

Connecting Communities and the Environment through Media: Doing, Saying and Seeing Along Traditional Knowledge Revival Pathways

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Abstract

With the proliferation of global information and communications technologies (ICT), the concept of community no longer has geographical limitations. Yet, from ecological and social perspectives, connecting people and communities to their immediate environment is now more urgent than ever. In this paper we show how an Indigenous led initiative reaches across geographical and cultural gulfs by using digital media in ways that are profoundly embedded in the values associated with specific places. We refer to a grass-roots Indigenous created and led organization that with support from numerous partnerships across Australia has for many years used media to convey cultural and environmental values. The methodology of Traditional Knowledge Revival Pathways (TKRP), co-created according to the ancient knowledge system of the Kuku Thaypan Traditional Owner Elders in Cape York Peninsula, illustrates the way media can be used to traverse disciplinary boundaries and connect both Indigenous and non-Indigenous people to places.

We start by describing how the simple act of picking up a camera to film this ancient knowledge system led to the creation of Traditional Knowledge Revival Pathways (TKRP). Then, we explain how the methods of using various media are anchored in the Indigenous sense of country and interconnectedness, embedded in the spiritual, philosophical and ideological perspectives of Traditional Knowledge. We outline processes that scaffold these methods, such as the way media is controlled by participating Indigenous communities and incorporated into practice and research in environmental management. This leads us to discussing some of the roles of different media in reflecting on practices, within and between communities, and translating and communicating across worldviews. We conclude by indicating how using media can connect people to place and inspire their reflection upon the mediation by media in these connections. We propose this provides new insights for improving media tools, training methods and approaches to solution making to issues of environmental, social and economic concern.

Introduction

With respect, we warn Australian Indigenous people that these pages contain a deceased person's name and image.

In accordance with protocol, we acknowledge the Indigenous peoples of Cape York: those who continue to live there, and those of other times and places; and, introduce to you: Kuku-Thaypan Elder Dr. Tommy George and Victor Steffensen, co-creators of the TKRP that is discussed in this paper; Peta Standley, co-generative author of the TKRP-Kuku-

Thaypan fire management research project; and Dr. Nicola Bidwell and Jacqueline Gothe, design researchers who support their legacy.

“We got to work together” Dr. Tommy George “Water we know” 2007



Figure 1. Victor Steffensen records Traditional Knowledge of Dr. Tommy George, the last speaker of the Awu Laya language, at *Llung* (Polly Lake) in 2007.

The Traditional Knowledge Revival Pathway (TKRP)

The Traditional Knowledge Revival Pathways (TKRP) was developed by Kuku-Thaypan Elders: “Old Man” Musgrave (deceased 2006), his brother, Dr. Tommy George and Victor Steffensen. The Elders, were born in the 1920s and Dr. Tommy George is now the last fluent speaker of the Awu Laya traditional language. Victor Steffensen, a descendant of the Tuguluk people on his Mothers side, has been schooled according to traditional Kuku-Thaypan custom learning from the Elders since 1990. The Kuku-Thaypan people are the Traditional Owners of homelands within and spanning the borders of Lakefield National Park, in Cape York Peninsula, Far North Queensland. Their country, 500km from the nearest urban centre (population: 130, 000), is one of the world’s most biologically abundant and lightly populated places but, since the early 1900’s, has been affected by forced removal of people, the pastoral industry, gold rushes, tourism and layers of government legislation. The Elders have endeavored to persist their cultural knowledge in their local community

school, and to academia, for two decades and with the changes in Indigenous people's lifestyles during that time, like other Elders in Australia, recognized prospects for technology to communicate with their youth and preserve cultural memory. From 2002 they "went out onto country and began practically demonstrating knowledge fields in front of a video camera", with Victor Steffensen, recording and developing the first version of the Awu-Laya database initiating the development of the TKRP (Figure 1). The Kuku-Thaypan Elders sought out the TKRP to preserve their own Traditional Indigenous Knowledge and support other clan groups across Cape York, South West and Central Queensland and the Gulf Country. More recently this has been extended to Western Australia, South Australia, New South Wales, New Zealand and the United States. As an Indigenous owned community and environmental consultancy, TKRP acts to record, demonstrate and communicate Traditional Indigenous Knowledge in environmental, educational and research initiatives and collaborates to strengthen outcomes for contemporary well-being.

Media as the tools of doing and saying in the TKRP methodology

The Kuku-Thaypan Elders sought to support, preserve, strengthen and gain recognition for Traditional Indigenous Knowledge by describing a methodology, which encompasses various methods of using media. Recognizing the definitional distinction and relationship between 'methodology' and 'method' is important in appreciating the TKRP's use of media. TKRP's *methodology* is the set of principles that determines how methods and tools (e.g. media) are deployed and interpreted. This methodology has a distinct orientation towards the practice and transfer of knowledge, such that methods of using media are inherently inseparable from the perspective of Traditional Indigenous Knowledge.

