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DEVELOPING KNOWLEDGE PRECINCTS IN REGIONAL TOWNS: OPPORTUNITIES AND CHALLENGES

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Abstract

While extensive literature exists on knowledge-based urban development (KBUD) focusing on large metropolitan cities, there is a paucity of literature looking into similar developments in small regional towns. The major aim of the paper is to examine the nature and potential for building knowledge precincts in regional towns. Through a review of extant literature on knowledge precincts, five key value elements and principles for development are identified. These principles are then tested and applied to a case study of the small town of Cooroy in Noosa, Australia. The Cooroy Lower Mill Site and its surroundings are the designated location for what may be called a community-based creative knowledge precinct. The opportunities and challenges for setting up a creative knowledge precinct in Cooroy were examined. The study showed that there is a potential to develop Cooroy with the provision of cultural and learning facilities, partnerships with government, business and educational institutions, and networking with other creative and knowledge precincts in the region. However, there are also specific challenges relating to the development of a knowledge precinct within the regional town and these relate to critical mass, competition and governance.

INTRODUCTION

Changes in the world economy have affected the way cities are positioning themselves in an increasingly competitive world. During the last two decades a global phenomenon that emphasises a knowledge-based, technology-driven economy has emerged. Various terms have been used to describe this new economy, including 'knowledge economy', 'knowledge-based economy', 'new economy', and 'creative economy' (Baum et al., 2007). In this new economy, knowledge related activities, including creativity as a tacit knowledge form, are central for creating employment and wealth, and sustaining economic growth (Ofori, 2003; Howells, 2002).

This new orientation toward knowledge-based economic activities needs to be accommodated in a spatial form. Consequently, knowledge-based urban development (KBUD) is the physical representation of such economies. Some of the buzz words associated with KBUD include clever, smart, skilful, creative, networked, connected and competitive.

However, global competition for investments and talented workers is not only an issue of concern for countries in general, but also for regions and cities within each country. With the advent of the knowledge-based economy, policy makers, at both national and regional levels, are now incorporating creative or innovative knowledge into economic processes as it is perceived as adding more value than physical assets such as land, labour and capital. Consequently, while developing KBUD at the city level is important, the nurturing of knowledge precincts at the regional level can accentuate the overall goal toward a knowledge economy. To date, much has been researched into knowledge-based urban development on the metropolitan scale, much less is known about the relationship, role and functional development of knowledge precincts.

This paper aims to shed light on the development principles of knowledge precincts. Specifically, it looks at the challenges in implementing knowledge-based initiatives in regional towns and the opportunities that small regional towns provide as nations shift towards a knowledge-based economy.

The paper is organised into three major sections. The first part provides an overview of the knowledge precinct concept. This is followed by a case study of Cooroy creative knowledge precinct in the Sunshine coast. Within this section, both the opportunities for and challenges of making this area a strong knowledge based precinct are discussed. Lastly, the paper ends with some concluding remarks in relation to the discussion put forth earlier.

AN OVERVIEW OF KNOWLEDGE PRECINCTS

The advent of the knowledge-based economy or new economy, as it is sometimes called, has attracted the attention of both academics and policy makers across the globe. Although scholarly, business and policy literature on the knowledge-based economy exists and seems to be mounting; definitions of what the knowledge-based economy is remain fuzzy to date because different viewpoints exist.

Some studies define it narrowly as 'one in which economic growth is centred on the production, distribution and use of technology'. Other researchers such as Van Winden et. al. (2007) include a broader perspective i.e., 'an economy that regards the use and valorisation of knowledge in every economic activity and also values the importance of acquisition of skills'. Under the narrow view, practitioners place importance on investing in research and development (R&D), production of scientific and technological knowledge, patenting and on the promotion of innovation (van Winden et al., 2007). On the other hand, the inclusive approach values the use of knowledge in all economic processes; gives importance to education and skills acquisition, providing efficient information infrastructure; and having a network of learning and research institutions, firms, and consultants that can produce and disseminate new knowledge.

