

Building Community-based Information Management Systems within Aboriginal Cultures of the Kimberley Region, Australia

Greg Mules

APR Geo Information Services, Brisbane, Australia

Abstract

With the passing of each generation of Australian Aboriginal people, cultural knowledge is endangered and in threat of being lost. For the traditional owners of the Kimberley Region of northwest Australia, cultural is bound up in the inter-relationships between people, language, land (and sea), spirituality and history. Community-based information management systems can provide the tools for Aboriginal people to access knowledge about their living culture and cultural heritage. Access to knowledge can empower communities to meet the challenges of self-determination, land rights and healthy country.

Integrated (database, GIS, GPS and www) techniques are being developed to manage knowledge-based systems. These systems include cultural archives, art and artifact catalogues, plants and animals surveys, traditional land use and occupancy maps and language web sites. The processes and challenges of implementing Aboriginal community-based information management systems in the Kimberley are discussed. A review of the nature and scope of such systems across the region is presented along with examples of projects currently being implemented.

The Status of Cultural Knowledge Systems

“Indigenous Australians, the Aboriginal and Torres Strait Islander people, are the original owners and inhabitants of Australia.” (Mellor 2001)

Aboriginal cultural knowledge in the isolated Kimberley region of Australia, Fig. 1, is at a critical point in history. The passing of generations and subsequent loss of cultural knowledge, coincide the arrival of the electronic information age. Computers and the globalisation they support, offer opportunities and throw out challenges for present and future generations.

Since the earliest encounters with Europeans in the 1700s, Aboriginal people have endured successive waves of invasion, colonisation and exploitation. Non-Aboriginal people first arrived in the Kimberley just 120 years ago seeking rich grazing land and mineral wealth. The land was taken up under the protection of government authorities with little regard for the existing landowners and their culture.