At the heart of the values of Traditional Indigenous Knowledge are a spirituality, philosophy and ideology of interconnectedness anchored in the Indigenous sense of country. The term 'country' describes a view of life invested with rich ecological and symbolic interconnections between people and places through many generations. Country is simultaneously lived in and is a system of living for physiological, social and spiritual nourishment (see Rose, 1986). Everything about the TKRP relates to the Indigenous Elders' aspirations, an obligation to maintaining the health of country and linking outcomes to a view of the entwined needs of community and environment.

The various media TKRP uses, including film, print and database, geo-locative, web-based technologies, are tools to communicating and translating ways Indigenous people see, do and say. They act as potent ways to communicate with internal and external audiences, for example through visual experiences of country and people engaged in practices on country. However, they are not merely an appendage to Traditional Knowledge. Rather the acts of recording, storing and disseminating are part of the experience in which TKRP communities understand and respond to the world.

The integrated nature of Traditional Indigenous Knowledge and the intertwined ecological and cultural challenges the TKRP seeks to address means the processes of using media have a multi-faceted affect. Christie and Verran (2006) recognize the way that Traditional Owners in Australia harness media projects for the continuity of their customs and ritual

responsibility for their country, rather than for developing those places according to external agendas. His use of the term 'envelopment' resonates with the way TKRP's media projects support Traditional Owners to exercise their cultural responsibility and rehabilitate Traditional Indigenous Knowledge in ways that would otherwise be inaccessible for them. From a practical perspective media projects enable groups to reconnect with their traditional homelands, participate in environmental management decisions, describe and implement their own research methodologies, establish and grow an Indigenous and broader network to develop training, educational and empowerment initiatives for involved communities. For example, media use led by Indigenous Elders within the communities involves mentorship and knowledge exchange between communities. From an epistemological perspective the TKRP methodology demonstrates and develops the application of Traditional Indigenous Knowledge in ways that cannot be achieved by parcelling components within classical disciplinary and domain boundaries, shaped as they are by non-Indigenous ideologies on knowledge, frameworks for management and economic and environmental development. As a result media-use links multiple Indigenous groups, management agencies, research institutions and the wider community and the methodology that enables this nexus is a view of life embedded in country. Several processes consistent with an interconnected perspective scaffolds media methods.

Media is community driven and controlled

The processes of recording and demonstrating Traditional Indigenous Knowledge are owned by involved communities and embedded in their cultural practice, rather than those of non-Indigenous institutional initiatives. Like all communities, Indigenous groups have dynamics and powers that influence the transfer of knowledge and the TKRP processes are embedded in local cultural protocols, such as the Kinship System and customs of Traditional Indigenous Knowledge transfer. For example, recordings are made by younger community members of Elders, of themselves learning and others in their Clan group, demonstrating and translating their knowledge in situ. Here we refer to the former as trainees, for want of a better term, as they are inculcated in their culture but are at various stages of learning Traditional Indigenous Knowledge. To further support Indigenous systems of knowledge transfer the TKRP process is perpetuated between Clan groups and regions by mentoring and engagement as determined by the Traditional Owners' and the Elders who have cultural authority and responsibility for Traditional Indigenous Knowledge and how to apply that knowledge to issues of community concern. Thus Elders and community leaders of current projects are mentors in introducing TKRP to other Clan groups within a kinship system, for instance Elder Dr. Tommy George demonstrated in-field recording methods and his living knowledge on uses of trees and land management with Aurukun Elders while they shared knowledge of their practices with him. The mentor motivates the introduced Clan group to realize the process by becoming the next mentors. TKRP in field training techniques not only record Elders in front of the camera, while younger trainees learn recording techniques but includes trainees recorded in front of the camera while being guided by Elders and project mentors, off camera. One use for such footage is in community-specific, multimedia training products (e.g. Figure 2), for instance new community participants can view themselves demonstrating, communicating and applying their TK securing it for future generations (Figure 3).



Figure 2. Dr. Tommy George demonstrates his knowledge on Sugarbag to Lizzy Lakefield, a Lama Lama woman, a neighbouring clan group to Kuku Thaypan, being recorded by Djerami Callope, a young Indigenous TKRP trainee from Normanton and being guided off camera by Victor Steffensen.



Figure 3. Lizzy Lakefield undertakes training in TKRP methodology, fire management and sugarbag monitoring techniques on Lakefield National Park.

Livelihoods through Media

Clearly, persisting Traditional Indigenous Knowledge and cultural revival requires sustaining the health and well-being of existing Indigenous communities by ensuring healthy country and healthy people. The TKRP methodology recognizes that building local human capacity involves relevant educational initiatives and varied job opportunities for those whose remoteness limits diversified prospects, this is a critical element to TKRP's success. Thus training and mentoring communities to record their language, cultural information and traditional use of flora and fauna involves equipping people with the skills to learn, demonstrate and apply Traditional Indigenous Knowledge on country where the transfer and sharing of knowledge is undertaken appropriately. Knowledge, community issues and experiences are recorded and communicated internally and globally, providing positive benefits for country and people along with diversified training and employment structures.