As a result of the disparate views, many cities around the world claim themselves as being 'knowledge cities'. Ergazakis et al. (2004) define knowledge cities as 'cities that aim at knowledge-based development, by encouraging the continuous creation, sharing, evaluation, renewal and update of knowledge'. Dublin, Melbourne and Barcelona are some examples of cities that have adopted the knowledge city concept in terms of articulating action plans; forging partnerships between the private and public sectors in implementing plans; and investing in infrastructure required in the knowledge-based economy.

As the KBUD concept continues to attract the research community and practitioners, it is evident that the focus is on large metropolitan cities, i.e., knowledge cities. While smaller regions may not necessarily possess some amenities or local assets that the larger metropolitan areas enjoy, opportunities still exist for them to participate, and potentially succeed, in the knowledge-based economy. Yigitcanlar et al. (2008) argued that knowledge precincts can be regarded as the spatial nexus of KBUD that chiefly refers to the clustering of R&D activities, high-tech manufacturing of knowledge-intensive industrial and business sectors linked by mixed-use environment including housing, business, education and leisure within an urban-like setting.

According to Searle and Pritchard (2008), concentrations of knowledge sectors within particular urban areas typically take three knowledge precinct forms. The first type is the clustering of knowledge-intensive service sector activities around corporate head offices of high order financial and business services. The second type of knowledge precinct is one that is based on high-tech production such as ICT or biotechnology. A good example is Silicon Valley, which is supported by a network of research institutions and resources such as Stanford University and University of Northern California. Finally, a third type refers to creative industry clusters largely based on cultural knowledge generation like movie-making, popular music and related areas. Examples of the new generation creative knowledge precincts include 22@bcn Barcelona, Brisbane Kelvin Grove Urban Village and the upcoming Gold Coast Cultural and Civic precinct.

It is easy to assume that talented workers are typically attracted to places that have a critical mass of creative people and activities. This underlying assumption may be one of the reasons why research

on KBUD is mainly centred on large metropolises. Waitt and Gibson (2009) argue that densely populated chic inner-city neighbourhoods are not necessarily the most creative places, as evidenced by the number of creative workers in peripheral suburbs of Wollongong in Australia. Similarly, Henkel (2006) found that small cities, such as Byron Bay, Ballina and Tweed Heads in the Northern Region of New South Wales, have sufficient critical mass for the screen and creative industries to prosper and potentially contribute to the economic development of the region.

While arts and culture-led economic development is said to yield many benefits such as employment, area regeneration and re-imaging of cities as destinations for tourists, investments, and skilled labour (Bayliss, 2007), some critics question the benefits of the cultural industries in regard to employment numbers, income generated and quality of jobs created (Griffiths, 1993, Van Puffelen, 1996).

As such, a knowledge precinct must demonstrate its relevance as part of the KBUD. It has to illustrate its ability to add value by attracting investment. Yigitcanlar et al. (2008) suggest five common themes and values of new knowledge precinct developments (shown in Table 1 below). These five themes will be used as a framework to assess the potential for, and challenges of, developing a knowledge precinct at our case study site—Cooroy Lower Mill.

Table 1: Common themes and values of new knowledge precinct developments

THEMES	VALUES	EXAMPLES
1. LIVING AND WORKING (mixed-use environments)	Business, real estate value: Real estate and technology capitals are very active in shaping knowledge precincts (i.e. Nokia in Helsinki). Hence, commercial success has a great value. This means the end of rigid separation of working and living environments of so-called knowledge workers.	Helsinki Digital Village, Brisbane Kelvin Grove Urban Village
2. CENTRALITY (proximity, clustering, premium access to different infrastructures, services, and amenities, place quality)	Economic value, development value: Formation of knowledge precincts has become a new urban policy tool for the revitalisation of environmentally degraded former industrial sites or inner city urban districts.	Helsinki Digital Village, 22@bcn Barcelona
3. BRANDING (symbol for branding a city as a knowledge city)	Symbolic value, design value: A regeneration strategy for creating successful knowledge cities or formation of new niche markets. Marking the name of the emerging knowledge city with a landmark development.	22@bcn Barcelona, Taipei 101
4. LEARNING AND PLAYING (interactive environments, living laboratories, experience of place)	Learning value, experimental value: Urban playfield of cutting-edge technological innovation and creativity, places of interaction, knowledge hubs (e.g. universities).	Copenhagen Crossroads, Zaragoza Digital Mile
5. CONNECTIVITY (social networking, places of interaction, pedestrian orientation, face-to-face contact)	Social value: face-to-face contact, tacit knowledge transfer, place identity.	One-North Singapore, Kelvin Grove Urban Village Brisbane