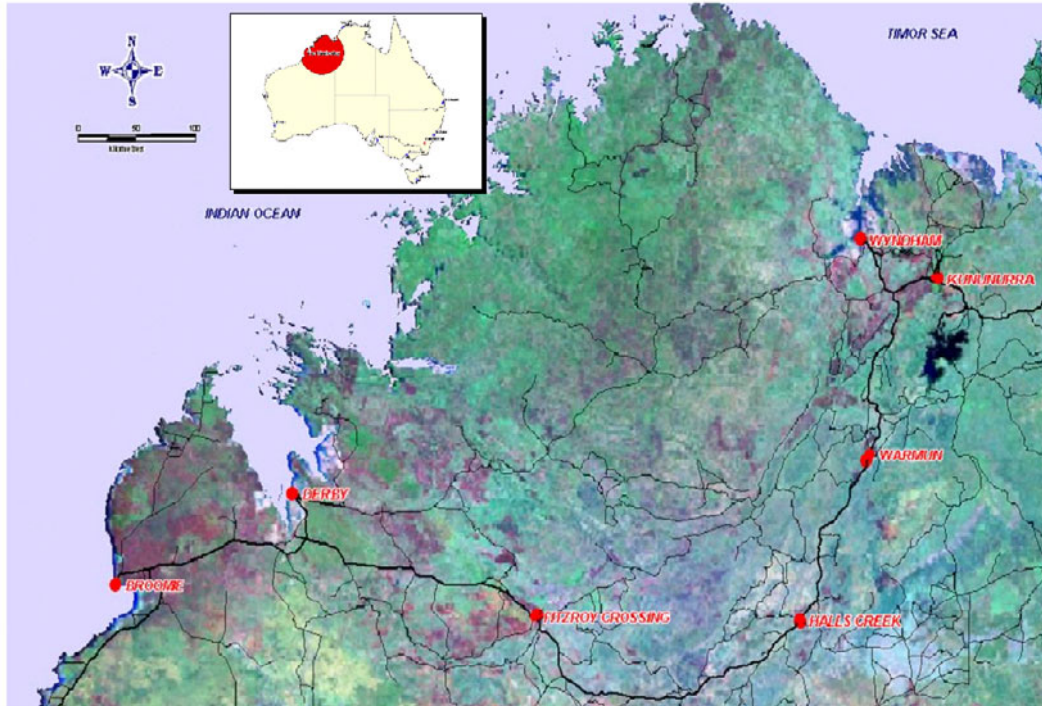


Figure 1: The Kimberley Region, towns, major and minor roads

In a very short time (relative to the + 40,000 years Aboriginal culture has been recorded in Australia), Aboriginal people in the Kimberley have lost land, languages and cultural knowledge, Fig. 2.



Fig 2 Major Aboriginal Language Groups and Community Centres in the Kimberley¹

In spite of this history, Aboriginal people in the Kimberley remain enthusiastic towards organisations and individuals seeking to work with them in ensuring cultural knowledge is maintained and passed on to future generations.

Information management systems can provide the tools for accessing cultural knowledge to empower Aboriginal communities to meet the challenges of self-determination, securing land rights and regaining healthy country.

In the Kimberley region, a number of indigenous cultural and land management projects have been initiated, Fig. 3. Projects include

- Kimberley Language Resource Centre - Halls Creek
- Kimberley Land Council - East and Western Regions
- Mirimar Dawang Woorlab-gerring Language and Culture Centre - Kununurra
- Biological and Cultural Knowledge Survey - Halls Creek to Kununurra
- Art and Culture Centres at Kununurra, Wyndham, Warmun, Halls Creek, Balgo, Fitzroy Crossing, Broome, Derby and other smaller communities
- Cultural Libraries and Legal Services - Derby, Broome and Kununurra
- Healthy Land Project and Fish Surveys - Fitzroy Crossing
- Numerous Health and Community Education centres throughout the region
- Historical Transactions - Stolen Generation and Lost Wages
- Fire and Land Use Management Mapping
- Ord Bonaparte Project – Cultural Mapping Project
- Kimberley Aboriginal Law and Culture Centre – Fitzroy Crossing

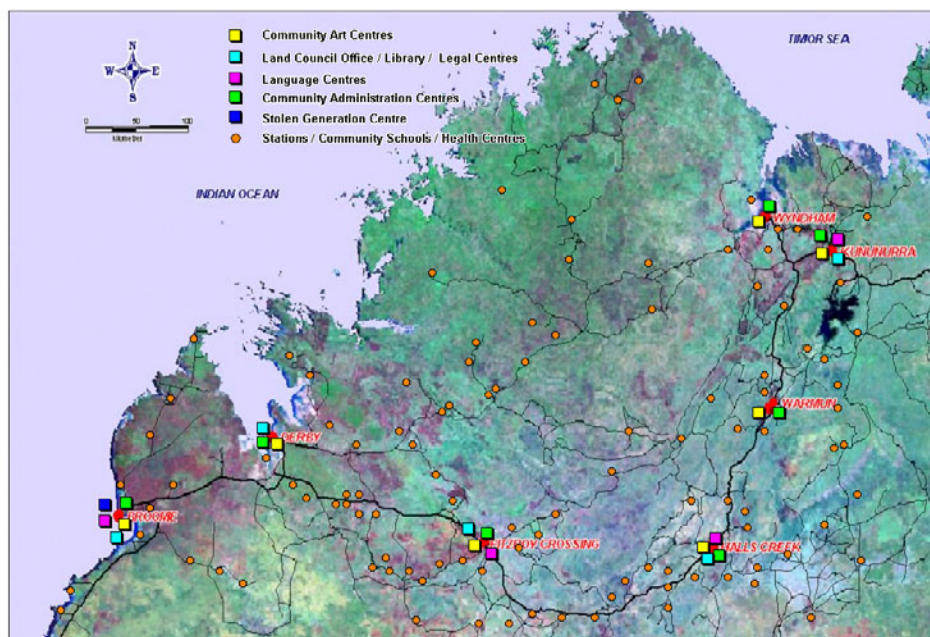


Figure 3: Some Centres of Cultural Knowledge Management in the Kimberley

A major challenge in the Kimberley is to ensure the ongoing support and maintenance of these and other projects. Funding for projects is primarily provided through Australian Federal Government bodies with a proportion coming from State bodies, philanthropic groups, NGOs, industry and individuals.