Recent evidence in the health field suggests that greater participation in caring for country activities is associated with significantly better health (Burgess et. al., 2009). Supporting Indigenous people to connect with their traditional lands and undertake their cultural obligations to country is important to well-being and healthy country and is a means to foster sustainable social, environmental and economic development. For example, The Kuku-Thaypan Elders live in a small town 120km south of their traditional lands and, even though their Native Title was determined in 1999, they had to negotiate with the Parks and Wildlife Service and raise funds to establish themselves on their country. Defining their project to record Traditional Indigenous Knowledge, including implementing their fire practice supported them to use the existing legislation at the time to build, and occupy during the dry season, a small lockable shed. Their efforts have enabled them to spend time on country (e.g. Figure 4) attend to their cultural obligations, provide training and employment opportunities for younger clan members, begin to show how to heal country and extensively share their experiences creating an Indigenous methodology to inspire communities to engage and develop themselves. Despite the intensive effort for his people to re-invigorate knowledge and country connections and demonstrate and implement his fire management knowledge; Elder Dr. Tommy George still has little infrastructure on country, sustainable employment opportunities for younger clan members and insufficient Government commitment to sustain the contribution of his and his brothers' legacy and knowledge to broader management frameworks for country.



Figure 4. Michelle Wilson manages a campsite burn at Gno Coom Lagoon.

Media as an Approach to the Environment

Enabling on country recording projects serves as an allegory for the way media enables Traditional Indigenous Knowledge to speak and act through the paradigms and rhetoric that dominate environmental research and management. Western science's access to longitudinal data about the environment is meagre relative to the 40,000 years over which Australian Traditional Owner groups have accumulated knowledge about diverse aspects of the ecosystems they occupied. In literally living on the land and managing abundant animal and plant foods Indigenous nations observed relationships between meteorology, cosmology and ecologies of fire and seasonality, climate, precipitation, soils, land elevation, flora and fauna species, vegetation communities, and inter and intra ecosystem function; observing and recording the influence of their actions on population ecology. Unfortunately, Traditional Owners are frequently disempowered in the politics of national parks in a practical sense. For example, despite publicized pledges to partnership, authorities have only recently ceded the significance of Indigenous culture's role in conservation which, together with other resistant attitudes, make it hard for Indigenous people to practically, administratively or financially undertake their aspirations.¹ Media documents provide Indigenous people with a route to open up dialogue with organizations who might otherwise be unaware; for example, the Elders' earlier pro-activity in recording their knowledge led to the initiation of their fire

¹ See FAIRA <http://www.faira.org.au/lrq/archives/199907/stories/starcke-lakefield-story.html>

management research and their PhD project, 'The Importance of Campfires to effective conservation communication.'

Collaborating with researchers eager to learn about different ways of seeing, interacting with, and describing ecosystems, fire ecology, environmental management and research is an avenue for reapplying Traditional Indigenous Knowledge and demonstrate practical implementations. Western science recognises the inherent natural variability between fires in different places and that the landscape is less able to sustain the biodiversity inherited 200 years ago through its increasing homogenisation by European occupation (Hill, 2003). Increasingly scientific research illustrates the profound contribution of fire to Australian ecosystems, (e.g. benefits for climate dynamics, interactions for functional diversity and flora and fauna biodiversity) and recognises that Indigenous fire regimes are mature management intervention. However, until the initiation of the Indigenous Elder led and initiated TKRP-Kuku-Thaypan fire management research project (KTFMRP), in 2004 studies in Cape York were often limited to accounts of Indigenous fire practices from early explorers', pastoralists' and anthropologists' records and journals and rarely involved current Traditional Owners' accounts of the timing, frequency and application of fire to maintain habitat and respond to environmental change. Fire management is critical to biodiversity conservation and clearly linked to TK prescribed burning regimes and occupation of country. The Kuku Thaypan Elders have therefore made substantial efforts to enact their TKRP methodology to sustain their cultural obligation to care for country and community. Their KTFMRP provides data about the way traditional fire regimes respond to needs expressed by the land or, in western science terms, biophysical indicators. The project incorporates various media as the Elders conduct their fire regimes on country according to their ritual responsibility. For example, from 2004 to 2009 the team have undertaken between 4-8 trips a year with younger clan members to demonstrate and record the Elders fire management knowledge. The Elders are recorded as they draw attention to particular countries of grasses and trees and boundaries between these, all of which are maintained through appropriate burning regimes; signs indicating whether it was a good time to burn e.g. relations between rainfalls, dews and mists, the time of the year, land elevation, soil and ecosystem type; what would happen if a fire was lit if variables were correct or if they were not; areas they burnt and did not burn, conducting assessments of their own and other burns. Their co-generative PhD research project describes the research methodology used by the Elders as they enact their TKRP and the effect that their direct communication has on the way decisions are made about fire on their country, how fire patterns are changing and how the environment is changing as a result of their deliberate actions to record their knowledge and heal country. Recently the project has been able to deliver knowledge sharing and training workshops where traditional owners from different language groups across Cape York have come together to exchange knowledge. These exchanges allow for the bridging of principles in TK fire practice while practically implementing training in new media and TK recording. Skills are also developed in western scientific monitoring tools and applied to research projects such as fire and sugarbag monitoring. Traditional owners from Aurukun and Lockhart 2007, Mapoon (2009), other Kuku Thaypan family groups and neighbouring clan group Lama Lama (2009), Buru - Kuku Yalanji, (2009) and Bana Yarralji Bubu/Nyungkal rangers (2009) have been involved in these exchanges.

