Community Mapping: A Study into Australian Indigenous Peoples' Participation in Cultural Mapping

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ABSTRACT

By investigating the current literature on the growth in collecting and managing Indigenous knowledge and its relationship to place through the use of geographic information systems (GIS) and other technologies, and by investigating the outcomes of four case study projects, this research demonstrates that there is a missing link in the implementation of knowledge mapping type programs. The missing link identified in this research is why these programs in most situations have shown to be unsustainable regardless of the level of funding they receive and more importantly have not created sustainable community futures such as business development. The upcoming PhD research 'Mapping for Sustainable Futures' will investigate further how spatial information technology can be incorporated to ensure this type of program contributes to sustainable futures and that this new knowledge benefits Indigenous communities, industry, the broader public society and the geospatial industry and its practice.

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Figure i: A visit to Landgate by the chair and vice chair of Purnululu Aboriginal School. Shirley Drill, Chairwoman of the School, collects the 3D maps of their community that Landgate created for the School as a result of the partnership facilitated through this research (photo copyright Landgate)

DISCLAIMER

The author will take responsibility for any views that may have been unintentionally misrepresented in this report. The interim conclusions presented here were drawn from the interviews, and the interpretation of those interviews is subjective.

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SUMMARY OF FINDINGS:

1. INTRODUCTION

Despite so many training programs and development programs being implemented, and supposed funding opportunities being made available, the world's Indigenous communities continue to struggle with issues of a lack of sustainability, displacement, disempowerment, lack of employment opportunities, increasing youth suicide and a basic lack of wellbeing. Indigenous communities often receive no sustainable economic or other tangible return on their cultural and land-based assets, even when they are in relationships with major mining companies, or have the focus of governments upon them and come under the scrutiny of development consultants. In light of this, we need to ask who really benefits from Indigenous development. The primary focus of this research is to look at the use of knowledge mapping programs within Indigenous communities to determine if they contribute to sustainable community futures.

Background to research

The interest and growing concern that finally led the author to undertake this research were planted in the early 2000s. During a community heritage research project undertaken between 2001 and 2008, the impact of the loss of their elders on the community – guardians of ancient knowledge responsible for passing on land-based cultural knowledge to younger generations – was frequently expressed by remaining community members. Repeatedly Elders expressed their concern of the future of their knowledge and their concern for their youth. The impact of this loss of knowledge still seems to be misunderstood by mainstream Australia.

See '*Written in the Land, the life of Queenie McKenzie'* Melbourne Books 2008, for further information. www.writteninttheland.com

Research objectives

The focus of this report is to bring to light the critical issues that will hinder the acceptance of GIS by Indigenous communities, and the risks this presents for the advancement of the spatial industry, particularly at the current rapid rate of expansion and development within community settings. This research is intended to add value to the geospatial industry, which itself is meant to be of value to communities.

Significance of the research

There are two critical changes occurring in Australia – and globally – that will alter our world forever.

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One change is the rapid and increasing loss of the last generation of Indigenous elders, who hold within their memory the spatial locations of cultural sites, traditional foods, medicine sites and ceremonial places that were passed down to them from their ancestors whilst living on their traditional land.

Another change is the rapid development of the geospatial industry and its impact on many aspects of the public and private life of communities. GIS software is highly complex and almost inaccessible to anyone who does not undergo extensive training in how to use it; costly knowledge that is out of the reach of most. Unlike mapping software, which only draws maps, GIS enables complex spatial analysis (Abbot et al. 1998).

It is, perhaps, an odd concept to think that software could create community empowerment or disempowerment and foster community participation or non-participation, in the development of public policy, or that it could even counter or enable the agendas of the powerful. Yet the rapid growth of the geospatial industry is predominantly benefitting the institutions of the western world, while benefitting communities to almost no extent (Sieber 2006).

Overview of report

The report is structured to provide the reader with a sequence that will initially demonstrate the significance of the research followed by an overview of current debate on the subject and an outline of the project methodology. The field research, based on the interviews that were undertaken with the subject communities, forms the body of the report and was detailed in Chapter 4. It was a critical aspect of this research that the voices of Indigenous people were included, and that listening to those voices was a priority. This research set out to hear both sides of the story, particularly the voices that do not have a venue, such as academia. An analysis and discussion of the interview findings was provided in Chapter 5. In light of the interview findings, Chapter 6 contains recommendations about how to ensure knowledge mapping type programs benefits both Indigenous communities and non-Indigenous participants, and that such programs create outcomes that can be sustained and can contribute to sustainable futures for all.