Aboriginal Communities and Information Systems

“It is essential that traditional owners are able to define and control the rights and access to their resources in order to: uphold tribal customary laws; prevent the misuse of indigenous heritage in culturally inappropriate or insensitive ways; and receive proper compensation for cultural and intellectual property.” (Hunter 2002)

Working with Aboriginal communities to gather, maintain and share cultural knowledge has particular challenges and requirements that should be addressed to ensure full and equitable participation, the maintenance of cultural law and the protection of Aboriginal interests.

Key considerations are

- gaining approval (and support) to work in the area of interest - projects initiated and managed by the Aboriginal community directly
- ensuring relevance and value of the project - identified by the community and benefiting from a broader view of where a project may fit in with opportunities outside the community
- ensuring all stakeholders are involved throughout the project
- securing adequate and appropriate funding and resources
- identifying what cultural knowledge, artefacts and people are involved
- ensuring that cultural law is not compromised or broken
- ensuring group and personal privacy and legal rights are maintained
- securing copyright and misappropriation protection
- ensuring and verifying accuracy of information captured
- ensuring culturally-appropriate protocols or rules are in place to manage access (viewing, copying, editing, deleting, analysing, on-using) to the information captured, manipulated and stored within a system
- maintaining an ongoing community review of all phases of the project

A model for the development of a typical information management system for managing Aboriginal cultural knowledge (in this case cultural mapping) is suggested in Fig. 4.

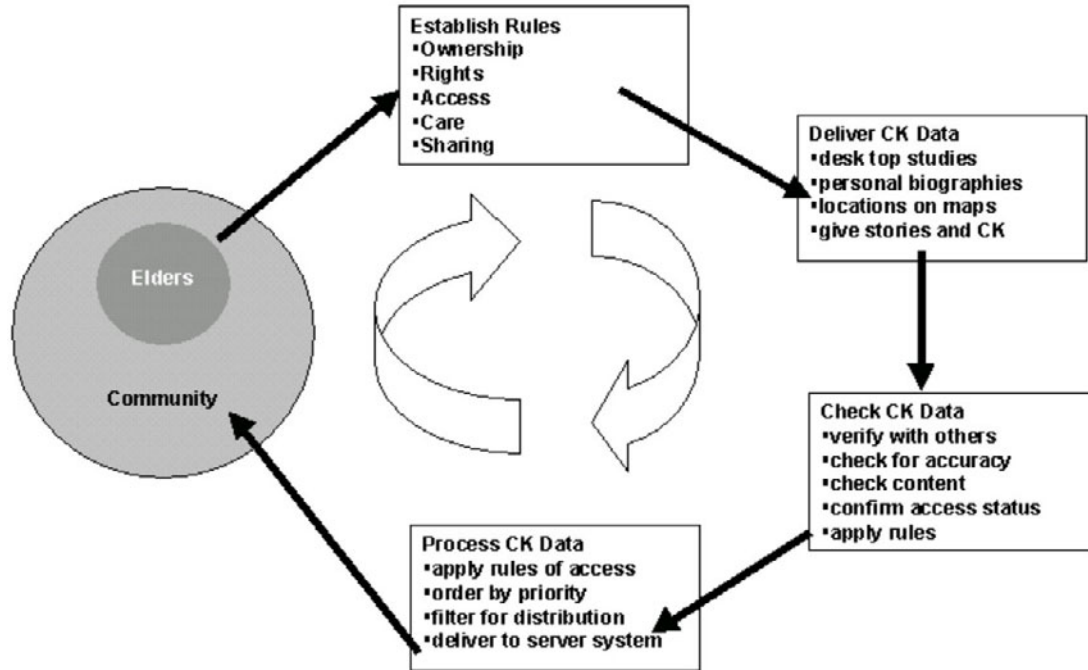


Fig. 4 Working with Aboriginal Communities in developing Information Management Systems: Suggested Typical Model – Cultural Mapping Project