The TKRP is increasingly involved in other practical implementation and research projects that draw on the way Indigenous people schooled in Traditional Knowledge can read directly from vividly, detailed country types using numerous embedded indicators. For example, ‘The Sugarbag’, or ‘Stingless Bee’, project was developed from TK of historic sugarbag abundance and physical indicators in the country of past harvest and management of sugarbag and present indicators of fire scar heights supported by fire history data of the KTFMRP to map and monitor sugarbag and explore the potential of sugarbag/stingless bees as an indicator of biodiversity health. ‘The Water’ research project uses Traditional Indigenous Knowledge as the baseline and then records the health of wetlands and water in Kuku Thaypan and Kuku Yalanji country and a project in the Torres Straits records Traditional Indigenous Knowledge on Climate change. Such projects enable Indigenous peoples to gain more value and opportunity from their own research methodologies and more fully engage with, and inform, western methods. They do so using various media and scientific research tools and retain control over how these tools are used and how information is shared within and external to various communities and agencies.

Mainstreaming Media

Of course, to fully empower Traditional Indigenous Knowledge the TKRP must contribute to improved recognition of the relevance of traditional indigenous values to contemporary mainstream concerns and better understanding of Indigenous management in the broader community. Appropriate ‘mainstream’ recognition of the role of Elders in Australia in facilitating research is often long overdue; for example it was not until 2005 that the Kuku-Thaypan Elders were awarded honorary doctorates for their contribution made over two decades to research about the ecosystems with which they are familiar, their history, culture and language. It was part of their on-going engagement with research to demonstrate an appropriate research methodology where their knowledge was recognized ‘up-front’ at the initiation of their co-generative PhD research project (Figure 5). Communities seek wider understanding from the intrinsic perspective of Traditional Indigenous Knowledge and in communicating the TKRP methodology, to develop employment, cross-cultural collaboration and participate in contemporary solutions. Thus, the TKRP enables Elders to undertake a leading role in addressing mainstream issues by re-introducing values of their traditional knowledge. As one example, other TKRP partners such as Wik Media in Aurukun has been developing ways to enable school children to record their Elders Traditional Indigenous Knowledge as extra curricula activities; and, for community-produced media (e.g. documentary and databases) to be integrated into school lessons.

Media in Doing, Saying & Seeing

There is an inherent interdependency between physical terrain and Indigenous “ways of knowing, being and doing” (e.g. Martin, 2003), which means the practices by which communities, involved in the TKRP, record and communicate through media denote relations to country, as landscape, community and system. Here, we remark on the role of different media in reflecting on these practices and in translating and communicating across worldviews of creators, users, collaborators and viewers.



Figure 5. Dr. Tommy George, Victor Steffensen, Peta-Marie Standley and George Musgrave (deceased 2006) at the awarding of the honorary doctorate ceremonies in 2005.

Reflexivity in Video Recording & Documentaries

The process of video recording and editing preserves the integrated quality of Traditional Indigenous Knowledge and empowers Indigenous people in the management of their own knowledge system. This provides participants with important resources around which to articulate reflexivity. In each TKRP project, Elders demonstrate and translate Traditional Indigenous Knowledge on country in front of a camera held by a younger Indigenous trainee guided by TKRP mentors. Then the trainee takes their turn practicing what they have learnt in front and behind camera. Then, together, they may translate and transcribe footage while categorising video for storing in their own TKRP's ethno-biological database. Video maybe incorporated in the coming weeks by/with TKRP support staff for community training records to enable re-enforcement of their learning experiences. Short films are made to highlight issues relevant to community and to communicate shared knowledge on research projects. Sometimes video is used over separate years, made into documentaries highlighting issues of broader community concern such as 'Fire and the Story' (TKRP, 2007) and 'Water we Know' (TKRP, 2008).

When communities drive and develop their own recordings video has layers of significance with respect to participant's Point-of-view of their places beyond just focusing and articulating accounts of experiences. The video products are somewhat alike *cinema verite* because some of video creators appear in them, trainees film their own learning experience and content is determined by the Elders' prioritized view of country. They depict the ways community members envision their Elders, their places and their practices and use the process of recording to relate to them. These self-productions of speaking, seeing and listening offer their Indigenous creators a lens through which to examine the epistemology underlying how they make sense of the world and how they make sense of themselves and the world through media. Indigenous people, like any another (see Garfinkel, 1967), are not

incognizant of their own cultural shaping nor the ways that they appropriate media, “into a personal economy of meaning” (Silverstone et. al. 1991). Thus creation and reflection on video shifts the balance in the “Faustian pact” (Ginsburg, 1993) that Indigenous people make in using the colonising tools of the non-Indigenous ‘other’. For young Indigenous people in particular such awareness is an important part of constructing identity and relating their identity to their wider cultural milieu. For instance, TKRP has found that within community educational contexts, student participation in documentary supported lessons is very high as the familiarity of the subject to the students’ lives adds important meaning.