In addition to the development sector, Indigenous knowledge is being used on a daily basis for the purposes of land titling, conservation, resource identification for mining, and the

capacity building of government departments and creation of government policy. All of these groups have their own needs and understanding of the value of Indigenous spatial knowledge, and are incorporating it more frequently into their professional practice. The question remains: who benefits from this?

The more recent introduction of geospatial technologies, such as GPS, to mainstream society has meant that these technologies are quickly being taken up by academics, researchers and national parks staff, as well as myriad government departments, to map Indigenous knowledge to assist their own business endeavours, at times in partnership with Indigenous people.

The rapid growth of the geospatial industry has undoubtedly had an impact on Indigenous people. Whether they are aware of it or not, their land-based cultural knowledge is being increasingly collected and stored by a growing diversity of professions in ways that appear to provide little benefit or long term gain to the rightful owners of that knowledge.

Indigenous people, more than any external experts, have an intimate and innate understanding of their land. They rely on it for their life, they worship it, they have traversed it for generations and have become intimately connected to it and its offerings. Without any doubt, they have sustained their land for longer than non-Indigenous people can fathom. Who better, then, to map it?

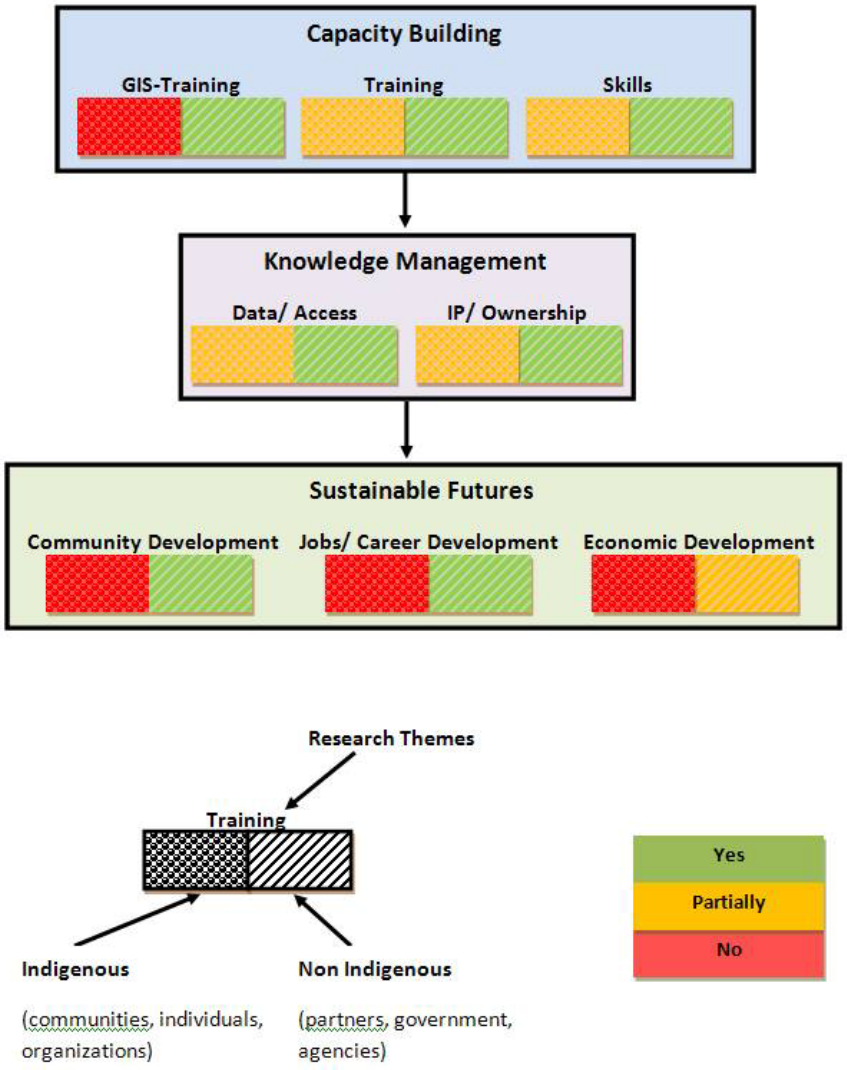
The development sector and spatial industries, regardless of their purpose, will continue to fail communities if they cannot recognise and embrace their work in true partnership with communities. According to the writings of Keough (1998), an expert in the field of participation and sustainable development, we do not need to hone our ecosystems management as much as we need to direct our attention to ego-systems management.