Source: Yigitcanlar et al. (2008)

Additionally, Yigitcanlar et al(2008) point out that Australia is a vast continent and that regional knowledge precincts are presented with challenges as a result. Proximity or access to key knowledge

resources (e.g. universities or companies) is very important. As well, by implication, the problem of attaining critical mass of resources in the precinct is also critical. We suggest those same issues can lead to competition between regions over key resources and that this challenge needs to be managed. These kinds of challenges are also considered in our analysis of the case study below.

CASE STUDY OF COOROY LOWER MILL CREATIVE PRECINCT

The Cooroy Lower Mill site is located in the hinterland township of Cooroy with a population of 2,300 within the boundary of Sunshine Coast regional council. Cooroy has a long history of being one of the important timber mill towns in Queensland. After the closure of the timber mill in 2000, the site was transferred to Noosa council to accommodate community creative uses and enterprises. A Cooroy Taskforce consisting of representatives from the council, local businesses and community members was set up to develop and manage the site. The site includes the Lower Mill Precinct and adjacent Butter Factory Precinct.

The Board's vision for the site is 'to develop and sustain facilities on the Cooroy Lower Mill site for present and future generations of the community with balanced consideration to history, culture, education, arts and economics'. Consistent with this broad vision, it has prepared a master plan with four areas:

1) *Creative and Learning Precinct* - This includes a new library building (\$ 9.5 million, 1300m² area), a town square for public gathering and outdoor displays, and activities. It also includes the old Butter Factory, which was purchased by Council to serve as a focus for the creative arts and cultural activities. The Butter Factory Arts Centre provides a venue for artists to train and exhibit their work to the local community.

2) *Design for Living Centre* - This area has been created to include small-scale production of goods, such as furniture and ceramics, and offices for educational facilities.

3) *Design for Living Enterprises* – The aim of this area is to attract and locate enterprises that require larger premises for activities, such as woodworking and pottery

4) *Green belt* – This includes open spaces and recreation, a playground, and the refurbishment of saw mill boiler for heritage interpretation.

OPPORTUNITIES TO DEVELOP COOROY LOWER MILL INTO A CREATIVE PRECINCT

The following discussion considers some of the on-going projects and evaluates the potential of this site as a creative precinct using the framework found in Table 1.

Living and Working

With its small village atmosphere, access to natural amenities (proximity to mountains and lakes), and position as part of the world famous Noosa local area, the precinct and Cooroy can be developed as part of a lifestyle and learning region to attract knowledge workers such as artists, novelists and writers—so called footloose industries in the area. In addition, the Noosa creative leadership program developed by the Noosa Creative Alliance, with the support of Richard Florida and the local community, will be useful in enhancing a live/work environment by boosting the business value of the site. This program was developed to increase Noosa's attraction to creative businesses, so as to broaden the region's economic base and strengthen the economy. The alliance sees government, council, and enterprise working together to better the community (Noosa Creative Alliance, 2009).

Centrality

One of the important projects that complements the knowledge precinct vision for the Mill site is the \$5 million Noosa Clever Networks project for delivering broadband and data storage facilities to the Noosa hinterland (funded by Federal Government, Sunshine Coast Regional Council, Mach Technology and Allegro). The project not only provided wireless broadband to Noosa hinterland, but also built a data center at the Mill Place to act as the base station for running applications, backups and website. It also allowed businesses throughout the region to gain access to faster network speed

and thus provided new business opportunities in the area. The Noosa Clever Networks Strategy can play an important role in developing the Cooroy Lower Mill Site as one of the important creative precincts in the region by 'supporting design for living enterprises, research & development, and new community library and global connect facilities'.