Documentaries resulting from the TKRP aim to inspire, educate or persuade non-Indigenous ‘outsiders’ but, simultaneously, provoke considering the false dichotomy of ‘nature’ and ‘culture’. There are now four documentaries for distribution to outsiders of communities. They are the ‘Water We Know’ (TKRP, 2007), ‘Fire and the Story’ (TKRP, 2008), ‘Bush Foods’ (Wik Media, 2007), ‘Bush Foods 2’ (Wik Media, 2008) and additional documentaries for use by communities or commissioned by research organizations such as the recent Climate Change DVD. There have been public launches and screenings of ‘Water we Know’ and ‘Fire and the Story’ in Cairns, Sydney and Melbourne. The documentaries visually connect people to places; for example, in ‘Water We Know’ Cape York Elders speak to the camera about the health of their waterways as they walk along or stand by their creeks, rivers and ocean or sit on the decks of their homes nearby. These visual resources often act as a catalyst in realising the inseparability of nature and culture and, perhaps, the way contemporary society uses scientific accounts and representations to abdicate our responsibility, de-connecting ourselves from our natural environment.

Translation through GPS & GIS

To better communicate with environmental research and land management agencies the TKRP uses Global Positioning Systems (GPS) and has started to implement GIS. The application of GPS began in the TKRP Kuku Thaypan Fire Management Research project with support from its co-generative PhD research project of Peta-Marie Standley and Tommy George. Its power as a communication bridge became apparent at a meeting between Traditional Owners and agencies responsible for fire management, within the Kuku Thaypan clan estate, in 2007. In the later months of the previous year a large wild fire had travelled through Kuku Thaypan country (see. Figure 6). At the start of the meeting to discuss the burn program for 2007 a map was produced by the non-Indigenous management agency showing the area of the fire scar. The map was used to communicate that this was now a conservation zone as a result of the fire, and that no burning was to occur there that year. Effectively the tools of western science were being used to prevent Indigenous involvement in decision-making about fire on their country. For the past two years, while recording their TK, traditional custodians were trying to heal country by re-implementing their burning practices. Increasing burning throughout the year, to reduce the frequency, intensity, area and devastating effects of late season wildfire. The team and wider family members had just finished their first GPS and fire scar mapping training. Importantly, Elder Dr. Tommy George had been out on country recently after the wildfire had passed and also lead a visit by the TKRP KTFMRP team to the area early in 2007 to assess where the fire travelled, the consequences of such a hot burn and plan the fire program for the year. By

being on country, plotting the fire's trajectory using remote sensing data and undertaking training in these tools, the team lead by Elders and supported by younger clan members were able to illustrate that they should be able to proceed with their intended burning prescription for 2007.

Kuku Thaypan Fire Management Research Project (KTFMRP)
Firescars within and surrounding Project Area 2006

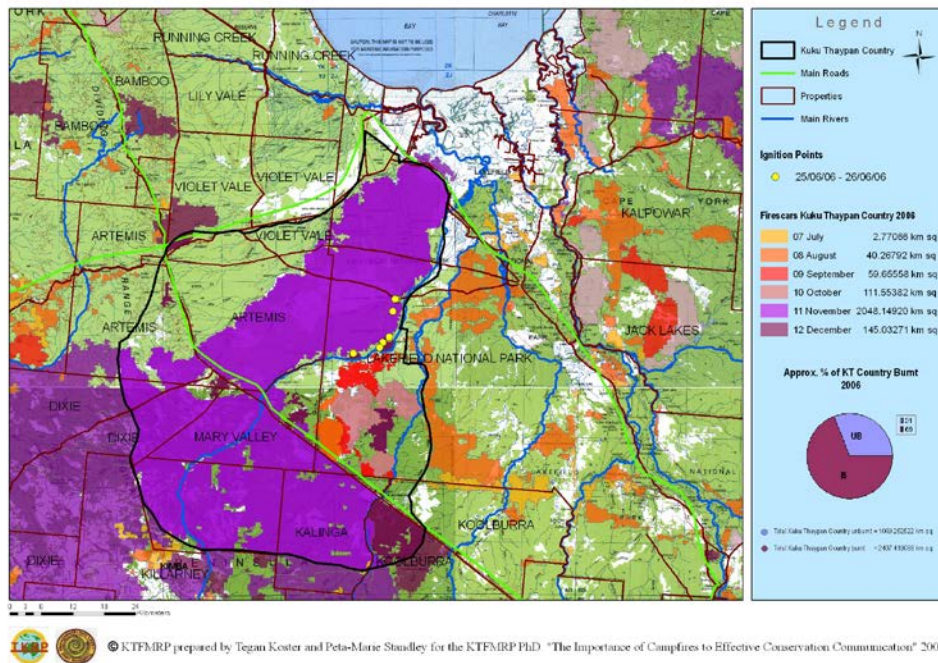


Figure 6. Map produced from the TKRP KTFMRP GIS showing the fire scar as discussed from November 2006.