Participatory practices, although seen to be an empowering tool for creating engagement and partnership, have been disclosed to be flawed in their execution. The outcome of the workshop described in *Participatory GIS: opportunity or oxymoron* (Abbot et al. 1998), suggests that a lot more needs to be known about the use of participatory methodology within a GIS framework. The authors question the conditions under which participatory GIS can produce something of value which empowers a range of stakeholders. The findings called for a monitoring and evaluation of what participatory GIS has achieved to date and an

assessment of what it can and cannot deliver in the future. We still do not have the answers to these questions.

Research Findings

Figure 5.1 provides an easy way to see the breakdown of the findings overall. The red, orange and green of stop lights is familiar to most people and the two cross hatching designs distinguish the Indigenous participants and non-Indigenous stakeholders in the case study knowledge mapping projects.



The capacity building section of the figure shows that, when GIS was in use, the opportunity to train Indigenous people was not taken up. This kept the status quo in place, intentionally or not, thus it was the non-Indigenous 'experts' who undertook the mapping through use of technology. In the area of the diagram that shows the outcomes regarding sustainable futures (business development or new career pathways), in no situation was it evident that the

projects created new career pathways for Indigenous community participants, or skills development in any aspect of the projects, for the Indigenous participants. For example, it was stated that the Indigenous coordinator of one project was not skilled to do that job, yet he was also not provided with any training to make that possible and yet was often referred to as the reason that the project fell apart.

Themes represented in the image above:

Capacity building

GIS and associated technology was used infrequently if not rarely. It was apparent from the findings that training for Indigenous community participants in GIS generally did not occur, yet training by Indigenous people for non-Indigenous coordinators on spatial understanding within Indigenous cultural contexts and landscapes occurred in every instance.

Indigenous knowledge

Whose knowledge is it? This question apparently was not one of the project drivers; strangely, it was frequently overlooked. In almost all case study projects the knowledge was managed externally to the communities it belonged to. Conveniently, this was often because it was only the 'experts' who knew how to manage the data and use the software.

Sustainability

The prime focus of all of the case study programs was to collect and manage the data; there was limited or no focus on a future vision to turn the data into something that could be used to create sustainable futures for any of these struggling communities or disadvantaged youth.

Conclusion:

It was very evident from the findings of this research that opportunities were lost, such as business opportunities where communities and their stakeholders could make profits. These opportunities for communities and their stakeholders to make use of their data were in ways that would insure sustainable futures in a thriving environment. A missing link was identified as to why this did not occur. The research has also shown that this type of program does have the potential to be greatly beneficial to communities and their stakeholders if that missing link is addressed. Almost all of the Indigenous people who were interviewed expressed disappointment that the programs were not delivering what they had hoped.

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Without the generous contributions of all of the stories given by the participants of the four case study project, this research would not contain the valuable information it does, which is a result of the reflections and evaluations of all of the people questioned. This information now sheds light on issues that are rarely discussed professionally. A condition of the interviews with all project participants was that names would not be disclosed.

Thank you to Ken Leighton of Landgate who so frequently was at the end of the phone to answer myriad questions regarding the equipment, maps and landscapes. Certainly not least in these acknowledgements is a huge amount of gratitude for the guidance and support provided by Professor Bert Veenendaal of Curtin University of Technology, Department of Spatial Sciences. It was a challenge for both of us in different ways to accept that the focus of this research was not the technical application of GIS, but instead how that impacts communities when protocols and ownership requirements are not in place as a matter of necessity.

With sincere thanks,
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