Branding

As a part of the site development, there have been new initiatives to maintain the history of Cooroy in the precinct and develop its links to the past. Noosa Council has received \$100,000 in funding for the restoration of the historic Cooroy Lower Mill boiler through AusIndustry's Australian Tourism Development. Likewise, a Creative Histories Project has been initiated, under the guidance of local artists, to develop artwork reflective of the mill and region with involvement of many local people. As part of the project, an on-site heritage trail is also being developed so that the history of the site can be understood by the present and future generations. This provides symbolic and design value to the site and, therefore, creates a visual 'brand'.

Learning and Playing

The role of education providers in developing the knowledge precinct will be crucial. In this regard the ongoing links between Sunshine Regional Council, QUT, Bond University, and Noosa District State High School through research projects are highly relevant. With support from QUT staff, the NDSHS students experimented with 'Second Life' as an interactive tool to explore and develop ideas for the Mill Site in the virtual world (Foth et. al, 2009). Another area for collaboration with QUT has been in developing ideas for place activation of outdoor spaces in the Lower Mill site. Some ideas explored were an iPod audio at walk, lighting, interactive signage, outdoor class rooms, adventure play, an open air theatre and a community garden.

Knowledge precincts cannot work effectively in isolation; they need to be part of the greater knowledge regions of SEQ. Brisbane is focussing on knowledge intensive areas such as ICT, nanotechnology, and neuroscience. It is also continuing to be competitive in food and agribusiness, and environmental technology industries. Some areas to focus on in Cooroy could be ecotourism, food and agribusinesses, and environmental technology development initiatives. It has to align with the local government initiative on knowledge economy as well as the state governments' smart state initiative.

The library could be a major regional attraction as part of the learning network of the region. It can link with the smart learning project by developing centres of excellence in science, mathematics, technology and creative arts at the Noosa State High School. It can also contribute to a life-long learning approach involving the larger community of Cooroy and its surrounding areas.

Connectivity

The development of the study area in Cooroy needs to be seen in the larger context of the recent initiatives of the regional economic development strategy of the Sunshine Coast. In mid 2005, the three councils, Noosa, Maroochy and Caloundra, which later formed the Regional Council of Sunshine Coast, had smartly worked together to develop the regional strategy (SGS, 2004). One of the outcomes of this regional strategy was the preparation of the Sunshine Coast knowledge economy strategy, which sees knowledge creation as crucial to the economic prosperity of the region in future (SGS, 2005). It has mapped the network of institutions involved in developing regional knowledge economy and provides a strong basis for social networking of knowledge precincts across the region.

CHALLENGES TO DEVELOPING COOROY LOWER MILL INTO A CREATIVE PRECINCT

Critical mass

With a small population in the inland location, Cooroy faces many common issues associated with small towns, such as a lack of critical mass in terms of both market and human capital. Some of the issues identified by Henkel (2006) pertaining to regional development in northern New South Wales are also relevant for Cooroy. They are: 1) remoteness from stimulation and events in cities; 2) limited work opportunities; and 3) limited access to capital and sources of income.

Consequently, a particular challenge may be making Cooroy attractive enough for knowledge workers to live, work and play in. Some amenities do exist that may ameliorate this problem and these are a

pristine natural environment, a new initiative on the broadband data centre, and an active Chamber of Commerce. There have also been new developments, such as Wattle Street complex close to the Lower Mill site, with professional suites and retail stores to cater to the needs of the knowledge workers. The small town/village atmosphere should also be promoted to draw knowledge workers and enterprises into the region.

Competition

Cooroy has to consider the likely competition for knowledge base development from other places in Sunshine Coast, as well as other areas like Byron Bay and northern New South Wales. Cooroy is less known compared to the more famous coastal Noosa. However, its proximity to major highways (Bruce Highways), location within 30 minutes of a regional airport (Maroochy airport) and natural amenities are some of the positives of its geographic location.

To differentiate itself from the other regions, there is the potential to set up a business innovation centre within the Lower Mill site that could provide physical spaces and infrastructure support for new businesses. The innovation centre can provide incubator facilities for arts/cultural enterprises as well as other business training, marketing and information services for them. This would also facilitate small business networking, provide infrastructure, such as ICT support, and physical space for small business development seminars. A number of key stakeholders, such as the potential industry partners, business enterprises, local council, and the local chamber of commerce, have to work together to realize this concept. There has to be more coordinated marketing and promotion of businesses in the area by regional bodies.