Despite the attempt to use shapes on maps, that are a representation of what is happening on the ground, to exclude Traditional burning practice, these tools were able to be used by TK holders to demonstrate why burning should occur. Thus, the community was able to communicate their intent to look after country, in accordance with culture, and to demonstrate the use of tools that previously were only available to “colonizing” agencies. By the end of that year the use of GPS in fire monitoring and fire scar mapping was integrated with other training and communications activities whilst on country. For example, GPS was used to support communications with Rural Fires, in coordination with Cape York Peninsula Development Association (CYPDA) staff on Welcome station, an Indigenous land corporation (ILC) owned cattle station just outside Laura (Figure 7). It was also used by Kuku Thaypan Elder Dr. Tommy George, TKRP Aurukun and Wik media staff to exchange knowledge with Lockhart community rangers and staff members of CYDPA and Queensland Parks and Wildlife Services (QPWS). Subsequently, GPS training has become increasingly sophisticated and integrated into broader TKRP methods and research. Training programs on country between 2007 and 2009 enabled TKRP communities to exchange knowledge on country within and between clan groups, and the media has enabled ‘data’

communication between Indigenous groups, CYPDA and QPWS staff and researchers from Charles Darwin University (CDU) in the sugarbag project.



Figure 7. Curtis George, Ashley Ross and Lewis Musgrave practice GPS skills at training at Welcome Station.

The KTFMRP has established a GIS database and developed mapping products such as in GIS Arc View and Google Earth to link to visual media created by the project. The GIS which includes data, over the last ten years, on local fire history, Kuku Thaypan burns implemented over the last five years, vegetation, topography and other layers, supports translation between agencies as well as provides a visual legacy of the project within the community. However, geo-locative media and maps are only some of the ways to navigate through country. The project has also recorded some of the Traditional navigation methods with the intention that these might inform the design of applications running on hand-held devices that support different ways to navigate through and read country. It is also working on a data visualization project with University of Technology, Sydney (UTS) staff and voluntary professional consultants, using the arts and multimedia to assist in interpreting information gathered throughout the fire project.

Communication using the Ethno-biological Database & Other Media Tools

The TKRP's multi-platform Indigenous ethno-biological database has become an important information storage and retrieval tool to serve the vast archive of knowledge recorded on

video and the increasing numbers of communities and partnerships. The first revised completed stages of the database, designed in co-ordination with Victor Steffensen and a Masters student from UTS have been shared with TKRP communities who record and store knowledge and then categorise information suited to their needs. For example, the database stores multiple short video vignettes, word-for-word textual transcripts of the Elder's verbal descriptions in their own language and English, and positional data during recordings; and links to visual media, such as maps created in GIS Arc View and Google Earth. The design intent is to simply represent the interconnectedness of the Indigenous knowledge system for the preservation and application of traditional knowledge, thus the database's conceptual model encompasses the majority of core Traditional Indigenous Knowledge fields, 'Plants', 'Story Places', 'Animals', 'Country Type', with specific sub-categories. The database protects participants' interests, by enabling communities to own, store and retrieve their own collections. Like other databases set up to support Indigenous communities its access permissions protect the Traditional Indigenous Knowledge groups' intellectual property and heritage and adhere to cultural protocols. For example, only appropriate groups/clans/families can view sensitive information while others, with Traditional Owner's consent, can view shared knowledge. The database is in a continuously evolving format for community needs. The database is now going through further revision with partners from other knowledge recording communities in Australia. The existing database has been shared as part of a training package delivered to communities.

In addition to the database the TKRP also communicates electronically through Web and Web 2.0 tools, on radio, and in the press and through academic print media. The TKRP web site² and You Tube pages maintain currency; for instance, there is a regularly updated You Tube trailer about 'The Sugarbag' project.³ Staff and community mentors present at workshops and conferences across Australia and Internationally. TKRP has also created a children's book on the fire project in collaboration with a final year UTS design student and academic staff and experimented with designing a children's game with James Cook University and University of Charlotte staff and students. These are just a few of the communication projects that TKRP is engaged in.

Connecting People to Place in a Multiply Mediated World

The use of media in various TKRP projects illustrate how Indigenous communities engage with and make sense of the world and balance development and envelopment. Communities involved in the TKRP harness media in places of value to them according to methodological principles that are deeply entwined with the values of country. This enables them to create a visual and audio legacy within the community, interface with western organizations (e.g. land management) and participate in research and decision-making. But, additionally the communities' use of media within the context of country and their reflection upon this use reveals gaps which current approaches to media, and the technologies that serve them, do not yet satisfy. We believe this will inspire new innovations in media that can better connect people and place.