Cultural Knowledge Mapping Project

A Cultural Knowledge Mapping Project is being coordinated by the Kimberley Land Council (KLC) as part of the Ord Bonaparte Program (OBP), in which Aboriginal culture is being recorded in such a way that it can be integrated into a broader community-based sustainable development and catchment management plan. The intention is to provide a map-based information access system for all stakeholders in the Ord River catchment, which dominates the north-eastern section of the Kimberley, Fig. 5.

Stakeholders include government departments, scientific organisations, Aboriginal representative organisations, agricultural organisations, mining interests, Aboriginal and non-Aboriginal communities.

Ord Bonaparte Program - Sustainable Development for the Ord River Catchment

Stakeholders

- Federal Government
- State Government
- Scientific Institutions
- Mining Companies
- Farmers
- Graziers
- Aboriginal Communities
- Kimberley Land Council (KLC)
- NGO bodies
- Private business sector
- General community

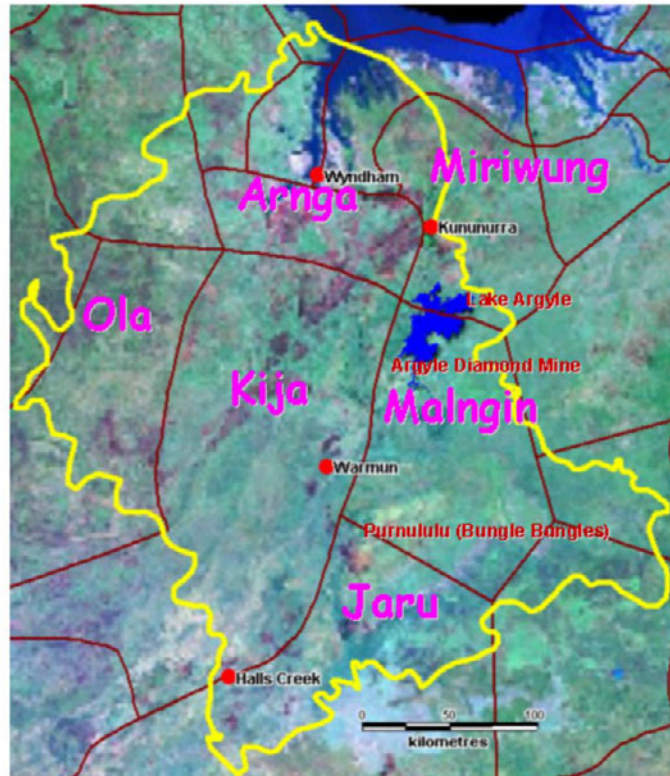


Fig. 5 The Ord Bonaparte River Catchment and Aboriginal Language groups

The project will incorporate cultural knowledge into a catchment-wide sustainable management strategy. One product of the project will be a computer-based land management planning system available to all communities and interested groups in the region.

A database is being developed to capture the rich and complex relationship Aboriginal people have with the land through social and cultural activity, spirituality and art. The database will be linked to a Geographic Information System (GIS) through a process of mapping and data capture, involving library research, community workshops and field excursions.

Broadly following a methodology developed by Tobias (2000) when doing similar work with the Algonquin First Nation tribe in Canada, the Cultural Knowledge Mapping Project will gather “biographies” outlining individual’s (possibly working in groups) knowledge of the cultural significance of “features” within the landscape of the region. In particular the methodology will address the interconnectedness of features, people, language groups and activities. In this way the project will attempt to translate to a modern “western” technology, the way in which Aboriginal people may view the world.