Governance

One major issue facing the Lower Mill Board is developing a viable governance model to address the changing nature of the organisation in terms of its development focus. In this respect, there is a case for developing governance models to suit the requirement of the organisation at different stages in the development of the project. The role of the Board will change from strategic planning and design construction to operational management. One perennial issue is going to be seeking funding from different sources for uses in the precinct. Another issue is to engage the local communities and enterprises for use of the precinct.

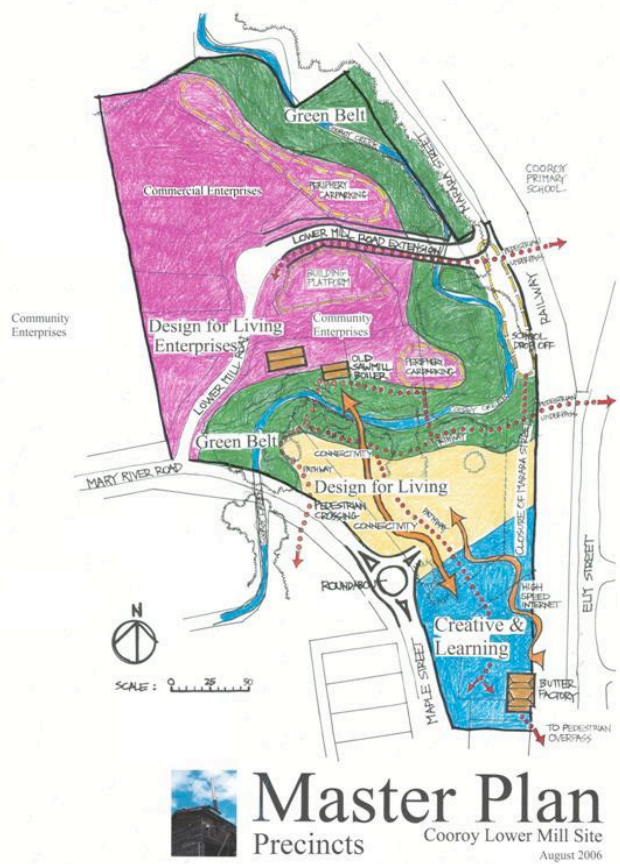
Thus far, the Lower Mill Board has demonstrated active leadership with a number of initiatives such as developing a vision and master plan for the site, developing linkages with the educators and business sector, and being successful in securing funding for a number of projects from different levels of government. For example, the project has been successful in receiving funds from various sources, such as State Government's Q150 Legacy Infrastructure Fund for building library, Federal Government for clever networks and data centers, and Arts Queensland for community arts projects.

The local councillor of Cooroy, who is also a member of the Lower Mill Board, has also shown strong interest in the regional economic development and has been proactive in this area. He has written papers advocating the need to build strong partnerships with tertiary education institutions to deliver not only strong education and training outcomes, but also to contribute to social capital and regional economic development (Brennan, 2005).

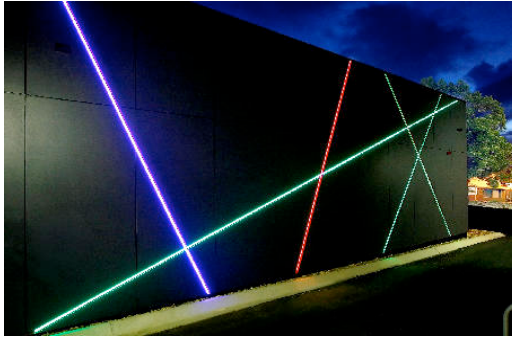
CONCLUSION

This paper has reviewed the emerging concept of knowledge-based urban development (KBUD). While there has been much research into the KBUD at the metropolis level, much less is known about knowledge precincts within regions outside major capital cities. The Cooroy Mill Place is developing as an important community-based creative precinct through various physical developments, such as a new library, cultural and arts facilities, and broadband technology access. Through our evaluation, Cooroy Mill Place is heading in the right direction by undertaking many initiatives and programs that address the five value propositions of knowledge precincts. However, there are challenges that must be acknowledged and tackled. While Cooroy Mill Place is developing as a creative, cultural and learning precinct, there is also a need to ensure its business and real estate value, i.e., as a place that provides employment. Its goal of attracting enterprises in environmentally sustainable design can provide added impetus for generating new jobs. Cooroy has to develop an alliance of government,