² See www.tkrp.au

³ See http://www.youtube.com/watch?v=0GgXq2pQQ7Q&feature=channel_page

Media to Transform the Structure

Being able to care and communicate with country and secure and demonstrate Traditional Indigenous Knowledge remains of greatest relevance to TKRP communities. For example, re-establishing traditional regimes was the essential driver for the Kuku-Thaypan Elders in recording video on fire practice. Initially, TKRP participants had varied levels of awareness of the importance of using multimedia in contemporary land management and conservation planning. It was the TKRP co-creator and research project co-generator Peta-Marie Standley who articulated that using western mapping and visual representation tools to communicate more effectively with organizations with agency over land within clan estates would increase Indigenous communities ability to access and act on those lands. That is, they noticed that the use of these tools is another way to bring people back to place as directed by the Elders governed by their ancient knowledge system. Those involved in contemporary land management, who are schooled in western science, often mistrust the accuracy of information held in Traditional Knowledge. This disempowers Traditional Owners in decision-making. The Indigenous led co-generative methodology developed for TKRP KTFMRP demonstrates the use of media in envelopment through institutionalised frameworks for action and paradigms for experimentation. For example, the TKRP KTFMRP enables the Elders to conduct their ritual responsibility for country while their co-generative researcher Peta-Marie Standley registers metrics to translate the cues in nature, with which the Elders interact, into the scientific language trusted by non-Indigenous land managers with elements communicated under strict guidance from Indigenous Elders and project partners.

Engaging with media tools enables the community to “transform the structure” (Freire, 1972) that confines and limits the impact of Traditional Knowledge. This goes beyond the need to translate understandings to governing agencies and gets to the heart of the media used in the translation. Databases, positional data or geographic mapping with GIS or Google Earth do not themselves encompass all the information available to Indigenous Elders nor can they represent all their ways of understanding, navigating or caring for country. As Christie (2004) observes, such visualizations do not mitigate the “disjunction between the structured information to be found on a computer, and the integrated, holistic, lived and performed knowledges of Aboriginal people on country”. Indeed, Dr. Tommy George, when taken on a visual tour though his country using Google Earth, expressed the view that this tool was important for youth and others such as his co-generative researcher Peta-Marie Standley so that they could also see what he already “in here” (referencing to self). However, active engagement with media, enables Indigenous people to realize and articulate the constraints of the technology and the conceptualisations embedded within them. For instance by completing their first GPS training members of the wider Kuku Thaypan community became aware of some of the limitations of remote sensing and fire scar mapping. Similarly, Victor Steffensen iterates that he does not often use the database as the information paths do not afford the same powerful indexicality as recalling when he accompanied the Elders as they read directly from vividly, detailed country cues, wind, temperature, types of grasses, trees and boundaries and moved according to these. Recognising the ways current media re-spatialise and re-ontologise Traditional Indigenous Knowledge or cannot support its full richness places Indigenous groups in a more powerful position when arguing for the adoption of their own methods to accomplish activities on

country. Accounts of relationships between scientific and Traditional Indigenous Knowledge practices have been formalized in 'Post-colonial' views of science and technology (e.g. Philip, 2001; Watson-Verran & Turnbull, 2001); however, such discussions are not always widely interpretable by those 'outside' of academia. Thus, the TKRP's methodology and training initiatives enables Indigenous communities to firstly, recognise the paradigms underlying scientific investigation and the technologies and the media which perpetuate these; and, secondly to participate in discussions about constraints in an active way, for instance, by relating their practical work to research topics, such as in the sugarbag, stingless bees and fire management initiatives. Practical empowerment in the tools of contemporary media equips Indigenous people to work in equitable collaborations and ways that are compatible with institutional frameworks whilst transforming those frameworks and generating new ones from old knowledge.

Involvement in media projects reveals opportunities for Indigenous communities to participate in the design and development of their own alternative tools. This may in turn provide innovative solutions to technical problems in other domains. Using GPS and GIS visualizations provide a basis on which to develop other multimedia and experiential tools to interpret the data; for example, simultaneously actively engaging with country and developing the KTFMRP GIS uncovered the need for additional supportive tools. Thus the KTFMRP recorded some of the additional Traditional navigation methods which in the future may be transferable to hand held digital recording devices, to support teaching youth and outsiders richer ways to move through and read country.

New Communities to Address Shared Challenges

The combination of a detailed lived and performed knowledge of country and use of media has enabled the TKRP to establish and sustain a network of interested groups, researchers, practitioners.⁴ Thus a knowledge that is intricately bound to specific places nourishes a network which traverses geographical, sector and disciplinary boundaries. For example, collaborations on the TKRP KTFMRP project include, but are not limited, to several universities in Australia (e.g. James Cook, Charles Darwin, University of Technology Sydney) and overseas (University of California Berkley), research organizations (e.g. Australian Tropical Research Institute centre for sustainable Indigenous communities), regional development and non-governmental organizations and trusts (Cape York Sustainable Solutions, Northern Australian Environmental Grant-makers Network, Melbourne Community Fund, Wilderness Society, Donkey Wheel, Mullum Trust).