The model of data management will involve the Aboriginal community capturing textual, spatial, audio and visual files. The relationship between these files will be managed in a relational database management system delivered to a GIS and Information Management

System and returned to the community in a format suitable for every-day use. It is envisaged that a managed data transfer protocol and user interface will be adopted involving distribution possibly across a wide area network or the www.

The Data Management Model

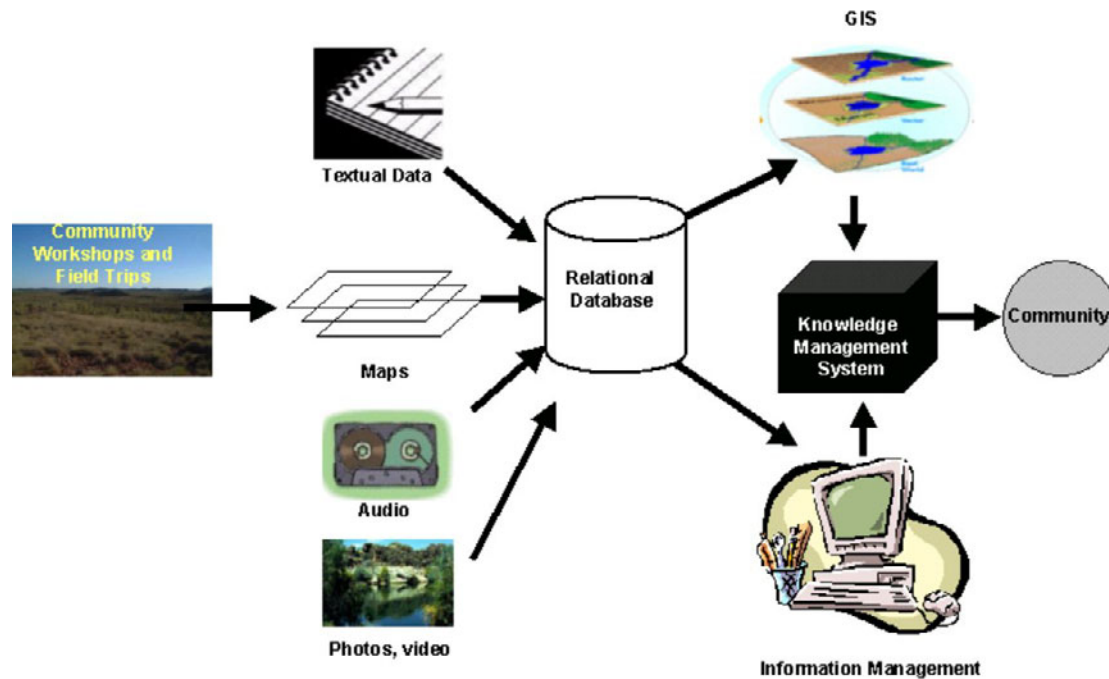


Fig. 6 The Data Capture and Management Model

The integration of cultural knowledge in this way will ensure Aboriginal needs, expectations and aspirations are incorporated into the development of projects in the regional. The system will also provide the Aboriginal community with a tool for managing the development of their own projects in light of other complimentary and, at times conflicting, community activities such as mining, agriculture and tourism.

In order to provide the project with appropriate data it will be necessary for the Aboriginal community to develop it's own database and GIS. It is envisage that this system will be managed and maintained by the Aboriginal community and that managed data transfer protocols and presentation formats will allow a sharing of data and processes between the two systems.

A key feature of the proposed information management system will be an attempt to reflect the integrated way in which Aboriginal people view the world and in particular, the interconnectivity between natural and cultural features, people, language, stories, beliefs and histories.