businesses and education providers that will work together to realise the community based creative/ knowledge precinct. All these are important for developing a socially and culturally responsive Cooroy. In addition, there is also potential for regional networking of similar precincts across the region to build on the complementarities of the different precincts. With the amalgamation of three councils into a larger Sunshine Regional Council, there are new opportunities for the region to position knowledge-based development in a coordinated and strategic manner to attract projects in the area.



Restoration of old timber mill boiler



Data centre



Butter Factory Art Centre



Proposed Library under construction

Masterplan and physical development of Cooroy Lower Mill site

Image sources: <http://lowermillsite.com.au/index.html>

REFERENCES

- Baum, S., Yigitcanlar, T., Horton, S., Velibeyoglu, K., Gleeson, B. (2007). *The Role of Community and Lifestyle in the Making of a Knowledge City*, Griffith University, Brisbane.
- Bayliss, D. (2007) The Rise of the Creative City: Culture and Creativity in Copenhagen. *European Planning Studies*, 15, 889-903.
- Brennan, L. (2005) *Regionalised Education Initiatives: A Model for Regional Social Capital and Economic Development*, (<http://www.niser.org.au/site/wp-content/.../Regionalised%20Education.pdf>, Accessed July 20, 2009)
- Ergazakis, K., Metaxiotis, K. & Psarras, J. (2004) Towards knowledge cities: conceptual analysis and success stories. *Journal of Knowledge Management*, 8, 5 - 15
- Foth, M, Bajracharya, B., Brown, R. and Hearn, G.. (2009) , The Second Life of urban planning? Using neogeography tools for community engagement_ *Journal of Location Based Services*. (in press)
- Griffiths, R. (1993) The Politics of Cultural Policy in Urban Regeneration Strategies *Policy & Politics*, 21, 39-46.
- Henkel, C. (2006) *Imagining the future 2: Screen and Creative Industries in the Northern Rivers region of NSW*. Northern Rivers Region, Northern Rivers Regional Development Board and NSW Department of State and Regional Development.
- Howells, J. (2002). Tacit knowledge, innovation and economic geography, *Urban Studies* 39(5): 871–884.
- Noosa Creative Alliance (May, 2009) *Creative Community Leadership program*, A Report prepared by the Creative Class Group (<http://www.noosacreativealliance.com.au/docs/noosa-final-report.pdf>, Accessed July 20, 2009)
- Ofori, G. (2003). Preparing Singapore's construction industry for the knowledge-based economy: practices, procedures and performance. *Construction Management and Economics Journal*, 21: 113-125.
- Searle, G. and Pritchard, B. (2008). Beyond Planning: Sydney's Knowledge Sector Development. In T. Yigitcanlar, K. Velibeyoglu, and S. Baum (Eds) *Knowledge-based urban development: planning and applications in the information era*, Hershey, PA: Information Science Reference, pp: 184-202.
- SGS Economics and Planning (2004) *Sunshine Coast Regional Economic Development Strategy*, November 2004.
- SGS Economics and planning (2005) *Knowledge Economy Strategy, Creating Smart Jobs on the Sunshine Coast*, (Final Report), Sunshine Coast Regional Organisation of Councils February 2005.
- Van Puffelen, F. (1996,) Abuses of conventional impact studies in the arts. *International Journal of Cultural Policy*, 2, 241 – 254.
- Van Winden, W., Van den Berg, L. & Pol, P. (2007) European Cities in the Knowledge Economy: Towards a Typology. *Urban Studies* 44, 525-549.
- Waite, G. and Gibson, C. (2009) Creative Small Cities: Rethinking the Creative Economy in Place. *Urban Studies*, 46, 1223-1246.
- Yigitcanlar, T and Velibeyoglu, Koray and Martinez-Fernandez, Cristina (2008) *Rising knowledge cities: the role of urban knowledge precincts*. *Journal of Knowledge Management*, 12(5). 8-20.