Through the TKRP communities do not sacrifice the fundamental principles of Traditional Indigenous Knowledge in partnerships and their methodological framework expressed through direct action and new media enables equitable collaborations with scientists, media and design experts. Such collaborations open opportunities for exploring gaps noticed explicitly because their methodology is deeply embedded in the philosophy, ideology and lived experience of country. For example, the gaps Indigenous practitioners have noticed, between using media to record and retrieve knowledge and embedding of Traditional Indigenous Knowledge in interactions with the land, inspire the interest of data visualization

⁴ See www.tkrp.com.au for details of support and partnership.

specialists, visual communication experts (e.g. Jacqueline Gothe) and human-computer-interaction designers (e.g. Nicola Bidwell). This has led to various practical and theoretical collaborations such as working with data visualization specialists and a design team at UTS to develop alternative data presentations of the data from the TKRP KTFMRP for different user groups. This is interlinked with the continued development of the long-standing partnership between TKRP and UTS in delivery of on country based training in film and sound recording, editing and communicating through their Communicating Shared Traditional Knowledge project.

Reciprocity, which lies firmly within the TKRP methodology as governed by Traditional Indigenous Knowledge values, promotes the exchange of knowledge and practice. TKRP has mentored, trained and exchanged knowledge with local Indigenous people, from Aurukun to Lockhart, who are engaged in other projects. Knowledge exchange and collaborations also extend further afield, from Mackey, Gladstone, Northern and Southern Gulf to South West Queensland, Western Australia, South Australia and with Moriori, New Zealand; and more recently collaborations are evolving with Indigenous groups in north America and southern Africa.

The values that are embedded in Indigenous experiences of country, which appreciate the inter-relationships of people in their ecosystem, speak beyond the specific places from which these values come. They carry messages that are comprehensible and relevant to relationships between people in their ecosystem in other places; so the practices of seeing through media used in this way enables country to speak to people and people to speak to country across boundaries. The simple act of picking up a camera is not, in itself, a panacea to the global ecological and social challenges but, rather, thinking through a multiply and diversely mediated views of place offer new perspectives in solution making.

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About the Authors

Peta Standley was born and grew up in North Queensland experiencing its rich cultural dialogue. This included spending a great deal of time in the natural environment. She completed a Bachelor of Arts majoring in Education through Griffith University and tutored for a time at the Gumurri Centre in an Indigenous arts course before returning to the North in 1998. For six and a half years she worked for Queensland Parks and Wildlife Service (QPWS) in Community Nature Conservation and Natural Resource Management in the Wet Tropics and Northern Gulf. During this time she did environmental education based volunteer work for conservation organisations and completed a Masters of Environmental Management through Griffith University. This activity led to her present PhD research study through James Cook University with the TKRP Kuku Thaypan Fire Management Research Project. Peta has over fifteen years experience working with grassroots Indigenous and non-Indigenous organisations in the fields of cultural and environmental resource management and education. She is affiliated with James Cook University School of Business and School of Environmental Science and the KTFMRP work has been supported by the Australian Tropical Forest Institute Centre for Sustainable Indigenous Communities. She is the TKRP KTFMRP co-generative researcher of 'The Importance of Campfires to Effective Conservation Communication' PhD. Email: petamarie.standley@jcu.edu.au

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Dr Tommy George Senior is the last fluent speaker of the Awu Laya language. Tommy was bought up on his traditional country, and had the opportunity to learn from the old people who were still living on the land. For many years the Elders have been working on their homelands getting people to work together and draw from the right way of managing country through traditional knowledge. Over time they have been teaching language and culture at the local school in Laura where many of their grandchildren attend. Through these efforts, the Elders started to record their own knowledge with video technology which became the first Traditional Knowledge Revival Pathways project in the year 2000. Along with his brother and Victor Steffensen Tommy George co-created the methodology applied by the TKRP. He was awarded an honorary Doctorate in 2005 by James Cook University in recognition of the contribution of his custodial knowledge and skills to the research and wider community throughout his lifetime and as part of demonstrating appropriate research methodologies through his co-generative fire research PhD. Tommy's knowledge and skills are vast but he holds a special set of ecological and faunal knowledge relationships. He is the Senior Elder of the Kuku Thaypan people.

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Jacqueline Gothe Senior Lecturer in Visual Communication at the University of Technology Sydney initiated Communicating Shared Traditional Knowledge Project - a partnership between Traditional Knowledge Revival Pathways and UTS in 2002. Using a participatory approach to engagement this indigenous led project has allowed connections between students - postgraduate and undergraduate - academic and production staff and indigenous communities, through participation and collaborative development of on ground training processes in video and sound recording, editing, web and database development and management, photography, communication and information design. Email: Jacqueline.Gothe@uts.edu.au