To achieve this, each person or group of people, taking part in the project will be asked to

- draw on a map or satellite image any particular feature of significance
- identify which other feature(s) is related to the feature identified
- describe the significance of the feature as they understand it
- indicate the person's (or group's) past involvement with the feature – visitations, maintenance, discussion, etc.
- where the feature is a plant or animal, identify past and present usage / significance, abundance, distribution and associations (species, soils, landscapes)
- indicate the person's (or group's) expectations and aspirations for the future of the feature (protection, maintenance, preservation, exploitation)

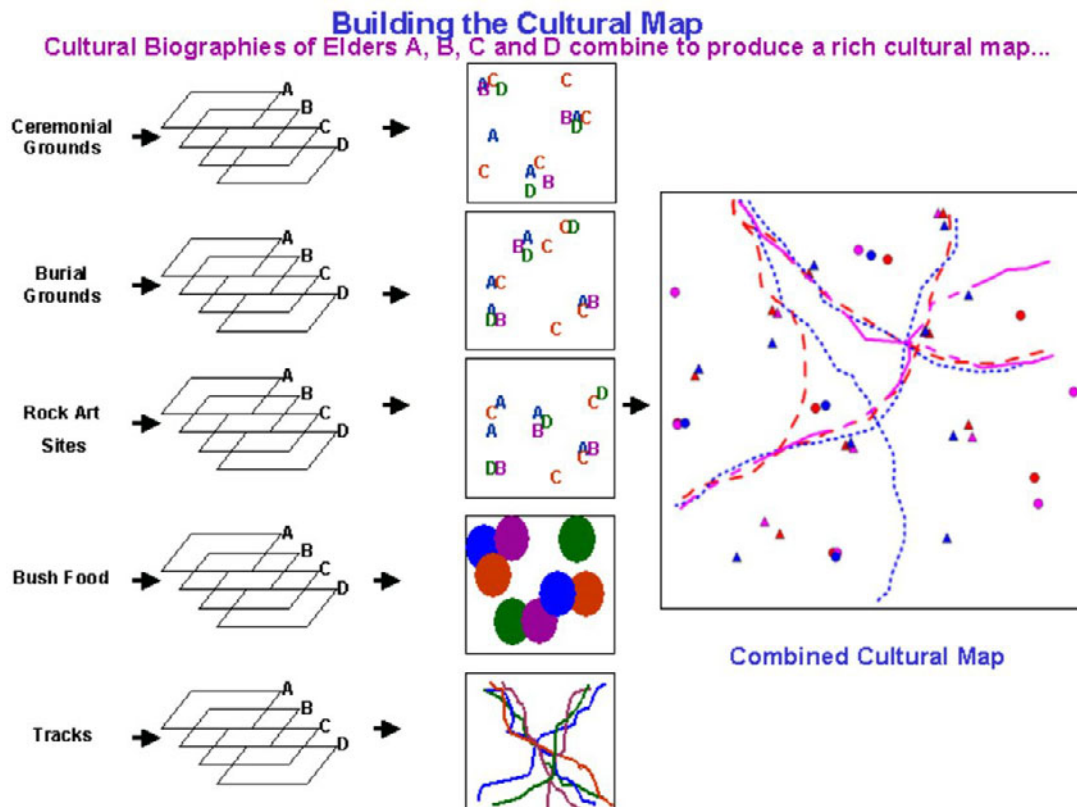


Fig. 7 Methodology of Combining Biographies to Develop a Rich Cultural Map

It is expected this methodology will

- result in a rich and complex individualised map of many people's experiences and cultural understandings rather than the more conventional interpretation by western investigators in which a cultural feature is "mapped" in isolation and precisely in a spatial framework – while a feature can be precisely located (eg by

GPS), a fuzzy view may be more realistic when representing people's collective recollections, opinions and understandings, Fig. 7

- offer the "third" dimension of interconnectivity between features and people
- more effectively engage and empower people by presenting their collective knowledge
- more closely represent the group or collective nature of Aboriginal community and its approach to shared culture
- enhance the relevance for present and future generations of Aboriginal people - for example, a child in the future may look up what grandmother said about her understanding of a particular feature rather than reading or hearing a condensed interpretation of the feature made by another person or outside researcher
- reinforce arguments of extent and complexity of historical associations with land, cultural features and resources

Art As Cultural Mapping

Australian Aboriginal art has become a phenomenon of cultural, artistic and commercial exchange throughout the world. Paintings and artefacts produced by Aboriginal people are more than art. They represent the artist's knowledge of spiritual, cultural, historical and physical "features" of their life and the land.

