Education and Regional Development Conference*, University of New England, Armidale, New South Wales, 27–29 November.
- Lindsay, B. 1997, ‘Nirimba Educational Precinct—an Example of Cooperative Management’, paper to the *Tertiary Education and Regional Development Conference*, University of New England, Armidale New South Wales, 27–29 November.
- Lindsay, B and Jones, R. 1997, Linkages Between Universities and Regional Development Organisations—Mutual Benefits, paper to the *Tertiary*

Education and Regional Development Conference, University of New England, Armidale New South Wales, 27–29 November.

- Lundvall, B. A. and Johnson, B. 1994, *The Learning Economy*, *Journal of Industry Studies*, Vol. 1, No. 2, pp. 23–42.
- McKinsey and Company 1994, *Lead Local Compete Global: Unlocking the Growth Potential of Australia's Regions*, a report to the Office of Regional Development, Commonwealth Department of Housing and Regional Development, Canberra.
- 1996, *Supporting Regional Leadership: Unfinished Business*, report to the Department of Transport and Regional Development, Canberra.
- Marsh, A., Turpin, T and Hill, S. 1992, *Concentration and Collaboration: Research Centres in the Australian University System: A Report on the Status, Activities and Concentration of Research Centres in Australian Universities*, Centre for Research Policy, University of Wollongong, September.
- Massey, D., Quintas, P. and Wield, D. 1992, *High Tech Fantasies: Science Parks in Society, Science and Space*, Routledge. London.
- Milbourne, R., Bewley, R., Cumberworth, M. and Spyraakis, V. 1993, *Profitable Neighbours: The Economic Impact of the University of New South Wales on the Randwick Municipality*, University of New South Wales, Sydney, August.
- Newcastle School of Management University of Newcastle upon Tyne 1996, *Universities and Economic Development*, A report to the Department for Education and Employment, London.
- North Sydney Regional Development Organisation 1997, 'Regional Growth Through Networking: Facing the Regional Business Challenges', *National Regional Development Conference*, Macquarie Graduate School of Management, North Ryde, Thursday, 2 October.
- Porter, M. 1990, *The Competitive Advantage of Nations*, Macmillan, London, 1990.
- Scott, A. 1988, *New Industrial Spaces*, Pion, London.
- Schumacher, E. K. 1974, *Small is Beautiful: a Study of Economics as if People Mattered*, Abacus, London.
- Senge, P. 1992, *The Fifth Discipline: The Art and Practice of the Learning Organisation*, Random House, Sydney.

- Senge, P., Roberts, C., Ross, R., Smith, B. and Kleiner, A. 1994, *The Fifth Discipline Fieldbook*, Nicholas Brealey Publishing, London.
- South Australian Centre for Economic Studies 1996, *Universities and the Economy: the Contribution of South Australia's Universities to the South Australian Economy*, occasional paper of the South Australian Vice-Chancellors, Adelaide.
- Southern Cross University 1996, *The Australian Tea Tree Oil Research Institute Ltd (ATTORI)*.
- 1997, *Australian Agriculture Research Institute Ltd (AARI)*.
- Stewart, M. 1997, Leadership and Partnership in Competitive Urban Policy: the Mobilisation of Collaborative Advantage, paper presented to the *Fourth International Conference on Multi-Organisational Partnerships and Cooperative Strategy*, Oxford University, United Kingdom, 8–10 July.
- Task Force on Regional Development 1993, *Developing Australia: A Regional Perspective*, A Report to the Federal Government, Vol. 1, AGPS, Canberra.
- Taylor, M. and Garlick, S. 1989, 'Commonwealth Government Involvement in Regional Development in the 1980's: a Local Approach', in Benjamin Higgins and Krzysztof Zagorski (eds), *Australian Regional Developments: Readings in Regional Experiences, Policies and Prospects*, AGPS, Canberra.
- The Sunraysia Higher Education Board of TAFE 1997, *Submission to the Review of Higher Education Financing and Policy*, the Sunraysia Institute of TAFE, April.
- University of Western Sydney 1997, *The University of Western Sydney and the Development of its Region*, a report prepared by National Economics Pty Ltd., Sydney.
- Zimmer, B. 1992, Some Dimensions of the University of Central Queensland's Contribution to the Region's Economy, *Central Queensland Journal of Regional Development*, September.