Art in the Kimberley region is strong and active with a number of community art centres operating. In collaboration with these art centres and the artists, it is planned to incorporate art data into the Cultural Knowledge Mapping Project. Fig. 8

Art as Cultural Mapping

Warmun Art Centre

The Artist....

Catalog No. 414/01
 Artist MADIGAN THOMAS
 Category
 Size & Medium 80 x 60 cm / Natural ochre and pigments on canvas
 Title MOODERWAYN- NEAR ORD RIVER

www.warmunart.com



Reproduced By Permission

The story...

This story happened at Mooderwayn, near the Ord River, up near Springvale Station. A son in law came to visit with his dog. He asked for permission to visit this place from the old girl who lived in the paperbark tree. It was nice and warm in the tree, lots of paperbark to wrap around and good places to sleep in the holes in the tree. But the son in law was tired and cold from his travels and asked the old woman for some paperbark to wrap himself in, but she was too mean and didn't give him any. He was shivering and cold, so he got some wood and Gungal (little sticks) and started to make a fire to keep himself warm. The fire got bigger and bigger and started to bum down the paperbark tree with the old woman in it. The old woman escaped from the tree by flying away and turned into a bird, into Dinal, she is black all over from being burnt and as big as a woodpecker.

Fig. 8 Art as Cultural Knowledge (reproduced by permission)

Challenges for the Future: What's so Special?

In working with Aboriginal people in capturing and managing cultural knowledge, there are a number of "special" aspects to the work that may separate it from more conventional cultural heritage work

- The work is recording living cultures, providing the springboard to the future of individuals, families and whole communities
- The work has a sense of urgency due to threat of loss with passing of generations, aggressive "foreign" cultures and legal constraints
- There are clear legal, political, cultural and spiritual implications of the work
- The opportunity for cross community networking and information sharing to leverage "value" of the work
- The inherently secret nature of much of the information involved in the work
- The opportunity for the work to be integrated in the broader process of land management and social development in the region

Some of the special technical and operational challenges of this work include

- Incorporating the cultural restrictions on information
- Developing appropriate methodologies for capturing the information
- Developing systems now to address the ongoing loss of knowledge as we move through the generations

- Integration of information across communities and organisations
- Sourcing skilled personnel to manage the systems at a community level (skills-vacuum)
- Ensuring relevance by developing a knowledge-base that can be integrated into the wider community (eg OBP)
- Developing systems that return information to the communities in an appropriate and sustainable way.

With limited opportunity for education, Aboriginal people have in the past, been reliant on others to provide the expertise needed to work in the various areas of linguistics, anthropology, archaeology, natural science, law and computer technology. More recently this situation has improved, however in the Kimberley there remains a skills-vacuum which limits the options for Aboriginal people to be involved in these areas. A significant challenge to the Cultural Knowledge Mapping Project will be the identification, training and support of local indigenous staff.

Funding is a major limitation to the successful development of most projects in the region. It is important that cultural knowledge management systems are firmly based within the broader context of the Australian and global community. Without relevance beyond the local community, projects may remain restricted in funding and limited in scope.

Technical systems such as the www, satellite and networked communications and integrated GPS / GIS technology can offer an entree to the wider community and provide the framework for future management and sharing of cultural knowledge within the Aboriginal community and beyond.

References

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HUNTER, J., 2002. Rights Markup Extensions for the Protection of Indigenous Knowledge. Global Communities Track, WWW2002, Honolulu.

¹ After "Traditional Location of Kimberley Languages Poster", Kimberley Language Resource Centre, 1991.